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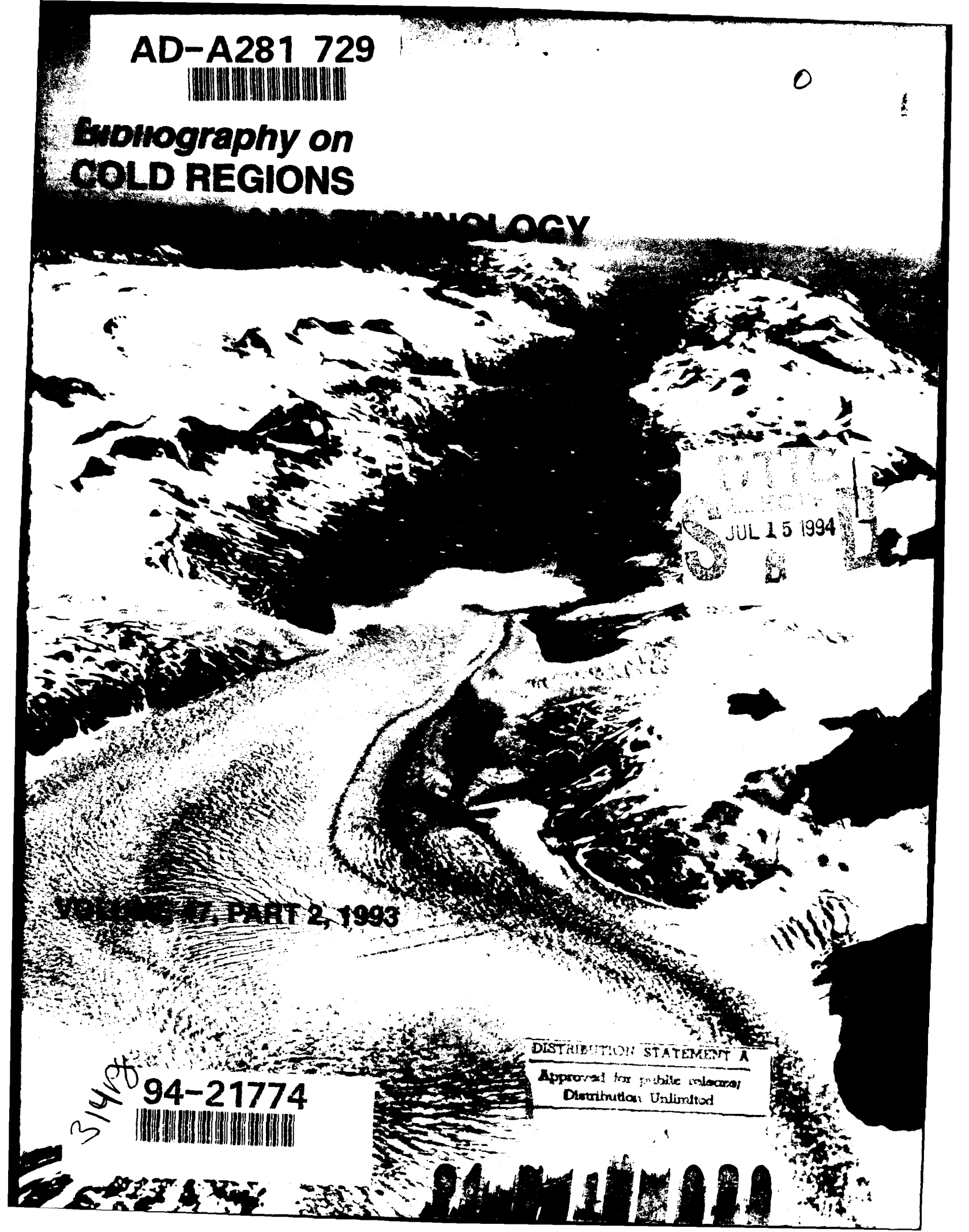

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VOLUME 47, PART 2

Stuart G. Hibben, Editor

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BIBLIOGRAPHY ON COLD REGIONS SCIENCE AND TECHNOLOGY
Volume 47, Part 2

This companion issue to Volume 47, Part 1, contains author and subject indexes for the volume. In the author index, principal and joint personal and corporate authors are listed along with the title, date, pagination, and language of the document and the accession number. The subject index is composed of four basic elements:

1) terms taken from a controlled vocabulary based on the Thesaurus of Engineering and Scientific Terms (LEX-EJC)
2) *free terms* added as needed
3) *geographic names*, generally entered under countries
4) cross references suggesting additional appropriate terms.

The terms are listed in a single alphabetical arrangement, along with title (original, translated, abridged, expanded, or supplied), principal author, date, pagination, and language of pertinent documents, and their accession numbers.

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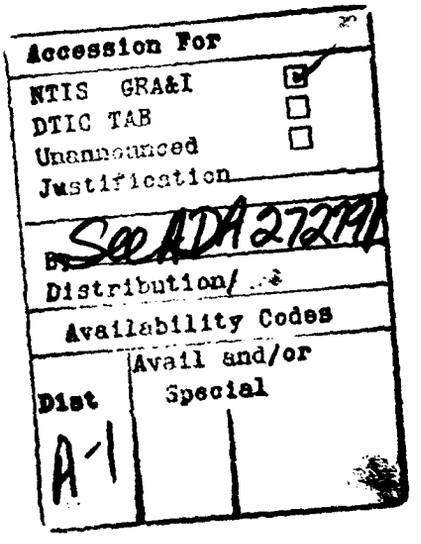

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Use of silicone masses to prevent the formation of ice on substrates [1988, 8 col., eng] 47-3494

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One-dimensional modeling study of carbonaceous haze effects on the springtime arctic environment [1992, p.20,599-20,613, eng] 47-2053
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Antarctic ice thickness distributions obtained from aerial photography [1992, p.B16-B18, eng] 47-3243
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Aerodynamic effects of deicing and anti-icing fluids [1993, p.8-9, eng] 47-3310

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Influence of wind, temperature, and deicing chemicals on snow accretion [1991, p.182-187, eng] 47-1801

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Suite of type temperature-depth profiles in permafrost for areas of Holocene shoreline regression and marine transgression, arctic Canada [1993, 66p., eng] 47-4606

Adams, P.
Bibliography of ice and snow research at Trent University, up to December 1991 [1992, 16p., eng] 47-1910
Canada's northern stations: a directory of Canadian northern field research stations 1991 [1992, 52p., eng] 47-602
Ice and snow in the Arctic and global change [1992, p.35-44, eng] 47-1424

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Ice nucleation in emulsified aqueous salt solutions: a differential scanning calorimetry study [1992, p.105-111, eng] 47-798

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Mathematical simulation and laboratory duplication of concrete scaling [1991, 202p., eng] 47-310

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Development of a portable ice-thickness measuring instrument. Final report. Phase I [1992, 28p., eng] 47-4883

Adriaans, M.J.
Thermometry in the thermodynamic limit [1992, p.1213-1218, eng] 47-2996

Adrian, G.P.
Column amounts and vertical distribution of atmospheric trace gases in the Arctic in late winter 1990 [1992, p.210-211, ger] 47-213

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1991 spring lidar campaign for polar stratospheric clouds studies at McMurdo, Antarctica: preliminary results [1992, p.367-373, eng] 47-2171
Combined observations of tropospheric and stratospheric thin clouds at McMurdo, Antarctica [1992, p.491-503, eng] 47-2175
Combined system for observations of tropospheric and stratospheric thin clouds [1993, p.34-40, eng] 47-2552
Estimates of denitrification in the 1990 antarctic spring stratosphere [1992, p.323-326, eng] 47-2167
Evidence for denitrification in the 1990 antarctic spring stratosphere: 1. Lidar and temperature measurements [1991, p.1995-1998, eng] 47-2027

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Novaya Zemlya test site and the problem of the radioactive pollution of the polar ocean [1993, p.27-36, eng] 47-5018

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Glaciers of the Swiss Alps 1985/86 and 1986/87 [1991, 140p., ger] 47-4219

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Space and time regularities in the thermal state of waters in the northern European basin [1991, p.24-43, rus] 47-3956

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Reevaluation of coal resources in the Late Cretaceous-Tertiary Sagavanirktok Formation, North Slope, Alaska [1992, p.196-203, eng] 47-616

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Thermogravitational convection of low temperature water in pipes with electric heating elements [1991, p.115-120, eng] 47-825

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Annual variation of oxygen isotopic contents of drifting snow and the isotopic contents of deposited snow layers at Mizuho Station, Antarctica [1993, p.24-31, jpn] 47-4357
Predictions of changes of glacier mass balance in the Nepal Himalaya and Tibetan Plateau: a case study of air temperature increase for three glaciers [1992, p.89-94, eng] 47-1092

Aggarwal, R.C.
Pavements in seasonal frost areas [1985, p.381-386, eng] 47-584

Agnew, T.
Arctic climate in the future [1992, p.17-34, eng] 47-1423
Simultaneous winter sea ice and atmospheric circulation anomaly patterns [1991, p.362-365, eng] 47-4491

Agrawal, K.C.
Densification and stability of a seasonal snow pack [1985, p.99-111, eng] 47-528
Snow melt runoff for a sub-catchment of Beas basin [1985, p.43-63, eng] 47-561

Agren, H.
Model calculations of Auger energy shifts in liquid water and ice [1992, p.95-103, eng] 47-1675

Aguado, E.
Accumulation and melt characteristics of northeastern Sierra Nevada snowpacks [1992, p.631-640, eng] 47-2739
Snow water content as a predictor of streamflow in the Sierra Nevada and Coast Ranges of California [1992, p.641-650, eng] 47-2740

Ahlers, G.
High-resolution He-4 melting-pressure thermometer for use near 2 K [1992, p.113-116, eng] 47-2955
Sealed He-4 superfluid-transition fixed-point device [1992, p.243-245, eng] 47-2968

Ahlstrand, G.M.
Response of an Alaska, U.S.A., shrub-tussock community to selected all-terrain vehicle use [1993, p.142-149, eng] 47-4746

Ahmad, Z.
Optical effects of polar stratospheric clouds on the retrieval of TOMS total ozone [1992, p.13,015-13,024, eng] 47-79

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Snow and ice melting system for automotive vehicles [1989, 12 col., eng] 47-3105

Ahti, T.
Macrolichens and their zonal distribution in Wells Gray Provincial Park and its vicinity, British Columbia, Canada [1992, 60p., eng] 47-4516

Ahumada, A.L.
Periglacial climatic conditions and vertical form associations in Quebrada Benjamin Matienzo, Mendoza, Argentina [1992, p.221-224, eng] 47-1774

Aiken, J.
Bio-optical variability across the *Arctic Front* [1992. p.455-461. eng] 47-1470
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Stratospheric ozone on Adélie Coast [1990. p.47-49. fre] 47-3161
Ainsworth, L.
Freezable, flotable water lines? [1992. p.42-43. eng] 47-1884
Aircraft Ground Deicing Conference, Denver, CO, Sep. 20-22, 1988
Proceedings [1989. 272p.. eng] 47-1681
Aitcin, P.C.
Frost resistance of high-strength concrete [1992. p.975-980. fre] 47-3342
Silica fume in concrete—an overview [1993. p.835-872. eng] 47-3611
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Glacimarine sedimentary environment of Expedition Fiord, Canadian High Arctic [1993. p.257-273. eng] 47-3103
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Ice Brook Formation and post-Rapitan, Late Proterozoic glaciation, Mackenzie Mountains, Northwest Territories [1991. 43p.. eng] 47-435
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Hail embryons detection in clouds using passive and active radars in millimeter and submillimeter wave bands [1993. p.1155-1174. eng] 47-4510
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Hail embryons detection in clouds using passive and active radars in millimeter and submillimeter wave bands [1993. p.1155-1174. eng] 47-4510
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Studies on the process of frost damages to stone remains under cold environments and its preservation methods [1993. p.23-40. eng] 47-3710
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Aspects on the significance of climatic changes for the periglacial environment in northern Sweden [1991. p.176-187. eng] 47-2854
Hydrographic characteristics of the Strokdammane Plain, west Spitsbergen, Svalbard [1992. p.169-182. eng] 47-4326
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Snowplow for removing snow from guard rails [1992. p.283-286. jpn] 47-2494
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EO-4124A and EO-4125A multipurpose backhoe excavators [1991. p.2-4. rus] 47-2065
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Diagnostic model study of the seasonal variation of global ozone and the antarctic ozone hole [1992. p.20,837-20,853. eng] 47-2056
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Comparative study of natural pozzolans used in blended cement production [1993. p.471-494. eng] 47-3609
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Numerical calculation of the trajectory of ice drift [1990. p.148-154. rus] 47-3601
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Ice nucleus concentrations measured with a continuous flow counter, a mixing chamber and by means of a filter technique [1992. p.241-243. eng] 47-2258
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New concept in runback water modeling for anti-iced aircraft surfaces [1993. p.41-49. eng] 47-3316
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Flood control on the middle reaches of the River Iijoki [1992. p.431-442. eng] 47-1970
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Antarctic drifting sea ice atlas for areas restricted from 0 to 90 west longitude [1993. p.310-317. eng] 47-5118
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Comparison of in-cloud measurements obtained with six PMS 2D-C probes [1993. p.180-194. eng] 47-2768
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Acoustic pulse propagation over a seasonal snow cover [1992. p.47-53. eng] 47-4032
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Characterization of hillslope thermal and hydrologic processes at the Sleepers River Research Watershed [1992. p.161-167. eng] 47-4045
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Albery, Pullerits, Dickson and Associates
M.V. *Arctic* ice transiting performance—continuous mode. Interim report [1983. Var.p.. eng] 47-521
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Design of North Cascade visitor center located in deep snow country [1992. p.343-352. eng] 47-3212
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American Public Works Association
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American Society of Civil Engineers
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Bitumen-vermiculite as thermal insulation beneath a roll roof [1991, p.82-85, rus] 47-2936

Anav, A.
Use of the Brewer spectrophotometer in measurements of total O3, SO2, NO2, UVB and for Umkehr profiling [1992, p.277-284, eng] 47-1207

Ancsin, J.
Realization of the triple point of xenon [1992, p.271-275, eng] 47-2974

Andersen, B.G.
Glacial history of the Ellsworth Mountains, West Antarctica [1992, p.403-432, eng] 47-2700
Glacial stratigraphy in Norway [1992, p.61-71, eng] 47-3548

Andersen, D.T.
Perennial ice covers and their influence on antarctic lake ecosystems [1993, p.53-70, eng] 47-4396

Andersen, D.W.
Terrigenous clastic sedimentation in antarctic dry valley lakes [1993, p.71-81, eng] 47-4397

Andersen, O.B.
Analysis of the gravity field in the Norwegian Sea and mapping of the ice cap of Greenland using ERS-1 altimeter measurements [1993, p.413-418, eng] 47-4443

Anderson, P.M.
Nuclear quadrupole resonance spectroscopy for ultra-low-temperature thermometry [1992, p.1013-1015, eng] 47-2992

Andersland, O.B.
General report—soil freezing-ground freezing [1992, p.2657-2672, eng] 47-1816

Anderson, I.
Speedy sledge offers retreat from storms [1992, p.20, eng] 47-233

Anderson, J.B.
Antarctic glacial-marine sedimentation [1993, p.1-88, eng] 47-4824
Evidence for a grounded ice sheet on the Ross Sea continental shelf during the Late Pleistocene and preliminary paleodrainage reconstruction [1992, p.39-62, eng] 47-2871
Evidence from the antarctic continental margin of Late Paleogene ice sheets: a manifestation of plate reorganization and synchronous changes in atmospheric circulation over the emerging southern ocean? [1992, p.131-159, eng] 47-3166
Late Quaternary glacial history of the northern Antarctic Peninsula's western continental shelf: evidence from the marine record [1992, p.63-91, eng] 47-2872
Pliocene-Pleistocene seismic stratigraphy of the Ross Sea: evidence for multiple ice sheet grounding episodes [1992, p.93-103, eng] 47-2873

Anderson, L.G.
Tracing upper waters of the Nansen Basin in the Arctic Ocean [1992, p.S425-S433, eng] 47-1272

Anderson, M.R.
Synoptic ice melt from Nimbus-7 SMMR [1988, p.36-39, eng] 47-4180

Anderson, P.
Report of 1st discussion group: the last interglacial in high latitudes of the northern hemisphere: terrestrial and marine evidence [1991, p.9-28, eng] 47-3478
Report of 2nd discussion group: inter-relationships and linkages between the land, atmosphere and oceans during the last interglacial [1991, p.29-48, eng] 47-3479

Anderson, P.M.
Framework for interpreting paleoclimatic variations in eastern Beringia [1991, p.73-83, eng] 47-3481

Anderson, P.S.
Evidence for an antarctic winter coastal polynya [1993, p.221-226, eng] 47-3652

Anderson, R.
Accuracy of submarine ice draft measurements [1992, p.B22-B24, eng] 47-3245

Andersson, A.
Frazil ice in rivers near power stations [1988, p.141-146, eng] 47-727
Laboratory investigation of trash rack freezeup by frazil ice [1992, 11p., eng] 47-1896

Andersson, L.
Use of digital geographical databases in hydrological modelling [1993, 158p., eng] 47-2830

Andraka, B.
Nuclear quadrupole resonance spectroscopy for ultra-low-temperature thermometry [1992, p.1013-1015, eng] 47-2992

André, M.F.
Plant colonization and geodynamics of slopes in a polar oceanic environment (Svalbard, 79 deg N) [1992, p.329-347, eng] 47-4077

Andreas, E.L.
Air-ice drag coefficient in the Weddell Sea deduced from profile measurements [1992, p.J5/109-J5/112, eng] 47-868
Minimum sampling for spectral analysis of nonstationary turbulence [1992, p.289-292, eng] 47-867
Predicted heights of buoyant convection above open leads in the winter arctic pack ice cover [1992, p.J3/45-J3/48, eng] 47-880
Roughness of Weddell Sea ice and estimates of the air-ice drag coefficient [1993, p.12,439-12,452, eng] 47-4521
Uncertainty in a path-averaged measurement of the friction velocity u* [1992, p.1312-1321, eng] 47-1121

Andreasson, P.
Frazil ice in rivers near power stations [1988, p.141-146, eng] 47-727

Andreev, IU.B.
Avalanche risk: classification and control [1992, p.29-35, rus] 47-1990
Classification of snow cover in avalanche-prone regions of the USSR, based on their stratigraphy and stability properties [1991, p.196-200, rus] 47-343

Andreicheva, L.N.
Ground moraines in European northeastern Russia and their lithostratigraphic significance [1992, 124p., rus] 47-1499

Andrews, J.T.
Detrital carbonate-rich sediments, northwestern Labrador Sea: implications for ice-sheet dynamics and iceberg rafting (Heinrich) events in the North Atlantic [1992, p.1087-1090, eng] 47-2631
Timing and character of the last interglacial-glacial transition in the eastern Canadian Arctic and northwest Greenland [1992, p.223-231, eng] 47-2694

Andrews, M.
Implementation of a U.S. polar bibliographic information system [1992, p.29-40, eng] 47-1394

Andriushchenko, V.I.
Probability method of forecasting surge level oscillations in the example of the East Siberian Sea [1991, p.76-85, rus] 47-3693

Anelli, E.
API X65 grade normalized and tempered seamless tubes with improved low temperature toughness [1992, p.134-141, eng] 47-1837

Angell, C.A.
Water II is a "strong" liquid [1993, p.6339-6341, eng] 47-4748

Anguita, F.
Shear-induced folding in Arsia Mons aureole: evidence for low-latitude Martian glaciations [1992, p.11-22, eng] 47-3722

Anisimov, O.A.
Permafrost zonation in Russia under anthropogenic climatic change [1993, p.137-148, eng] 47-4149

Aniya, M.
Glacial landform distribution in the area east of Mount Meylixueshan in Yunnan Province, China and its implication to the mountain uplift during the Late Pleistocene and Holocene [1992, p.1-12, eng] 47-4360

Anno, Y.
Experiments on snowdrift prevention in the Okushunbetsu district of Teshikaga [1980, p.46-50, jpn] 47-4932

Annual Conference of Canadian Technical Asphalt Association, 37th, Victoria, BC, 1992
Proceedings of the 37th Annual Conference [1992, 307p. + appends., eng] 47-1133

Anokhin, IU.A.
Size distribution of particles in precipitation and river waters in the Baikal Lake region [1992, p.19-26, eng] 47-3989

Ansmann, A.
Independent measurement of extinction and backscatter profiles in cirrus clouds by using a combined Raman elastic-backscatter lidar [1992, p.7113-7131, eng] 47-2663

Antar, Y.M.M.
Circular polarization for remote sensing of precipitation: polarization diversity work at the National Research Council of Canada [1992, p.7-16, eng] 47-1562

Anticorrosive deicer used on bridges
Anticorrosive deicer used on bridges [1993, p.36, eng] 47-4623

Antiguedad, I.
Correlation between discharge and hydrochemical parameters in the river at Juan Carlos I Station [1989, p.24-31, spa] 47-809
Different water types found in the vicinity of Juan Carlos I Station [1989, p.41-49, spa] 47-811
Hydrogram characteristics as a function of meteorological data and elaboration of the discharge curve of the river at Juan Carlos I Station [1989, p.32-40, spa] 47-810
Record of the 1988-1989 expedition at the Spanish Juan Carlos I Station [1989, p.3-22, spa] 47-808
Structural analysis of the Cazadora Glacier ice, directional anisotropy quantification and subglacial drainage prediction [1989, p.71-79, spa] 47-814
Time series correlogramme and spectral analysis of the Cazadora Glacier drainage and meteorological parameters, Spanish Antarctic Base (BAE), Livingston Island (South Shetland, Antarctic) [1991, p.69-91, eng] 47-25

Antonov, N.A.
Conditions and effectiveness of feed production in tundra [1988, 102p., rus] 47-4655
Effectiveness of applying meliorative agents on tundra soils [1991, p.76-88, rus] 47-4109

Antsiferov, IU.M.
Bitumen-vermiculite as thermal insulation beneath a roll roof [1991, p.82-85, rus] 47-2936

Antweiler, J.C.
Occurrence of platinum-group elements in some gold-mining districts of Alaska [1992, p.33-43, eng] 47-610

Aoki, K.
Characteristics of heat pump system operating with frost formation [1991, p.391-396, eng] 47-2566

Aoki, S.
Method for dealing with snow cornices [1986, p.94-95, jpn] 47-5187
Safeguarding traffic on the snowy stretches of National Highway 17 during the 1984 snowstorms [1984, p.45-50, jpn] 47-5066

Aoki, T.
Multiple scattering model for the atmosphere-snow system [1992, p.77-83, eng] 47-3007

Aota, M.
Carbon dioxide and other trace gases in arctic seas [1992, p.3-20, eng] 47-107
Relation between atmospheric and ice conditions along the Okhotsk Sea coast of Hokkaido [1992, p.41-46, jpn] 47-113

Aparin, B.F.
Geographic laws of spatial soil cover organization in the Yamal Peninsula [1992, p.88-94, eng] 47-1709

Apel, J.R.
Study of the astronomical theory of ice ages in a two-dimensional nonlinear climate model [1991, p.495-496, eng] 47-4496

Apeland, K.
Perspective: Codes and standards [1992, p.485, eng] 47-3229
Standardization of snow loads on roofs—DIS 4355: revision of ISO Standard 4355 [1992, p.411-437, eng] 47-3219

Appel', I.L.
Results of calculations of changes in the probability density distribution of ice thickness during melting [1990, p.112-116, rus] 47-3597

Appel, P.W.U.
Björnesund Project, west Greenland [1992, p.24-27, eng] 47-1635
Tourmalinites in supracrustal rocks in the Björnesund area, west Greenland [1992, p.73-78, eng] 47-1641

Appa, M.J.
Carbon budget and succession dynamics of Canadian vegetation [1993, p.215-220, eng] 47-5238
Estimating carbon budgets of Canadian forest ecosystems using a national scale model [1993, p.243-252, eng] 47-5240

Arai, K.
On double-barriered ice-resistant structure [1992, p.96-100, jpn] 47-123

Arasteh, D.
Gas-filled panels: a thermally improved building insulation [1992, p.96-102, eng] 47-1149

Archegova, I.B.
Conditions and effectiveness of feed production in tundra [1988, 102p., rus] 47-4655

Archibald, J.
Prefabricated engineering services for use in antarctic regions: pipe lines in harsh environments [1992, p.577-586, eng] 47-1844

Arcone, S.A.
Effective permittivity of saline ice under thermal variation [1992, p.1256-1258, eng] 47-674
Short-pulse radar detection of groundwater in the Sagavanirktok River floodplain in early spring [1992, p.2925-2936, eng] 47-1475
Sub-bottom profiling: a comparison of short-pulse radar and acoustic data [1992, p.149-157, eng] 47-634
Thickness profiling of freshwater ice using a millimeter-wave FM-CW radar [1992, p.1094-1100, eng] 47-1262

Arctic Research Consortium of the United States
Arctic information and data: a guide to selected resources [1992, 50p., eng] 47-3523

Arent'eva, A.G.
Biogeochemical inductions of gold-dispersion trains of gold-quartz deposits in the permafrost zone [1993, p.215-220, eng] 47-4059

Argentini, S.
Acoustic sounder experimentation in Victoria Land, Antarctica [1991, p.119-133, eng] 47-2006
Interaction of gravity driven flows at Nansen Ice Sheet [1992, p.159-166, eng] 47-1200

Arguanova, L.S.
Predicting ice formation parameters in closed systems [1992, p.91-97, rus] 47-68

Argus, S.D.
Wind, current and swell influences on the ice extent and flux in the Grand Banks-Labrador Sea area as observed in the LIMEX '87 experiment [1988, p.11-14, eng] 47-4176

Armando, E.
Reports on the Glaciological Survey of 1990 [1991, p.263-310, ita] 47-3171

Armstrong, R.L.
Monitoring snow grain size for passive microwave studies [1992, p.46-55, eng] 47-493
Snow properties research and data management [1992, p.1-9, eng] 47-478
Validation of passive microwave snow cover algorithms using spatially interpolated surface point measurements [1992, p.818-819, eng] 47-659

Armstrong, T.
History of the Northern Sea Route [1992, p.34-42, eng] 47-4212

Arnold, D.
Heat transfer characteristics of ice capsules for encapsulated cool storage systems [1991, p.335-342, eng] 47-2562

Arnold, N.
Influence of glacier hydrology on the dynamics of a large Quaternary ice sheet [1992, p.109-124, eng] 47-1559

Arnold, R.
Form of cyclonic precipitation and its thermal impact [1993, p.1957-1978, eng] 47-4355

Arnott, M.R.
Alternative test for determining the frost resistance of bricks [1990, p.105, eng] 47-824

Arora, R.
Cold acclimation in genetically related (sibling) deciduous and evergreen peach (*Prunus persica* (L.) Batsch). 1. Seasonal changes in cold hardiness and polypeptides of bark and xylem tissues [1992, p.1562-1568, eng] 47-231

Arp, P.A.
Assessing climate controls of northern forest soils and tree growth: reconstructing soil moisture, temperature and solution chemistry from monthly weather records [1993, p.187-192, eng] 47-5237

Arrigo, K.R.
High resolution study of the platelet ice ecosystem in McMurdo Sound, Antarctica: photosynthetic and bio-optical characteristics of a dense microalgal bloom [1993, p.173-185, eng] 47-5200
Influence of salinity and temperature covariation on the photophysical characteristics of antarctic sea ice microalgae [1992, p.746-756, eng] 47-2594
Simulated antarctic fast ice ecosystem [1993, p.6929-6946, eng] 47-4139

Arseneault, D.
Postfire shift from lichen-spruce to lichen-tundra vegetation at tree line [1992, p.1067-1081, eng] 47-773

Artem'ev, A.O.
Predictability of large-scale thermohaline anomalies in surface waters of the arctic basin [1991, p.65-75, rus] 47-3692

Artem'ev, O.V.
Three-dimensional acoustic waveguide in the Labrador Sea [1990, p.563-565, eng] 47-1232

Artym, I.T.
Analysis of stress losses in reinforcement depending on temperature drop [1990, p.115-117, rus] 47-2762

Artzi, G.B.
Snow chains for vehicles [1987, 4 col., eng] 47-3847

Arunachalam, V.M.
Ice pressures on vertical and sloping structures through dimensional analysis and similarity theory [1993, p.231-245, eng] 47-3927

Arup, O.
Influence of frost heave on houses under construction in Merthyr Tydfil [1989, p.31-33, eng] 47-1001

Arya, I.R.
Some typical problems encountered in roads and airfield pavements in snowbound areas [1985, p.279-286, eng] 47-578

Asano, K.
Snow removal from a pantiled roof using electrically heated roof tiles [1992, p.253-262, eng] 47-3204

Asano, M.
Law prohibiting use of studded tires in Japan, results of chemical deicing agents test and investigation on efficient operation of road heating facilities [1992, 12p., eng] 47-962
Study on road heating systems in Hokkaido [1992, p.143-148, jpn] 47-2514
Study on winter road maintenance with a snow melting system [1993, p.34-37, jpn] 47-4790

Asare, S.N.
Seasonal variability of hydraulic conductivity [1993, p.451-457, eng] 47-5146

Aseeva, I.V.
Microorganism nucleic acids and biomass in alpine-forest soils in the northern Caucasus [1981, p.37-43, eng] 47-457

Ashabokov, B.A.
Model for managing the formation of the microstructure of hail clouds [1991, p.3-8, rus] 47-746

Ashcraft, J.
State-of-the-art survey of flexible pavement crack sealing procedures in the United States [1992, 19p., eng] 47-707

Ashik, I.M.
Methodical plan for compiling hydrometeorological forecasts and results of its use [1991, p.86-95, rus] 47-3694

Ashley, G.M.
Late Pleistocene vertebrates and other fossils from Epiguruk, northwestern Alaska [1993, p.381-389, eng] 47-3899
Pleistocene vertebrates and other fossils from Epiguruk, northwestern Alaska [1993, p.381-389, eng] 47-5143

ASHRAE/DOE/BTECC Conference (on the) Thermal Performance of the Exterior Envelopes of Buildings, 5th, Clearwater Beach, FL, Dec. 7-10, 1992
Proceedings [1992, 756p., eng] 47-1148

Ashworth, E.N.
Cell shape and localisation of ice in leaves of overwintering wheat during frost stress in the field [1992, p.324-331, eng] 47-795

Askar, H.G.
Stresses in ground-freezing problems with infinite boundaries [1993, p.58-73, eng] 47-1759

Askne, J.
Bothnian Experiment in Preparation for ERS-1, 1988 (BEPERS-88)—an overview [1992, p.2377-2398, eng] 47-254
C-band radar backscatter of Baltic Sea ice: theoretical predictions compared with calibrated SAR measurements [1992, p.2447-2468, eng] 47-258
Calibrated ERS-1 SAR signatures and video underflights over arctic ice [1992, p.1536-1538, eng] 47-683
SAR image classification of ice in the Gulf of Bothnia [1992, p.2489-2514, eng] 47-260
Validation of ERS-1 SAR measurements of sea ice during ARCTIC-91 [1993, p.289-294, eng] 47-4427

Aspinall, D.
Protection of membrane integrity in *Medicago sativa* L. by glycinebetaine against the effects of freezing [1992, p.541-543, eng] 47-1264

Assel, R.A.
Great Lakes winter-weather 700-hPa PNA teleconnections [1992, p.2156-2163, eng] 47-877

Assessment and Remediation (Working Group report)
Assessment and Remediation (Working Group report) [1993, p.13-15, eng] 47-5016

Astaf'ev, V.N.
Problems of choice of sea ice cover parameters design criteria [1992, p.21-26, eng] 47-108

Astbury, A.
Removal of non-meteorological errors from ice prediction models by use of a statistical templet [1992, 6p., eng] 47-970

Asuma, Y.
Cool rain in a three-dimensional shallow-cloud model [1992, p.739-748, eng] 47-826

Asvall, R.P.
Effects of Alta's development on ice conditions [1992, p.469-478, nor] 47-1973

Atkins, D.
Fatal avalanche accidents in the United States 1991/92-1992/93 (through 2/13/93) [1993, p.1-5, eng] 47-3260

Atkinson, J.H.
Discussion of Session 1b. (Engineering implications of glacially derived deposits) [1991, p.271-279, eng] 47-3884

Atlas, E.
Partitioning of nitrogen oxides in the lower arctic troposphere during spring 1988 [1993, p.15-27, eng] 47-5144

Atre, S.R.
Analysis of seismic and gravity studies on the Siple Coast [1991, p.63-65, eng] 47-2465

Attig, J.W.
Stratigraphy and origin of an area of hummocky glacial topography, northern Wisconsin, U.S.A. [1993, p.61-67, eng] 47-4752

Attiogbe, E.K.
Mean spacing of air voids in hardened concrete [1993, p.174-181, eng] 47-4352

Atwater, M.M.
1 kill avalanches [1992, p.4-5, eng] 47-1213

Atzeni, C.
Dimensional variations, capillary absorption and freeze-thaw resistance of repair mortars admixed with polymers [1993, p.301-308, eng] 47-3421

Au, K.C.
Performance of wood-based siding in energy-efficient homes located in cold climates [1992, p.260-267, eng] 47-1160

Auchterlonie, L.J.
Comparison of experimental and theoretical scattering effects from melting ice spheres at microwave and millimetre-wave frequencies [1992, p.545-548, eng] 47-1561

Auer, A.H., Jr.
Comments on "Heavy snowfall during an arctic outbreak along the Colorado Front Range" [1991, p.19-21, eng] 47-5259

Augstein, E.
Scientific concept of the Arctic Climate System Study (ACSYS) [1992, 89p. + appends., eng] 47-3291

August, N.M.
Beaufort Sea Ice-1: selected SAR results [1992, p.131-133, eng] 47-641

Augustin, H.
Clearing and spreading tests with minimal salt scattering as observed during abrasion of worn sections [1983, p.21-78, ger] 47-5001
Construction and documentation of the test strip "Josefsberg" along B 20 employed to determine the qualitative changes and ice prevention properties of a surface with an admixture of VERGLIMIT [1986, 60p., ger] 47-4988

Austin, J.
Possibility of an Arctic ozone hole in a doubled-CO2 climate [1992, p.221-225, eng] 47-907

Austin-Smith, A.
River flood forecasting in the Northeast during ice jam situations [1992, 10p., eng] 47-2131

Austvik, R.
Geo-Radar in tunneling—the tunnel radar [1992, p.41-45, eng] 47-631

Autio, S.
Proceedings [1992, 365p., eng] 47-630

Auzet, A.V.
Frost heaving and frost creep on an experimental slope: results for soil structures and sorted stripes [1988, p.13-23, eng] 47-439

Avdalovich, S.A.
Karginsky sea terraces in northern West Siberia and the problem of the Sartan glaciation [1982, p.89-100, rus] 47-1245

Avdiushin, S.I.
Stratospheric ozone in the Arctic and Antarctic (Review) [1992, p.1-10, eng] 47-3629

Avery, C.C.
Where has all the snow gone? Snowpack sublimation in northern Arizona [1992, p.84-94, eng] 47-497

Avsiuk, IU.N.
Why is Antarctica aseismic [1992, p.54-58, eng] 47-415

Axelson, K.D.
Israel River ice control structure [1991, p.349-352, eng] 47-1238

Axelson, L.
Proposal for new winter road maintenance strategy—MINSALT Project [1992, 6p., eng] 47-929

Aydin, K.
Dual-polarization radar measurements in an Oklahoma hailstorm [1992, p.1734-1736, eng] 47-691

Ayers, C.
Subaru-Isuzu assembly plant floors [1989, P.23-27, eng] 47-2751

Ayerlade, O.A.
Proceedings. Vol.4. Arctic/polar technology (1993, 219p., eng) 47-4223
Ayotte, K.
Mesoscale blocking ahead of mountain ridges and cold fronts (1992, p.3149-3152, eng) 47-2423
Ayoub, A.S.
Fracture analysis of ice forces on offshore structures (1989, 99p., eng) 47-1317
Azeta, M.
Study on the characteristics of icy road surfaces (1990, p.34-37, jpn) 47-4687
Azhermachev, G.A.
Effective structural design plan for a marine steel platform in sea ice conditions (1993, p.12-15, rus) 47-4087
Azizi, F.
Assessment of the mathematical modelling of the creep of ice and frozen soils (1992, p.3-14, eng) 47-1014
Azouni, M.A.
Thermal effects on the shape of a solidifying interface near a foreign particle (1993, p.13-20, eng) 47-4756
Azuma, D.L.
Predicting wilderness snow water equivalent with nonwilderness snow sensors (1993, p.85-94, eng) 47-4993
Azuma, K.
Radiative temperature of ice surface in Svalbard, 1991 (1992, p.286-289, jpn) 47-151
Bantar, R.
Cryogenesis in the system of factors causing variegation in the soil-plant cover in the floodplains of Mongolia (in the example of the Orhon River floodplain of the lower course) (1991, p.34-37, rus) 47-4806
Babinski, Z.
Characteristics of the seasonal thawing of permafrost in Mongolia (1991, p.223-229, eng) 47-2569
Babintsev, A.V.
Hydrology of Lake Glubokoye, King George I., winter 1987 (1991, p.27-32, rus) 47-1575
Babtsev, V.A.
Statistical studies of wear on the hull plating of ice-navigating ships (1992, p.28-31, rus) 47-2920
Bachalo, W.D.
Development of advanced instrumentation for drop size and liquid water content measurements in clouds (1988, 66p., eng) 47-4903
Bachhuber, F.W.
Pre-late Wisconsin paleolimnologic record from the Estancia Valley, central New Mexico (1992, p.289-307, eng) 47-2699
Bachmeier, A.S.
Meteorological overview of the Arctic Boundary Layer Expedition (ABLE 3A) flight series (1992, p.16,395-16,419, eng) 47-1445
Backes, J.L.
Polar Ocean Profiler: a new generation of oceanographic and meteorological sensory platform (1991, p.627-632, eng) 47-2180
Polar Ocean Profiler: new generation sensor platform (1992, p.73-81, eng) 47-1060
Badino, G.
Physics of water-hollowed cavities (1991, p.119-133, ita) 47-27
Badmaev, N.B.
Hydrothermy of slope soils in Transbaikal (1991, p.69-76, rus) 47-3280
Baertlein, D.A.
Expression of a bacterial ice nucleation gene in plants (1992, p.1730-1736, eng) 47-2249
Baeyens, W.
Accumulation of suspended barite at mesopelagic depths and export production in the southern ocean (1992, p.1332-1335, eng) 47-873
Bagchi, A.K.
Slope monitoring in high hills using LANDSAT imageries (1985, p.196-203, eng) 47-538
Bahadur, J.
Review of isotopic techniques for snow and glacier hydrology of mountain watersheds (1985, p.64-75, eng) 47-562
Baheti, G.L.
Some studies in gamma attenuation for application in snow gauging (1985, p.144-148, eng) 47-533
Bahia, H.U.M.
Low-temperature isothermal physical hardening of asphalt cements (1991, 292p., eng) 47-3131
Bai, C.Y.
Applicational experience and benefit analysis of artificial dusting glaciers with large scale in Qilian Mountains (1985, p.163-171, chi) 47-1531
Experimental investigations on the artificial augmentation of the ice and snow melting of glaciers in Qilian Mountains (1985, p.150-162, chi) 47-1530
Formation and utilization of "stream icing" in the mountainous regions (1985, p.172-185, chi) 47-1532
Bai, S.
Operational system of numerical sea ice prediction in Bohai Sea (1992, p.295-299, eng) 47-153
Baig, M.N.
Natural revegetation of coal mine spoils in the Rocky Mountains of Alberta and its significance for species selection in land restoration (1992, p.285-300, eng) 47-422
Baikanov, A.V.
Effective method of building foundations for structures on permafrost (1991, p.16-17, rus) 47-2487
Baikova, I.M.
Inverse relationship between the Earth's thermal regime and variation of the snow-ice cover upon climate warming and cooling (1989, p.21-27, eng) 47-1229
Variations of sea ice area and thickness in the southern ocean due to climate warming (1991, p.41-45, eng) 47-1179
Bailey, S.W.
Lithologic composition and rock weathering potential of forested, glacial-till soils (1992, 7p., eng) 47-430
Bajracharya, R.M.
Seasonal soil loss and erodibility variation on a Miamian silt loam soil (1992, p.1560-1565, eng) 47-1184
Bakaltcheva, I.
Time- and temperature-dependent solute loading of isolated thylakoids during freezing (1992, p.607-615, eng) 47-4370
Baker, B.A.
Studies in cloud physics: electrification, glaciation, and turbulence (1991, 97p., eng) 47-306
Baker, I.
Compression jig for x-ray topography of ice (1993, p.416-421, eng) 47-3468
Dynamic observations of dislocation generation at grain boundaries in ice (1993, p.1261-1276, eng) 47-3986
Baker, J.M.
Field testing of a model for water flow and heat transport in variably saturated, variably frozen soil (1991, p.300-308, eng) 47-1128
Bakken, K.L.
Silicone emulsion having improved freeze/thaw resistance (1987, 8 col., eng) 47-3851
Bakkea, R.C.
Snow-belt county's approach to snow and ice control (1993, p.40-42, eng) 47-4625
Baklanova, E.I.
Ecological aspects in the design of low-rise housing in Siberia (1992, p.125-131, rus) 47-2779
Bakunin, V.N.
Low-temperature viscosity characteristics of synthetic aviation oils (1993, p.337-341, eng) 47-1997
Bakwin, P.S.
Measurements of NOx and NOy concentrations and fluxes over arctic tundra (1992, p.16,545-16,557, eng) 47-1454
Bala, S.R.
Evaluation of FCAW consumables for offshore and arctic structure fabrication (1993, p.76-82, eng) 47-2667
Balak, G.M.
Influence of aqueous solution of anti-icing additives on corrosion of materials of construction (1993, p.563-566, eng) 47-4386
Balakin, V.A.
Friction against ice and snow (1991, p.132-143, eng) 47-1175
Bales, R.C.
Acidification potential of snowpack in Sierra Nevada—discussion (1993, p.399-403, eng) 47-4010
Balise, M.J.
Glacier geophysical studies for an ice core site at "Taylor Dome" (1991, p.71-73, eng) 47-2469
Balkin, L.E.
Ice melters and concrete damage: are they related (1992, p.50-51, eng) 47-1922
Balks, M.R.
Properties and genesis of cryosols at Marble Point, McMurdo Sound region, Antarctica (1992, p.59-66, eng) 47-1705
Ball, T.F.
Historical and instrumental evidence of climate: western Hudson Bay, Canada, 1714-1850 (1992, p.40-73, eng) 47-2081
Ballentine, R.J.
Preliminary numerical simulations of the 31 January 1991 lake-effect snowstorm (1992, p.115-123, eng) 47-4040
Ballestero, T.P.
Structural and ice effects on salt water marsh hydrology (1993, p.150-155, eng) 47-4451
Ballyk, P.D.
Extreme values of thermal loading parameters in concrete bridges (1992, p.935-946, eng) 47-3341
Balov, I.I.
Protection of pyramidal piles and driven blocks from frost heaving (1993, p.104-109, eng) 47-2060
Baltensperger, U.
Scavenging of atmospheric constituents by alpine snow (1991, p.483-493, eng) 47-2215
Balukh, V.L.
Thermophysical properties of carbamide insulation in the temperature range of -20 to +50 deg. (1993, p.55-56, rus) 47-4088
Balygin, I.S.
Determining the design values for the depth of seasonal thawing of permafrost for pile foundations of various structures (1992, p.22-25, rus) 47-2901
Banahan, S.
Silicon budget for an Alaskan arctic lake (1992, p.37-44, eng) 47-1602
Bandman, M.K.
Developing the productive energies of Northern USSR (1991, 229p., rus) 47-2457
Bando, K.
Coastal jet and ice flow movement (1992, p.772-776, eng) 47-1872
Bando, T.
Safeguarding the main roads in Hokkaido (1984, p.58-63, jpn) 47-5068
Snow countermeasure operations at the Hokkaido Development Bureau (1985, p.21-28, jpn) 47-5095
Bandyopadhyay, G.
Recent advance and retreat of Bara Shigri glacier of eastern Lahaul (1985, p.121-125, eng) 47-565
Bandyopadhyay, M.K.
Recent advance and retreat of Bara Shigri glacier of eastern Lahaul (1985, p.121-125, eng) 47-565
Banet, A.C., Jr.
Geochemical profile and burial history of Aurora 890 No.1 OCS Y-0943 well offshore of the ANWR 1002 area, northeast Alaska (1993, 51p. + maps., eng) 47-2618
Baneva, N.A.
Role of Penzhinskaya Bay and Shelikhov Gulf on ice productivity of the Okhotsk Sea (1992, p.348-350, eng) 47-162
Banfield, J.
Skeletal modeling of ice leads (1992, p.918-923, eng) 47-1258
Bankvall, C.
Thermal insulation and research in heat transfer (1992, p.29-35, eng) 47-3449
Banthia, N.
Comparative study of latex-modified concretes and normal concretes subjected to freezing and thawing in the presence of a deicer salt solution (1992, p.547-553, eng) 47-2546
Influence of soluble alkalies on the production and stability of the air-void system in superplasticized and nonsuperplasticized concrete (1992, p.24-31, eng) 47-82
Toughness indices of steel fiber reinforced concrete at subzero temperatures (1993, p.863-873, eng) 47-5107
Bao, H.S.
Problem of palaeokarst in Tibet (1991, p.316-325, eng) 47-3780
Baragunov, V.S.
Algorithm for calculating the components and spatial orientation of air flow and water drops in a hail cloud (1991, p.8-14, rus) 47-747
Baranov, G.I.
Using hydrodynamic surface fields at a geopotential of 500 gPa for medium-range forecasting of a surface pressure field (1989, p.113-117, rus) 47-3663
Baranova, N.A.
Mathematical modeling of the thermoerosion process and its use in the study of various regions of the cryolithozone (1992, p.29-36, rus) 47-2456
Barbar, L.B., II
Geochemical heterogeneity in a glacial outwash aquifer: effect of particle size and mineralogy on sorption of nonionic organic solutes (1991, 247p., eng) 47-294
Barber, D.G.
Effects of freeze-up and melt processes on microwave signatures (1992, p.329-341, eng) 47-3031
Fourier domain, multifrequency classification of single frequency SAR images of sea ice (1991, p.111-118, eng) 47-3402
Integration of optical and active microwave data of a snow-covered sea ice surface (1991, p.209-215, eng) 47-3387
Snow, sea ice and climate: a study of scales (1992, p.45-59, eng) 47-1425
Spatial and temporal variation of sea ice geophysical properties and microwave remote sensing observations: the SIMS'90 experiment (1992, p.233-251, eng) 47-3320
Spatial and temporal variations of surface geophysical properties and airborne SAR data during SIMS'90 and SIMS'91 (1991, p.179-186, eng) 47-3385
Surface albedo of snow covered first year and multi-year sea ice (1991, p.133-140, eng) 47-3382
Barbin, Y.
Radar sounding of a temperate glacier: modelling and interpretation (1992, p.278-280, eng) 47-645
Barcilon, V.
Steady flow of a viscous ice stream across a no-slip/free-slip transition at the bed (1993, p.167-185, eng) 47-3950
Barclay, H.J.
Lodgepole pine response to nitrogenous fertilizers applied on and off snow, and to associated damage by small mammals (1992, p.225-238, eng) 47-2016
Bard, E.
Proceedings (1992, 344p., eng) 47-3555
Bardasov, S.A.
Dependence of the thickness of non-freezing water interlayers on the external pressure (1992, p.160-166, eng) 47-3733

Bardhan, M.
Integration of remote sensing and nuclear geophysics in seasonal snow cover assessment [1985. p.112-119. eng] 47-529

Bardin, V.I.
Chemical composition of snow cover on drifting ice in the Arctic [1991. p.129-135. rus] 47-2802

Bariffi, A.
Snow surveys for ski-lift managers—a proposal for a method of work, with application examples in some ski areas in Lombardy [1993. p.26-37. ita] 47-4702

Barkema, G.T.
Properties of a statistical model of ice at low temperatures [1993. p.2059-2067. eng] 47-4463

Barker, P.F.
Sedimentary record of antarctic climate change [1992. p.259-267. eng] 47-3145

Barkov, N.I.
[Response of authors to commentary on their "Reconstruction of the Holocene climate from the results of ice core studies on the Vavilov Dome, Severnaya Zemlya"] [1991. p.233-236. rus] 47-2817

Barnard, S.C.
Observation of recurrent temperature lapse near the surface at the South Pole [1988. p.145-147. eng] 47-4204

Barnes, P.W.
Beach profile modification and sediment transport by ice: an overlooked process on Lake Michigan [1993. p.65-86. eng] 47-2633
Particulate matter in pack ice of the Beaufort Gyre [1993. p.186-198. eng] 47-3951

Barnett, T.P.
Asian snow cover-monsoon-ENSO connection [1991. p.191-225. eng] 47-1503

Baron, W.R.
Historical climate records from the northeastern United States, 1640-1900 [1992. p.74-91. eng] 47-2082

Baroni, C.
Geomorphological and glaciological research during the 2nd P.N.R.A. expedition to Terra Nova Bay, 1986-1987 [1991. p.83-90. ita] 47-1792

Barr, R.
Simple theoretical model of the diffraction of VLF electromagnetic waves by the antarctic icecap [1992. p.1527-1533. eng] 47-740

Barrett, C.F.
Saltating particles over flat beds [*1993. p.661-685. eng*] 47-5195

Barrett, P.J.
Cenozoic sedimentary processes on the antarctic continental margin and the record from deep drilling [1992. p.77-103. eng] 47-1007

Barrett, S.A.
Shock wave studies of snow [1992. p.107-110. eng] 47-1143

Barrette, P.
On the reproduction of ice from a common seed [1993. p.153-156. eng] 47-4290

Barrie, L.A.
Arctic contaminants: sources, occurrence and pathways [1992. p.1-74. eng] 47-261
Natural and anthropogenic influences on the chemical composition of the arctic troposphere [1992. p.71-77. eng] 47-1427
Partitioning of nitrogen oxides in the lower arctic troposphere during spring 1988 [1993. p.15-27. eng] 47-5144
Scavenging ratios: black magic or a useful scientific tool? [1991. p.403-419. eng] 47-2214

Barron, J.A.
Diatoms from ice-rafted sediment collected from the Beaufort Sea, arctic Alaska [1992. 16p.. eng] 47-2773

Barron, T.S.
Industrial applications of freeze concentration technology. Final report [1987. Var. p.. eng] 47-1622

Barros, A.P.
Dynamic modeling of the spatial distribution of precipitation in remote mountainous areas [1993. p.1195-1214. eng] 47-4254

Barry, J.P.
Distribution of enteric bacteria in antarctic seawater surrounding a sewage outfall [1993. *p.645-650. eng*] 47-3678

Barry, R.G.
Advances in sea-ice research based on remotely sensed passive microwave data [1993. p.4-12. eng] 47-5271
Atmospheric circulation anomalies in the arctic basin and their relationships to the great salinity anomaly in the northern north Atlantic [1991. p.350-353. eng] 47-4488
Atmospheric forcings on large scale patterns of parameterized albedo over arctic sea ice: case studies for June 1975 and 1988 [1991. p.396-399. eng] 47-4493
Interannual variability of short-period changes in sea ice and atmospheric synoptic conditions in the Canada Basin [1988. p.28-31. eng] 47-4178
Introduction [1992. p.1-7. eng] 47-3015
Lead patterns in arctic sea ice *from remote sensing data: characteristics, controls and atmospheric interactions* [1988. p.40-43. eng] 47-4181
Observational evidence of changes in global snow and ice cover [1991. *p.329-345. eng*] 47-1505
Seasonal variations of atmospheric circulation and sea ice motion in the Arctic [1988. p.20-23. eng] 47-4177
Significance of global snow and ice cover for global change studies [1992. *p.293-297. eng*] 47-448
SSM/I and other cryospheric products from the snow and ice DAAC [1991. p.87-100. eng] 47-3378
Status and future directions for sea ice remote sensing [1992. p.443-446. eng] 47-3040
Synoptic activity in the Arctic Basin in summer, 1979-1985 [1988. p.52-55. eng] 47-4184

Barsch, D.
Permafrost creep and rockglaciers [1992. *p.175-188. eng*] 47-1769

Barsegov, IU.
Certain legal issues concerning prevention of radioactive pollution of the arctic marine environment from land-based sources [1993. p.523-534. eng] 47-5051

Bartek, L.R.
Evidence for a grounded ice sheet on the Ross Sea continental shelf during the Late Pleistocene and preliminary paleodrainage reconstruction [1992. p.39-62. *eng*] 47-2871
Evidence from the antarctic continental margin of Late Paleogene ice sheets: *a manifestation of plate reorganization and* synchronous changes in atmospheric circulation over the emerging southern ocean? [1992. p.131-159. eng] 47-3166
Pliocene-Pleistocene seismic stratigraphy of the Ross Sea: evidence for multiple ice sheet grounding episodes [1992. p.93-103. eng] 47-2873

Bartels, D.M.
Diffusion of atomic hydrogen in ice-Ih [1993. p.129-134. eng] 47-4855

Barteneva, O.D.
Aerosol optical characteristics of the arctic atmosphere [1989. p.53-58. eng] 47-1223

Barthelemy, J.L.
Landing and parking a C5 Galaxy on sea ice: McMurdo Station, Antarctica [1992. p.37-49. eng] 47-1017
Near breakup of the surface-flooded ice wharf at McMurdo Station, Antarctica [1992. p.592-599. eng] 47-1846

Bartlein, P.J.
Framework for interpreting *paleoclimatic variations in east*ern Beringia [1991. p.73-83. eng] 47-3481

Bartlett, K.B.
Methane emissions from tundra environments in the Yukon-Kuskokwim Delta, Alaska [1992. p.16,645-16,660. eng] 47-1459

Basalygin, G.M.
Analysis of the dynamic characteristics of the shaft line and *main thrust bearing of the "Arctic" type icebreaker* [1992. p.15-19. rus] 47-2919

Bascle, R.J.
Innoko National Wildlife Refuge oil and gas resource assessment [1993. 20p.. eng] 47-4895
Kodiak National Wildlife Refuge oil and gas resource assessment [1993. 21p.. eng] 47-4894
Teshekpuk Lake Special Management Area oil and gas re*source assessment*, National Petroleum Reserve-Alaska [1993. 20p.. eng] 47-4893

Basevich, V.
Novorossiysk bora [1992. p.51-53. rus] 47-2905

Basilashvili, Ts.Z.
Developing a method of forecasting rain and snow-rain triggered floods with insufficient data [1990. p.46-59. rus] 47-417

Baskar, K.
Ice nucleation studies on AgI-NaCl system [1992. p.267-270. eng] 47-2264

Baskaran, M.
Sediment inventory of Cs-137 in the Eastern Chukchi Sea, Northwest Alaskan Arctic [1993. p.37-47. eng] 47-5019

Bass, D.W.
Iceberg/seabed interaction events observed during the DIGS experiment [1991. p.74-87. eng] 47-1140

Bassett, R.L.
Simulation of natural acid sulfate weathering in an alpine watershed [1992. p.2197-2209. eng] 47-1506

Bates, G.T.
Interactive coupling of a lake thermal model with a regional climate model [1993. p.5045-5057. eng] 47-3784
Multiyear surface climatology of a regional atmospheric model over the western United States [1993. p.75-95. eng] 47-2460
Simulation of the *regional climate and hydrology of the Great* Lakes basin [1993. p.32-33. eng] 47-3043
Use of nested models to simulate regional orographic precipitation [1992. p.671-680. eng] 47-2743

Bates, R.E.
Longbow-Apache field experiment: data report [1992. 53p.. eng] 47-701
Regional CONUS snowfall intensity and inferred global patterns [1990. p.111-122. eng] 47-911

Batrakov, V.G.
Influence of different types of silica fume having varying silica content on the microstructure and properties of concrete [1993. *p.943-963. eng*] 47-3612

Battaglia, W.A.
Application of GIS in modelling winter orographic precipitation, Gunnison River basin, Colorado, USA [1993. p.491-499. eng] 47-4460

Battisti, D.S.
Simulation of the arctic climatology with the NCAR CCM-2 [1992. p.133-136. eng] 47-2400

Battlefield Atmospherics Conference, El Paso, TX, Dec. 3-6, 1991
Proceedings of the 1991 Battlefield Atmospherics Conference [1992. 646p.. eng] 47-1067

Batto, R.A.
Ductile-to-brittle transition in ice under compression: grain size effect [1993. p.229-234. eng] 47-3756
On the ductile-to-brittle transition in ice under compression [1993. p.2219-2225. eng] 47-4731

Bauer, K.M.
Chemical undercutting of ice on highway pavement materials [1991. p.230-242. eng] 47-1807
SHRP H-208: development of anti-icing technology [1992. 23p.. eng] 47-932

Bauer, P.
Clouds over both polar regions from the ISCCP pilot data sets [1988. p.137-140. eng] 47-4202

Baumann, M.
Combined high-resolution magnetostratigraphy and nannofossil biostratigraphy for late Quaternary Arctic Ocean sediments [1992. p.S567-S601. eng] 47-1279

Baumann, R.
Areal modelling of snow water equivalent based on remote sensing techniques [1991. p.121-129. eng] 47-1299
Measurements on contrails of commercial aircraft [1993. p.484-489. eng] 47-3079

Baume, O.
Mountain structure and glaciation of the Caucasus Mountains [1990. p.242-251,270. ger] 47-3793

Baumgartner, M.F.
Snow cover variation in the Alps using NOAA-AVHRR data [1991. p.41-50. eng] 47-1291

Bavoux, E.
Snow load on avalanche barriers. In-situ measurements and experiments [1993. p.18-25. ita] 47-4701
Telemetry of loads on avalanche protection structures [1992. p.26-28. fre] 47-2333

Baxter, A.
Sellafield as a source of radioactivity to the Barents Sea [1993. p.91-104. eng] 47-5023

Baxter, M.S.
Non-local radiological consequences of nuclear waste dumping in the Arctic seas: a preliminary assessment [1993. p.329-341. eng] 47-5040

Bayer, R.J.
Taxonomic revision of the genus *Antennaria* (Asteraceae: Inulear: Gnaphaliinae) of Alaska and Yukon Territory, northwestern North America [1993. p.150-159. eng] 47-4747

Bayley, S.E.
Peatland development in relation to Holocene climatic change in Manitoba and Saskatchewan (Canada) [1992. p.1070-1090. eng] 47-1798

Bayr, K.J.
Glacier recession in Iceland and Austria [1992. p.10-13. eng] 47-178

Bažant, Z.P.
Fracture analysis of penetration through floating sea ice plate and size effect [1993. p.131-144. eng] 47-3748
Ice mechanics—1993 [1993. 281p.. eng] 47-3737
Large-scale thermal bending fracture of sea ice plates [1992. p.17,739-17,751. *eng*] 47-1063

Bazhev, A.B.
Calculating and mapping the fields of components in the water-ice balance of glaciers [1991. p.94-102. rus] 47-326

Beaglehole, D.
Antifreeze glycopeptide adsorption on single crystal ice surfaces using ellipsometry [1993. p.1878-1884. eng] 47-5059

Beaubier, H.
Northern regulatory approvals [1993. p.92-100. eng] 47-4275

Beaucham, R.E.
Unsurfaced road maintenance management [1992. Var. p.. eng] 47-2756

Beauchamp, B.
*Cretaceous chemosynthetic carbonate mounds in the Canadi*an Arctic [1992. p.434-450. eng] 47-3987

Beauchemin, R.
Simulation of ice-shedding on electrical transmission lines using ADINA [1993. p.523-536. eng] 47-4857

Beaudoin, B.C.
Characteristics and processing of seismic data collected on thick, floating ice: results from the Ross Ice Shelf, Antarctica [1992. p.1359-1372. eng] 47-984

Beaufort Region Environmental Assessment and Monitoring Program (BREAM). Final report for 1991/1992
Beaufort Region Environmental Assessment and Monitoring Program (BREAM). Final report for 1991/1992 [1992, 359p. + appends., eng] 47-2623

Beaupre, D.
Influence of curing on the salt scaling resistance of concrete with and without silica fume [1989, p.971-989, eng] 47-61

Beaven, S.G.
Radar backscatter from arctic sea ice during IAOE '91 [1992, p.1530-1532, eng] 47-681
Radar backscatter measurements from arctic sea ice during the fall freeze-up [1993, 66p., eng] 47-4621

Beck, A.E.
Paleoclimate change and heat flow density inferred from temperature data in the Superior Province of the Canadian Shield [1992, p.143-165, eng] 47-2021

Beck, G.
Preliminary numerical simulations of the 31 January 1991 lake-effect snowstorm [1992, p.115-123, eng] 47-4040

Becker, B.R.
Soil thermal conductivity: effects of saturation and dry density [1992, p.158-165, eng] 47-1154

Beckwith, J.P.
Influence of wind, temperature, and deicing chemicals on snow accretion [1991, p.182-187, eng] 47-1801

Beecroft, I.
Use of meltwater stream material loads in the estimation of glacial *erosion rates* [1993, p.19-28, eng] 47-4983

Beer, H.
Ice-formation phenomena for water flow inside a cooled parallel plate channel: an experimental and theoretical investigation of wavy ice layers [1993, p.685-693, eng] 47-2654
Melting of ice in pure and saline water inside a square cavity [1992, p.311-319, eng] 47-2638
Numerical and experimental study of wavy ice structure in a parallel plate channel [1992, p.233-235, eng] 47-2188
Perturbation analysis of transient freezing of a laminar liquid flow in a cooled two-dimensional channel [1993, p.294-301, eng] 47-3838

Beer, J.
Be-10 peaks as time markers in polar ice cores [1993, p.141-153, eng] 47-2865

Beersma, J.J.
GCM control run of UK Meteorological Office compared with the real climate in the NW European winter [1992, 32p., eng] 47-3522

Beesley, J.A.
Modeling the interactions of sea ice and climate in the central Arctic [1992, p.105-108, eng] 47-2393

Begét, J.E.
Dating Holocene moraines of Black Rapids Glacier, Delta River valley, central Alaska Range [1993, p.51-59, eng] 47-4778

Bégin, Y.
Shoreline shrub population extension in response to recent isostatic rebound in eastern Hudson Bay, Quebec, Canada [1993, p.15-23, eng] 47-3423

Behling, P.
General circulation models, palaeoclimatic data and last interglacial climates [1991, p.231-242, eng] 47-3493

Belikson, M.M.
Methods for improving instruments for contact determination of physical-mechanical properties of snow [1991, p.97-102, rus] 47-388
River naleds in Kazakhstan [1991, p.176-181, rus] 47-2445

Bejan, A.
Comments on "Analysis of close-contact melting for octadecane and ice inside isothermally heated horizontal rectangular capsule" [1993, p.832, eng] 47-2655
Contact melting during sliding on ice [1993, p.1171-1179, eng] 47-3578

Bekker, A.T.
Definition of loading regime for offshore structures from drifting ice cover [1992, p.302-306, eng] 47-155

Bekriaev, R.V.
Effect of a meridional profile of surfaces on the characteristics of large-scale atmospheric waves [1992, p.75-86, rus] 47-3807
*Sparse parameter quasi-solenoidal model of large-scale atmo*spheric movements [1992, p.56-74, rus] 47-3806
Stochastic regime of large-scale atmospheric waves [1992, p.22-49, rus] 47-3804

Belitz, H.-J.
Meteorological research using a high mast on an antarctic ice shelf [1987, p.5-10, eng] 47-2912

Belknap, D.F.
Pre-late Wisconsinan chronology of Nova Scotia, Canada [1992, p.185-206, eng] 47-2692

Bell, A.L.
Geotechnical properties of Quaternary deposits in the Belfast area [1991, p.219-228, eng] 47-3879

Bell, F.G.
Engineering geology of Quaternary soils: I. Processes and properties [1991, p.3-38, eng] 47-3868
Engineering geology of Quaternary soils: II. Methods of treatment [1991, p.39-62, eng] 47-3869
Ground freezing [1992, p.321-333, eng] 47-4890

Bell, J.
Kinetic coefficient of friction measurements of EG/AD/S ice on filled Imron paint [1991, 33p. + appends., eng] 47-1340

Bell, K.P.
Molecular dynamics study of the structure of a long chain amphiphile monolayer adsorbed on ice *Ih* [1993, p.4160-4167, eng] 47-5272

Bellissent-Funel, M.C.
Structural study of water confined in porous glass by neutron scattering [1993, p.4246-4252, eng] 47-2675

Bello, R.
Seasonal changes in the radiation balance of subarctic forest and *tundra* [1993, p.32-36, eng] 47-3425

Belousenko, I.V.
Improving the performance of electrical networks under conditions of the Far North [1991, p.17-19, rus] 47-2486

Belova, L.K.
Estimation of cloud resources for *dispersion over the USSR* territory [1992, p.13-18, eng] 47-3988

Below, M.
Aerosols in the Arctic—results and evidence from the 1991/1992 EASOE aircraft measurement campaigns [1992, p.S1019-S1022, eng] 47-2075

Beltaos, S.
Current North American trends in river ice research [1988, p.3-29, eng] 47-717
Numerical computation of river ice jams [1993, p.88-99, eng] 47-3720

Beltrami, H.
Ground temperature histories in eastern and central Canada from *geothermal measurements: evidence of climatic* change [1992, p.167-184, eng] 47-2022

Beltramino, J.C.M.
Uses of antarctic ice [1992, p.241-247, spa] 47-4295

Benassi, P.
Brillouin and Raman scattering from liquid water [1992, p.287-299, eng] 47-1377

Bender, M.
*Delta*N-15 of N2 in air trapped in polar ice: a tracer of gas transport in the firn and a possible constraint on ice age-gas age differences [1992, p.15,683-15,697, eng] 47-996

Bendixen, O.
Volumetric changes at the East Svartisen ice cap during 1945-85 [1992, p.728-735, eng] 47-1985

Benedict, J.B.
2000-year lichen-snowkill chronology for the Colorado Front Range, USA [1993, p.27-33, eng] 47-4144
Field and laboratory studies of patterned ground in a Colorado alpine region [1992, 38p., eng] 47-1434
Influence of snow upon rates of granodiorite weathering, Colorado Front Range, USA [1993, p.87-92, eng] 47-4850

Benedict, R.
Measurements of snow temperature during rain [1993, p.6-7, eng] 47-1888

Bengtsson, L.
River ice forecasting [1988, p.113-137, eng] 47-725

Ben'kov, V.N.
Effect of temperature and time on stresses in frozen concrete under thermal cycling [1991, p.7-9, rus] 47-2157

Benn, D.I.
Genesis and significance of 'hummocky moraine': evidence from the Isle of Skye, Scotland [1992, p.781-799, eng] 47-3442

Bennett, F.L.
Cold region logistics planning and management [1993, p.1-11, eng] 47-4283

Benson, C.H.
Effect of freeze-thaw on the hydraulic conductivity and morphology of compacted *clay* [1993, p.236-246, eng] 47-4512
Hydraulic conductivity of compacted clay frozen and thawed *in situ* [1993, p.276-294, eng] 47-2545

Bentley, C.R.
Analysis of gravity measurements on the Ross Ice Shelf, Antarctica [1992, p.105-155 + 1 microfiche, eng] 47-2874
Analysis of radar studies on the Siple Coast [1991, p.62-63, eng] 47-2464
Analysis of seismic and gravity studies on the Siple Coast [1991, p.63-65, eng] 47-2465
Comparison of altimetry profiles over East Antarctica from Seasat and Geosat: an interim report [1990, p.1-9, eng] 47-3570

Bercha, F.G.
Optimal radar ice surveillance [1991, p.143-164, eng] 47-3383

Bereza-Kudrycki, W.
Determination of influence of studded tires on roadway surfaces and traffic accidents—winter 1981/82 [1985, 55p., eng] 47-5008
Survey of the influence of studded tires on traffic safety and determination of roadway surface wear from studs [1974, 90p., ger] 47-5010

Bereziaskii, N.A.
Methodology of airborne tests of anti-hail products in stratiform clouds [1991, p.68-74, rus] 47-754

Berezkin, V.V.
Estimating the time needed for hail cloud modifications to take effect [1991, p.149-156, rus] 47-763

Berg, A.
Vehicles and transports during the Swedish Antarctic Research Programme 1991/92 [1993, p.258-266, eng] 47-5114

Berg, R.L.
Mathematical model of frost heave and thaw settlement in pavements [1993, 126p., eng] 47-4870
Performance of asphalt concrete airport pavements during thaw weakening periods: a field study [1992, p.167-183, eng] 47-1135
Use of falling weight deflectometer (FWD) to characterize seasonal variation in pavement response [1992, p.395-404, eng] 47-2628

Berge, D.
Plankton primary productivity in an arctic lake: 71.2 deg N diurnal variations of productivity under the midnight sun [1988, 85p., nor] 47-2247

Berger, A.
Glaciation and deglaciation mechanisms in a coupled two-dimensional climate—ice-sheet model [1993, p.45-49, eng] 47-3939
Modelling the last ice-age cycle with 2-D climate models [1993, p.107-116, eng] 47-5267

Berger, R.
Site characterization measurements of background and targets in support of smart weapons testing [1993, 96p., eng] 47-4664

Berggren, W.A.
Eocene-Oligocene climatic and biotic evolution [1992, 568p., eng] 47-3165

Berglund, R.
Satellite-image workstation for icebreakers [1991, p.21-24, eng] 47-3372

Bergman, H.
Snow, hydrology and forests in high alpine areas [1991, 250p., eng] 47-1288

Bergman, T.L.
Thermocapillary convection during solid-liquid phase change [1992, p.1068-1070, eng] 47-1673

Bergot, T.
Numerical forecasting of radiation fog [1992, 16p., eng] 47-974

Bergström, H.
Turbulence structure in stably stratified flow in the wake *behind high mountains* [1992, p.J145-J148, eng] 47-2422

Bergström, S.
Spillway design floods in Sweden: I. New guidelines [1992, p.505-519, eng] 47-922

Berke, N.S.
Resistance of microsilica concrete to steel corrosion, erosion, and chemical attack [1989, p.861-886, eng] 47-58
Use of concrete admixtures to provide long-term durability from steel corrosion [1989, p.383-403, eng] 47-65

Berkey, R.A.
Non-chloride accelerating admixture for Class CF fly ash [1990, p.51-54, eng] 47-2719

Berkman, P.A.
Scallop shell mineralogy and crystalline characteristics: proxy records for interpreting antarctic nearshore marine hydrochemical variability [1992, p.27-38, eng] 47-2870

Bernath, S.C.
GIS-based method of modeling water input from rain-on-snow storms, for management and regulation of clearcut forest harvest [1992, p.125-128, eng] 47-502

Bernert, R.E., Jr.
Cryogenic ambient air vaporizers: frost growth, wind and seismic design for safety [1993, p.789-793, eng] 47-4876

Bernert, R.E., Sr.
Cryogenic ambient air vaporizers: frost growth, wind and seismic design for safety [1993, p.789-793, eng] 47-4876

Bernier, M.
Potential of ERS-1 SAR data for snow cover monitoring [1992, p.1664-1666, eng] 47-689
Use of satellite data for short term streamflow forecasting with the HYDROTEL model [1992, p.51-53, eng] 47-638

Bernier, P.Y.
Influence of opening size on snow evaporation in the forests of the Alberta Foothills [1993, p.239-244, eng] 47-4585

Berniker, IA.S.
Effective structural design plan for a marine steel platform in sea ice conditions [1993, p.12-15, rus] 47-4087

Berninger, U.G.
Mixotrophic algae in three ice-covered lakes of the Pocono Mountains, U.S.A. [1992, p.263-272, eng] 47-4517

Berntsson, L.
Freeze-salt resistance of superplasticized concrete [1989, p.18-22, eng] 47-11

Berra, M.
Behaviour of high erosion-resistant silica fume-mortars for repair of hydraulic structures [1989, p.827-847, eng] 47-57

Berrick, S.W.
Thermal reversal tactical decision aid evaluation [1992, p.75-83, eng] 47-1068

Berry, G.J.
Snow ablation in small forest openings in southwest Alberta [1992. p.1326-1331. eng] 47-3842
Berry, M.E.
Soil-geomorphic analysis of late-Quaternary glaciation and faulting, eastern escarpment of the central Sierra Nevada, California [1991. 376p., eng] 47-293
Berry, W.B.
Cold Weather Transit Technology Program. Volume 1: Executive summary. Final report [1992. 34p., eng] 47-4612
Bertolini, L.M.
Monitoring the dynamics of the antarctic coastline with Landsat images [1991. p.316-317. eng] 47-4676
Bertran, P.
Paleoclimatic implications of new data on the origin of "greze" layering [1992. p.97-112. fre] 47-831
Besant, R.W.
Mathematical model for predicting the densification and growth of frost on a flat plate [1993. p.353-363. eng] 47-2608
Prediction of spatial and temporal distributions of frost growth on a flat plate under forced convection [1993. p.278-281. eng] 47-2551
Prediction of spatial and temporal distributions of frost growth on a flat plate under forced convection [1992. p.131-139. eng] 47-4705
Beskow, R.H.
Removable bottom founded structure [1988. 16 col., eng] 47-3763
Bespalov, S.V.
Synoptic-statistical method for surface air temperature forecasting for 12, 24, and 36 hours under heavy snowfalls over the European territory [1991. p.6-9. eng] 47-995
Beswick, K.M.
Measurement and modelling of cloudwater deposition to a snow-covered forest canopy [1992. p.2893-2903. eng] 47-1947
Betts, A.K.
Oceanic boundary layer in the tropics during the last ice age [1991. p.480-483. eng] 47-4494
Beznosikov, V.A.
Role of nitrogen in podzol soils in the formation of a crop of annual agrocenoses [1991. p.98-106. rus] 47-4111
Bhalnik, A.
Mobile marine operations structure [1989. 38 col., eng] 47-3323
Mobile marine operations structure [1988. 30 col., eng] 47-4261
Bhandari, N.
Investigations of Himalayan glaciers using radioactive and stable isotopes: a review [1985. p.174-179. eng] 47-570
Bhandari, R.K.
Snow avalanches—classification, detection and search of victims [1985. p.341-346. eng] 47-551
Bhatt, P.P.
Comparison of Nimbus 7 limb infrared monitor of the stratosphere and radiosonde temperature in the lower stratosphere poleward of 60N [1992. p.13,001-13,014. eng] 47-78
Bhattacharya, T.K.
Neural network-based adaptive radar detection scheme for *small ice targets in sea clutter* [1992. p.1528-1529. eng] 47-741
Bhattacharya, U.
Experiments on artificial acceleration of ice and snow thawing and its suitability in clearing roads, helipads, runways, etc. from accumulated snow in the snowbound areas [1985. p.248-263. eng] 47-576
Bhogal, A.S.
Wave attenuation in the marginal ice zone during LIMEX [1992. p.192-206. eng] 47-2347
Bian, L.G.
Review of antarctic sea ice problems: observations [1992. p.51-58. chi] 47-73
Bianchi, F.
Brine investigations [1991. p.81-83. eng] 47-1629
Phytoplankton communities [1991. p.84-91. eng] 47-1630
Phytoplankton distribution in relation to sea ice, hydrography and nutrients in the northwestern Weddell Sea in early spring 1988 during EPOS [1992. p.225-235. eng] 47-1328
Bibollet, J.-C.
Steering system for vehicle such as snowmobile [1988. 6 col., eng] 47-3498
Bickerton, R.W.
"Little Ice Age" variations of outlet glaciers from the Jostedalsbreen ice-cap, southern Norway: a regional lichenometric-dating study of *ice-marginal moraine sequences* and their climatic significance [1993. p.45-66. eng] 47-5006
On the accuracy of lichenometric dates: an assessment based on "Little Ice Age" moraine sequence of Nigardsbreen, southern Norway [1992. p.227-237. eng] 47-1999
Bidlake, W.R.
Seed-zone temperature and moisture conditions under *conventional and no-tillage* in Alaska [1992. p.1904-1910. eng] 47-2299
Bidleman, T.F.
Organochlorine pesticides in the atmosphere of the southern ocean and Antarctica, January-March, 1990 [1993. p.258-262. eng] 47-4881
Selective accumulation of polychlorocamphenes in aquatic biota from the Canadian Arctic [1993. p.701-709. eng] 47-4629
Bidzhiev, R.A.
Karginsky sea terraces in northern West Siberia and the problem of the Sartan glaciation [1982. p.89-100. rus] 47-1245
Bienvenu, L.
Chemical interaction and cyclic freeze-thaw effects on the integrity of the soil cover for Waite Amulet tailings [1993. p.259-272. eng] 47-4468
Biggar, K.W.
Field load testing of various pile configurations in saline permafrost and seasonally frozen rock [1989. p.304-312. eng] 47-2229
Field pile load tests in saline permafrost. 1. Test procedures and results [1993. p.34-45. eng] 47-4162
Field pile load tests in saline permafrost. 2. Analysis of results [1993. p.46-59. eng] 47-4163
Laboratory and field performance of *high alumina cement* based grout for piling in permafrost [1991. p.42/1-42/9. eng] 47-2228
Strength and deformation behaviour of model adfreeze and grouted piles in saline frozen soils [1993. p.319-337. eng] 47-4514
Bigl, S.
Use of falling weight deflectometer (FWD) to characterize *seasonal variation in pavement response* [1992. p.395-404. eng] 47-2628
Bigras, F.J.
Influence of cultural practices on the relationship between frost tolerance and water content of containerized black spruce, white spruce, and jack pine seedlings [1993. p.503-511. eng] 47-3844
Bilaniuk, N.
Speed of sound in pure water as a function of temperature [1993. p.1609-1612. eng] 47-3433
Bilello, M.A.
Effects of severe freezing periods and discharge on the formation of ice jams at Salmon, Idaho [1992. 12p., eng] 47-698
Bilodeau, A.
Concrete incorporating high volumes of ASTM Class F fly ashes: mechanical properties and resistance to deicing salt scaling and to chloride-ion penetration [1993. p.319-349. eng] 47-3608
Resistance of condensed silica fume concrete to the combined action of freezing and thawing cycling and de-icing salts [1989. p.945-970. eng] 47-60
Bindschadler, R.A.
Application of image cross-correlation to the measurement of glacier velocity using satellite image data [1992. p.177-186. eng] 47-2555
Feature maps of ice streams C, D, and E, West Antarctica [1991. p.312-314. eng] 47-4674
First annual West Antarctic ice sheet (WAIS) science workshop [1993. 58p., eng] 47-5245
Interpretation of SAR imagery of the Greenland ice sheet using coregistered TM imagery [1992. p.167-175. eng] 47-2554
Monitoring of the Greenland ice sheet using ERS-1 synthetic aperture imagery [1993. p.253-257. eng] 47-4421
Binghamton Symposium in Geomorphology, 22nd, Buffalo, NY, Sep. 1991
Periglacial geomorphology: Proceedings [1992. 354p., eng] 47-844
Bingi, V.N.
"Electric current" states of the proton in water [1991. p.1068-1071. eng] 47-230
Binkley, D.
Topography and soil acidity in an arctic landscape [1992. p.1553-1559. eng] 47-1183
Birchfield, G.E.
Climate evolution in the Pliocene and Pleistocene from marine-sediment records and simulations: internal variability versus orbital forcing [1993. p.10,385-10,399. eng] 47-4392
Ice sheet dynamics and the Pleistocene ice ages [1987. p.381-398. eng] 47-4454
Bird, G.A.
Identification of deep groundwater discharge areas in the Boggy Creek catchment, southeastern Manitoba, using excess aqueous helium [1992. p.2640-2652. eng] 47-3714
Bird, K.J.
Subsurface temperatures and geothermal gradients on the North Slope of Alaska [1993. p.275-293. eng] 47-3931
Tectonics and petroleum potential of the Brooks Range fold and thrust belt—a progress report [1992. p.112-126. eng] 47-614
Bird, L.
Anti-icing and deicing device [1988. 8 col., eng] 47-3764
Birdy, J.N.
Arctic structure of composite wall construction [1987. 14 col., eng] 47-4007
Birillo, I.N.
Mathematical modelling of the thawing of permafrost beneath a pipeline [1992. p.23-24. rus] 47-2903
Birkeland, P.W.
Soil catena variation along an *alpine climatic transect, north*ern Peruvian Andes [1992. p.211-223. eng] 47-2252
Birkenmajer, K.
Late Proterozoic anthracite coals from the Hornsund area, south Spitsbergen [1992. p.71-90. eng] 47-4648
Bisson, J.L.
Use of satellite data for short term streamflow forecasting with the HYDROTEL model [1992. p.51-53. eng] 47-638
Bissonnette, L.R.
Extinction of visible and infrared beams by falling snow [1992. p.5121-5132. eng] 47-449
Bizerova, N.IA.
Effective method of building foundations for structures on permafrost [1991. p.16-17. rus] 47-2487
Bjedov, G.
Ice transport and jamming in river bends [1992. 94p., eng] 47-1313
Björck, S.
Clay-varve based Swedish time scale and its relation to the Late Weichselian radiocarbon chronology [1992. p.25-44. eng] 47-3556
Björkenes, A.
Ice problems in power plants and rivers in Norway. Results *from an inquiry* [1988. p.235-236. nor] 47-736
Ice problems in the Arendal River system, Norway [1988. p.227-234. nor] 47-735
Björklund, B.
Apparatus for deicing exterior parts of a railway vehicle [1987. 6 col., eng] 47-4002
Björnsson, H.
Jökulhlaups in Iceland: prediction, characteristics and simula*tion* [1992. p.95-106. eng] 47-1093
Volume of Graenalón and changes in the size and frequency of jökulhlaups [1989. p.90-95. ice] 47-712
Blackburn, R.R.
Chemical undercutting of ice on highway pavement materials [1991. p.230-242. eng] 47-1807
SHRP H-208: development of anti-icing technology [1992. 23p., eng] 47-932
Spreader equipment for anti-icing [1992. 14p., eng] 47-952
Blackburn, W.H.
Chaotic characteristics of snowmelt runoff: a preliminary study [1990. p.125-134. eng] 47-5217
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Character and causes of a pronounced snowmelt-induced "acidic episode" in a stream in a Scottish subarctic catchment [1993. p.267-300. eng] 47-4171
Blagoveshchenskii, V.P.
Evaluating the cost of anti-avalanche measures [1991. p.179-*186. rus*] 47-2810
Blais, R.
Study of the North Water polynya using passive microwave and infrared imagery [1993. p.92-101. eng] 47-3726
Blaisdell, G.L.
Braking traction on sanded ice at low slip rates [1992. 28p., eng] 47-939
Development of a wheeled runway for McMurdo on the Ross *Ice Shelf* [1992. 31p., eng] 47-2120
Preliminary study of the effect of fines on sanded-ice friction [1992. p.79-90. eng] 47-805
Shock response of snow: analysis of experimental methods and constitutive model development [1992. 19p., eng] 47-705
Shock wave studies of snow [1992. p.107-110. eng] 47-1143
Blake, D.R.
Summertime measurements of selected nonmethane hydrocarbons in the Arctic and subarctic during the 1988 Arctic *Boundary Layer Expedition* (ABLE 3A) [1992. p.16,559-16,588. eng] 47-1455
Blake, E.
Tools for examining subglacial bed deformation [1992. p.388-396. eng] 47-1390
Blake, W., Jr.
Holocene emergence at Cape Herschel, east-central Ellesmere Island, arctic Canada: implications for ice sheet configuration [1992. p.1958-1980. eng] 47-4156
Blanchet, G.
Exceptional rain-snow event of February 1990 in the North*ern Alps* [1993. p.68-77. fre] 47-4761
Blanchet, J.P.
Canadian Climate Centre second-generation general circulation model and its equilibrium climate [1992. p.1013-1044. eng] 47-1269
Blankenship, D.D.
Active volcanism beneath the west antarctic ice sheet and implications for ice-sheet stability [1993. p.526-530. eng] 47-1941
Blanpied, G.D., Jr.
D-crackability: a finite element measure [1992. 310p., eng] 47-274
Blanutsa, V.
Regionalization as a tool for studying carbon cycling in the former Soviet Union [1993. p.253-258. eng] 47-5241

Blatherwick, R.D.
Evidence for heterogeneous reactions in the antarctic autumn stratosphere [1993, p.49-51, eng] 47-1594
Measurements and model calculations of HCl column amounts and related parameters over McMurdo during the austral spring in 1989 [1992, p.20,795-20,804, eng] 47-2055

Blatter, H.
Effect of climate on the cryosphere—climatic conditions and the polythermal structure of glaciers [1991, 98p., eng] 47-4461
Meltwater refreezing in the accumulation area of the Greenland ice sheet: Pâkitsoq, summer 1991 [1992, p.13-17, eng] 47-1632

Blum, E.M.
Total atmospheric ozone measurements in Antarctica, 1988-1989 [1991, p.66-69, rus] 47-1577

Blix, A.S.
Noise and vibration levels in artificial polar bear dens as related to selected petroleum exploration and developmental activities [1992, p.20-24, eng] 47-3350

Blokhina, N.S.
Influence of convection and currents on bottom melting of ice during spring heating of a body of water [1989, p.82-87, eng] 47-1227

Blöndal, S.
Socioeconomic importance of forests in Iceland [1993, p.1-13, eng] 47-4526

Blöschl, G.
Analysis of snow cover patterns as derived from oblique aerial photographs [1991, p.91-99, eng] 47-1296
Spatially distributed snowmelt model for application in alpine terrain [1991, p.51-60, eng] 47-1292

Bluemle, J.P.
Exceptionally long, narrow drumlins formed in subglacial cavities, North Dakota [1993, p.15-24, eng] 47-4016

Blumer, F.
Characteristics of precipitation in the source area of the Urumqi River Basin [1992, p.258-266, chi] 47-1666

Blumthaler, M.
Solar UV-spectra in various environmental conditions [1992, p.413-415, eng] 47-1810

Blyth, A.M.
Development of ice and precipitation in New Mexican summertime cumulus clouds [1993, p.91-120, eng] 47-2146

Boardman, J.
Periglacial geomorphology [1992, p.339-345, eng] 47-425

Bobbitt, J.
Iceberg trajectory model—real-time verification [1992, 47p. + appends., eng] 47-2335

Bobrova, L.I.
Volumetric hydrothermal state and regime of Spitsbergen glaciers based on data from airborne radio echo sounding [1991, p.40-53, rus] 47-2787

Bobrova, T.N.
Restoring disturbed soils under conditions in the Far North: basis for design solutions [1991, p.10-11, rus] 47-2482

Bocharov, O.B.
Effect of selective withdrawal on the annual thermal regime of a deep water body [1993, p.384-390, eng] 47-4066

Bocharova, V.A.
Statistical evaluation of the correlations among the parameters of hail clouds during cloud seeding [1991, p.136-143, rus] 47-761
Variations in the diameter of hailstones during the seeding of hail clouds [1991, p.143-149, rus] 47-762

Bock, E.
Role of organic matter on nitric and nitrous oxide formation of Nitrosomonas and Nitrobacter [1992, p.251-259, eng] 47-1740

Bockheim, J.G.
Glacial history of the Ellsworth Mountains, West Antarctica [1992, p.403-432, eng] 47-2700
Soil-forming rates and processes in cold desert soils of Antarctica [1992, p.42-56, eng] 47-1703

Bodeker, G.E.
SANAE total column ozone: 1980 to 1990 [1991, p.220-221, eng] 47-4979

Boden, E.
Canada north of sixty [1991, 336p., eng] 47-789

Boden, J.F.
Canada north of sixty [1991, 336p., eng] 47-789

Bodhaine, B.A.
Summary of atmospheric transport to Barrow, Alaska during the Arctic Gas and Aerosol Sampling Program (March 1983 and April 1986) [1988, p.116-118, eng] 47-4196

Bodin, A.
Glacial landforms and the age of deglaciation in the Tiksi area, East Siberia [1992, p.295-304, eng] 47-4341

Bodnar, R.J.
Revised equation and table for determining the freezing point depression of H2O-NaCl solutions [1993, p.683-684, eng] 47-2928

Boehm, P.D.
Composition and distribution of saturated and aromatic hydrocarbons in nearshore sediments, river sediments, and coastal peat of the Alaskan Beaufort Sea: implications for detecting anthropogenic hydrocarbon inputs [1992, p.223-253, eng] 47-1170

Boehm, R.
Air temperature fluctuations in Austria 1775-1991: a contribution to greenhouse warming discussion [1993, p.J26-J30, eng] 47-3080

Boer, G.J.
Canadian Climate Centre second-generation general circulation model and its equilibrium climate [1992, p.1013-1044, eng] 47-1269
Greenhouse gas-induced climate change simula: .. with the CCC second-generation general circulation model [1992, p.1045-1077, eng] 47-1270

Bogdanov, G.E.
Anomalies of the shock compressibility of water [1992, p.162-165, eng] 47-2458

Bogdanov, K.T.
Three-dimensional acoustic waveguide in the Labrador Sea [1990, p.563-565, eng] 47-1232

Bogen, J.
Monitoring grain size of suspended sediments in rivers [1992, p.183-190, eng] 47-1813

Böggild, C.E.
Glacier inventory and atlas of West Greenland [1992, 194p., eng] 47-3519
Palaeo-environmental studies on the Greenland ice sheet margin [1993, p.66-68, eng] 47-4919

Bogorodskii, P.V.
Formation mechanism of the vertical structure of the Greenland convective gyre [1992, p.138-144, rus] 47-3812
Initial instrument measurements of the current in the region of the cold bottom water dome in the Greenland Sea [1992, p.165-168, rus] 47-3815

Bogorodskii, V.V.
Electromagnetic emissions associated with dynamic processes in ice [1992, p.43-46, eng] 47-414

Bogren, J.
Application of a local climatological model for prediction of air and road surface temperatures [1990, 12p. + reprints, eng] 47-4697
Description of a local climatological model for improvement of winter road surveys [1992, 10p., eng] 47-969
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Use of a local climatological model for the prediction of air and road surface temperatures along road stretches [1990, 45p., eng] 47-4696
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Bohara, R.C.
Integrated semiconductor resistance temperature sensor and resistive heater [1989, 10 col., eng] 47-3327

Bohn, D.
1992 annual report on Alaska's mineral resources [1992, 65p., eng] 47-4215

Bohncke, S.
Weichselian Upper Pleniglacial aeolian and ice-cored morphology in the southern Netherlands (Noord-Brabant, Groote Peel) [1992, p.327-342, eng] 47-2240

Boisvert, J.
Freeze-thaw durability and scaling resistance of concrete paving blocks [1992, p.1017-1024, fre] 47-3343

Bolduman, M.M.
Hydrobiological studies in the Arctic: the structure of bottom communities in the Spitsbergen Archipelago (western part) [1992, p.1332-1335, rus] 47-2039

Bolognesi, R.
Spatial analysis of avalanche hazards. First developments of a decision support system [1991, 217p., fre] 47-3702

Bolotinskaia, M.Sh.
Problem of climatic standards of temperature and air pressure in the Northern Hemisphere [1989, p.163-169, rus] 47-3670

Bolotnikov, G.I.
Calculating the maximum water levels in areas of backwater curves in designing the Khingan reservoir on the Amur River [1991, p.12-16, rus] 47-1043
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Bolsenga, S.J.
Estimating photosynthetically available radiation into open and ice-covered freshwater lakes from surface characteristics: a high transmittance case study [1992, p.95-104, eng] 47-2286
Great Lakes air temperature trends for land stations, 1901-1987 [1993, p.379-388, eng] 47-4565

Boltenko, E.L.
Chemical analysis of snow cover as an indicator of contamination in the Kola Peninsula [1991, p.60-64, rus] 47-1987

Bolter, M.
Organic matter and its availability to microorganisms in antarctic soils [1992, p.189-199, eng] 47-1728

Bolzan, J.F.
Modeled variations of precipitation over the Greenland ice sheet [1993, p.1253-1268, eng] 47-5210

Bomberg, M.T.
Moisture research in North America [1992, p.57-93, eng] 47-3451

Bonan, G.B.
Boreal forests, the carbon cycle and global change: a challenge for ecologists [1993, p.139-153, eng] 47-5235

Bonasoni, P.
Energy-balance and surface layer measurements in Antarctica [1992, p.213-218, eng] 47-1203
O3 and NO2 absorption cross section measurements by multipath spectrophotometer [1992, p.205-211, eng] 47-1202

Boncyk, W.C.
Retrieval of total precipitable water over high-latitude regions using radiometric measurements near 90 and 183 GHz [1992, p.1368-1378, eng] 47-1581

Bond, A.M.
Cyclic voltammetry at gold, platinum and carbon microelectrodes in ice without added supporting electrolyte: evidence for liquid microphases at temperatures well below the freezing point of water [1992, p.281-295, eng] 47-768

Bond, G.
Abrupt color changes in isotope stage 5 in North Atlantic deep sea cores: implications for rapid change of climate-driven events [1992, p.185-205, eng] 47-2836

Bondarenko, L.A.
Environmental protection in the North [1990, p.17-27, rus] 47-2455

Bondareva, T.A.
Estimating avalanche hazard in the territory of Afghanistan [1991, p.86-93, rus] 47-2793

Bone, B.D.
Influence of stratigraphy on the variation in geotechnical properties of the offshore Quaternary succession, Scotland [1991, p.119-126, eng] 47-3871

Boninsegna, J.A.
South American dendroclimatological records [1992, p.446-462, eng] 47-2096

Bönisch, G.
Halocarbon ratio and tritium/He-3 dating of water masses in the Nansen Basin, Arctic Ocean [1992, p.S435-S458, eng] 47-1273

Bonka, H.
Below-cloud scavenging of aerosol particles: particle-bound radionuclides—experimental [1993, p.605-618, eng] 47-4349

Bonnier, G.
Mercury point realization: estimate of some uncertainties [1992, p.287-291, eng] 47-2977

Boone, S.
Ammonia-water mixtures at high pressures: melting curves of ammonia dihydrate and ammonia monohydrate and a revised high-pressure phase diagram for the water-rich region [1991, p.603-610, eng] 47-4635

Bordeleau, D.
Comparative study of latex-modified concretes and normal concretes subjected to freezing and thawing in the presence of a deicer salt solution [1992, p.547-553, eng] 47-2546

Borho, A.A.
Doppler radar wind and reflectivity signatures with overrunning and freezing-rain episodes: preliminary results [1992, p.1350-1358, eng] 47-1123

Borisenko, V.M.
Alkali-silicate concrete for salt-and-frost resistant structures [1990, p.4-6, rus] 47-2161

Borisenkov, E.P.
Documentary evidence from the U.S.S.R. [1992, p.171-183, eng] 47-2087

Borisov, S.B.
Climatic changes in the Barents Sea area [1991, p.46-50, eng] 47-4252

Borisova, O.K.
Climatic rhythm of the last interglacial in northern Eurasia [1991, p.191-213, eng] 47-3490
Pliocene climates of the Northern Hemisphere [1991, 45p., eng] 47-629

Borkoski, J.
Innoko National Wildlife Refuge oil and gas resource assessment [1993, 20p., eng] 47-4895
Kodiak National Wildlife Refuge oil and gas resource assessment [1993, 21p., eng] 47-4894

Borland, S.L.
Braking traction on sanded ice at low slip rates [1992, 28p., eng] 47-939
Preliminary study of the effect of fines on sanded-ice friction [1992, p.79-90, eng] 47-805

Borodkin, V.A.
Influence of structural anisotropy of sea ice on its mechanical and electrical properties [1992, p.670-674, eng] 47-1857

Boronow, W.
Three-dimensional simulation of electrothermal deicing systems [1992, p.1035-1042, eng] 47-1563

Borrmann, S.
Application of microholography for ground-based *in situ* measurements in stratus cloud layers: a case study [1993, p.277-293, eng] 47-3772
Borys, R.D.
Field instrument for examining in-cloud scavenging mechanisms by snow [1991, p.239-253, eng] 47-2212
Field observations, measurements and preliminary results from a study of wet deposition processes influencing snow and ice chemistry at Summit, Greenland [1991, p.1705-1718, eng] 47-2220
Nine-winter record of cloud-droplet physical and chemical properties at a mountain-top site in Colorado, USA [1993, p.15-22, eng] 47-3099
Boschung, M.
Snow-removing machine [1987, 8 col., eng] 47-4003
Bose, N.
Icing on a small horizontal-axis wind turbine—part 1: glaze ice profiles [1992, p.75-85, eng] 47-3921
Icing on a small horizontal-axis wind turbine—part 2: three dimensional ice and wet snow formations [1992, p.87-96, eng] 47-3922
Bose, S.
Systems approach to management of roads and airfields in snowbound areas [1985, p.366-380, eng] 47-583
Boselly, S.E., III
Measuring the benefits of RWIS [1992, p.18.20, eng] 47-2328
Road weather information systems: what are they and what can they do for you [1992, 8p., eng] 47-964
Staff weather advisor: a person for all seasons (and many reasons) [1992, 3p., eng] 47-958
Bosikov, N.P.
Evolution of alassy in Central Yakutia [1991, 127p., rus] 47-102
Bosio, L.
Structural study of water confined in porous glass by neutron scattering [1993, p.4246-4252, eng] 47-2675
Bosniatskii, G.P.
Multilayered insulation ensuring human activity in extreme climatic conditions [1991, p.33, rus] 47-2477
Botch, M.S.
Carbon storage in peat based on regionality of Russian mires [1993, p.101-107, eng] 47-5232
Bottenheim, J.W.
Partitioning of nitrogen oxides in the lower arctic troposphere during spring 1988 [1993, p.15-27, eng] 47-5144
Bouchard, G.
Aerodynamic acceptance testing of aircraft ground de/anti-icing fluids [1992, 41p. + appends., eng] 47-2226
Aircraft take-off laboratory simulation for de/anti-icing study [1992, p.183-193, eng] 47-1578
Experimental evaluation of flat plate boundary layer growth over an anti-icing fluid film [1993, p.96-104, eng] 47-5007
Boulton, G.S.
Consolidation of sediments by glaciers: relations between sediment geotechnics, soft-bed [illegible]r dynamics and subglacial ground-water flow [199? [illegible]5-44, eng] 47-3938
Bousquegneau, J.M.
Influence of physical and biological processes on the concentration of O2 and CO2 in the ice-covered Weddell Sea in the spring of 1988 [1992, p.163-170, eng] 47-1326
Bourke, R.H.
Contour mapping of Arctic basin ice draft and roughness parameters [1992, p.17,715-17,728, eng] 47-1061
Boutron, C.F.
Changes in cadmium concentrations in antarctic ice and snow during the past 155,000 years [1993, p.431-441, eng] 47-4833
Occurrence of heavy metals in antarctic and Greenland ancient ice and recent snow [1990, p.137-151, eng] 47-2071
Variations in mercury deposition to Antarctica over the past 34,000 years [1993, p.621-623, eng] 47-3445
Bowers, D.
Experiments with corrosion inhibited deicers in Washington State [1992, 11p., eng] 47-935
Bowling, S.A.
Climate change as seen by trees and by climate modelers [1993, p.189-202, eng] 47-4537
Thermodynamics of pollutant removal as an indicator of possible source areas for arctic haze [1992, p.2953-2961, eng] 47-1949
Bowman, K.P.
Multivariate sensitivities of a dynamic-thermodynamic sea ice model [1992, p.87-90, eng] 47-2388
Polar stratospheric clouds at the South Pole in 1990: lidar observations and analysis [1993, p.1001-1010, eng] 47-2701
Box, S.E.
Geochemically anomalous areas in the eastern Goodnews Bay 1 deg by 3 deg quadrangle, southwest Alaska [1992, p.156-162, eng] 47-615
Boyarskii, D.A.
Theoretical and experimental studies of snow covers' microwave emissivity [1993, p.959-970, eng] 47-4828
Boygle, J.
Swedish varve chronology—a review [1993, p.1-19, eng] 47-4073
Boyne, H.S.
Comparison of millimeter-wave radar observations of snow with energy and mass transfer simulation [1992, p.815-817, eng] 47-658
Comparison of normalized radar cross section measurements and models for snow cover at 35, 95, and 225 GHz [1992, p.1655-1657, eng] 47-686
Bozhinskii, A.N.
Avalanche risk: classification and control [1992, p.29-35, rus] 47-1990
Problems of optimization in avalanche studies [1990, p.38-43, rus] 47-1986
Brasten, D.A.
Instrumentation to quantitatively measure dynamic snow accumulation processes in remote regions [1993, p.72-73, eng] 47-3064
Braddick, P.W.
Mobile marine operations structure [1989, 38 col., eng] 47-3323
Mobile marine operations structure [1988, 30 col., eng] 47-4261
Bradley, B.C.
Freeze-control strategy and air-to-air energy recovery performance [1992, p.44-45,48-49, eng] 47-1936
Bradley, D.C.
Deformation history of the McHugh Complex, Seldovia Quadrangle, south-central Alaska [1992, p.17-32, eng] 47-609
Geologic studies in Alaska by the U.S. Geological Survey, 1990 [1992, 244p., eng] 47-608
Bradley, J.T.
Automated snow depth measurement [1993, p.74-79, eng] 47-3065
Bradley, M.M.
Numerical model of aerosol scavenging, part 1: microphysics parameterization [1991, p.575-590, eng] 47-2216
Numerical model of aerosol scavenging, part 2: simulation of a large city fire [1991, p.591-601, eng] 47-2217
Bradley, R.S.
Climate since A.D. 1500 [1992, 679p., eng] 47-2078
Climate since A.D. 1500: introduction [1992, p.1-16, eng] 47-2079
Climatic variations in the longest instrumental records [1992, p.246-268, eng] 47-2088
Climatic variations over the last 500 years [1992, p.649-665, eng] 47-2102
Climatology of surface-based inversion in the North American Arctic [1992, p.15,699-15,712, eng] 47-997
Braga, S.L.
Effect of density extremum on the solidification of water on a vertical wall of a rectangular cavity [1992, p.703-713, eng] 47-1628
Effect of the water density extremum on the solidification process [1991, p.1185-1192, eng] 47-5110
Bragina, L.V.
Solid wastes from the drilling of boreholes in the Far North: *means of reduction* [1991, p.26, rus] 47-2489
Braid, J.E.M.
Evaluation of FCAW consumables for offshore and arctic structure fabrication [1993, p.76-82, eng] 47-2667
Braithwaite, R.J.
Calculated variations of annual ice ablation at the margin of the Greenland ice sheet, West Greenland, 1961-90 [1992, p.266-272, eng] 47-467
Degree-day factor, energy balance, and the increased melting of the Greenland ice sheet under a warmer climate [1992, p.79-83, eng] 47-1642
Evaluation of hydropower potential for possible future industrial use, Nuuk area, West Greenland [1993, p.59-62, eng] 47-4917
Firn temperature and meltwater refreezing in the lower accumulation area of the Greenland ice sheet, Pâkitsoq, West Greenland [1993, p.109-114, eng] 47-4920
Greenland glaciers and the "greenhouse effect," status 1991 [1992, p.9-13, eng] 47-1631
Is the Greenland ice sheet getting thicker [1993, p.379-381, eng] 47-4136
Measurements of firn density in the lower accumulation area of the Greenland ice sheet: EPOCH 1992 [1993, p.62-65, eng] 47-4918
Meltwater refreezing in the accumulation area of the Greenland ice sheet: Pâkitsoq, summer 1991 [1992, p.13-17, eng] 47-1632
Brakey, B.
Cold weather compaction [1992, 16p., eng] 47-861
Brandal, M.K.
Stratigraphy and sedimentation of a terminal moraine deposited in a marine environment—two examples from the Raridge in Ostfold, southeast Norway [1991, p.3-14, eng] 47-3832
Brandesten, C.O.
Flood control in Luleälven. Sensitivity analysis of new Swedish guidelines [1992, p.443-452, swe] 47-1971
Brandini, F.
Effects of antarctic sea ice biota on seeding as studied in aquarium experiments [1992, p.333-339, eng] 47-1333
Brandl, H.
Mineral criterion for evaluating the frost-susceptibility of pavement structures and soils [1992, p.3034-3035, eng] 47-1818
Brandsdóttir, B.
Icequakes in Entujökull and Kötlujökull [1989, p.96-98, ice] 47-713
Brandstätter, W.
Three-dimensional simulation of powder avalanches [1992, p.119-133, eng] 47-3193
Brandt, M.
Monitoring and modelling snow storage in Swedish mountain basins [1992, p.204-210, eng] 47-1962
Brandt, R.E.
East antarctic sea ice: albedo, thickness distribution, and snow cover [1993, p.12,417-12,429, eng] 47-4519
Optical properties of snow [1991, p.272-275, eng] 47-3056
Solar-heating rates and temperature profiles in antarctic snow and ice [1993, p.99-110, eng] 47-3944
Branson, M.D.
Application of GIS in modelling winter orographic precipitation, Gunnison River basin, Colorado, USA [1993, p.491-499, eng] 47-4460
Simulation of precipitation in the Gunnison River basin using an orographic-precipitation model [1992, p.651-660, eng] 47-2741
Using coupled atmospheric and hydrologic models to investigate the effects of climate change in mountainous regions [1992, p.691-700, eng] 47-2745
Brasseur, G.
Chemical mechanisms behind ozone depletion [1992, p.294-297, eng] 47-1071
Impact of heterogeneous chemistry on model predictions of ozone changes [1992, p.18,015-18,033, eng] 47-1565
Braun, L.N.
Modelling of the snow-water equivalent in the mountain environment [1991, p.3-17, eng] 47-1289
Brazel, A.J.
Climate and glacier change: the dilemma of the representative station [1992, p.1-14, eng] 47-1002
Summer energy balance on West Gulkana Glacier, Alaska, and linkages to a temporal synoptic index [1992, p.15-34, eng] 47-1003
Brazier, V.
Report on the Franz Josef Glacier [1992, p.35-49, eng] 47-1004
Brazil, L.E.
Verification of the National Weather Service extended streamflow prediction procedure [1992, p.163-172, eng] 47-2725
Bredow, J.W.
Scattering model for snow-covered sea ice [1992, p.804-810, eng] 47-360
Breedveld, G.D.
Biodegradation of organic pollutants in soil and groundwater [1992, p.15/1-15/13, eng] 47-2827
Contaminants which will be studied in this project [1992, p.7/1-7/14, eng] 47-2826
Brehme, I.
Sediment facies and bottomwater current on the continental slope in the northwestern Weddell Sea [1992, 127p., ger] 47-1435
Bremer, J.
Noise thermometry, He-3 melting pressures and superconductive transition temperatures between 0.4 K and 0.09 K [1992, p.15-20, eng] 47-2941
Brennan, A.M.
Permafrost bibliography update 1988-1992 [1993, 401p., eng] 47-3672
Permafrost information and data management activities of the National Snow and Ice Data Center [1992, p.119-124, eng] 47-1402
Bresnahan, D.M.
Use of the C-5 Galaxy in support of the United States Antarctic Program [1993, p.238-245, eng] 47-5113
Brestkin, S.V.
Automated processing and analysis of data on cracks in the sea ice cover, made from visual observations from an aircraft [1990, p.133-147, rus] 47-3600
Breza, J.R.
Lower Oligocene ice-rafted debris on the Kerguelen Plateau: evidence for east antarctic continental glaciation [1992, p.161-178, eng] 47-2459
Brickman, A.M.
Low temperature cracking experiment at USACRREL Frost Effects Research Facility [1992, p.289-307, eng] 47-1139
Bridgham, S.
Influence of beaver and bogs on greenhouse gases at Voyageurs National Park [1992, p.471-479, eng] 47-2732
Bridgman, H.A.
"Major" arctic haze event north of Point Barrow, Alaska, April 1986 [1988, p.112-115, eng] 47-4195
Briggs, W.M.
Assessing the completeness of the deglacial-marine stratigraphy record on west Spitsbergen by accelerator mass spectrometry radiocarbon dating [1993, p.1-6, eng] 47-4015

Briggs, W.M. *(cont.)*
Suspension freezing of bottom sediment and biota in the Northwest Passage and implications for Arctic Ocean sedimentation [1992, p.693-703, eng] 47-379
Brigham-Grette, J.
Aminostratigraphic correlations and paleotemperature implications, Pliocene-Pleistocene high-sea-level deposits, northwestern Alaska [1993, p.21-33, eng] 47-4733
Last interglaciation in Alaska: stratigraphy and paleoecology of potential sites [1991, p.49-71, eng] 47-3480
Pliocene marine transgressions of northern Alaska: circumarctic correlations and paleoclimatic interpretations [1992, p.74-89, eng] 47-3352
Brigham, L.W.
Soviet arctic marine transportation 1990 [1991, p.109-110, eng] 47-242
Brisco, B.
Evaluation of limits to the performance of the surface roughness meter [1993, p.140-145, eng] 47-4591
Briscoe, J.A.
Method and apparatus for deicing a leading edge [1987, 14 col., eng] 47-3849
British Antarctic Survey
Report for the period 1 Apr. 1991 to 31 Mar. 1992 (but reporting the full antarctic field season) [1992, 111p., eng] 47-2567
Brittin, D.S.
Mobile marine operations structure [1989, 38 col., eng] 47-3323
Mobile marine operations structure [1988, 30 col., eng] 47-4261
Brock, C.A.
Microphysical, chemical and meteorological aspects of aerosol hazes in the Arctic [1991, 323p., eng] 47-308
Brockman, C.S.
Ages of the Whitewater and Fairhaven tills in southwestern Ohio and southeastern Indiana [1992, p.89-98, eng] 47-2685
Brodscholl, A.L.
Magnetic investigations of the Ekström Ice Shelf, Antarctica [1992, p.113-129, eng] 47-4739
Broecker, W.S.
Abrupt color changes in isotope stage 5 in North Atlantic deep sea cores: implications for rapid change of climate-driven events [1992, p.185-205, eng] 47-2836
Defining the boundaries of the Late-Glacial isotope episodes [1992, p.135-138, eng] 47-986
Proceedings [1992, 344p., eng] 47-3555
Strength of the Nordic heat pump [1992, p.173-181, eng] 47-3557
Bromwich, D.H.
Acoustic remote sensing study of boundary layer blocking near Ross Island, Antarctica [1992, p.J29-J32, eng] 47-2410
Case studies of katabatic wind forced mesoscale cyclogenesis over the southwestern Ross Sea [1992, p.J129-J132, eng] 47-2418
Katabatic surges across the Ross Ice Shelf, Antarctica: atmospheric circulation changes and oceanographic impacts [1992, p.29-32, eng] 47-2371
Katabatic wind dynamics at Terra Nova Bay, Antarctica from the satellite image perspective [1992, p.J125-J128, eng] 47-2417
Modeled variations of precipitation over the Greenland ice sheet [1993, p.1253-1268, eng] 47-5210
NCAR CCM1 simulation of the modern arctic climate [1992, p.129-132, eng] 47-2399
Numerical simulation of katabatic winds crossing the Siple Coast area of West Antarctica [1992, p.J137-J140, eng] 47-2420
Precipitation variations over the Greenland ice sheet during the last three decades [1992, p.125-128, eng] 47-2398
Present-day antarctic climatology of the NCAR Community Climate Model Version 1 [1993, p.205-226, eng] 47-2707
Satellite observation of katabatic-wind propagation for great distances across the Ross Ice Shelf [1992, p.1940-1949, eng] 47-876
Brook, E.J.
Chronology of Taylor Glacier advances in Arena Valley, Antarctica, using *in situ* cosmogenic He-3 and Be-10 [1993, p.11-23, eng] 47-5202
Brook, J.W.
Non-chloride accelerating admixture for Class CF fly ash [1990, p.51-54, eng] 47-2719
Year-round accelerating admixture [1989, p.535-555, eng] 47-66
Brooks, G.R.
Characteristics of an ice-scoured river bank near Keele River confluence, Mackenzie Valley, Northwest Territories [1993, p.39-43, eng] 47-3704
Brooks, I.M.
Effects of high liquid water content on thunderstorm charging [1992, p.14,671-14,676, eng] 47-252
Broesin, C.E.
Fiber optic probe system [1989, 20 col., eng] 47-3108
Brouwers, E.
Sediment export by ice rafting from a coastal polynya, arctic Alaska, U.S.A. [1993, p.83-98, eng] 47-4741
Brovin, A.I.
Problem of separating gradation of irregularity in a series of hydrometeorological elements [1990, p.84-88, rus] 47-3592
Brovka, G.P.
On the characteristics of mass transfer during the freezing of peat [1991, p.51-56, rus] 47-4809
Redistribution of moisture and cryogenic structural formation in freezing sapropel [1991, p.67-74, rus] 47-4812
Browell, E.V.
Differential absorption lidar detection of ozone in the troposphere and lower stratosphere [1991, p.77-89, eng] 47-1338
Large-scale variability of ozone and aerosols in the summertime arctic and sub-arctic troposphere [1992, p.16,433-16,450, eng] 47-1447
Meteorological overview of the Arctic Boundary Layer Expedition (ABLE 3A) flight series [1992, p.16,395-16,419, eng] 47-1445
Ozone and aerosol changes during the 1991-1992 Airborne Arctic Stratospheric Expedition [1993, p.1155-1158, eng] 47-5140
Brown, J.
Circumarctic map of permafrost and ground ice conditions [1992, p.15-21, eng] 47-1701
Brown, J.A.
Shock response of snow [1993, p.4852-4861, eng] 47-3794
Shock response of snow: analysis of experimental methods and constitutive model development [1992, 19p., eng] 47-705
Shock wave studies of snow [1992, p.107-110, eng] 47-1143
Brown, J.M.
Snowfall-event climatology: the finale [1992, p.66-77, eng] 47-495
Brown, P.
Pre-EUCREX in-flight humidity intercomparison [1993, p.479-483, eng] 47-3078
Brown, P.R.A.
Comparison of in-cloud measurements obtained with six PMS 2D-C probes [1993, p.180-194, eng] 47-2768
Brown, P.W.
Probabilistic analysis of local ice pressures [1993, p.83-89, eng] 47-2668
Brown, R.D.
Interannual variability of landfast ice thickness in the Canadian High Arctic, 1950-89 [1992, p.273-284, eng] 47-3321
Brown, R.H.
Phase composition of Triton's polar caps [1993, p.748-751, eng] 47-5130
Brown, R.J.
Evaluation of limits to the performance of the surface roughness meter [1993, p.140-145, eng] 47-4591
Brown, R.L.
On the effect of phase transformations and dislocation density gradients on saline ice compliance [1993, p.189-198, eng] 47-3753
Brown, T.G.
Modelling for ice-structure interactions [1993, p.119-125, eng] 47-4239
Browne, C.M.
Ice mechanics in the LeadEx program [1991, p.651-656, eng] 47-2184
Brozena, J.M.
Airborne measurement of absolute sea-surface heights [1993, p.875-878, eng] 47-4632
Bruce, D.
History of tree planting on the Aleutian Islands [1993, p.393-426, eng] 47-4552
Bruce, R.
Subaru-Isuzu assembly plant floors [1989, P.23-27, eng] 47-2751
Brugger, H.
New perspectives on the survival chances of a person buried in an avalanche [1992, p.24-31, eng] 47-1319
Brugman, M.M.
Scale dependent albedo variations and runoff from a glacierized alpine basin [1991, p.61-71, eng] 47-1293
Brühl, C.
On the potential importance of the gas phase reaction CH3O2 + ClO—ClOO + CH3O and the heterogeneous reaction HOCl + HCl—H2O + Cl2 in "ozone hole" chemistry [1992, p.1113-1116, eng] 47-1566
Bruland, O.
Main project 1991—water balance and a model of drainage in permafrost areas [1991, Var.p., nor] 47-2248
Report on field work in Svalbard [1992, 11p., nor] 47-2012
Brümmer, B.
Cold air outbreak near Spitsbergen in springtime—boundary-layer modification and cloud development [1992, p.13-46, eng] 47-900
Brune, E.
Safety in ice navigation in antarctic waters [1992, p.571-576, eng] 47-1843
Brunengo, M.J.
GIS-based method of modeling water input from rain-on-snow storms, for management and regulation of clearcut forest harvest [1992, p.125-128, eng] 47-502
Bruni, F.
Dissipative quantum tunneling of rotational defects in ice. The Pauling potential [1993, p.4227-4228, eng] 47-5273
Temperature dependence of dielectric relaxation in H2O and D2O ice. A dissipative quantum tunneling approach [1993, p.538-547, eng] 47-4288
Brunnberg, L.
Clay-varve based Swedish time scale and its relation to the Late Weichselian radiocarbon chronology [1992, p.25-44, eng] 47-3556
Brunner, F.
Characterization and comparison of macrofungal communities in an *Alnus tenuifolia* and an *Alnus crispa* forest in Alaska [1992, p.1247-1258, eng] 47-1483
Brunner, I.
Characterization and comparison of macrofungal communities in an *Alnus tenuifolia* and an *Alnus crispa* forest in Alaska [1992, p.1247-1258, eng] 47-1483
Brunot, G.
Month of July like no other [1992, p.12-13, fre] 47-2331
Bruss, P.T.
Use of stress waves in removing ice from concrete [1992, 9p., eng] 47-951
Bruzzone, R.
Device and attendant equipment for converting a motor-scooter into a vehicle suitable for operating on snowy ground [1988, 4 col., eng] 47-3770
Bryan, J.R.
Descriptions of sediments recovered by the USCGC *Glacier*, USARP Operation Deep Freeze 1985: South Orkney Plateau, South Shetland Shelf, Bransfield Strait, Marguerite Bay, Pine Island Bay [1992, 179p., eng] 47-2627
Descriptions of sediments recovered by the USCGC *Glacier*, USARP Operation Deep Freeze 1987: western Ross Sea [1993, 75p., eng] 47-4826
Brydsten, L.
Pre-Holocene marine limit on Hopen, Svalbard [1993, p.159-164, eng] 47-4853
Brynildsen, A.
Phosphorus in runoff from soil erosion areas. Phosphorus adsorbed by inorganic silt particles in fluvial sediment transport [1992, p.346-353, nor] 47-1968
Buch, V.
Preferential adsorption of ortho-H2 with respect to para-H2 on the amorphous ice surface [1993, p.4195-4206, eng] 47-2674
Rotational spectrum of a quantum rotor adsorbed on a rough and disordered surface: para-H2 and ortho-H2 on amorphous ice [1993, p.2265-2268, eng] 47-4464
Buchanan, D.
Annual ablation rates of the Lewis Cliff ice tongue [1991, p.86-87, eng] 47-2472
Oxygen isotope study of the ice fields surrounding the Reckling Moraine on the East Antarctic ice sheet [1992, p.15-26, eng] 47-2869
Buchholtz ten Brink, M.R.
Mobility of radioisotopes in marine surface sediments [1993, p.311-323, eng] 47-5038
Buchko, N.A.
Freezing earth with seasonal cooling plants [1992, p.258-264, eng] 47-2292
Buchli, P.
White phosphorus poisoning of waterfowl in an Alaskan salt marsh [1992, p.669-673, eng] 47-1235
Buck, A.L.
CR-1 cryogenic hygrometer on board the DLR Falcon: installation, performance tests, and examples of measured data [1993, p.117-120, eng] 47-3067
Buck, K.R.
Changes in the sea-ice brine community during the spring-summer transition, McMurdo Sound, Antarctica. I. Photosynthetic protists [1992, p.265-278, eng] 47-520
Changes in the sea-ice brine community during the spring-summer transition, McMurdo Sound, Antarctica. II. Phagotrophic protists [1993, p.103-113, eng] 47-4725
Photosynthetic dinoflagellates and their cysts characteristic of the land-fast ice [1991, p.143-144, eng] 47-1439
Winter plankton assemblage in the ice edge zone of the Weddell and Scotia Seas: composition, biomass and spatial distributions [1993, p.311-338, eng] 47-3628
Buckingham, M.J.
Ocean-acoustic propagation in an arctic profile [1993, p.93-104, eng] 47-4633
Budd, T.
Ground freezing to provide support for tunneling using vertical refrigeration pipes [1991, p.267-272, eng] 47-992
Budéus, G.
Variability in the Greenland Sea as revealed by a repeated high spatial resolution conductivity-temperature-depth survey [1993, p.9985-10,000, eng] 47-4371
Bud'kov, S.T.
Ecological aspects of the establishment of a West Siberian territorial-industrial complex [1991, p.34-42, rus] 47-3277

Budkowska, B.B.
Design of piles in permafrost under combined lateral and axial load—discussion and reply [1992, p.162-166, eng] 47-2642

Budmiger, K.
Monitoring of periglacial phenomena in the Furggentälli Swiss Alps [1992, p.149-155, eng] 47-1755

Budyko, M.I.
Anticipated human modifications of global climate [1990, p.11-23, eng] 47-171

Bukatov, A.E.
Influence of snow viscosity on forced flexural-gravity waves in a basin with a density jump [1992, p.259-266, eng] 47-781

Bukharitsin, P.I.
Method for short-term forecasting of the position of the close pack ice edge in the northern Caspian Sea [1992, p.58-63, eng] 47-3992
Method of calculating and predicting the thickness of rafted ice in open regions of the North Caspian [1993, p.390-394, eng] 47-4067

Baldovich, S.N.
Mathematic modeling of conductive and convective heat transfer in the taliks of a cryolite zone [1991, p.55-64, eng] 47-420

Balmanis, V.N.
Atmospheric durability of polymer-fiber composites in cold climates [1992, p.698-705, eng] 47-207

Bundtzen, T.K.
Alaska's mineral industry, 1991 [1992, 89p., eng] 47-1485

Buntzen, R.R.
Measuring the point spread function of sea ice *in situ* [1992, p.517-526, eng] 47-3735

Buonadonna, V.
Cloud clearing with a CO2 laser in a cirrus cloud simulation facility [1992, p.5871-5877, eng] 47-2664

Burashnikova, E.N.
Purple non-sulphur bacterium from ancient cryogenic rocks of the Kolyma Lowland [1992, p.232-240, eng] 47-1736

Burch, D.M.
Analysis of moisture accumulation in a wood-frame wall subjected to winter climate [1992, p.467-479, eng] 47-1161

Burch, L.E.
Capabilities of the Automated Surface Observing System (ASOS) and comparisons to manual observing techniques [1993, p.363-367, eng] 47-3075

Burding, T.P.
Experimental research of fracture toughness of Okhotsk Sea ice [1992, p.363-366, eng] 47-166
Investigations of fracture toughness K1c of sea ice [1992, p.675-676, eng] 47-1858

Bürge, T.A.
Silica fume-polymer mortars for rehabilitation of bridge decks [1993, p.1273-1286, eng] 47-3615

Burgess, M.M.
Snow depth and density measurements, Norman Wells pipeline study sites, Mackenzie Valley 1985 to 1991 [1993, 13p. + appends., eng] 47-3903

Burk, S.D.
Mesoscale meteorological modeling support for LEADEX [1992, p.58-61, eng] 47-2380

Burkart, U.
Areal modelling of snow water equivalent based on remote sensing techniques [1991, p.121-129, eng] 47-1299

Burke, M.
Calorimetric studies f the ammonia-water system with application to the outer solar system [1993, p.13.109-13.117, eng] 47-4412

Burkovskaia, S.N.
Investigation of cirrus microstructure on May 15, 1989 [1992, p.714-724, eng] 47-3157

Burn, C.R.
Comments on "Detection of climatic change in the western North American Arctic using a synoptic climatological approach" [1993, p.1473-1478, eng] 47-5215
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Recent ground warming inferred from the temperature in permafrost near Mayo, Yukon Territory [1992, p.327-350, eng] 47-858

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Laboratory measurement of freeze/thaw, compaction, residue and slope effects on rill erosion [1992, p.143-149, eng] 47-2613

Burnham, D.C.
Fog, snow and rain calibrations for forward-scatter visibility sensors [1993, p.66-71, eng] 47-3063

Burns, B.A.
Correlation of SAR-derived roughness parameters with air drag coefficients over MIZ sea ice [1988, p.75-78, eng] 47-4186

Burns, L.E.
Geochemistry of Haines-Klukwan-Porcupine area, southeastern Alaska [1991, 75p. + 2 sheets, eng] 47-1488

Burr, G.
Anomalous 11-year *delta*C-14 cycle at high latitudes? [1992, p.235-238, eng] 47-1479

Burrows, D.A.
Measurements of cloud-droplet-size distributions in polluted and unpolluted stratiform [1993, p.106-115, eng] 47-4166

Burton, D.
Atmospheric loading of nitrogen to alpine tundra in the Colorado Front Range [1992, p.339-346, eng] 47-2236

Bury, M.A.
Controlled cement hydration: its effect on durability of concrete [1992, p.179-194, eng] 47-2574

Burykina, N.I.
Analysis of ice body formation within the west and central sections of Baikal-Amur main line [1991, p.83-86, eng] 47-421

Busarova, O.E.
Effects of a straw mulch on the thermal conditions in soil after snow-cover loss [1993, p.12-23, eng] 47-4012

Busen, R.
CR-1 cryogenic hygrometer on board the DLR Falcon: installation, performance tests, and examples of measured data [1993, p.117-120, eng] 47-3067
Pre-EUCREX in-flight humidity intercomparison [1993, p.479-483, eng] 47-3078

Bush, S.
Arctic ozone loss declines [1992, p.210, eng] 47-2601

Businger, S.
Comments on "An arctic hurricane over the Bering Sea" [1992, p.2713-2715, eng] 47-1994

Buska, J.
Standing seam metal roofing systems in cold regions [1993, p.34-44, eng] 47-3542

Busygin, V.V.
Using naleds for regulating the flow of mountain rivers in Siberia [1991, p.236-238, rus] 47-2454

Butchart, N.
Possibility of an Arctic ozone hole in a doubled-CO2 climate [1992, p.221-225, eng] 47-907

Butenko, G.
Importance of multidisciplinary geoscience investigations for engineering projects in the Oseberg, Brage and Troll fields [1991, p.195-202, eng] 47-3876

Butler, B.J.
Mercury radar imaging: evidence for polar ice [1992, p.635-640, eng] 47-737

Butler, D.R.
Characteristics of two landslide-dammed lakes in a glaciated alpine environment [1993, p.441-445, eng] 47-3563
Snow-avalanche paths: conduits from the periglacial-alpine to the subalpine-depositional zone [1992, p.185-202, eng] 47-852
Unusual early-winter flood and its varying geomorphic impact along a subalpine river in the Rocky Mountains of Montana, U.S.A. [1993, p.145-155, eng] 47-4369

Butsenko, A.N.
Dynamics of heat-mass transfer in cryogenic soils of northeast Yakutia [1992, p.180-184, eng] 47-1726
Effect of the complexity of soil cover on the agricultural development of meadow-swamp soils [1991, p.97-103, rus] 47-4817

Buttle, J.M.
Environmental isotope hydrograph separation during snowmelt in a suburban catchment [1992, p.1-12, eng] 47-4027

Buzin, V.A.
Computation of maximum ice-dam water levels of specified exceedence probability in the absence or lack of observation data [1992, p.56-62, eng] 47-4025
Results of calculating the parameters for theoretical models of ice jams according to data on hydrometric changes [1991, p.3-11, rus] 47-1042
Space-time variability in ice jams on the Amur and Lena rivers [1991, p.17-23, rus] 47-1044

Bychkov, V.R.
Investigation of the effect of the freezing of a foundation on the bearing capacity of a rigid airfield pavement [1990, p.96-101, rus] 47-2759

Byers, C.A.
Unusual cloud forms in the arctic winter boundary layer [1992, p.7-10, eng] 47-2365

Byrd, G.
Role of multiple lake interaction in the western New York lake-effect snowstorm of 24-26 November 1991 [1992, p.125-134, eng] 47-4041

Cacciani, M.
Absolute determination of the cross sections of ozone in the wavelength region 339-355 nm at temperatures 220-293 K [1991, p.259-264, eng] 47-1826

Cadée, G.C.
Organic carbon in the upper layer and its sedimentation during the ice-retreat period in the Scotia-Weddell Sea, 1988 [1992, p.253-259, eng] 47-1331

Cagnati, A.
Snow and avalanches in the Dolomites and Veneto Fore-alps, winter season 1991-92 [1993, 45p., ita] 47-3153
Snow-meteorological yearbook of the Veneto mountain region, 1985-1986-1987 [1988, 249p., ita] 47-1484
Snow-meteorological yearbook of the Veneto Region mountains, 1988 [1989, 209p., ita] 47-840
Snow-meteorological yearbook of the Veneto Region mountains, 1989 [1990, 239p., ita] 47-841
Snow-meteorological yearbook of the Veneto Region mountains, 1991 [1991, 247p., ita] 47-842

Cahn, J.W.
Theory of ice premelting in monosized powders [1992, p.101-108, eng] 47-181

Cahoon, D.R., Jr.
Meteorological overview of the Arctic Boundary Layer Expedition (ABLE 3A) flight series [1992, p.16,395-16,419, eng] 47-1445

Cai, B.F.
Application of mini-refrigerator in temperature measurement [1992, p.1071-1072, eng] 47-2994
Realization and intercomparison of cryogenic triple points by means of sealed cells [1992, p.261-263, eng] 47-2972

Cai, Z.R.
Experimental research on ice load [1992, p.709-713, eng] 47-1864

Caiazza, R.
"Tea kettle" effect snow [1992, p.101-106, eng] 47-4038

Cain, W.J.
Anomalous 11-year *delta*C-14 cycle at high latitudes? [1992, p.235-238, eng] 47-1479

Caine, N.
Atmospheric loading of nitrogen to alpine tundra in the Colorado Front Range [1992, p.339-346, eng] 47-2236
Modulation of the diurnal streamflow response by the seasonal snowcover of an alpine basin [1992, p.245-260, eng] 47-175
Sediment transfer on the floor of the Martinelli Snowpatch, Colorado Front Range, U.S.A. [1992, p.133-144, eng] 47-4323
Spatial patterns of geochemical denudation in a Colorado alpine environment [1992, p.63-88, eng] 47-847

Caldwell, K.B.
Influence of polysaccharides on the glass transition in frozen sucrose solutions and ice cream [1993, p.1268-1277, eng] 47-4849
Low-temperature scanning electron microscopy study of ice cream. 1. Techniques and general microstructure [1992, p.1-9, eng] 47-2014
Low-temperature scanning electron microscopy study of ice cream. 2. Influence of selected ingredients and processes [1992, p.11-23, eng] 47-2015

Calkin, P.E.
Neoglacial fluctuations and sedimentation of an iceberg-calving glacier resolved with tree rings (Kenai Fjords National Park, Alaska [1993, p.35-42, eng] 47-4750

Calkins, D.
White phosphorus poisoning of waterfowl in an Alaskan salt marsh [1992, p.669-673, eng] 47-1235

Calkins, D.J.
Applications of ERS-1 SAR data for analyzing riverine and coastal processes and geomorphology [1993, p.873-878, eng] 47-4449
Discussion of "Minimization of frazil-ice production by river flow regulation" [1991, p.1402-1405, eng] 47-1287

Callaghan, T.V.
Root mechanical properties related to disturbed and stressed habitats in the Arctic [1992, p.179-186, eng] 47-1557

Callander, B.A.
Climate change 1992. The supplementary report to the IPCC scientific assessment [1992, 200p., eng] 47-2592

Callis, J.B.
Rapid spectroscopic determination of per cent aromatics, per cent saturates and freezing point of JP-4 aviation fuel [1993, p.623-631, eng] 47-3985

Calmé, S.
Influence of cultural practices on the relationship between frost tolerance and water content of containerized black spruce, white spruce, and jack pine seedlings [1993, p.503-511, eng] 47-3844

Camacho, F.
Influence of recent climate patterns on runoff in the Missinaibi River [1992, p.567-577, eng] 47-2738

Cameron, G.
ROV and submersible video interpretation of iceberg scour features and glory holes on the northeastern Grand Banks off Newfoundland [1992, 44p., eng] 47-2340

Camillo, J.
Keeping mortar materials warm in winter [1992, p.463-465, eng] 47-1510

Camp, P.R.
Determination of the water content of snow by dielectric measurements [1992, 38p., eng] 47-1899

Campanella, R.G.
Lateral stress measurements in a glaciomarine silty clay [1991, p.265-270, eng] 47-3883

Campbell, C.M.
Solving sanitation problems in the Alaskan bush [1993, p.347-355, eng] 47-4476

Campbell, D.G.
Crystal desert: summers in Antarctica [1992, 308p., eng] 47-628

Campbell, D.H.
Use of chemistry and stable sulfur isotopes to determine sources of trends in sulfate of Colorado lakes [1993, p.415-431, eng] 47-4759
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Energy and structure of Bjerrum defects in ice Ih determined with an additive and a nonadditive potential [1992, p.4326-4335, eng] 47-222
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Radiation balance of ridge-tillage with modeling strategies for slope and aspect in the subarctic [1992, p.1379-1384, eng] 47-1182
Seed-zone temperature and moisture conditions under conventional and no-tillage in Alaska [1992, p.1904-1910, eng] 47-2299
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Properties and genesis of cryosols at Marble Point, McMurdo Sound region, Antarctica [1992, p.59-66, eng] 47-1705
Soils of cold climate regions [1992, p.183-201, eng] 47-1212
Campbell, J.E.
Determination of soil moisture distribution from impedance and gravimetric measurements [1992, p.18,969-18,977, eng] 47-1624
Campbell, M.A.
Nine-winter record of cloud-droplet physical and chemical properties at a mountain-top site in Colorado, USA [1993, p.15-22, eng] 47-3099
Campbell, P.G.C.
Geochemistry of Quebec North Shore salmon rivers during snowmelt: organic acid pulse and aluminum mobilization [1992, p.1938-1952, eng] 47-2659
Campbell, W.J.
Ice studies in the Barents Sea by ERS-1 SAR during SIZEX 92 [1993, p.277-282, eng] 47-4425
Camuffo, D.
Reconstructing the climate of northern Italy from archive sources [1992, p.143-154, eng] 47-2085
***Can you measure the benefits of* RWIS**
Can you measure the benefits of RWIS [1992, p.22-23, eng] 47-2325
Canada-France Seminar—Gas Pipelines, Oil Pipelines and Civil Engineering in Arctic Climates, Caen and Paris, France, Oct. 2-4, 1991
Proceedings [1993, 170p., eng] 47-4267
Canada. *Indian and Northern Affairs*
Annual northern expenditure plan 1990-1991 [1993, 30p., eng] 47-5243
Canada. Indian and Northern Affairs. Water Resources Division
Yukon Territory snow survey bulletin and water supply forecast, March 1, 1992 [1992, 27p., eng] 47-859
Yukon Territory snow survey bulletin and water supply forecast, March 1, 1993 [1993, 27p., eng] 47-2818
Yukon Territory snow survey bulletin and water supply forecast, May 15, 1993 [1993, 27p., eng] 47-3711
Canada's offshore technology meets the arctic challenges
Canada's offshore technology meets the arctic challenges [1985, p.133-135, eng] 47-2914
Candelone, J.P.
Variations in mercury deposition to Antarctica over the past 34,000 years [1993, p.621-623, eng] 47-3445
Candidi, M.
Correlating the auroral activity with the southern high- latitude O3-content [1992, p.477-490, eng] 47-2174
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Hydrogen-bond cooperativity and free-volume effects on normal and supercooled water self-diffusion [1992, p.R7367-R7370, eng] 47-1891
Cao, M.S.
Application of nonlinear colour enhancement on transparencies for interpretation of glacier surface characteristics [1992, p.190-192, eng] 47-1110
Cao, W.Z.
Experiments on the solidification of a binary alloy in a rectangular cavity [1991, 186p., eng] 47-298
Solidification of a binary mixture saturating a bed of glass spheres [1991, p.725-737, eng] 47-2861
Cao, Z.T.
Distribution characteristics in space and time of precipitation of Heihe Basin in Qilian Mountain [1992, p.121-132, chi] 47-1546
Relationship between runoff and meteorological element in Binggou experiment basin of Qilian Mountain [1992, p.101-110, chi] 47-1544
Caporuscio, F.
Chemical interaction and cyclic freeze-thaw effects on the integrity of the soil cover for Waite Amulet tailings [1993, p.259-272, eng] 47-4468
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Bioclimatology of frost [1992, 144p., eng] 47-1794
Cardone, V.J.
Beaufort Sea extreme waves study [1992, Var. p., eng] 47-2622
Careri, G.
Dissipative quantum tunneling of rotational defects in ice. The Pauling potential [1993, p.4227-4228, eng] 47-5273
Temperature dependence of dielectric relaxation in H2O and D2O ice. A dissipative quantum tunneling approach [1993, p.538-547, eng] 47-4288
Carette, G.G.
Resistance of condensed silica fume concrete to the combined action of freezing and thawing cycling and de-icing salts [1989, p.945-970, eng] 47-60
Carleton University. Geotechnical Science Laboratories
Canada-France Pipeline-Ground Freezing Experiment: Frozen transition experiment. First freeze period and pipe relaxation period [1992, 68p., eng] 47-3150
Investigations of frost heave as a cause of pipeline deformation [1986, 71p., eng] 47-437
Carlson, D.W.
Impacts of summer warming on the energy and water balance of wetland tundra [1992, p.305-326, eng] 47-1375
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Marine geologic investigations of Disenchantment Bay, Alaska, after breakup of 1986 Hubbard Glacier ice dam [1992, 41p., eng] 47-3708
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Effects of studded tyres: consequences of amended regulations [1992, 53p. + appends., swe] 47-1217
Carlström, A.
C-band backscatter signatures of old ice in the central Arctic [1992, p.958-960, eng] 47-664
Experiences from the Swedish sea ice programme during BEERS-92 [1993, p.313-318, eng] 47-4431
SAR image classification of ice in the Gulf of Bothnia [1992, p.2489-2514, eng] 47-260
Carney, F.P.
Water freeze prevention valve [1988, 24 col., eng] 47-3417
Caron, D.A.
Mixotrophic algae in three ice-covered lakes of the Pocono Mountains, U.S.A. [1992, p.263-272, eng] 47-4517
Carpenter, D.M.
Lake effect of the Great Salt Lake: overview and forecast problems [1993, p.181-193, eng] 47-4831
Carr, F.H.
Arctic bases to get cleanup [1993, p.20, eng] 47-4079
Carr, F.H., Jr.
How Massachusetts cut salt use and costs [1992, p.17-18, eng] 47-2322
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Water resources data for Alaska, water year 1991 [1992, 415p., eng] 47-2776
Carrasco, J.F.
Case studies of katabatic wind forced mesoscale cyclogenesis over the southwestern Ross Sea [1992, p.J129-J132, eng] 47-2418
Katabatic surges across the Ross Ice Shelf, Antarctica: atmospheric circulation changes and oceanographic impacts [1992, p.29-32, eng] 47-2371
Satellite observation of katabatic-wind propagation for great distances across the Ross Ice Shelf [1992, p.1940-1949, eng] 47-876
Carrasquillo, R.L.
Resistance of high strength concrete to cold weather environments—durability and performance of concrete containing fly ash [1993, 304p., eng] 47-5061
Carrieres, T.
Comparison of remote sensing systems for operational ice analysis [1991, p.51-61, eng] 47-3375
Operational utility of satellite passive microwave imagery in supporting Canadian regional sea ice monitoring [1991, p.47-52, eng] 47-3397
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Probing an iceberg barrier [1992, p.24-33, eng] 47-177
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Snow estimation—a GIS application for water resources forecasting [1993, p.856-861, eng] 47-4402
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1:8 R-class model ice tests: resistance and captive experiments [1990, 11p. + appends., eng] 47-1372
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Wind, current and swell influences on the ice extent and flux in the Grand Banks-Labrador Sea area as observed in the LIMEX '87 experiment [1988, p.11-14, eng] 47-4176
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Introduction [1992, p.1-7, eng] 47-3015
Microwave remote sensing of sea ice [1992, 462p., eng] 47-3014
Status and future directions for sea ice remote sensing [1992, p.443-446, eng] 47-3040
Wind, current and swell influences on the ice extent and flux in the Grand Banks-Labrador Sea area as observed in the LIMEX '87 experiment [1988, p.11-14, eng] 47-4176
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Petrographic and salinity characteristics of brackish water ice in the Bay of Bothnia [1992, 36p., eng] 47-706
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Recent distribution of planktonic foraminifera in the Nansen Basin, Arctic Ocean [1992, p.S507-S524, eng] 47-1276
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Technical measures for reduction of ice damage [1988, p.207-216, eng] 47-733
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Age of the late Cenozoic Bigbendian marine transgression of the Alaskan arctic coastal plain: significance for permafrost history and paleoclimate [1992, p.44-51, eng] 47-611
Pliocene marine transgressions of northern Alaska: circumarctic correlations and paleoclimatic interpretations [1992, p.74-89, eng] 47-3352
Preliminary interpretation of vegetation and paleoclimate in northern Alaska during the late Pliocene Colvillian marine transgression [1992, p.219-222, eng] 47-619
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Soil sampling and methods of analysis [1993, 823p. (Pertinent p.755-814), eng] 47-5248
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Highway embankment construction across the Strathearn buried valley [1991, p.203-209, eng] 47-3877
Case, P.C.
Continued study of the frictional and cohesive-like behaviour of floating model ice rubble [1991, 24p. + appends., eng] 47-1364
Model-scale study of the frictional and cohesive properties of floating ice rubble [1991, 113p., eng] 47-2118
Cassell, E.A.
Water resource modelling using remote sensing and object-oriented simulation [1993, p.153-165, eng] 47-3346
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Thermal effects on the shape of a solidifying interface near a foreign particle [1993, p.13-20, eng] 47-4756
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New lidar systems: the DIAL, first calibration campaign at OHP; the automatic backscattering system, state of the art [1992, p.185-203, eng] 47-1201
Castelle, T.
Local protection from snowdrifts defence structures [1993, p.6-17, ita] 47-4700
Works of the wind [1992, p.16-23, fre] 47-2332
Ca A.
Fi. .am resistance thermometer for exploration of the Titan atmosphere [1992, p.409-413, eng] 47-2978
Catalan, J.
Evolution of dissolved and particulate matter during the ice-covered period in a deep, high-mountain lake [1992, p.945-955, eng] 47-1266
Catasta, G.
Mass balance of a cirque glacier in the Italian Alps (Ghiacciaio dell Sforzellina, Ortles-Cevedale Group) [1993, p.87-90, eng] 47-3942
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Hudson's Bay Company ships' log-books as sources of sea ice data, 1751-1870 [1992, p.17-39, eng] 47-2080
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Occurrence of platinum-group elements in some gold-mining districts of Alaska [1992, p.33-43, eng] 47-610
Cato, I.
Clay-varve based Swedish time scale and its relation to the Late Weichselian radiocarbon chronology [1992, p.25-44, eng] 47-3556
Catrenis, C.
Microorganisms entrapped in glacial ice [1991, p.234-236, eng] 47-3054
Cattaneo, N.
Aspects to be considered in planning logistic operations in the Weddell and Bellingshausen seas [1993, p.274-299, eng] 47-5116
Cattle, H.
Response of antarctic climate in general circulation model experiments with transiently increasing carbon dioxide concentrations [1992, p.209-218, eng] 47-3140
Catts, J.G.
Simulation of natural acid sulfate weathering in an alpine watershed [1992, p.2197-2209, eng] 47-1506
Causse, C.
Th/U isochron method on a "dirty" but closed calcitic system: examples of calcareous concretions [1992, p.33-39, eng] 47-3545
Cavalieri, D.J.
Arctic coastal polynya observations with ERS-1 SAR and DMSP SSM/I [1993, p.295-299, eng] 47-4428
Arctic sea ice 1973-1986: interregional comparisons [1988, p.8-10, eng] 47-4175
Arctic sea ice 1973-1986: seasonal and interannual variability [1988, p.4-7, eng] 47-4174
Microwave remote sensing of polynyas [1992, p.303-311, eng] 47-3029
Validation of geophysical products using multisensor data [1992, p.233-242, eng] 47-3025
Cave, J.A.
Ice in the northern lowlands and southern highlands of Mars and its enrichment beneath the Elysium lavas [1993, p.11,079-11,097, eng] 47-4411
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Atmospheric circulation and precipitation in the Sierra Nevada [1992, p.711-720, eng] 47-2747
Climate-change scenarios for the Sierra Nevada, California, based on winter atmospheric-circulation patterns [1992, p.681-690 eng] 47-2744
Snow water content as a predictor of streamflow in the Sierra Nevada and [illegible] Ranges of California [1992, p.641-650, eng] 47-2740

Cermak, M.A.
ITS-90 algorithms for long stem SPRT's [1992, p.1087-1091, eng] 47-2995
Cesari, F.
Enthalpy formulation of the conduction problem with phase changes [1992, p.983-987, eng] 47-775
Chacho, E.F., Jr.
Applications of ERS-1 SAR data for analyzing riverine and coastal processes and geomorphology [1993, p.873-878, eng] 47-4449
Short-pulse radar detection of groundwater in the Sagavanirktok River floodplain in early spring [1992, p.2925-2936, eng] 47-1475
Chagnon, R.
SICAR: a program for semi-automated digitizing of composite ice charts [1991, p.33-41, eng] 47-3396
Chaikina, S.A.
Using hydrodynamic surface fields at a geopotential of 500 gPa for medium-range forecasting of a surface pressure field [1989, p.113-117, rus] 47-3663
Challenor, P.
Review of GEOSAT data over Canadian east coast waters [1993, p.117-130, eng] 47-4590
Chambers, F.B.
Climate and glacier change: the dilemma of the representative station [1992, p.1-14, eng] 47-1002
Summer energy balance on West Gulkana Glacier, Alaska, and linkages to a temporal synoptic index [1992, p.15-34, eng] 47-1003
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Seed and vegetation dynamics in an alpine herb field: effects of disturbance type [1993, p.471-485, eng] 47-4584
Seed entrapment in alpine ecosystems: effects of soil particle size and diaspore morphology [1991, p.1668-1677, eng] 47-767
Champ, D.H.
Data acquisition strategy for AES' ice services program [1991, p.19-20, eng] 47-3371
Champ, M.A.
Roles of monitoring and research in polar environments: a perspective [1992, p.220-226, eng] 47-4504
Chandler, R.
Discussion of Session 2a. [Periglacial and slope processes: processes and materials properties] [1991, p.397-405, eng] 47-3892
Chandrasekaran, M.
Performance of a kinetic model for intracellular ice formation based on the extent of supercooling [1992, p.359-373, eng] 47-2297
Chaney, R.C.
Strength testing of marine sediments: laboratory and in-situ measurements [1985, 558p., eng] 47-1614
Chang, A.T.C.
On the estimation of snow depth from microwave radiometric measurements [1992, p.785-792, eng] 47-357
Use of microwave radiometer data for characterizing snow storage in western China [1992, p.215-219, eng] 47-1115
Use of microwave radiometry for characterizing snow storage in large river basins [1991, p.73-80, eng] 47-1294
Chang, C.N.
Dual freezing chamber system and method for water purification [1989, 14 col., eng] 47-3332
Chang, I.S.
Studies on the characteristics of meteorological phenomena and cold wave at King Sejong Station, Antarctica [1992, p.1-16, kor] 47-2926
Chang, N.S.
Ice depolarizations on K(a) band (20 GHz) satellite-to-ground path and correlation with radar observations [1993, p.249-259, eng] 47-4062
Chang, P.
Two-parameter backscatter model of snowcover at millimeter wavelengths [1992, p.1667-1669, eng] 47-690
Changnon, D.
Annual snowpack patterns across the Rockies: long-term trends and associated 500-mb synoptic patterns [1993, p.633-647, eng] 47-4255
Changnon, J.M.
Temporal fluctuations in weather disasters: 1950-1989 [1992, p.191-208, eng] 47-783
Changnon, S.A.
Temporal fluctuations in weather disasters: 1950-1989 [1992, p.191-208, eng] 47-783
Chanin, M.L.
Rotational Raman lidar to measure the atmospheric temperature from the ground to 30 km [1993, p.90-101, eng] 47-3357
Chant, R.E.
Freeze-control strategy and air-to-air energy recovery performance [1992, p.44-45,48-49, eng] 47-1936
Chanton, J.P.
Carbon and hydrogen isotopic characterization of methane from wetlands and lakes of the Yukon-Kuskokwim Delta, western Alaska [1992, p.16,689-16,701, eng] 47-1463
Methane transport mechanisms and isotopic fractionation in emergent macrophytes of an Alaskan tundra lake [1992, p.16,681-16,688, eng] 47-1462
Plant-dependent CH4 emission in a subarctic Canadian fen [1992, p.225-231, eng] 47-1378
Chao, J.C.
Ice and rubble failure loads on sloping structures by two-dimensional upper-bound plastic limit analysis [1993, p.157-168, eng] 47-4243
Chapin, F.S., III
Boreal carbon pools: approaches and constraints in global extrapolations [1993, p.9-20, eng] 47-5224
Cost of tundra plant structures: evaluation of concepts and currencies [1989, p.1-19, eng] 47-20
Environmental and biotic controls over methane flux from arctic tundra [1993, p.357-368, eng] 47-3436
Preferential use of organic nitrogen for growth by a non-mycorrhizal Arctic sedge [1993, p.150-153, eng] 47-1597
Chapman, P.M.
Are arctic marine invertebrates relatively insensitive to metals [1993, p.611-613, eng] 47-4628
Chapman, W.L.
Model simulation of changes in arctic sea ice thickness, 1960-1989 [1991, p.346-349, eng] 47-4487
Multivariate sensitivities of a dynamic-thermodynamic sea ice model [1992, p.87-90, eng] 47-2388
Recent variations of sea ice and air temperature in high latitudes [1993, p.33-47, eng] 47-3477
Chappelow, C.C.
Handbook of test methods for evaluating chemical deicers [1992, 283p., eng] 47-1682
Chardon, M.
Karstic denudation and tufas deposits in high alpine mountains (Alpes, France) [1992, p.19-38, eng] 47-742
Charest, B.A.
Concreting at subfreezing temperatures [1992, p.382-397, eng] 47-606
Strength development of concrete cured at low temperature [1992, p.34-39, eng] 47-1560
Chari, C.T.
Pavements in seasonal frost areas [1985, p.381-386, eng] 47-584
Charif, K.
Reuse of converted asphalt in asphalt binders and asphalt deck layers—examination of long-term reactions [1992, p.97-104, ger] 47-2002
Charlevoix, D.J.
Lower tropospheric temperature trends over the Arctic Ocean: 1950-1990 [1992, p.141-144, eng] 47-2402
Charlson, R.J.
Air-snow exchange processes [1991, p.277-278, eng] 47-3057
Chashchinov, IU.M.
Characteristics of the spatial structure of subsurface ice in the vicinity of Vostok Station, Antarctica [1991, p.121-125, rus] 47-2800
Chassefière, E.
Vertical structure and size distributions of Martian aerosols from solar occultation measurements [1992, p.46-69, eng] 47-3923
Chaudhury, J.N.
Empirical model for prediction of snowmelt runoff in Sutlej [1985, p.76-103, eng] 47-563
Net energy budget over a snow surface [1985, p.129-143, eng] 47-566
Chávez, M.L.
Triple-point of trichlorofluoromethane [1992, p.277-279, eng] 47-2975
Chaw, M.
Experimental observations and theoretical studies on solidification processes in saline solutions [1993, p.157-167, eng] 47-3288
Chedin, A.
Retrieval of mesoscale meteorological parameters from NOAA9 over Greenland and Barents seas for three consecutive days of June 1986 [1988, p.122-125, eng] 47-4198
TOVS observations of a stratospheric cooling during the CHEOPS 3 campaign: February 4-6, 1990, over Scandinavia [1993, p.7229-7243, eng] 47-3829
Chellaish, S.
Experimental study of freezing of binary solutions [1993, p.133-138, eng] 47-2550
Solidification of a binary mixture in a rectangular cavity [1992, p.629-639, eng] 47-4361
Chellappa, R.
Unsupervised segmentation of polarimetric SAR data using the covariance matrix [1992, p.697-705, eng] 47-356
Chen, C.J.
Investigations of active infrared detection of pavement icing [1989, 30p., eng] 47-4902
Chen, C.T.A.
Carbonate chemistry of the wintertime Bering Sea marginal ice zone [1993, p.67-87, eng] 47-2632
Chen, H.
Performance of an attic radiant barrier for a simulated Minnesota winter [1992, p.114-122, eng] 47-1150
Chen, J.
Arctic structure of composite wall construction [1987, 14 col., eng] 47-4007
Chen, J.M.
Basal deformation of Ürümqi Glacier No.1, Tien Shan mountains, China [1992, p.123-126, eng] 47-1096
Chen, J.P.
Study on the in-cloud removal of trace chemicals with a detailed microphysical and chemical model [1993, p.53-56, eng] 47-3100
Chen, J.Y.
Changes of alpine climate and glacier water resources [1991, 196p., eng] 47-4462
Chen, L.X.
Effect of arctic ice cover on the monthly temperature and precipitation in China [1992, p.275-286, eng] 47-1124
Chen, R.Z.
Preliminary study of ice nucleating properties of loess particles [1992, p.275-277, eng] 47-2266
Chen, S.L.
Analysis of cool storage for air conditioning [1992, p.553-563, eng] 47-1055
Effects of natural convection on ice [illegible]on inside a horizontal cylinder [1992, p.131-14[illegible] 47-790
Chen, X.B.
Application limit for reducing hea[illegible] saline soil by *mixing sodium chloride* [1992, p.[illegible]hi] 47-1646
Chen, X.Z.
Satellite snow cover monitoring and snowmelt runoff prediction in the high alpine area of northwestern China [1991, p.161-168, eng] 47-1303
Chen, Y.C.
Lagrangian discrete parcel simulation of two dimensional river ice dynamics [1992, 147p., eng] 47-838
Chen, Y.S.
Effect of arctic ice cover on the monthly temperature and precipitation in China [1992, p.275-286, eng] 47-1124
Chen, Z.X.
Inversion of snow parameters by neural network with iterative inversion [1992, p.1061-1063, eng] 47-669
Cheng, A.
Existing and planned uses of remotely sensed data in the U.S. Navy's sea ice forecast models [1991, p.235-255, eng] 47-3389
Sensitivity studies of an ice-ocean coupled model for the Northern Hemisphere [1992, p.94-97, eng] 47-2390
Cheng, B.
Operational system of numerical sea ice prediction in Bohai Sea [1992, p.295-299, eng] 47-153
Cheng, G.D.
Distribution of mountain permafrost and climate [1992, p.83-91, eng] 47-1747
Experimental study on conditions for ice formation of saturated sand in freezing and thawing cycles [1992, p.101-106, chi] 47-1645
Mountain permafrost and climatic change [1993, p.165-174, eng] 47-4151
Cheng, W.X.
Measurement of microbial biomass in arctic tundra soils using fumigation-extraction and substrate-induced respiration procedures [1993, p.135-141, eng] 47-3347
Cheng, X.H.
Early diagenesis and biogeochemistry of iodine in west antarctic ocean [1992, p.115-123, chi] 47-219
Chepurina, M.A.
One method of analyzing the interdependence of short time series [1990, p.77-83, rus] 47-3591
Cherkasova, N.I.
Rate of vapor condensation in a cloud layer at a slow updraft [1991, p.78-82, eng] 47-4925
Cherkinskii, A.E.
Distribution and renovation time of soil carbon in boreal and subarctic ecosystems of European Russia [1993, p.65-69, eng] 47-5230
Chermack, E.C.
Preliminary numerical simulations of the 31 January 1991 lake-effect snowstorm [1992, p.115-123, eng] 47-4040
Some experiences in assessing aircraft anti-icing fluid under various snow conditions [1992, p.31-37, eng] 47-4030
Cherniak, M.M.
Increasing of the solubility of the AgI nuclei seeded for hail suppression in rain drops under the complex formation with dominant ions [1992, p.317-320, eng] 47-2276
Cherniak, V.P.
Nonstationary heat and mass transfer in disturbed rock massifs [1992, 224p., rus] 47-3863
Cherniavskii, V.L.
Assuring durability of reinforced concrete structures during construction under winter conditions [1990, p.19, rus] 47-1254
Chernomorchenko, N.I.
Structure-forming ability of the cold-tolerant soil bacteria *Pseudomonas* [1987, p.29-33, eng] 47-597
Chernosov, S.I.
Engineering geological conditions, bases and foundations of transport structures in Siberia: interuniversity collected scientific papers [1991, 109p., rus] 47-186
Chernova, L.P.
Current state of the regime of glacier systems in the world [1991, p.55-66, rus] 47-322
Chernykh, O.A.
Characteristics of the formation of spring runoff from rivers in the cryolithozone [1991, p.53-64, rus] 47-3275

Chernykh, O.A. *(cont.)*
Naled systems in river basins as a result of the interaction of surface and ground waters [1991, p.66-76, rus] 47-2430

Chetyrbotskii, A.N.
Statistical studies of wear on the hull plating of ice-navigating ships [1992, p.28-31, rus] 47-2920

Chevallier, A.
Excess loads on flat roofs of buildings with and without parapets under the action of wind and snow [1992, p.215-228, eng] 47-3201

Chiba, A.
Tests on developing studless snowplows [1987, p.57-66, jpn] 47-4958

Chiba, K.
Collapse of peroxide-scavenging systems in apple flower-buds associated with freezing injury [1992, p.743-750, eng] 47-1000

Chiba, M.
Study on countermeasures (louvers) against blow-in for tunnels at the New Chitose Airport [1992, p.215-220, jpn] 47-2502
Tests of grooving on the taxiways of the New Chitose Airport [1991, p.235-240, jpn] 47-2497

Chiba, T.
Practical examples with a personal computer for road management data [1991, p.121-124, jpn] 47-2538

Chichagov, A.V.
Interrelation between the altitude of the equilibrium line, air temperature, and runoff in the Sary-Tor Glacier, inner Tien Shan [1991, p.136-139, rus] 47-2803

Chien, J.Y.L.
Preliminary evaluation of thermal infrared aircraft data for mapping snow cover in the Sierra Nevada Mountains [1992, p.39-46, eng] 47-4031

Chin, D.
Non-chloride accelerating admixtures for early compressive strength [1990, p.55-58, eng] 47-2720

Chin, P.P.S.
Freezing of water in hardboard: absence of changes in mechanical properties [1992, p.252-259, eng] 47-771

Chin, S.N.
Analysis of data from indentation tests on freshwater ice [1993, p.73-81, eng] 47-4233
Field dropweight ice impact test system at the Institute for Marine Dynamics [1991, 9p. + appends., eng] 47-1342
Indentation and splitting of freshwater ice floes [1993, p.165-175, eng] 47-3751

Chinn, T.J.
Physical hydrology of the dry valley lakes [1993, p.1-51, eng] 47-4395

Chipperfield, M.P.
Three-dimensional modeling study of trace species in the arctic lower stratosphere during winter 1989-1990 [1993, p.7199-7218, eng] 47-3828

Chircop, A.
Framework for a regional environmental regime for the Arctic [1993, p.535-540, eng] 47-5052

Chistiakov, V.K.
Core drilling by electromechanical drill [1993, p.235-237, eng] 47-4576
Drilling boreholes in glacial and subglacial rocks, with core selection by an electromechanical drill on a load- bearing *cable* [1991, p.165-170, rus] 47-2808

Chizhov, A.B.
Ecological-geological regionalization of the cryolithozone in the USSR [1991, p.92-100, rus] 47-403
Studying recent ice formation in rocks by tritium analysis [1991, p.20-31, rus] 47-396

Chizhov, V.E.
Thermodynamic properties and thermal equations of the state of high-pressure ice phases [1993, p.253-262, eng] 47-5266

Cho, B.S.
Subvisual-thin cirrus lidar dataset for satellite verification and climatological research [1992, p.1275-1285, eng] 47-1120

Cho, H.N.
Reliability-based design of transmission towers under wind and ice loadings [1993, p.1125-1130, eng] 47-5263

Cho, K.
MOS-1 multi-sensor data set and sea ice study [1991, p.277-287, eng] 47-3391

Choinard, L.E.
Model for the construction of artificial ice islands [1993, p.187-198, eng] 47-4246

Choularton, T.W.
Measurement and modelling of cloudwater deposition to a snow-covered forest canopy [1992, p.2893-2903, eng] 47-1947
Orographic enhancement of snowfall [1992, p.175-179, eng] 47-1553

Choulik, O.
Response of a subarctic lake chain to reduced sewage loading [1992, p.1236-1245, eng] 47-1267

Chow, K.C.A.
Revised snowstorm maximization method for Canadian boreal regions [1993, p.449-454, eng] 47-4401

Christensen, F.T.
Ice loads on vertical bridge pier at two different model scales [1992, p.93-110, eng] 47-585

Christiansen, E.A.
Compression characteristics and index properties of tills and intertill clays in southern Saskatchewan, Canada [1993, p.257-275, eng] 47-4513
Preconsolidation pressures in the Battleford Formation, southern Saskatchewan, *Canada* [1991, *p.1613-1623*, eng] 47-4257

Christiansen, F.G.
Disko Bugt Project 1991, west Greenland [1992, p.36-41, eng] 47-1638
Petroleum-geological activities in 1991: reassessment of areas of earlier exploration and improvement of information service to industry [1992, p.28-30, eng] 47-1636
Renewed petroleum geological studies onshore west Greenland [1992, p.31-35, eng] 47-1637

Chu, B.
Some ancillary equations for the ITS-90 [1992, p.151-154, eng] 47-2962

Chu, P.C.
*Intrinsic thermodynamical time-scales of the atmosphere-*ocean-cryosphere climate system [1993, p.433-438, eng] 47-3052
Three dimensional pseudovorticity field in the west Spitsbergen current [1992, p.101-104, eng] 47-2392

Chu, S.P.
Can greenhouse warming induce ice sheet growth [1993, p.272-275, eng] 47-3046

Chu, Y.C.
Third moments and correlation moments for supercooled liquid water N,P,T ensembles: low-temperature singularity and critical point [1992, p.3840-3846, eng] 47-247

Chubachi, S.
Finding of antarctic "ozone hole" [1991, p.23-29, jpn] 47-3625

Chueca, J.
Statistical analysis of the spatial distribution of rock glaciers, Spanish Central Pyrenees [1992, p.261-265, eng] 47-1782

Chui, T.C.P.
Low temperature system for advanced thermal control [1992, p.949-952, eng] 47-2987
Thermometry in the thermodynamic limit [1992, p.1213-1218, eng] 47-2996

Chumakov, L.D.
Quick-setting claydite-concrete for winter concreting [1992, p.12-14, rus] 47-2152

Chumichev, V.
Radioactive contamination of the Barents and Kara seas [1993, p.157-168, eng] 47-5028

Chung, C.H.
Field testing of new cutting edges for ice removal from pavements [1992, 10p., eng] 47-953

Chung, J.S.
Proceedings. Vol.2 [1992, 806p., eng] 47-1828

Churnev, N.V.
Dependence of the thickness of non-freezing water interlayers on the external pressure [1992, p.160-166, eng] 47-3733
On the characteristics of mass transfer during the freezing of peat [1991, p.51-56, rus] 47-4809

Churchill, D.D.
Vertical retrieval of solar and infrared irradiances in the stratiform regions of EMEX cloud clusters [1992, p.1229-1247, eng] 47-1119

Chuvilin, E.M.
Mass transfer in freezing saline soils [1992, p.115-122, eng] 47-1715

Chvilev, S.V.
Frontal zones of the Barents Sea [1991, p.89-95, eng] 47-4928

Chylek, P.
Black carbon concentration in a Greenland *Dye-3 ice core* [1992, p.1951-1953, eng] 47-1181
Black carbon concentration in Byrd Station ice core: from 13,000 to 700 years before present [1992, p.625-629, eng] 47-2005
Infrared emittance of water clouds [1992, p.1459-1472, eng] 47-410
Refractive indices of water and ice in the 0.65- to 2.5-micron spectral range [1993, p.3531-3540, eng] 47-5147

Ciarlini, P.
Computational and statistical analysis of the thermodynamic data which form the basis of the ITS-90 between 13.8 K and 273.16 K. I. Computational basis [1992, p.75-78, eng] 47-2948
Computational and statistical analysis of the thermodynamic data which form the basis of the ITS-90 between 13.8 K and 273.16 K. II. Results [1992, p.79-83, eng] 47-2949

Ciattaglia, L.
Use of the Brewer spectrophotometer in measurements of total O3, SO2, NO2, UVB and for Umkehr profiling [1992, p.277-284, eng] 47-1207

Cichanski, W.J.
Verification of CSA code for fixed offshore concrete structures [1992, 62p., eng] 47-2119

Cieslak, R.
Upgrading sand, gravel to meet freeze-thaw specs [1989, p.62,64,66, eng] 47-76

Cihlar, J.
Carbon budget and succession dynamics of Canadian vegetation [1993, p.215-220, eng] 47-5238

Cini, R.
Transport of marine organic matter evidenced in antarctic *snow* [1992, *p.191-204, eng*] 47-2164

Cisia, J.C.
Plastic moldboards for snow plows and the like [1989, 14 col., eng] 47-3111

Claffey, K.J.
Air-ice drag coefficient in the Weddell Sea deduced from profile measurements [1992, p.J5/109-J5/112, eng] 47-868

Clague, J.J.
Sangamonian and early Wisconsinan stages in western Canada and northwestern United States [1992, p.253-268, eng] 47-2696
Sedimentary record and Neoglacial history of Tide Lake, northwestern British Columbia [1992, p.2383-2396, eng] 47-3715

Claisse, M.
Refreezing of a building foundation on permafrost [1993, p.303-309, fre] 47-4471

Clapperton, C.M.
Evolution of large roches moutonnées [1992, p.253-264, eng] 47-4334

Claridge, G.G.C.
Properties and genesis of cryosols at Marble Point, McMurdo Sound region, Antarctica [1992, p.59-66, eng] 47-1705
Soils of cold climate regions [1992, p.183-201, eng] 47-1212

Claridge, P.G.
Environmental geology and geochemistry at the Windy Craggy *massive sulphide deposit, northwestern British Columbia* [1993, p.50-57, eng] 47-2630

Clark, C.D.
Mega-scale glacial lineations and cross-cutting ice-flow landforms [1993, p.1-29, eng] 47-4250

Clark, G.M.
Alpine periglacial landforms of eastern North America: a review [1992, p.225-230, eng] 47-1775
Origin of certain high-elevation local broad uplands in the central Appalachians south of the glacial border, U.S.A.—a *paleoperiglacial hypothesis [1992, p.31-61, eng]* 47-846

Clark, I.D.
Approach to determine the origin and age of massive ice blockages in two arctic caves [1993, p.77-85, eng] 47-3119
Kinetic enrichment of stable isotopes in cryogenic calcites [1992, p.217-228, eng] 47-3159

Clark, J.I.
Probabilistic approach to the problem of ice floe collision under wave action in the Marginal Ice Zone [1992, p.281-291, eng] 47-1035

Clark, M.H.
Wetland properties of permafrost soils in Alaska [1992, p.198-205, eng] 47-3898

Clark, M.J.
Analysis and interpretation of patterns within and between hydroclimatological time series in an alpine glacier basin [1992, p.821-839, eng] 47-3679
Reliability and representativeness of a suspended sediment concentration monitoring programme for a remote alpine proglacial river [1992, p.191-200, eng] 47-1814

Clark, P.U.
Last interglacial-glacial transition in North America [1992, 317p., eng] 47-2678
Last interglacial-glacial transition in North America: introduction [1992, p.1-11, eng] 47-2679

Clarke, G.K.C.
Tools for examining subglacial bed deformation [1992, *p.388-396, eng*] 47-1390

Clarkson, T.S.
1991 ozone hole [1992, p.303-309, eng] 47-2165

Clary, D.C.
Adsorption of HCl on ice under stratospheric conditions: a computational study [1992, p.1355-1358, eng] 47-49
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Claud, C.
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Claudy, P.
Interactions between n-alkanes and cloud point, cold filter plugging point depressants in a diesel fuel. A thermodynamic study [1993, p.821-827, eng] 47-4518

Claussen, M.
Interactive atmospheric surface-layer modifications for a large-scale sea-ice model [1992, p.109-110, eng] 47-2394

Clauzon, G.
Eolian morphogenesis in a periglacial environment: closed depressions on the periphery of the Gulf of Lion (French Mediterranean) [1992. p.55-71. fre] 47-778
Clayton, C.
Discussion of Session 2b. [Periglacial and slope processes: engineering implications] [1991. p.449-455. eng] 47-3896
Clayton, J.R., Jr.
Interactions of frazil and anchor ice with sedimentary particles in a flume [1993. p.137-149. eng] 47-2646
Clayton, L.
Deposition of the Late Wisconsin Johnston moraine, south-central Wisconsin [1993. p.53-59. eng] 47-4751
Stratigraphy and origin of an area of hummocky glacial topography, northern Wisconsin, U.S.A. [1993. p.61-67. eng] 47-4752
Cleaveland, M.K.
Dendroclimatic evidence from eastern North America [1992. p.331-348. eng] 47-2092
Clementi, E.
Erratum: liquid water with an *ab initio* potential: X-ray and neutron scattering from 238 to 368 K [1992. p.8818. eng] 47-2049
Liquid and solid phases of water: an extensive molecular dynamics simulation with an *ab initio* polarizable potential [1993. p.205-213. eng] 47-4755
Liquid water with an *ab initio* potential: X-ray and neutron scattering from 238 to 368 K [1992. p.2030-2038. eng] 47-2048
Solvated water molecules and hydrogen-bridged networks in liquid water [1993. p.2241-2249. eng] 47-2109
Clevenger, M.
Packaging emergency power for Alaska [1992. p.36-38. eng] 47-593
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Model for the hydrologic and climatic behavior of water on Mars [1993. p.10,973-11,016. eng] 47-4409
Cline, D.W.
Modeling the redistribution of snow in alpine areas using geographic information processing techniques [1992. p.13-24. eng] 47-4028
Close, A.R
Winter ecology of the sea ice biota *in* Weddell Sea pack ice [1993. p.17-31. eng] 47-4575
Clough, A.H.
Alaska's mineral industry, 1991 [1992. 89p.. eng] 47-1485
Cloutier, R.
Snow blower with vertical endless belt digger [1988. 6 col., eng] 47-3496
Clow, G.D.
Computational modeling of antarctic lake ice [1992. p.105-116. eng] 47-1022
Global change implications for antarctic lakes [1993. p.276-279. eng] 47-3047
Perennial ice covers and their influence on antarctic lake ecosystems [1993. p.53-70. eng] 47-4396
Coats, R.
Nitrate transport in subalpine streams, Lake Tahoe Basin, California-Nevada, U.S.A. [1993. p.17-21. eng] 47-2850
Cober, S.G.
Measurements of the heat and mass transfer parameters characterizing conical graupel growth [1993. p.1591-1609. eng] 47-4832
Cochran, V.L.
Fertilizer placement for conventional and no-tillage barley in the subarctic [1992. p.1973-1978. eng] 47-4356
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Highway embankment construction across the Strathearn buried valley [1991. p.203-209. eng] 47-3877
Coen, J.L.
New explicit equations for the accurate calculation of the growth and evaporation of hydrometeors by the diffusion of water vapor [1992. p.1643-1651. eng] 47-7
Cogar, R.
Ice crystal growth and lectins [1992. p.113-114. eng] 47-906
Cohen, A.
Predicting pipeline frost load [1988. p.62-69. eng] 47-75
Cohen, M.D.
Non-air-entrained high-strength concrete—is it frost resistant [1992. p.406-415. eng] 47-1548
Colbeck, S.C.
Bibliography on snow and ice friction [1993. 17p.. eng] 47-4869
Shifts in ice sheet temperatures [1993. p.5115-5120. eng] 47-2855
Vapor diffusion coefficient for snow [1993. p.109-115. eng] 47-1903
Colbourne, D.B.
Development of a component-based scaling system for ship-ice model tests [1992. p.77-87. eng] 47-1146
Proposed standard method for conduct and analysis of ice resistance model tests [1992. 10p.. eng] 47-1341
Research on hovercraft and suction bow icebreakers [1992. p.243-251. eng] 47-1032
Some exploratory tests on circular and sidewall air cushion icebreaker bows [1990. 60p.. eng] 47-1347
Cole, D.M.
Effect of creep on the constitutive behavior of saline ice at low strains [1993. p.261-271. eng] 47-3759
Coleman, M.D.
Root cold hardiness and native distribution of subalpine conifers [1992. p.932-938. eng] 47-1187
Coleman, R.K.
Icebreaking defense buoy [1988. 4 col.. eng] 47-3639
Colhoun, E.A.
Late Quaternary glaciation and deglaciation of the Bunger Hills, Antarctica [1992. p.435-446. eng] 47-904
Collett, J.L., Jr.
Cloud chemistry at Mt. Rigi, Switzerland: dependence on drop size and relationship to precipitation chemistry [1993. p.33-42. eng] 47-2705
Investigations of the relationship between cloudwater and *precipitation chemistry* using Doppler radar [1991. p.381-392. eng] 47-2213
Collett, T.S.
Subsurface temperatures and *geothermal gradients on the* North Slope of Alaska [1993. p.275-293. eng] 47-3931
Collins, A.G.
Freezing rate of sludge layers [1993. p.405-412. eng] 47-4478
Collins, C.M.
Bearing capacity tests on ice reinforced with Geogrid [1992. 12p.. eng] 47-2925
White phosphorus poisoning of waterfowl in an Alaskan salt marsh [1992. p.669-673. eng] 47-1235
Collins, M.J.
Information fusion in sea ice remote sensing [1992. p.431-441. eng] 47-3039
Collins, R.L.
Polar stratospheric clouds at the South Pole in 1990: lidar observations and analysis [1993. p.1001-1010. eng] 47-2701
Winter chills [1993. p.53-57. eng] 47-4999
Collins, W.T.
Experiment to monitor four iceberg scours on the Grand Banks of Newfoundland [1991. 110p.. eng] 47-2115
Submersible observations of an iceberg pit and scour on the Grand Banks of Newfoundland [1992. p.1-6. eng] 47-446
Collver, B.
Field investigation of bioremediation of tundra with residual hydrocarbons [1993. p.331-337. eng] 47-4474
Colman, S.M.
On the age of the penultimate full glaciation of New England [1992. p.163-170. eng] 47-2690
Varied records of early Wisconsinan alpine glaciation in the western United States derived from weathering-rind thicknesses [1992. p.269-278. eng] 47-2697
Colom, J.G.
Comparison of normalized radar cross section measurements and models for snow cover at 35, 95, and 225 GHz [1992. p.1655-1657. eng] 47-686
Colombini, A.
Energy cost of level cross-country skiing and the effect of the friction of the ski [1989. p.791-795. eng] 47-2320
Colony, R.L.
Arctic Ocean Buoy Program data report for 1 January 1987-31 December 1987 [1990. 152p.. eng] 47-4670
Arctic Ocean Buoy Program data report for 1 January 1988-31 December 1988 [1991. 181p.. eng] 47-4671
Arctic Ocean Buoy Program data report for 1 January 1989-31 December 1989 [1991. 158p.. eng] 47-4672
Arctic Ocean Buoy Program data report for 1 January 1990-31 December 1990 [1991. 142p.. eng] 47-4673
Colorado Avalanche Information Center
Annual report—1991-92 [1992. 54p. + append.. eng] 47-1745
Colorado. University. Institute of Arctic and Alpine Research
Biennial report, 1991-1992 [1993. 52p.. eng] 47-4899
Colwell, J.H.
Decade of absolute noise thermometry at NIST using a resistive SQUID [1992. p.983-988. eng] 47-2989
He-3 melting curve thermometer as a universal temperature transfer standard [1992. p.101-106. eng] 47-2953
ITS-90 below 1 K: how accurate is it [1992. p.85-90. eng] 47-2950
New cryogenic temperature *scale from 6.3 to 650 mK* [1992. p.91-96. eng] 47-2951
Combellick, R.A.
Penultimate great earthquake in southcentral Alaska: evidence from a buried forest near Girdwood [1993. p.7-15. eng] 47-4774
Combs, S.T.
Modeling watershed management for water augmentation [1992. p.221-229. eng] 47-2729
Comiso, J.C.
Active and passive microwave signatures and relationship to *ice thickness* [1992. p.B66-B75. eng] 47-3253
Coastal zone color scanner pigment concentrations in the southern ocean and relationships to geophysical surface features [1993. p.2419-2451. eng] 47-2625
Ice thickness distribution inferred using remote sensing techniques [1992. p.375-383. eng] 47-3035
Inferring ice thickness distribution from airborne laser profiling [1992. p.B43-B51. eng] 47-3249
Microwave remote sensing of polynyas [1992. p.303-311. eng] 47-3029
Microwave remote sensing of the southern ocean ice cover [1992. p.243-259. eng] 47-3026
Relationship between sea ice freeboard and draft in the Arctic Basin, and implications for ice thickness monitoring [1992. p.20,325-20,334. eng] 47-2344
Summer arctic ice concentrations and characteristics from SAR and SSM/I data [1993. p.367-372. eng] 47-4441
Compact, disengaging pump drive aids cold weather starts
Compact, disengaging pump drive aids cold weather starts [1992. p.56-57. eng] 47-594
Conca, J.L.
Weathering of basaltic rocks under cold arid conditions: Antarctica and Mars [1991. p.711-717. eng] 47-4636
Conference on Atmospheric Chemistry, Anaheim, CA, Jan. 17-22, 1993
Preprints [1993. 140p.. eng] 47-3098
Conference on Climate Variations, 5th, Denver, CO, Oct. 14-18, 1991
Preprints [1991. 528p. + joint papers. eng] 47-4480
Conference on Polar Meteorology and Oceanography, 2nd, Madison, WI, Mar. 29-31, 1988
Preprints [1988. 160p.. eng] 47-4173
Conference on Polar Meteorology and Oceanography, 3rd, Portland, OR, Sep. 29-Oct. 2, 1992
Preprints [1992. 146p. + joint papers. eng] 47-2362
Conger, M.C.
NGM model output error and the effect on forecasting a Great Basin cyclogenic event: a case study [1992. 38p.. eng] 47-2141
Conklin, M.H.
NO adsorption on ice at low concentrations [1992. p.569-574. eng] 47-202
Connell, B.H.
Advective contributions to boundary layer moisture profiles in mountainous terrain [1991. p.123-126. eng] 47-1490
Connery, C.A.
Crystallizing apparatus [1989. 12 col.. eng] 47-3333
Connolley, W.M.
Atmospheric water-vapour transport to *Antarctica inferred* from radiosonde data [1993. p.325-342. eng] 47-2712
Connolly, J.T.
Contrasting requirements for Type II de anti-icing fluids [1993. p.10-13. eng] 47-3311
Conrad, J.F.
Experiments with corrosion inhibited deicers in Washington State [1992. 11p.. eng] 47-935
Conrad, M.A.
Performance of a simple degree-day estimate of snow accumulation to an alpine watershed [1991. p.221-228. eng] 47-1309
Consolini, G.
Dissipative quantum tunneling of rotational defects in ice. The Pauling potential [1993. p.4227-4228. eng] 47-5273
Temperature dependence of dielectric relaxation in H2O and D2O ice. A dissipative quantum tunneling approach [1993. p.538-547. eng] 47-4288
Conway, H.
Measurements of snow temperature during rain [1993. p.6-7. eng] 47-1888
Cook, E.R.
Dendroclimatic evidence from eastern North America [1992. p.331-348. eng] 47-2092
Cooley, J.
NWRI digest [1993. 8p.. eng] 47-2199
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Effects of climate changes on water supplies [1992. p.185-194. eng] 47-2727
Simulation of snowmelt in a small rangeland watershed [1992. p.129-132. eng] 47-503
Coon, M.D.
Ice mechanics in the LeadEx program [1991. p.651-656. eng] 47-2184
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Waste disposal site selection techniques in Quaternary terraine Ontario, Canada [1991. p.211-217. eng] 47-3878
Cooper, P.D.
Expanding SCS's *remote sensing program* [1992. p.28-35. eng] 47-491
Coppa, P.
Platinum resistance thermometer for exploration of the Titan atmosphere [1992. p.409-413. eng] 47-2978
Coppendale, J.
Effect of temperature on the strength of adhesive joints [1992. p.185-190. eng] 47-878
Core, K.L.
Heat transfer and population characteristics in multiphase-dispersed media with phase change [1991. 99p.. eng] 47-304

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Nitrogen and phosphorus concentrations and export for the upper Kuparuk River on the North Slope of Alaska in 1980 [1992, p.61-69, eng] 47-1604
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Cormack, R.H.
New airborne precipitation spectrometer for atmospheric research [1993, p.30-35, eng] 47-3062
Novel digital holographic imaging system for observing ice crystals in cirrus [1993, p.25-29, eng] 47-3061

Cornaro, C.
Platinum resistance thermometer for exploration of the Titan atmosphere [1992, p.409-413, eng] 47-2978

Cornwell, J.C.
Biogeochemistry of manganese- and iron-rich sediments in Toolik Lake, Alaska [1992, p.45-59, eng] 47-1603
Cation export from Alaskan arctic watersheds [1992, p.15-22, eng] 47-1600
Silicon budget for an Alaskan arctic lake [1992, p.37-44, eng] 47-1602

Corongiu, G.
Erratum: liquid water with an *ab initio* potential: X-ray and neutron scattering from 238 to 368 K [1992, p.8818, eng] 47-2049
Liquid and solid phases of water: an extensive molecular dynamics simulation with an *ab initio* polarizable potential [1993, p.205-213, eng] 47-4755
Liquid water with an *ab initio* potential: X-ray and neutron scattering from 238 to 368 K [1992, p.2030-2038, eng] 47-2048
Raman and infrared spectra of hexagonal ice between 0 and 400/cm—a molecular dynamics simulation [1993, p.547-558, eng] 47-4760
Solvated water molecules and hydrogen-bridged networks in liquid water [1993, p.2241-2249, eng] 47-2109
Structure and dynamics in hexagonal ice: a molecular dynamics simulation with an *ab initio* polarizable and flexible potential [1993, p.5694-5700, eng] 47-3155

Corr, H.
Fractionation of sea salt and acids during transport across an antarctic ice shelf [1993, p.179-187, eng] 47-3535
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Correction to "Secondary-electron yields of solar system ices" by David M. Suszcynsky, Joseph E. Borovsky, and Christoph K. Goertz [1993, p.7499, eng] 47-3840

Corte, A.E.
Interactions and relations between mountain permafrost, glaciers, snow and water [1992, p.103-110, eng] 47-1749

Cortez, E.R.
Concreting at subfreezing temperatures [1992, p.382-397, eng] 47-606
Environmental monitoring and performance evaluation of roller-compacted concrete pavement: Conley Terminal, Boston, Massachusetts [1992, 16p., eng] 47-694
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Energy cost of level cross-country skiing and the effect of the friction of the ski [1989, p.791-795, eng] 47-2320

Cosgrove, D.M.
Determination of glacier speed by time-lapse photography under unfavorable conditions [1992, p.257-265, eng] 47-466

Cosmos, M.
Apparatus and method for low temperature thermal stripping of volatile organic compounds from soil and waste materials with non-oxidative cross-sweep gases [1993, 12 col., eng] 47-3904

Costard, F.
Martian permafrost [1993, p.91-100, eng] 47-3835

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Bio-optical observations of first-year arctic sea ice [1993, p.1059-1062, eng] 47-4266

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Interannual variability of landfast ice thickness in the Canadian High Arctic, 1950-89 [1992, p.273-284, eng] 47-3321

Côté, Y.
System for measuring glaze-ice by microprocessor with new release mechanism incorporated [1988, 8 col., eng] 47-4008

Cotham, W.E., Jr.
Chemical and physical processes affecting the transport and fate of semivolatile organic contaminants in the environment [1991, 208p., eng] 47-305

Coulson, G.F.J.
Fractionation of sea salt and acids during transport across an antarctic ice shelf [1993, p.179-187, eng] 47-3535

Courts, S.S.
Neutron and gamma radiation effects on cryogenic temperature sensors [1992, p.1237-1242, eng] 47-2999
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Coutard, J.P.
Frost heaving and frost creep on an experimental slope: results for soil structures and sorted stripes [1988, p.13-23, eng] 47-439

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Experimental and numerical analysis of floating ice beam impact forces against a sloped structure [1993, 51p., eng] 47-5244
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Cowan, E.A.
Marine geologic investigations of Disenchantment Bay, Alaska, after breakup of 1986 Hubbard Glacier ice dam [1992, 41p., eng] 47-3708
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Cowing, D.J.
Preliminary analysis of historical snow data using a geographic information system [1992, p.81-88, eng] 47-4036

Cowles, J.H., Jr.
Motion of a weighted wire through ice in the regelation and recrylation regimes [1991, 201p., eng] 47-309

Cowper, D.N.B.
Research on "Ice/Propeller Interaction": JRPA No.6 subtasks 5.1.1 and 5.1.2 [1992, 87p., eng] 47-1351
Review of full-scale trial propulsion system R and D. Volume I—main report. Volume II—appendices [1992, 156p. + appends. bound separately (2 vols.), eng] 47-599

Cox, B.
Icebreaker face-off [1992, p.52-53, eng] 47-444

Cox, S.F.J.
(Mu)SR studies of ice, illustrating the positive muon as a magnetic resonance probe of structure and dynamics [1992, p.292-296, eng] 47-981

Cragin, J.H.
Comment on "A study of the linear ranges of several acid digestion procedures" [1992, p.1848, eng] 47-453
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Comment on "Formic and acetic acids in coastal North Carolina rainwater" [1992, p.1666, eng] 47-452
Potential cause for low lead and chromium recoveries during acid extractions [1992, 6p., eng] 47-1898

Crane, R.G.
Comparison of global climate model simulations of polar regions [1991, p.488-491, eng] 47-4495
Remote sensing and polar climate [1986, p.38-41, eng] 47-2195
Synoptic ice melt from Nimbus-7 SMMR [1988, p.36-39, eng] 47-4180

Crane, R.K.
Implementation of a MMW FM-CW radar system for study of surface scattering from freshwater lake and river ice sheets [1991, 20p., eng] 47-888
Thickness profiling of freshwater ice using a millimeter-wave FM-CW radar [1992, p.1094-1100, eng] 47-1262

Crane, R.L.
Analysis of the large deformation and flow characteristics of developable surface snowplow moldboards [1992, 293p., eng] 47-4677
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Crawford, R.E.
Schooling behaviour of arctic cod, *Boreogadus saida*, in relation to drifting pack ice [1993, p.345-357, eng] 47-4061

Cripps, J.C.
Engineering geology of Quaternary soils: I. Processes and properties [1991, p.3-38, eng] 47-3868

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Reassessment of Crete (Greenland) ice core acidity/volcanism link to climate change [1993, p.209-212, eng] 47-2856

Crossdale, K.R.
Boundary element analysis of macrocracking of ice in a large test basin [1992, p.91-104, eng] 47-1021

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Ice-floe collisions interpreted from acceleration data during LIMEX '89 [1992, p.246-269, eng] 47-2350
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Distribution of icicles [1990, p.34, eng] 47-5258

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Climate change impacts on Great Lakes water supplies [1992, p.241-250, eng] 47-2730

Cromwell, R.
GPR and dielectric classification of glacial materials [1992, p.133-138, eng] 47-633

Cronenwett, P.N.
Polar archival records: a modest proposal [1992, p.195-207, eng] 47-1404

Cronin, T.M.
Microfaunal evidence for elevated Pliocene temperatures in the Arctic Ocean [1993, p.161-173, eng] 47-4153

Crooks, J.H.A.
Some aspects of the behavior of Beaufort Sea clays [1985, p.487-514, eng] 47-1617

Crosbie, D.
Comparison of remote sensing systems for operational ice analysis [1991, p.51-61, eng] 47-3375

Crosby, J.D.
ASOS sensor performance—an update [1993, p.358-362, eng] 47-3074

Crossley, A.
Orographic enhancement of snowfall [1992, p.175-179, eng] 47-1553

Croswell, K.
Balmy past of icy Triton [1992, p.13, eng] 47-232
Pluto's moon is a giant snowball [1992, p.16, eng] 47-2290

Croutch, V.K.
Adhesion of ice to coatings and the performance of ice release coatings [1992, p.41-53, eng] 47-2201

Crovini, L.
Development of the ITS-90 interpolation equations for the platinum resistance thermometer [1992, p.139-144, eng] 47-2960

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Application of a coupled water-balance-salinity model to evaluate the sensitivity of a lake dominated by groundwater to climatic variability [1993, p.33-73, eng] 47-2635

Crowley, T.J.
Reassessment of Crete (Greenland) ice core acidity/volcanism link to climate change [1993, p.209-212, eng] 47-2856

Crowther, G.S.
Estimating thaw-strain settlement of frozen fill [1992, p.152-159, eng] 47-2641

Cruden, D.M.
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Some influences of ice thrusting in geotechnical engineering [1991, p.127-134, eng] 47-3872

Cruikshank, D.P.
Ices on the surface of Triton [1993, p.742-745, eng] 47-5128

Crum, L.A.
Underwater sounds of precipitation [1992, p.2-12, eng] 47-513

Crutzen, P.J.
Homogeneous freezing of sulfuric acid droplets. 1. Formation of H2SO4 x 4H2O (SAT) [1992, p.225-228, eng] 47-2254
Homogeneous freezing of sulfuric acid droplets. 2. Implications for PSCs and heterogeneous chemistry [1992, p.229-232, eng] 47-2255
On the potential importance of the gas phase reaction CH3O2 + ClO—ClOO + CH3O and the heterogeneous reaction HOCl + HCl—H2O + Cl2 in "ozone hole" chemistry [1992, p.1113-1116, eng] 47-1566

Cuffey, K.M.
Toward using borehole temperatures to calibrate an isotopic paleothermometer in central Greenland [1992, p.265-268, eng] 47-2026

Cui, Z.J.
Characteristics of the active layers on Fildes Peninsula of King George Island, Antarctica [1991, p.24-37, eng] 47-38
Holocene periglacial processes and environmental changes in Daqingshan Mountains, Inner Mongolia, China [1992, p.55-62, eng] 47-3127

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Seed-zone temperature and moisture conditions under conventional and no-tillage in Alaska [1992, p.1904-1910, eng] 47-2299

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Engineering geology of Quaternary soils: I. Processes and properties [1991, p.3-38, eng] 47-3868

Cumino, G.
API X65 grade normalized and tempered seamless tubes with improved low temperature toughness [1992, p.134-141, eng] 47-1837

Cunningham, F.F.
Post-glacial loess deposition in a montane environment: South Thompson River valley, British Columbia, Canada [1992, p.291-301, eng] 47-4023

Cunningham, G.
Approach to identification of sea ice types from spaceborne SAR data [1992, p.355-360, eng] 47-3033
Preliminary results from the ASF/GPS ice classification algorithm [1992, p.573-575, eng] 47-650
Sea ice radar signatures from ERS-1 SAR during late summer and fall in the Beaufort and Chukchi Seas [1993, p.339-342, eng] 47-4436

Cunningham, R.
Enclosed superstructures for light and sound buoys [1991, 40p. + appends., eng] 47-438

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IPIX radar: a tool for ocean surveillance and meteorological research [1991, p.25-36, eng] 47-3373
Surface-based radar remote sensing of ice in Canada [1992, p.259-266, eng] 47-146

Currie, D.H.
Optimal radar ice surveillance [1991, p.143-164, eng] 47-3383

Curry, B.B.
Last interglacial-glacial transition in Illinois: 123-25 ka [1992, p.71-88, eng] 47-2684

Curry, J.A.
Annual cycle of radiation fluxes over the Arctic Ocean: sensitivity to cloud optical properties [1992, p.1267-1280, eng] 47-1549
Diagnostic study of the evolution of an intense North American anticyclone during winter 1989 [1992, p.38-41, eng] 47-2374
Intermediate one-dimensional thermodynamic sea ice model for investigating ice-atmosphere interactions [1993, p.10,085-10,109, eng] 47-4378
Microphysical processes occurring in ice crystal plumes emanating from arctic leads [1992, p.17-20, eng] 47-2368
Modelling of the mean and turbulent structure of the arctic atmospheric boundary layer [1992, p.J13-J15, eng] 47-2406
Modelling the horizontally inhomogeneous cloudy boundary layer in the presence of leads [1992, p.J41-J44, eng] 47-2413
Satellite retrieval of lower-tropospheric ice crystal clouds in the polar regions [1993, p.1467-1472, eng] 47-5214
Spectral interactions of radiation and sea ice [1992, p.21-24, eng] 47-2369

Curtin, D.
Snow management in the reclamation of sodic soils [1992, p.150-153, eng] 47-508

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London Convention and radioactive waste dumping at sea: a global treaty regime in transition [1993, p.541-555, eng] 47-5053

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Application of U.S. interagency coastal and marine monitoring programs for determining levels of radioactivity resulting from disposal of radioactive wastes in Arctic seas [1993, p.343-357, eng] 47-5041

Cutter, B.C.
Freezing of water in hardboard: absence of changes in mechanical properties [1992, p.252-259, eng] 47-771

Czudek, T.
Pleistocene periglacial structures and landforms in western Czechoslovakia [1993, p.65-75, eng] 47-3118

Czuma, D.M.
Contact assembly for high-voltage switch [1989, 6 col., eng] 47-3412

Czys, R.R.
Simple objective method used to forecast convective activity during the 1989 PACE cloud-seeding experiment [1993, p.996-1005, eng] 47-3566

Dahl, G.
Aerated concrete—a building material for the future? [1992, p.145-149, eng] 47-3455

Dahl-Jensen, D.
Bore-hole survey at Camp Century, 1989 [1993, p.187-193, eng] 47-2649
Bore-hole survey at dome GRIP 1991 [1993, p.399-402, eng] 47-5209

Dahlgaard, H.
Anthropogenic radioactivity in the arctic seas: time trends and present levels [1993, p.49-63, eng] 47-5020

Dahn, H.G.
Multiple-scattering lidar experiments [1992, p.1731-1745, eng] 47-3160

Dahowski, D.E.
Interfacial separator for concrete structures [1988, 8 col., eng] 47-3640

Dai, L.S.
On designing the temperature scale in the range 13.8 K to 273.16 K [1992, p.145-150, eng] 47-2961

Daley, C.
Aspects of ship-ice interaction in a natural ice cover. Report from Finnish-Canadian Joint Research Project No.5 [1992, 32p. + append., eng] 47-220
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Dallimore, S.R.
Characterization of massive ground ice at Yaya Lake, Northwest Territories using radar stratigraphy techniques [1993, p.23-32, eng] 47-3703
Geological investigations of proposed pipeline channel crossings in the vicinity of Taglu and Niglintgak islands, Mackenzie Delta, NWT [1992, 90p. + append., eng] 47-2620

Dalonov, N.
Chemical composition of precipitation in Uzbekistan [1993, p.413-419, eng] 47-4068

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Ice impacts on flow along the Missouri River [1992, 10p., eng] 47-1237
Laboratory investigation of trash rack freezeup by frazil ice [1992, 11p., eng] 47-1896

Damiano, P.
Infrared emittance of water clouds [1992, p.1459-1472, eng] 47-410

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Anomalous 11-year *delta*C-14 cycle at high latitudes? [1992, p.235-238, eng] 47-1479
Global beryllium 10 cycle [1991, p.141-158, eng] 47-5261

Damson, M.H.
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Dang, Q.L.
Effects of summer frosts and subsequent shade on foliage gas exchange in peatland tamarack and black spruce [1992, p.973-979, eng] 47-1188

d'Anglejan, B.
Seismostratigraphy of the middle St. Lawrence estuary: a late Quaternary glacial marine to estuarine depositional/erosional record [1992, p.133-150, eng] 47-3787

Daniel, G.S.
Ice dam preventer [1988, 4 col., eng] 47-3497

Danilenko, V.I.
Deformation of ice cover: some results of plane numerical modelling [1992, p.367-371, eng] 47-167
Ship in compressive ice. Analysis of the ice failure process. Report from the joint Finnish-Russian project [1993, 70p. + *appends.*, *eng*] 47-3539

Danilina, A.V.
Characteristics of avalanche-forming snow on Sakhalin Island [1992, p.51-57, rus] 47-184

Danilov, A.D.
Stratospheric ozone in the Arctic and Antarctic (Review) [1992, p.1-10, eng] 47-3629

Danilov, A.K.
Working tools and special equipment for trenching excavators designed for frozen ground [1990, p.17-19, rus] 47-1413

Danilov, I.D.
Cryolithogenesis: advances, promising trends, and research problems [1992, p.76-84, eng] 47-3833
Paleogeographic investigation of bottom sediments of the central Arctic Ocean (Mendeleyev Ridge) [1991, p.77-82, eng] 47-2888

Danish Polar Center
Annual report 1992 [1993, 39p., eng] 47-5247

Danks, H.V.
Arctic insects as indicators of environmental change [1992, p.159-166, eng] 47-519

Dansgaard, W.
Evidence for general instability of past climate from a 250-kyr ice-core record [1993, p.218-220, eng] 47-4572
Greenland: a temptation and a challenge [1993, p.12-16, eng] 47-4728
On flow model dating of stable isotope records from Greenland ice cores [1993, p.13-24, eng] 47-2863

Daoo, V.J.
Nomograms for estimating rate of snow-melting from routine meteorological data [1985, p.22-31, eng] 47-559

Darby, M.S.
Boolean delay equation model of an interdecadal arctic climate cycle [1993, p.241-246, *eng*] 47-4354

D'Aria, D.M.
Emissivity of terrestrial materials in the 8-14 micron atmospheric window [1992, p.83-106, eng] 47-1555

Darling, M.
Unsurfaced road management rating system [1993, p.25, eng] 47-1911

Darovskikh, A.N.
Polarization characteristics of natural thermal emission from antarctic sea ice [1991, p.32-35, rus] 47-1576

D'Arrigo, R.D.
Dendroclimatic evidence from northern North America [1992, p.296-311, eng] 47-2090

Das, D.K.
Development of a thermal mechanical drill for sampling ice and rock from great depths [1992, p.377-382, eng] 47-913

Das, T.
Snow melt runoff for a sub-catchment of Beas basin [1985, p.43-63, eng] 47-561

D'Asaro, E.A.
Acoustic Doppler current profiler observations of currents adjacent to refreezing leads [1992, p.J56-J59, *eng*] 47-2416
Internal waves and mixing in the Arctic Ocean [1992, p.S459-S484, eng] 47-1274

Dash, J.G.
Frost heave and the surface melting of ice [1991, p.339-356, eng] 47-2302
Optical study of surface melting on ice [1993, p.491-505, eng] 47-3648
Premelting of ice in exfoliated graphite: a neutron diffraction study [1992, p.33-41, eng] 47-1383
Theory of ice premelting in monosized powders [1992, p.101-108, eng] 47-181

Dashevskii, A.G.
Working tools and special equipment for trenching excavators designed for frozen ground [1990, p.17-19, rus] 47-1413

Dass, T.
Densification and stability of a seasonal snow pack [1985, p.99-111, eng] 47-528

Davidson, C.I.
Sulfate in the air, surface snow and snowpits at Dye 3, Greenland [1991, p.1693-1704, *eng*] 47-2219

Davidson, G.
Icy prospects for a warmer world [1992, p.23-26, eng] 47-1946

Davidson, K.
Characteristics of the lower troposphere during LEADEX 92 [1992, p.50-53, eng] 47-2378

Davidson, K.L.
Atmospheric boundary layer features observed in the spring marginal ice zone [1988, p.73-74, eng] 47-4185
Determining realistic wind stress forcing fields for marine arctic regions [1992, p.44-47, eng] 47-2376
Sea ice deformation in the Beaufort Sea [1992, p.64-67, eng] 47-2382
Stratification of the atmospheric boundary layer in the arctic marginal ice zone [1992, p.J16-J19, eng] 47-2407
Study of the factors controlling the value of the surface temperature of sea ice [1992, p.54-57, eng] 47-2379

Davidson, S.H.
Experiment to monitor four iceberg scours on the Grand Banks of Newfoundland [1991, 110p., eng] 47-2115

Davies, G.R.
Submarine cements and fabrics in Carboniferous to Lower Permian, reefal, shelf margin and slope carbonates, northwestern Ellesmere Island, Canadian Arctic Archipelago [1990, 77p., eng] 47-4365

Davies, T.D.
Character and causes of a pronounced snowmelt-induced "acidic episode" in a stream in a Scottish subarctic catchment [1993, p.267-300, eng] 47-4171
Laboratory investigation of the leaching of solute from snowpack by rainfall [1992, p.169-178, eng] 47-376
Nature and causes of climate change: assessing the long-term future [1992, 248p., eng] 47-2223

D'Avirro, J.
Aircraft ground de/anti-icing fluid holdover time field testing program *for the* 1991-1992 *winter* [1992, 83p. + append., eng] 47-2231

Davis, C.H.
Combined surface/volume scattering retracking algorithm for ice sheet satellite altimetry [1992, p.969-971, eng] 47-667

Davis, H.E.
Concentration of black liquor by freeze crystallization [1982, p.471-479, eng] 47-1882

Davis, H.T.
Adaptive finite element analysis of *axisymmetric freezing* [1992, p.3301-3312, eng] 47-2609

Davis, N.R.
Relationship between sea ice freeboard and draft in the Arctic Basin, and implications for ice thickness monitoring [1992, p.20,325-20,334, eng] 47-2344

Davis, R.E.
Climate and energy exchange at the snow surface in the alpine region of the Sierra Nevada. 1. Meteorological measurements and monitoring [1992, p.3029-3042, eng] 47-1476
Comparison of millimeter-wave radar observations of snow with energy and mass transfer simulation [1992, p.815-817, eng] 47-658
Comparison of normalized radar cross section measurements and models for snow cover at 35, 95, and 225 GHz [1992, p.1655-1657, eng] 47-686
Polarimetric and multifrequency SAR signatures of wet snow [1992, p.1658-1660, eng] 47-687
Stream cooling by heat transfer to partially-submerged rocks [1992, p.193-201, eng] 47-4048

Davis, S.H.
Bénard convection in binary mixtures with Soret effects and solidification [1992, p.657-682, eng] 47-820

Davydov, S.P.
Dynamics of heat-mass transfer in cryogenic soils of northeast Yakutia [1992, p.180-184, eng] 47-1726

Davydova, N.D.
Evaluating the effect of dust and gas exhaust on a city and its surrounding terrain [1990, p.65-74, rus] 47-979

Dawdy, D.R.
Problems of runoff modeling which are particular to the area or climate being modeled [1991, p.541-547, eng] 47-1382

Dawes, P.R.
Geological setting of Precambrian supracrustal belts: a fundamental part of mineral resource evaluation in Greenland [1992, p.19-23, eng] 47-1634

Dawson, M.S.
Analysis of scattering from a thin saline ice layer [1992, p.1262-1264, eng] 47-676
Sea ice classification using fast learning neural networks [1992, p.1070-1071, eng] 47-670

Day, G.N.
Snow estimation—a *GIS* application for water resources forecasting [1993, p.856-861, eng] 47-4402
Verification of the National Weather Service extended streamflow prediction procedure [1992, p.163-172, eng] 47-2725

Dazlich, D.A.
Coupling of the CSU GCM to a simple ocean and sea ice model [1991, p.321-322, eng] 47-4485

De Abreu, R.A.
Spatial and temporal variation of sea ice geophysical properties and microwave remote sensing observations: the SIMS'90 experiment [1992. p.233-251. eng] 47-3320
Surface albedo of snow covered first year and multi-year sea ice [1991. p.133-140. eng] 47-3382

De Angelis, M.
Field investigation of major and minor ions along Summit (central Greenland) ice cores by ion chromatography [1993. p.251-258. eng] 47-4754

De Boer, J.
Properties of a statistical model of ice at low temperatures [1993. p.2059-2067. eng] 47-4463

De Elvira, C.
Simulation and design of heating profiles in heat controlled freeze-drying of pharmaceuticals in vials by the application of a sublimation cylindrical model [1993. p.85-102. eng] 47-2882

De Freitas, T.A.
Silurian pinnacle reefs of the Canadian Arctic [1993. p.172-182. eng] 47-4912

De Jong, C.
Thresholds for channel change on two contrasting pro-glacial river fans, West Greenland [1992. p.1-12. eng] 47-4318

De Santoli, L.
Platinum resistance thermometer for exploration of the Titan atmosphere [1992. p.409-413. eng] 47-2978

De Scally, F.A.
Influence of avalanche snow transport on snowmelt runoff [1992. p.73-97. eng] 47-173

de Vahl Davis, G.
Numerical study of three-dimensional natural convection and freezing in water [1992. p.640-650. eng] 47-4362

De Vernal, A.
Paleoenvironments of the last interglacial in northwest North Atlantic region and adjacent mainland Canada [1991. p.95-106. eng] 47-3483
Timing and character of the last interglacial-glacial transition in the eastern Canadian Arctic and northwest Greenland [1992. p.223-231. eng] 47-2694

De Witt, K.J.
New concept in runback water modeling for anti-iced aircraft surfaces [1993. p.41-49. eng] 47-3316
Three-dimensional simulation of electrothermal deicing systems [1992. p.1035-1042. eng] 47-1563

Deane, G.
Doppler acoustic studies of fine scale variability in the Arctic Ocean [1992. p.17-23. eng] 47-4715

Debevec, E.M.
Design of greenhouses for the manipulation of temperature in tundra plant communities [1993. p.56-62. eng] 47-3429

Deblonde, G.
Late Pleistocene ice age scenarios based on observational evidence [1993. p.709-727. eng] 47-3475
Simulations of continental ice sheet growth over the last glacial-interglacial cycle: experiments with a one level seasonal energy balance model including seasonal ice albedo feedback [1992. p.37-55. eng] 47-1885

Decker, J.
Organic-rich shale and bentonite in the Arctic Creek unit, Arctic National Wildlife Refuge: implications for stratigraphic and structural interpretations [1993. p.41-49. eng] 47-4777

Decker, R.
Snow science: reflections on the past, perspectives on the future [1992. 46p., eng] 47-477

Dedikhkhov, A.A.
Field studies of the hardening of concrete piles in winter [1991. p.22-24. rus] 47-2158

Dedinlin, I.V.
On the characteristics of mass transfer during the freezing of peat [1991. p.51-56. rus] 47-4809

DeFrance, S.J.
Crack growth stability in saline ice [1991. p.25-36. eng] 47-2307
Fracture process zone analysis in saline ice [1993. p.217-227. eng] 47-3755
Notch acuity effects on the CTOD and K(Q) of ice [1990. p.333-342. eng] 47-2310

Degermark, C.
Spring in the forest terrain at Svartberget, northern Sweden [1990. p.167-178. eng] 47-4311

Degtiareva, A.L.
Testing of assembly units, sets and machines to be used in extreme conditions [1991. p.30. rus] 47-2069

Dehairs, F.
Accumulation of suspended barite at mesopelagic depths and export production in the southern ocean [1992. p.1332-1335. eng] 47-873

Delkin, B.N.
Heat and water balance of naleds [1991. p.76-89. rus] 47-2431
Study of naleds by skiers with a high level of athletic skill while traversing courses [1991. p.137-145. rus] 47-2439

Dejana, V.
Snowplow assembly quick block and pin disconnect for a payloader [1988. 6 col., eng] 47-3499

Del Genio, A.D.
GCM feedback sensitivity to interactive cloud water budget parameterization [1993. p.176-181. eng] 47-3044

Delaney, A.J.
Short-pulse radar detection of groundwater in the Sagavanirktok River floodplain in early spring [1992. p.2925-2936. eng] 47-1475
Sub-bottom profiling: a comparison of short-pulse radar and acoustic data [1992. p.149-157. eng] 47-634

Delarov, D.A.
Evaluating the effect of a shock wave on snow cover [1991. p.107-122. rus] 47-390
Evaluating water vapor diffusion (in the example of field studies in Northern Kazakhstan) [1991. p.46-56. rus] 47-383
Formation and calculation of snow reserves on agricultural fields with a snow fence and an evaluation of the effectiveness of these measures [1991. p.22-34. rus] 47-381

DeLiberty, T.
Estimation of biases in precipitation gage measurements: an example using the United States raingage network [1993. p.148-151. eng] 47-3083

Delille, D.
Fate and effects of dispersed crude oil under icy conditions simulated in mesocosms [1993. p.273-302. eng] 47-2657
Marine bacterioplankton at the Weddell Sea ice edge, distribution of psychrophilic and psychrotrophic populations [1992. p.205-210. eng] 47-1327
Seasonal changes of antarctic marine bacterioplankton [1991. p.213-218. eng] 47-2070

Delisle, G.
Radio-echo-sounding on Browning Pass, Terra Nova Bay area, Antarctica [1992. p.135-137. eng] 47-2185
Site survey for future heat flow measurements, Prince Albert Mountains, Antarctica [1992. p.138-139. eng] 47-2186

DelloRusso, N.
Identification and yield of carbonic acid and formaldehyde in irradiated ices [1993. p.5505-5510. eng] 47-3650

Delmas, R.J.
1000 years of explosive volcanism recorded at the South Pole [1992. p.335-350. eng] 47-834
Environmental information from ice cores [1992. p.1-21. eng] 47-787
Polar precipitation chemistry [1991. p.1669-1691. eng] 47-2218

Demaria, T.L.
Atmospheric circulation anomalies in the arctic basin and their relationships to the great salinity anomaly in the northern north Atlantic [1991. p.350-353. eng] 47-4488
Atmospheric forcings on large scale patterns of parameterized albedo over arctic sea ice: case studies for June 1975 and 1988 [1991. p.396-399. eng] 47-4493

Demars, K.R.
Strength testing of marine sediments: laboratory and in-situ measurements [1985. 558p., eng] 47-1614

DeMattei, R.C.
Controlling nucleation in protein solutions [1992. p.21-30. eng] 47-769

deMenocal, P.B.
Sensitivity of Asian and African climate to variations in seasonal insolation, glacial ice cover, sea surface temperature, and Asian orography [1993. p.7265-7287. eng] 47-3831

Dement'ev, A.A.
Multi-year fluctuations in air temperature in the northern European basin [1991. p.6-13. rus] 47-3954

Dement'ev, I.U.L.
Ensuring reliable gas supply in Yakutia [1991. p.24-25. rus] 47-2479

Dement'ev, V.A.
Stochastic method for forecasting estimated parameters of naleds [1991. p.116-123. rus] 47-2435

Dement'eva, O.V.
Elastic shield to protect road culverts from naleds [1992. p.13. rus] 47-2902

Demers, S.
Chlorophyll a biomass and growth of sea-ice microalgae along a salinity gradient (southeastern Hudson Bay, Canadian Arctic) [1992. p.206-210. eng] 47-140
Chlorophyll a biomass and growth of sea-ice microalgae along a salinity gradient (southeastern Hudson Bay, Canadian Arctic) [1992. p.445-453. eng] 47-1469

Demidov, I.N.
Effect of ice flow on the distribution of fragmented material in a moraine [1991. p.186-190. rus] 47-341

Demidov, V.V.
Transfer of ions within the system soil-snow and the role of ice surface in their migration in frozen soils [1992. p.127-135. eng] 47-1717

Demin, V.V.
Indices of the humus state of some high-mountain soils of Western Pamir [1981. p.77-79. eng] 47-476

Demmel, J.
Alpha Jet surface icing at different flight velocities: the results [1992. 61p., ger] 47-2586

DeMorett, J.L.
Model of water movement in rock glaciers and associated water characteristics [1992. p.159-184. eng] 47-851

DeMott, P.J.
Mechanistic studies of heterogeneous ice nucleation by AgI-AgCl and AgI-AgCl-4NaCl aerosols [1992. p.263-266. eng] 47-2263
Quantifying ice nucleation by silver iodide aerosols [1990. 281p., eng] 47-313

Demoz, B.B.
Field performance of a spinning-reflector microwave radiometer [1993. p.420-427. eng] 47-3775
Sierra Nevada winter storms: a study using microwave radiometry, ice crystal and isotopic analysis technique [1992. 164p., eng] 47-2124

Dempsey, J.P.
Crack growth stability in saline ice [1991. p.25-36. eng] 47-2307
Dislocation movement at crack tip of single crystals of ice [1991. p.62-73. eng] 47-2308
Elastohydrodynamic response of an ice sheet to forced subsurface uplift [1993. p.487-506. eng] 47-3827
Fracture process zone analysis in saline ice [1993. p.217-227. eng] 47-3755
Fracture toughness Kq and fractography of S1 type freshwater ice [1989. p.3421-3428. eng] 47-236
Freezing rate of sludge layers [1993. p.405-412. eng] 47-4478
Ice mechanics—1993 [1993. 281p., eng] 47-3737
Notch acuity effects on the CTOD and K(Q) of ice [1990. p.333-342. eng] 47-2310
Planar forcing of floating ice sheets [1993. p.151-164. eng] 47-3750
Stress-optic effects in ice [1993. p.113-117. eng] 47-3746

Demuth, M.N.
Borehole jack indentor test: recent advances at NHRI [1992. p.247-253. eng] 47-4055

Deng, X.F.
Evolution of Quaternary glaciers and environment on the eastern side of the Geladandong Peak [1992. p.153-160. chi] 47-1652

DenHartog, S.L.
Field survey of potential airstrip locations: Mt. Howe, Antarctica, 1991 [1991. 6p., eng] 47-3338

Denisov, V.V.
Large-scale oceanographic surveys and their methodological significance in a comprehensive investigation of the Barents Sea (in the example of the "BAREKS-84" expedition) [1991. p.121-132. rus] 47-3963

Denmark. Ministry of Education and Research
Frozen archives [1992. 37p., eng] 47-1234

Denner, J.C.
Primer on clothing systems for cold-weather field work [1990. 14p., eng] 47-2225

Denner, W.W.
Artificial radioactivity, and mixing in the Arctic [1993. p.191-200. eng] 47-5030
Aspects of the mechanics and modeling of thermally-induced stresses in arctic pack ice as related to under- ice ambient noise [1993. p.573-590. eng] 47-4838
Learning behavior of sea ice [1993. p.527-536. eng] 47-4834

Dennis, A.
Avalanche videos [1992. p.53-54. eng] 47-1086

Denoux, G.J.
Hydrocarbon contamination on the Antarctic Peninsula. I. Arthur Harbor-subtidal sediments [1992. p.499-506. eng] 47-1931
Hydrocarbon contamination on the Antarctic Peninsula. II. Arthur Harbor inter- and subtidal limpets (Nacella concinna) [1992. p.506-511. eng] 47-1932

Denton, G.H.
Glacial history of the Ellsworth Mountains, West Antarctica [1992. p.403-432. eng] 47-2700
Subglacial meltwater channel systems and ice sheet overriding, Asgard Range, Antarctica [1991. p.109-121. eng] 47-4310

Derbentsev, A.S.
Settlement of lumpy frozen soil during thawing under conditions of compression [1991. p.72-76. rus] 47-189

Dereviagin, A.IU.
Ecological-geological regionalization of the cryolithozone in the USSR [1991. p.92-100. rus] 47-403

Derevianko, A.P.
Paleoclimate of the northwestern Altai Mountains in the Epleistocene [1992. p.842-846. rus] 47-2038

Derradji-Aoust, A.
Experimental study of the behaviour of columnar grained ice subjected to cyclic loading [1993. p.21-28. eng] 47-4226

Derriche, O.
Dielectric properties of normal supercooled water obtained in alcohol/water mixtures [1992. p.1136-1143. eng] 47-2294

Des Marais, D.J.
Stable isotopic biogeochemistry of carbon and nitrogen in a perennially ice-covered antarctic lake [1993. p.159-172. eng] 47-4906

Deshler, T.
Evidence for denitrification in the 1990 antarctic spring stratosphere: 1. Lidar and temperature measurements [1991. p.1995-1998. eng] 47-2027

Ozone depletion and denitrification in the antarctic stratosphere in austral spring 1990 (1991, p.242-244, eng) 47-3055

Volcanic aerosol and ozone depletion within the antarctic vortex during the austral spring of 1991 (1992, p.1819-1822, eng) 47-870

Desiatkin, R.V.
Soils of the valley near the middle course of the Amga River (1989, 120p., rus) 47-100

Designing production structures for the Russian Arctic
Designing production structures for the Russian Arctic (1992, p.33-53, eng) 47-920

Desjardins, M.A.
Effects of freezing on the measurement of solids in wastewater sludges (1990, p.191-197, fre) 47-1784

Desponts, M.
Recent dynamics of jack pine at its northern distribution limit in northern Quebec (1992, p.1157-1167, eng) 47-1482

Determann, J.
Dynamics of ice shelves and their sensitivity to changing mass-balance quantities: model results for Filchner-Ronne Ice Shelf, Antarctica (1990, p.57-68, eng) 47-3573

Dethleff, D.
East Siberian Arctic Region Expedition '92: the Laptev Sea—its significance for arctic sea-ice formation and transpolar sediment flux (1993, p.3-44, eng) 47-4220

Dettinger, M.D.
Climate-change scenarios for the Sierra Nevada, California, based on winter atmospheric-circulation patterns (1992, p.681-690, eng) 47-2744

Detwiler, A.G.
Ice-producing processes in North Dakota clouds (1992, p.305-308, eng) 47-2273

Magnitude of error factors in estimates of snow-particle masses from images (1993, p.804-809, eng) 47-3512

Deutsche Meteorologen-Tagung, Berlin, Mar. 16-20, 1992
German Meteorologists Meeting 1992 (1992, 425p., ger) 47-209

Deviatkin, E.A.
Thermal processes caused by the formation of defects in materials at cryogenic temperatures (1992, p.541-545, rus) 47-2035

Deviatkin, V.N.
Reduced geothermal gradients in the shallow West-Siberian Platform (1992, p.245-250, eng) 47-2024

Devine, E.A.
Preliminary results of the U.S. Navy localized ice impact test program (1992, p.750-763, eng) 47-1870

Devlin, J.P.
Molecular interactions with icy surfaces: infrared spectra of CO absorbed in microporous amorphous ice (1992, p.6185-6188, eng) 47-249

Preferential adsorption of ortho-H2 with respect to para-H2 on the amorphous ice surface (1993, p.4195-4206, eng) 47-2674

Rotational spectrum of a quantum rotor adsorbed on a rough and disordered surface: para-H2 and ortho-H2 on amorphous ice (1993, p.2265-2268, eng) 47-4464

Surface-defect vibrational modes of large ice clusters (1993, p.2485-2487, eng) 47-3177

DeVries, A.L.
Antifreeze glycopeptide adsorption on single crystal ice surfaces using ellipsometry (1993, p.1878-1884, eng) 47-5059

Dewey, R.K.
1988 Endicott Environmental Monitoring Program. Final report (1992, 5 vols., eng) 47-3456

Dhar, O.N.
Initiation of first snow surveys in the Himalayas—a brief appraisal (1985, p.164-174, eng) 47-536

Winter and spring precipitation over the northwestern Himalayas—a brief appraisal (1985, p.175-185, eng) 47-537

Dhir, M.P.
Snow effects on roads (1985, p.287-292, eng) 47-579

Di Donfrancesco, G.
1991 spring lidar campaign for polar stratospheric clouds studies at McMurdo, Antarctica: preliminary results (1992, p.367-373, eng) 47-2171

Di Girolamo, P.
Ice clouds in the antarctic stratosphere: evidence for water removal (1992, p.271-275, eng) 47-1206

Di Sarra, A.
Absolute determination of the cross sections of ozone in the wavelength region 339-355 nm at temperatures 220-293 K (1991, p.259-264, eng) 47-1826

Observations of correlated behavior of stratospheric ozone and aerosol at Thule during winter 1991-1992 (1992, p.1823-1826, eng) 47-871

D'iachenko, S.S.
Application of the superplasticizer SFS as an antifrost admixture for concrete (1991, p.11-12, rus) 47-2156

Diachok, O.I.
Matched field tomography results in the Arctic (1992, p.24-27, eng) 47-4716

Very-low-frequency under-ice reflectivity (1993, p.1329-1334, eng) 47-3432

Diamont, A.D.
Investigations of arctic ice-sheets and glaciers using ERS-1 SAR (1993, p.263-268, eng) 47-4423

Diaz, H.F.
Climatology of surface-based inversion in the North American Arctic (1992, p.15,699-15,712, eng) 47-997

Diaz, J.I.
Pliocene-Pleistocene seismic stratigraphy of the Ross Sea: evidence for multiple ice sheet grounding episodes (1992, p.93-103, eng) 47-2873

Dibb, J.E.
Beryllium 7 and Lead 210 in the western hemisphere arctic atmosphere: observations from three recent aircraft-based sampling programs (1992, p.16,709-16,715, eng) 47-1465

Dickinson, K.A.
Clay mineral depositional facies and uranium resource potential in part of the Tertiary Kenai Group, Kenai Peninsula, Alaska (1992, p.81-99, eng) 47-612

Dickinson, W.T.
Seasonal variability of hydraulic conductivity (1993, p.451-457, eng) 47-5146

Dickoré, W.B.
Zonation of flora and vegetation of the northern declivity of the Karakoram/Kunlun Mountains (SW Xinjiang China) (1991, p.265-284, eng) 47-1613

Dickson, J.H.
Evaluation of polymer-modified asphalts in Ontario (1992, p.243-269, eng) 47-1137

Dieckmann, G.S.
Ecological environmental features of antarctic sea ice and its role in the marine ecosystems (1993, p.1-15, chi) 47-4646

Ecology of sea ice biota. 1. Habitat, terminology, and methodology (1992, p.417-427, eng) 47-1334

Ecology of sea ice biota. 2. Global significance (1992, p.429-444, eng) 47-1335

Expedition ANTARKTIS X3 of RV *Polarstern* in 1992 (1993, p.1-122, eng) 47-4879

Origin of green icebergs in Antarctica (1992, p.20,319-20,-324, eng) 47-2343

Diemand, D.
Development of a wheeled runway for McMurdo on the Ross Ice Shelf (1992, 31p., eng) 47-2120

Iceberg/seabed interaction events observed during the DIGS experiment (1991, p.74-87, eng) 47-1140

Winter operability: equipment problems and their remedies (1992, p.124-137, eng) 47-587

Diener, C.J.
Lagoon sludge dewatering by natural freeze-thaw (1993, p.357-364, eng) 47-4477

Dierking, W.
Air-sea-ice interactions in the Weddell Sea (1993, p.325-327, eng) 47-4433

Dietrichson, J.
Genetic variation in early frost tolerance of spruce from northwestern North America (1993, p.383-391, eng) 47-4551

Digby, S.
Effects of freeze-up and melt processes on microwave signatures (1992, p.329-341, eng) 47-3031

Dijkmans, J.W.A.
Early Holocene calcretes from the subarctic active Nogahabara Sand Dune field, northern Alaska (1992, p.100-111, eng) 47-613

Dilger, W.H.
Extreme values of thermal loading parameters in concrete bridges (1992, p.935-946, eng) 47-3341

Dillon, W.P.
Is the extent of glaciation limited by marine gas-hydrates (1991, p.432-434, eng) 47-1241

DiMarchi, J.J.
Geology, alteration, and mineralization of the Vinasale Mountain gold deposit, west-central Alaska (1993, p.17-29, eng) 47-4775

DiMarco, R.L.
Sea ice flexural rigidity: a comparison of methods (1993, p.247-255, eng) 47-3928

Dinevich, L.A.
Automated dual polarization complex for studying the characteristics of cumulonimbus (1992, p.79-95, rus) 47-4659

Designing technology for cloud modification (1991, p.106-112, rus) 47-758

Ding, L.F.
Climatic conditions for the development of glacier and their effect on the characteristics of glaciers in Qilian Mountains (1985, p.9-15, chi) 47-1514

Experimental investigations on the artificial augmentation of the ice and snow melting of glaciers in Qilian Mountains (1985, p.150-162, chi) 47-1530

Formation and utilization of "stream icing" in the mountainous regions (1985, p.172-185, chi) 47-1532

Relationship between climatic variances and glacier changes during the last 20 years in Qilian Mountains (1985, p.91-96, chi) 47-1523

Ding, Y.J.
Glacier lake outburst flood disasters in China (1992, p.180-184, eng) 47-1108

Glacioclimatological features in the Tanggula mountains, China (1992, p.1-6, eng) 47-1077

Precipitation conditions for the development of the present glaciers on the northern slope of Karakorum (1991, p.243-248, eng) 47-1610

Some glacio-micrometeorological features on the north side of Mount Qogir (K2), Karakoram mountains (1992, p.67-72, eng) 47-1088

Ding, Y.Q.
Application limit for reducing heave of sulphate saline soil by mixing sodium chloride (1992, p.107-114, chi) 47-1646

Directory of Norwegian polar scientists
Directory of Norwegian polar scientists (1991, 154p., eng) 47-2337

Dirnböck, G.
Determination of salting frequency through examination of salt residue amounts (1990, 38p., ger) 47-4985

Diurgerov, M.B.
Can the mass balance of the entire glacier area of the Tien Shan be estimated (1992, p.173-179, eng) 47-1107

Interrelation between the altitude of the equilibrium line, air temperature, and runoff in the Sary-Tor Glacier, inner Tien Shan (1991, p.136-139, rus) 47-2803

Simultaneous monitoring of mass balance fluctuations and runoff of the Tianshan glaciers (1992, p.226-232, chi) 47-1662

Simultaneous monitoring of mass balance fluctuations of and runoff from Tien Shan glaciers (1992, p.134, eng) 47-1098

Dixon, J.C.
Periglacial geomorphology: Proceedings (1992, 354p., eng) 47-844

Wind-chill—it's sensational (1991, p.141-144, eng) 47-1242

Dixon, O.A.
Silurian pinnacle reefs of the Canadian Arctic (1993, p.172-182, eng) 47-4912

Dmitriev, A.A.
High-latitude zonal index as an informative quantitative indicator of large-scale hydrometeorological processes in the Arctic (1989, p.66-75, rus) 47-3658

Manifestation of intensive latitudinal and meridional air exchange in the northern hemisphere in the nature of atmospheric processes in the Arctic (1989, p.104-112, rus) 47-3662

Nature of the annual variation in the circumpolar eddy and its calculation in weather forecasting in the Arctic (1989, p.12-25, rus) 47-3654

Dmitriev, N.E.
Calculating tidal movements in the Kara Sea (1991, p.14-21, rus) 47-3686

Propagation of M2 waves in the Arctic Ocean (1991, p.6-13, rus) 47-3685

Doake, C.
Preliminary evaluation of ERS-1 altimetry over Filchner-Ronne Ice Shelf, Antarctica (1993, p.259-261, eng) 47-4422

Doake, C.S.M.
Melting of ice shelves and the mass balance of Antarctica (1992, p.375-387, eng) 47-1389

Dobbie, K.E.
Consolidation of sediments by glaciers: relations between sediment geotechnics, soft-bed glacier dynamics and subglacial ground-water flow (1993, p.26-44, eng) 47-3938

Dobrovol'skii, S.G.
Anomalies in global heat-water exchange: stochastic models (1991, 128p., rus) 47-2285

Global climatic changes in water and heat transfer—accumulation processes (1992, 265p., eng) 47-1512

Dobrovol'skii, V.V.
Geochemistry of soils of Spitsbergen (1990, p.1-15, eng) 47-2758

Dobson, J.L.
Autecology of aquatic and terrestrial growth forms of *Arctophila fulva*, an arctic tundra grass of northern Alaska (1991, 73p., eng) 47-312

Dod, L.R.
Retrieval of total precipitable water over high-latitude regions using radiometric measurements near 90 and 183 GHz (1992, p.1368-1378, eng) 47-1581

Dodin, D.A.
Theoretical and methodological aspects of an eco-geochemical evaluation of large industrial regions in the arctic zone (1990, p.81-93, rus) 47-980

Doesken, N.J.
Alamosa's amazing anomalies (1992, p.19-22, eng) 47-1174

Annual snowpack patterns across the Rockies: long-term trends and associated 500-mb synoptic patterns (1993, p.633-647, eng) 47-4255

Dolan, M.
Temporal variability of suspended sediment flux from a subarctic glacial river, southern Iceland (1992, p.233-243, eng) 47-1815

Dolch, W.L.
Non-air-entrained high-strength concrete—is it frost resistant (1992, p.406-415, eng) 47-1548

Dolgii-Trach, V.A.
Global warming and future agroclimatic resources of the Russian Plain (1991, p.83-88, rus) 47-1253

Dolgikh, G.M.
Effective method of building foundations for structures on permafrost [1991, p.16-17, rus] 47-2487

Dolph, J.
Characterizing the distribution of observed precipitation and runoff over the continental United States [1992, p.99-119, eng] 47-228

Domack, E.W.
Evidence for Early Holocene deglaciation of the Vestfold Hills, East Antarctica [1993, p.237-240, eng] 47-4577
Stratigraphy and paleoclimatic analysis of deep water antarctic glacial marine sediments [1993, p.89-104, eng] 47-4825

Domaschuk, L.
Compressibility of spray ice [1992, p.651-655, eng] 47-1853
Creep response of laterally loaded piles in ice and permafrost [1993, p.223-240, eng] 47-4285
Deformation properties of warm permafrost [1985, p.473-486, eng] 47-1616
Finite element modelling of pressuremeter tests and footings on frozen soils [1992, p.351-375, eng] 47-196

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Bacteria in the sea-ice zone between Elephant Island and the South Orkneys during the Polish sea-ice zone expedition (Dec. 1988 to Jan. 1989) [1993, p.245-254, eng] 47-4394

Donahue, D.J.
Anomalous 11-year *delta*C-14 cycle at high latitudes? [1992, p.235-238, eng] 47-1479

Donald, J.R.
Mapping partial snowcover during the melt season using C-band SAR imagery [1993, p.68-76, eng] 47-3725

Dong, Q.S.
Attenuation due to snow fall on an earth-space path [1989, p.407-410, eng] 47-2072

Dong, Y.Y.
Charge separation by ice and water drops during growth and evaporation [1992, p.20,361-20,371, eng] 47-2050

Donn, B.
Experimental study of the sublimation of water ice and the release of trapped gases [1991, p.326-332, eng] 47-989

Donnelly, J.
Community structure and trophic ecology of zooplankton in the Scotia Sea marginal ice zone in winter (1988) [1993, p.81-105, eng] 47-3604

Donovan, R.E.
Refraction correction for radio-echo sounding of large ice masses [1992, p.302-308, eng] 47-471

Dore, A.J.
Orographic enhancement of snowfall [1992, p.175-179, eng] 47-1553

Dore, J.
Hydrogen-bond structures in water & ice [1990, p.188-197, eng] 47-2194

Dorofeev, E.P.
Naleds in the Kungur cave [1991, p.181-188, rus] 47-2446

Doronin, N.IU.
Initial instrument measurements of the current in the region of the cold bottom water dome in the Greenland Sea [1992, p.165-168, rus] 47-3815
Problem of water circulation in the Kara Sea [1991, p.34-41, rus] 47-3688

Doundoulakis, G.J.
Development of a portable ice-measuring instrument [1991, 31p. + append., eng] 47-4884

Doutt, J.A.
Determination of compressional wave and shear wave speed profiles in sea ice by crosshole tomography—theory and experiment [1993, p.721-738, eng] 47-3431

Dowdeswell, J.A.
Iceberg scouring in Scoresby Sund and on the East Greenland continental shelf [1993, p.37-53, eng] 47-4297
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Size and frequency of icebergs and bergy bits derived from tidewater glaciers in Kongsfjorden, northwest Spitsbergen [1992, p.81-91, eng] 47-2353

Dowling, D.R.
Cloud clearing with a CO2 laser in a cirrus cloud simulation facility [1992, p.5871-5877, eng] 47-2664

Downing, B.W.
Environmental geology and geochemistry at the Windy Craggy massive sulphide deposit, northwestern British Columbia [1993, p.50-57, eng] 47-2630

Downton, M.W.
Freeze risk to Florida citrus. Part 2: Temperature variability and circulation patterns [1993, p.364-372, eng] 47-2708

Doyle, D.K.
Intelligent and localized weather prediction [1992, 144p., eng] 47-1619

Dozier, J.
Climate and energy exchange at the snow surface in the alpine region of the Sierra Nevada. 1. Meteorological measurements and monitoring [1992, p.3029-3042, eng] 47-1476
Climate and energy exchange at the snow surface in the alpine region of the Sierra Nevada. 2. Snow cover energy balance [1992, p.3043-3054, eng] 47-1477
Estimating snow grain size using AVIRIS data [1993, p.231-238, eng] 47-3919
Opportunities to improve hydrologic data [1992, p.315-331, eng] 47-3645
Polarimetric and multifrequency SAR signatures of wet snow [1992, p.1658-1660, eng] 47-687
Radar backscattering response to wet snow [1992, p.927-929, eng] 47-662
Remote sensing of alpine snow cover in visible and near-infrared wavelengths [1992, p.10-21, eng] 47-479
Spatial considerations of snow chemistry as a non-point contamination source in alpine watersheds [1991, p.31-38, eng] 47-2076

Dozier, L.B.
Treatments of incoherent scattering for the parabolic equation and astral propagation models [1991, p.265-281, eng] 47-1075

Draganoiu, G.
Computer model of glaze accretion on wires [1993, p.89-95, eng] 47-4235

Dramis, F.
Distribution of mountain permafrost and climate [1992, p.83-91, eng] 47-1747
Southern limit of relict rock glaciers, Central Apennines, Italy [1992, p.257-260, eng] 47-1781

Drapeau, G.
Sediment dynamics in the St. Lawrence estuary [1992, p.233-242, fre] 47-3791

Drapeau, J.F.
Ice accretion on energized line insulators [1992, p.618-624, eng] 47-1849
Ice accretion on energized line insulators [1992, p.228-233, eng] 47-4307

Drbal, K.
Heavy metals in water, ice and biological material from Spitsbergen, Svalbard [1992, p.99-101, eng] 47-2355

Drdla, K.
Heterogeneous chemistry on antarctic polar stratospheric clouds: a microphysical estimate of the extent of chemical processing [1993, p.8965-8981, eng] 47-4382

Dredge, L.A.
Breakup of limestone bedrock by frost shattering and chemical weathering, eastern Canadian Arctic [1992, p.314-323, eng] 47-1588
Quaternary stratigraphy, paleoecology, and glacial geology, Iles de la Madeleine, Quebec [1992, p.1981-1996, eng] 47-4157

Dreier, N.N.
Fourteenth session of the Editorial Board of the "Atlas of Snow and Ice Resources of the World" [1991, p.231-232, rus] 47-2816
Sixtieth birthday of Vladimir Mikhailovich Kotliakov [1991, p.201-227, rus] 47-344

Dreimanis, A.
Early Wisconsinan in the north-central part of the Lake Erie basin: a new interpretation [1992, p.109-118, eng] 47-2687
Sunnybrook drift in the Toronto area, Canada: reinvestigation and reinterpretation [1992, p.139-161, eng] 47-2689
Transition from the Sangamon interglaciation to the Wisconsin glaciation along the southeastern margin of the Laurentide ice sheet, North America [1992, p.225-251, eng] 47-2838
Water-eroded crescentic scours and furrows associated with subglacial flutes at Breidamerkurjökull, Iceland [1993, p.110-112, eng] 47-4852

Dreschhoff, G.A.M.
Development of laser ice-cutting apparatus [1991, p.89-91, eng] 47-2474
Nitrate signal of solar flares in polar snow and ice [1992, 23p., eng] 47-3631

Drever, J.I.
Sulfate sources in the Glacier Lakes catchment, Snowy Range, Wyoming, U.S.A. [1993, p.185-188, eng] 47-2851

Drewry, D.J.
Response of large ice sheets to climatic change [1992, p.235-242, eng] 47-3143

Drinkwater, M.R.
Effects of freeze-up and melt processes on microwave signatures [1992, p.329-341, eng] 47-3031
Microwave remote sensing of polynyas [1992, p.303-311, eng] 47-3029
On the application of multifrequency polarimetric radar observations to sea-ice classification [1992, p.576-578, eng] 47-651
Physical properties of sea ice relevant to remote sensing [1992, p.9-28, eng] 47-3016
Polarimetric remote sensing of sea ice in the Beaufort Sea [1992, p.972-974, eng] 47-668
Potential applications of polarimetry to the classification of sea ice [1992, p.419-430, eng] 47-3038
Sea ice altimetry [1992, p.111-135, eng] 47-3021

Driscoll, C.T.
Comment on "The episodic acidification of Adirondack Lakes during snowmelt" by Douglas A. Schaefer et al [1992, p.2869-2878, eng] 47-1788
Identifying sources of snowmelt acidification with a watershed mixing model [1993, p.345-365, eng] 47-4758

Drodge, R.M.
Thrust deduction and propulsive coefficients of icebreaking vessels [1992, 20p. + append., eng] 47-1359

Dronov, B.F.
Nuclear-powered submarine transport for the Arctic [1992, p.3-7, rus] 47-2899

Drossart, P.
Optics on a fractal surface and the photometry of the regoliths [1993, p.381-393, eng] 47-4994

Droste, R.L.
Urban snow dump quality and pollutant reduction in snowmelt by sedimentation [1993, p.9-21, eng] 47-3719

Drozdowski, E.
Sandstones and conglomerates formed by precipitation of CaCO3 under stagnant ice sheet [1991, p.253-266, eng] 47-2570

Drucker, R.
Effect of severe storms on the ice cover of the northern Tatarskiy Strait [1992, p.17,753-17,764, eng] 47-1064

Druez, J.
Ice detector estimation of atmospheric icing on a cable [1993, p.305-316, eng] 47-3933
Numerical simulation model of cable icing in freezing rain conditions [1992, p.71-80, eng] 47-4035
Numerical simulation model of cable icing using an elliptical ice shape [1992, p.632-640, eng] 47-1851

Dry, C.M.
Design of systems for time-delayed activated internal release of chemicals in concrete from porous fibers, aggregates or prills, to improve durability [1991, 224p., eng] 47-284

Du, Y.
Numerical simulation of katabatic winds crossing the Siple Coast area of West Antarctica [1992, p.J137-J140, eng] 47-2420

Duband, D.
40 years of snow cover measurements in France: network evaluation, forecast interest (application of historical and realtime data to the multipurpose of water management) [1992, p.18-27, eng] 47-490

Dubina, M.M.
Predicting ice formation parameters in closed systems [1992, p.91-97, rus] 47-68

Dubinin, B.N.
Evaluating the possibility of using hail prevention shells and rockets in high-mountain regions [1991, p.156-160, rus] 47-764
Technical and economic analysis of anti-hail launching devices [1991, p.160-171, rus] 47-765

DuBois, G.D.
Postulated new source for the White River Ash, Alaska [1992, p.212-218, eng] 47-618

Dubois, P.
Unsupervised segmentation of polarimetric SAR data using the covariance matrix [1992, p.697-705, eng] 47-356

Dubreuil, B.
Geochemistry of Quebec North Shore salmon rivers during snowmelt: organic acid pulse and aluminum mobilization [1992, p.1938-1952, eng] 47-2659

Dubrovsky, M.
Freezing nucleus spectra in the rain samples and their possible application on cloud conditions [1992, p.321-324, eng] 47-2277

Duchkov, A.D.
Reduced geothermal gradients in the shallow West-Siberian Platform [1992, p.245-250, eng] 47-2024

Dudley, M.
Dynamic observations of dislocation generation at grain boundaries in ice [1993, p.1261-1276, eng] 47-3986

Duell, L.F.W., Jr.
Use of regression models to estimate effects of climate change on seasonal streamflow in the American and Carson river basins, California-Nevada [1992, p.731-746, eng] 47-2748

Dugan, J.P.
Sea ice flexural rigidity: a comparison of methods [1993, p.247-255, eng] 47-3928

Dugarov, V.I.
Heat energetics of cryopedogenesis [1992, p.173-177, eng] 47-1724
Hydrothermy of slope soils in Transbaikal [1991, p.69-76, rus] 47-3280

Duk-Rodkin, A.
Pleistocene montane glaciations in the Mackenzie Mountains, Northwest Territories [1992, p.69-83, eng] 47-829

Duke, C.
Scale and remotely sensed data for change detection in the James Bay, Ontario, coastal wetlands [1993, p.45-49, eng] 47-3724

Dumanova, L.S.
Distinguishing feature of frost and salt penetration corrosion [1992, p.57-60, rus] 47-185

Dumova, I.I.
Environmental protection in the North [1990, p.17-27, rus] 47-2455

Dunaev, A.L.
Some results of the arctic expedition of the scientific research vessel *Akademik Shokal'skii* [1991, p.117-121, rus] 47-3698

Duncan, R.V.
Sealed He-4 superfluid-transition fixed-point device [1992, p.243-245, eng] 47-2968

Dungey, C.E.
Backscattering by nonspherical particles, using the coupled-dipole method: an application in radar meteorology [1991, 152p., eng] 47-300

Dunn, L.B.
Evidence of ascent in a sloped barrier jet and an associated heavy-snow band [1992, p.914-924, eng] 47-590

Dunn, P.J.
Removable bottom founded structure [1988, 16 col., eng] 47-3763

Dunne, P.C.
Comments on "Detection of climatic change in the western North American Arctic using a synoptic climatological approach" [1993, p.1473-1478, eng] 47-5215

Duplessy, J.-C.
New method to reconstruct sea surface salinity: application to the North Atlantic Ocean during the Younger Dryas [1992, p.201-217, eng] 47-3559
Norwegian Sea record of the last interglacial to glacial transition [1992, p.173-183, eng] 47-2835

Dupont, L.M.
Marine palynology of interglacial-glacial transitions [1992, p.137-155, eng] 47-2834

Duprat, J.
New method to reconstruct sea surface salinity: application to the North Atlantic Ocean during the Younger Dryas [1992, p.201-217, eng] 47-3559

Dupuy-Philon, J.
Characterization of different ice habits according to nucleation processes in the electrolyte LiCl-RH2O ($6<R<9$) [1992, p.413-418, eng] 47-2011

Duquennoi, C.
Frost-related performance of heated shallow foundation thermal insulation [1992, p.3-19, fre] 47-2665

Durgin, F.H.
Galloping instability of ice coated poles [1992, p.675-686, eng] 47-1193

Durham, W.B.
Effects of dispersed particulates on the rheology of water ice at planetary conditions [1992, p.20,883-20,897, eng] 47-2293

Durieux, M.
Noise thermometry, He-3 melting pressures and superconductive transition temperatures between 0.4 K and 0.09 K [1992, p.15-20, eng] 47-2941
Thermodynamic consistency of the He-4 and He-3 vapour pressure vs. temperature relations in ITS-90 [1992, p.117-120, eng] 47-2956

Durzan, D.J.
Molecular bases for adaptation of coniferous trees to cold climates [1993, p.15-42, eng] 47-4527

Dushko, N.B.
Effectiveness of snow fences in cultivated fields [1991, p.57-66, rus] 47-384

Dussault, R.G.
Refreezing of a building foundation on permafrost [1993, p.303-309, fre] 47-4471

Duthinh, D.
Pressure of crushed ice as Mohr-Coulomb material against flat, axisymmetric indentor [1992, p.139-151, eng] 47-2640

Dutkiewicz, M.J.
Application of image cross-correlation to the measurement of glacier velocity using satellite image data [1992, p.177-186, eng] 47-2555

Dutta, P.K.
Buckling of unidirectional graphite/epoxy composite plates at *low temperatures* [1991, 11p., *eng*] 47-692
Effect of low temperature on dynamic tensile strength of rocks [1992, p.61-69, eng] 47-1233
Effects of temperature on an ISL-PVDF shock sensor between +20 C and -40 C [1992, p.891-892, eng] 47-1142
Tensile strength of unidirectional fiber composites at low temperatures [1992, p.782-792, eng] 47-2230

Dutton, E.G.
Date of snow disappearance on the arctic tundra as determined from satellite, meteorological station and radiometric *in situ* observations [1992, p.793-798, eng] 47-358

Dutz, S.
Sensible heat flux over open water and sea ice in the Weddell Sea [1992, p.317-318, ger] 47-217

Duva, J.M.
MEET'N'93 [1993, 2 vols. (Pertinent p.352-374), eng] 47-3761

Duvernoy, J.
Weather characterization by the mean of a vertically pointing CW radar [1993, p.379-381, eng] 47-3076

Duxbury, N.S.
Phase composition of Triton's polar caps [1993, p.748-751, eng] 47-5130

Dyer, A.
Coldest places in the solar system [1992, p.30-33, eng] 47-197

Dyer, I.
Source mechanisms for arctic ocean ambient noise [1993, p.537-551, eng] 47-4835

Dyer, R.S.
Application of U.S. interagency coastal and marine monitoring programs for determining levels of radioactivity resulting from disposal of radioactive wastes in Arctic seas [1993, p.343-357, eng] 47-5041

Dyke, M.
Iceberg/seabed interaction events observed during the DIGS experiment [1991, p.74-87, eng] 47-1140

Dyslí, M.
Where does the water go during ice lense thaw [1993, p.45-50, *eng*] 47-4119

Dzhylkychiev, A.I.
Bulldozer equipment with a controlled blade for maintaining *mountain roads* [1992, p.17-18, *rus*] 47-2063

Eager, K.
Field-tested model for freeze protection of arctic multiphase pipelines [1992, p.142-145, eng] 47-223

Eamus, D.
Impact of constituent ions of acid mist on assimilation and stomatal conductance of Norway spruce prior and post mid-winter freezing [1993, p.135-142, eng] 47-2017

Easter, R.C.
Computationally efficient approximations to stratiform cloud microphysics parameterization [1992, p.1572-1582, eng] 47-1998

Easterbrook, D.J.
Advance and retreat of Cordilleran ice sheets in Washington, U.S.A. [1992, p.51-68, eng] 47-828
Sangamonian and early Wisconsinan stages in western Canada and northwestern United States [1992, p.253-268, eng] 47-2696

Eastern Snow Conference
Proceedings of the 49th annual Eastern Snow Conference, Oswego, NY, June 3-4, 1992 [1992, 273p., eng] 47-4026

Eaton, R.A.
Environmental monitoring and performance evaluation of roller-compacted concrete pavement: Conley Terminal, Boston, Massachusetts [1992, 16p., eng] 47-694
State-of-the-art survey of flexible pavement crack sealing procedures in the United States [1992, 19p., eng] 47-707
Tire chips as insulation beneath gravel surfaced roads [1993, p.137-149, eng] 47-4132
Unsurfaced road maintenance management [1992, Var. p., eng] 47-2756
Unsurfaced road management rating system [1993, p.25, eng] 47-1911

Eberhard, W.L.
Ice-cloud depolarization of backscatter for CO2 and other infrared lidars [1992, p.6485-6490, eng] 47-2043
Method for determining cirrus cloud particle sizes using lidar and radar backscatter technique [1993, p.1074-1082, eng] 47-4081

Ebert, E.E.
Annual cycle of radiation fluxes over the Arctic Ocean: sensitivity to cloud optical properties [1992, p.1267-1280, *eng*] 47-1549
Intermediate one-dimensional thermodynamic sea ice model for investigating ice-atmosphere interactions [1993, p.10,085-10,109, *eng*] 47-4378
Satellite observation of high latitude surface and cloud types using pattern recognition [1988, p.133-136, eng] 47-4201
Spectral interactions of radiation and sea ice [1992, p.21-24, eng] 47-2369

Ecclestone, M.
Some illustrations of roles of lake ice in limnology [1992, p.219-226, eng] 47-4051

Echelmeyer, K.A.
Determination of glacier speed by time-lapse photography under unfavorable conditions [1992, p.257-265, eng] 47-466
Mechanisms of fast flow in Jakobshavns Isbrae, West Greenland: Part 1. Measurements of temperature and water level *in deep boreholes* [1993, *p.15-25, eng*] 47-3937

Echert, D.C.
Ice mechanics in the LeadEx program [1991, p.651-656, eng] 47-2184

Echin, A.I.
Low-temperature viscosity characteristics of synthetic aviation oils [1993, p.337-341, eng] 47-1997

Echlin, P.
Low-temperature microscopy and analysis [1992, 539p., eng] 47-621

Eck, J.
Some results of the derivation of ice sheet elevations in Antarctica from ERS-1 altimeter data [1993, p.241-245, eng] 47-4419

Eck, R.W.
Quality, quantity and availability of West Virginia oil and gas well brines for highway deicing purposes [1992, 16p., eng] 47-933

Eckardt, M.
Variations in the ice edge in the European North Sea, 1966-1991, from satellite data [1992, p.241-242, ger] 47-215

Eckman, R.S.
Some aspects of the interaction between chemical and dynamic processes relating to the antarctic ozone hole [1993, p.(1)311-(1)319, eng] 47-1930

Edayoshi, A.
Characteristics of heat pump system operating with frost formation [1991, p.391-396, eng] 47-2566

Edens, T.J.
Predicting wilderness snow water equivalent with nonwilderness snow sensors [1993, p.85-94, eng] 47-4993

Edgar, T.V.
Finite element analysis of cold embedments in fresh concrete [1992, *p.41-57, eng*] 47-1

Edlund, S.A.
Climate change and its effects on Canadian arctic plant communities [1992, p.121-137, eng] 47-1432

Edmond, J.M.
Distribution of aluminium in the Greenland Sea and its relationship to ventilation processes [1992, p.17,787-17,800, eng] 47-1065

Edwards, L.
Laboratory measurement of freeze/thaw, compaction, residue and slope effects on rill erosion [1992, p.143-149, eng] 47-2613

Edwards, M.E.
Framework for interpreting paleoclimatic variations in eastern Beringia [1991, p.73-83, eng] 47-3481

Efimova, N.A.
Anticipated human modifications of global climate [1990, p.11-23, *eng*] 47-171

Efremov, A.L.
Microorganism nucleic acids and biomass in alpine-forest *soils in the northern Caucasus* [1981, p.37-43, *eng*] 47-457
Some indices of the biological activity of soils of the mountain *meadow belt of the northwestern Caucasus* [1981, p.76-78, eng] 47-475

Eftekhar, J.G.
Thermal conductivity measurements for liquids at low temperatures [1991, p.451-455, eng] 47-2564

Egan, C.J.
Concentration of black liquor by freeze crystallization [1982, p.471-479, eng] 47-1882

Egan, W.G.
Physical variation of water vapor, and the relation with carbon dioxide [1992, p.2245-2248, eng] 47-1145

Egeland, A.K.
Compression characteristics and index properties of tills and intertill clays in southern Saskatchewan, Canada [1993, p.257-275, eng] 47-4513

Egerton, J.J.G.
Plant competition over winter in alpine shrubland and grassland, Snowy Mountains, Australia [1993, p.124-129, eng] 47-4745

Eggenberger, J.P.
Use of ice data in icebreaker operations [1991, p.13-18, *eng*] 47-3370

Egger, J.
Mountain effects on the antarctic circulation [1992, p.*33-37*, eng] 47-2404

Egorov, A.G.
Analysis of the characteristics of decrease in areas of ice massifs in the Novosibirsk region during summer [1990, p.15-24, rus] 47-3585
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Hydrometeorological conditions characteristic of separated and connected Severnaya Zemlya and Kara Sea ice massifs during the summer [1990, p.35-41, rus] 47-3587

Egorov, S.A.
Space and time variability of temperature inversion in the lower troposphere of the Arctic [1991, p.1110-1113, rus] 47-2034

Egorov, V.V.
Radical polymerization of N,N-dimethyl-N-decylacetylmethacryloylethylammonium bromide in frozen aqueous solutions [1992, p.95-97, eng] 47-1118

Egorova, S.A.
Spatial-temporal variability of surface inversions in the Arctic [1991, p.39-44, eng] 47-267
Spatial-temporal variability of surface inversions in the Arctic [1991, p.39-44, *eng*] 47-5197

Eheart, J.W.
Environmental effects of alternative deicers: review and assessment method for CMA-BOD applied to an Illinois example case [1992, 12p., eng] 47-941
Tradeoff analysis of non-environmental effects of alternative deicers: an Illinois case study [1992, 12p., eng] 47-936

Ehrich, S.
Role of organic matter on nitric and nitrous oxide formation of Nitrosomonas and Nitrobacter [1992, p.251-259, eng] 47-1740

Ehrmann, W.U.
Cenozoic sedimentary processes on the antarctic continental margin and the record from deep drilling [1992, p.77-103, eng] 47-1007
Character of clasts in glaciomarine sediments as an indicator of transport and depositional processes, Weddell and Lazarev Seas, Antarctica [1993, p.477-487, eng] 47-3644

Eichorn, D.
Lake-Effect Snow Observation Network (LESON) report for the 1991-1992 snow season [1992, p.227-234, eng] 47-4052

Eicken, H.
Drill hole and ice-core studies of sea-ice thickness distributions in the Arctic and Antarctic [1992, p.B1-B4, eng] 47-3240
Potential transport of radionuclides and other pollutants by arctic sea ice [1993, p.267-284, eng] 47-5036
Salinity profiles of antarctic sea ice: field data and model results [1992, p.15,545-15,557, eng] 47-514

Eid, B.M.
Beaufort Sea extreme waves study [1992, Var. p., eng] 47-2622

Eide, L.K.
Radiolarian fauna at the ice edge in the Greenland Sea during summer, 1988 [1992, p.297-320, eng] 47-199

Eido, K.
Tests on improving the efficiency of fresh snow removal- - tests on snowplows with variable configurations for curved surfaces [1992, p.287-292, jpn] 47-2495

Eigenbrod, K.D.
Creep movements in soils at shallow depths and their effects on engineering structures [1993, p.127-136, eng] 47-4131

Eigenmann, L.
Road marking provided with protruding elements capable of resisting to snow plowing implements [1987, 6 col., eng] 47-4000

Einarsson, P.
Glacio-isostatic crustal movements caused by historical volume change of the Vatnajökull Ice Cap, Iceland [1992, p.2123-2126, eng] 47-2927

Eiriksson, J.
Early Pleistocene glacial-interglacial cycle in the Breidavík group on Tjörnes, Iceland: *sedimentary facies, foraminifera,* and molluscs [1992, p.733-757, eng] 47-3473
Review of the Late Pleistocene stratigraphy of Reykjavík, Iceland [1991, p.143-150, eng] 47-3486

Eisenstein, M.
Energy density of water and ice nucleation. rResponse] [1993, p.1469-1470, eng] 47-2319

Eisner, H.
Constitutive equation for temperate firn derived from strain rates of two firn pits (Kesselwandferner, Oetztal Alps, 1967-1989) [1993, p.295-303, eng] 47-3932

Ekholm, S.
Analysis of the gravity field in the Norwegian Sea and mapping of the ice cap of Greenland using ERS-1 altimeter measurements [1993, p.413-418, eng] 47-4443

El Hachadi, A.
Characterization of different ice habits according to nucleation processes in the electrolyte LiCl-RH2O ($6<R<9$) [1992, p.413-418, eng] 47-2011

El-Jabi, N.
Hydrometeorological analysis of ice breakup on the Nashwaak River, New Brunswick [1992, p.349-354, fre] 47-201

El-Jayyousi, J.
Soil-fabric measurement using phase transition porosimetry [1993, p.1019-1036, eng] 47-5105

El-Sabh, M.I.
Edge waves and ice ride-up on shorelines [1988, p.429-434, eng] 47-3819

Elbaum, M.
Optical search for surface melting of ice [1992, 166p., eng] 47-275
Optical study of surface melting on ice [1993, p.491-505, eng] 47-3648

Elder, B.
Field investigation of bioremediation of tundra with residual *hydrocarbons* [1993, p.331-337, eng] 47-4474

Elder, K.
Differences in mass-balance calculations resulting from alternative sampling and estimation techniques on Glacier No.1, Tien Shan, China [1992, p.198-206, eng] 47-1112
Physical properties of snow cover and estimation of snowmelt runoff in a small watershed in high alpine Tianshan [1991, p.169-177, eng] 47-1304
Spatial considerations of snow chemistry as a non-point contamination *source in alpine watersheds [1991, p.31-38,* eng] 47-2076

Eldin, N.N.
Engineering properties of rubberized concrete [1992, p.912-923, eng] 47-3307

Elias, S.A.
*Paleoecology of an interglacial peat deposit, Nuyakuk, south*western Alaska, U.S.A. [1992 p.85-96, eng] 47-830
Paleoecology of late-glacial peats from the Bering land bridge, Chukchi Sea shelf region, northwestern Alaska [1992, p.371-378, eng] 47-4408

El'kina, G.IA.
Effect of fertilization and liming on the potassium condition of soils [1991, p.56-65, rus] 47-4107
Effect of fertilizer on the percentage of protein and amino acid composition of feed crops [1991, p.89-97, rus] 47-4110

Elkins, J.W.
Decrease in the growth rates of atmospheric chlorofluorocarbons 11 and 12 [1993, p.780-783, eng] 47-5126

Ellerbroek, D.A.
Hydrologic analysis of the Gulkana National Wild River, *Alaska [1989, p.331-340, eng]* 47-2579

Elliot, D.H.
Contributions to antarctic research III [1992, 155p., eng] 47-2867

Elliot, J.G.
Potential climate-change effects on bed-material entrainment, the Gunnison Gorge, Colorado [1992, p.751-759, eng] 47-2750

Elliott, S.
Flying on thin ice [1992, p.38-40, eng] 47-4610
Heterogeneous chemistry on antarctic polar stratospheric clouds: a microphysical estimate of the extent of chemical processing [1993, p.8965-8981, eng] 47-4382

Ellis, R.M.
Tests on arch-shaped ice-resisting walls for offshore structures [1993, p.42-51, eng] 47-2547

Elokhov, A.S.
Some recent results of Russian measurements of surface ozone in Antarctica. A meteorological interpretation [1993, p.99-105, eng] 47-3531
Surface ozone concentration at the Molodezhnaya and Mirnyy *antarctic stations based on measurements conducted in* Spring 1987 through Fall 1988 [1992, p.41-47, eng] 47-2847

Eloman, E.J.
Experiences in correcting point precipitation measurement in Finland [1993, p.346-350, eng] 47-3073

Elsom, D.M.
Destructive hailstorms in Essex on 26 May 1985 [1993, p.166-173, eng] 47-4405

Elster, J.
Heavy metals in water, ice and biological material from Spitsbergen, Svalbard [1992, p.99-101, eng] 47-2355

Elvhage, C.
Landforms in Skane, south Sweden: preglacial and glacial landforms analyzed from two relief maps [1991, p.61-91, eng] 47-4308

Elvin, A.A.
Micromechanical damage descriptor for polycrystalline ice [1993, p.1-14, eng] 47-3738

Embleton, K.M.
Expert system approach to establish design snow and wind loads [1990, 263p., eng] 47-2103

Emery, C.A.
*One-dimensional modeling study of carbonaceous haze ef*fects on the springtime arctic environment [1992, p.20,599-20,613, eng] 47-2053

Emery, J.J.
Evaluation of frost action mitigation procedures for highly frost-susceptible soils [1992, p.91-109, eng] 47-1134

Endo, T.
Development of methods to evaluate mechanical snow removal [1990, p.17-19, jpn] 47-4683

Endoh, T.
Radar echo morphology and airflow influenced by a mountain range in winter monsoon period—a case of cold frontal precipitation [1992, p.1-23, jpn] 47-3294

Engel, S.
Sublimation and reformation of icy grains in the primitive *solar nebula [1991, p.333-344, eng]* 47-990

Engelhardt, H.
Characteristics of the bed of the lower Columbia Glacier, Alaska [1993, p.837-846, eng] 47-2660

England, J.
Geomorphological evidence of Holocene climatic change from northwest Ellesmere Island, Canadian high arctic [1992, p.148-158, eng] 47-55
Multiple glaciations and sea level changes, northern Ellesmere Island, high arctic Canada [1992, p.137-152, eng] 47-225
Postglacial emergence in the Canadian High Arctic: integrating glacioisostasy, eustasy, and late deglaciation [1992, p.984-999, eng] 47-1796

Englebretson, R.E.
Forecasters handbook for the Bering Sea, Aleutian Islands, and Gulf of Alaska [1993, Var. p., eng] 47-4886
*Use of the 500 mb SL (planetary scale component) in month*ly/seasonal forecasting of arctic ice conditions [1988, p.79-82, eng] 47-4187

Engler, M.
Construction of the Dumont d'Urville airfield [1990, p.78-83, fre] 47-3163
Methodology for full-scale iceberg impact experiments in the Antarctic [1992, p.718-723, eng] 47-1866

Englund, J.O.
Contaminants which will be studied in this project [1992, p.7/1-7/14, eng] 47-2826
Gardermoen Project, 1992-94. Introductory report. Literature review and project catalogue [1992, Var. p., eng] 47-2822
Modeling of contaminant transport [1992, p.17/1-17/12, eng] 47-2828

Engman, E.T.
Recent advances and future implications of remote sensing for hydrologic modeling [1991, p.471-495, eng] 47-1381

Ennemoser, O.
Physical assessment of the wind chill index [1991, p.76-82, ger] 47-2059
Wind-chill properties of various clothing types [1991, p.63-75, ger] 47-2058

Enoki, K.
Characteristic of new type ice boom and environmental force [1992, p.116-120, jpn] 47-127
Characteristic of the ice boom for control of the ice floes movement [1992, p.111-115, jpn] 47-126

Enomoto, H.
Interannual fluctuations of sea ice extent in the Antarctic and *associated atmospheric conditions* [1992, p.132-142, eng] 47-3013
Radiative temperature of ice surface in Svalbard, 1991 [1992, p.286-289, jpn] 47-151
Satellite observations of the area of sea ice in the Sea of Okhotsk [1992, p.281-284, eng] 47-150

Enting, I.G.
Statistics of firn closure: a simulation study [1993, p.133-142, eng] 47-3947

Entzian, G.
Seasonal variations of ozone trends [1990, p.(10)265-(10)-268, eng] 47-1283

Enzi, S.
Reconstructing the *climate of northern Italy from archive* sources [1992, p.143-154, eng] 47-2085

EOSAEL/TWI Conference, 10th, Las Cruces, NM, Nov. 28-30, 1989
Tenth annual EOSAEL/TWI Conference: Proceedings [1990, 713p., eng] 47-908

Eppler, D.T.
Evaluation of multichannel Wiener filters applied to fine resolution passive microwave images of first-year sea ice [1993, p.1-23, eng] 47-3917
Passive microwave signatures of fractures and ridges in sea ice at 33.6 GHz (vertical polarization) as *observed in aircraft* images [1993, p.4645-4665, eng] 47-4387
Passive microwave signatures of sea ice [1992, p.47-71, eng] 47-3018
Polynomial trend surface analysis applied to AVHRR images to improve definition of arctic leads [1992, p.197-218, eng] 47-982
Polynomial trend surface analysis applied to AVHRR images to improve definition of arctic leads through binary segmentation procedures [1991, p.161-189, eng] 47-3406
Sea ice thickness distributions derived from archived aerial photographs of the *arctic sea ice pack [1992, p.B10-B15,* eng] 47-3242

Epstein, O.
Glacigenic deposits of the Central Deep: a key to the Late Quaternary evolution of the eastern Barents Sea [1993, p.47-58, eng] 47-4017

Eranti, E.
Construction of platforms for the Russian northern continental shelf [1992, p.557-563, eng] 47-1841
First year ice ridge characteristics and loads on offshore structures [1992, p.681-687, eng] 47-1860
Ice forces in dynamic ice structure interaction [1992, p.204-211, eng] 47-4304

Eraso, A.
Correlation between discharge and hydrochemical parameters in the river at Juan Carlos I Station [1989, p.24-31, spa] 47-809
Different water types found in the vicinity of Juan Carlos I Station [1989, p.41-49, spa] 47-811
First results of the Greenland '90 Expedition. Ilulissat and Alfred-Wegener Peninsula glaciers [1991, p.171-184, eng] 47-32
Hydrogram characteristics as a function of meteorological data and elaboration of the discharge curve of the river at Juan Carlos I Station [1989, p.32-40, spa] 47-810
Mineralogic and microsonde analysis of volcanic ash in the *vicinity of Juan Carlos I Station* [1989, p.80-88, spa] 47-815
Plans for the construction of a dam in a fossil lagoon near the Juan Carlos I Station [1989, p.89-101, spa] 47-816
Proceedings [1991, 237p., eng] 47-22
Record of the 1988-1989 expedition at the Spanish Juan Carlos I Station [1989, p.3-22, spa] 47-808
Structural analysis of the Cazadora Glacier ice, directional anisotropy quantification and subglacial drainage prediction [1989, p.71-79, spa] 47-814
Time series correlogramme and spectral analysis of the *Cazadora Glacier drainage and meteorological parameters,* Spanish Antarctic Base (BAE), Livingston Island (South Shetland, Antarctic) [1991, p.69-91, eng] 47-25
Vertical distribution of some oligo-elements in the Cazadora Glacier near the Juan Carlos I Station [1989, p.61-70, spa] 47-813
Vertical distribution of stable isotopes in the Cazadora Glacier near Juan Carlos I Station [1989, p.50-60, spa] 47-812

Eremenko, V.
Treatment of data on sea pollutions and dumping sites with radioecological indices method [1993, p.359-365, eng] 47-5042
Ergin, V.P.
Ways of refining the calculation of naled ice melting [1991, p.123-128, rus] 47-2436
Erhart, B.
Physical assessment of the wind chill index [1991, p.76-82, ger] 47-2059
Wind-chill properties of various clothing types [1991, p.63-75, ger] 47-2058
Erickson, R.W.
Impact of hygrothermal gradients on juvenile wood [1992, p.210-218, eng] 47-1157
Performance of an attic radiant barrier for a simulated Minnesota winter [1992, p.114-122, eng] 47-1150
Erik Banke Consulting, Bedford, Nova Scotia
Recent iceberg groundings and scours on the Grand Banks of Newfoundland [1989, 80p. + appends., eng] 47-429
Eriksen, E.N.
Effect of photosynthetic photon flux density on development of frost hardiness in top and roots of *Larix leptolepis* seedlings [1993, p.204-212, eng] 47-4998
Eriksson, K.
Regolith exploration geochemistry in arctic and temperate terrains [1992, 443p., eng] 47-1643
Erlacher, H.
Snow loads on road-side structures during plowing [1987, 88p., ger] 47-4989
Ermakov, K.K.
Studying the friction and adhesive properties of snow [1991, p.191-195, rus] 47-2812
Using field methods to determine strength properties of snow [1991, p.170-177, rus] 47-2809
Ernzen, J.J.
Resistance of high strength concrete to cold weather environments—durability and performance of concrete containing fly ash [1993, 304p., eng] 47-5061
Eronen, M.
On the world's ice ages and changing environments [1990, 72p., eng] 47-3701
ERS-1 Symposium, Cannes, France, Nov. 4-6, 1992
Proceedings [1993, 2 vol., eng] 47-4415
Ershov, E.D.
Characteristics of the occurrence of gas hydrates in the cryolithozone [*1991, p.788-791, rus*] *47-103*
Cryolithogenesis: advances, promising trends, and research problems [1992, p.76-84, eng] 47-3833
Mass transfer in freezing saline soils [1992, p.115-122, eng] 47-1715
Ershov, IU.I.
Cryogenesis and forest soil formation in Middle Siberia [1992, p.66-71, eng] 47-1706
Tundra-forest soils in the arctic Yenisey region, subjected to sulfur-containing industrial discharge [1992, p.33-39, rus] 47-3271
Erwin, R.E.
Method and apparatus for constructing an ice structure [1988, 6 col., eng] 47-3635
ESA Public Relations Division
First ERS-1 SAR image acquired at Kiruna Salmijarvi, Spitsbergen (Norway) [1992, p.2515-2516, eng] 47-865
Esaias, W.E.
Annual cycles of phytoplankton chlorophyll concentrations in the global ocean: a satellite view [1993, p.181-193, eng] 47-3462
Escudero, H.
Snow is their profession—the French "Pisteurs-Secouristes" [1992, p.32-39, eng] 47-1320
Esenli, F.
Comparative study of natural pozzolans used in blended cement production [1993, p.471-494, eng] 47-3609
Esensee, V.D.
Analysis of freezing buds of Douglas-fir seedlings by simultaneous detection of ultrasonic emissions and differential thermal analysis [1992, p.1305-1309, eng] 47-3841
Eshleman, K.N.
Comment on "The episodic acidification of Adirondack Lakes during snowmelt" by Douglas A. Schaefer et al [1992, p.2869-2878, eng] 47-1788
Espeby, B.
Vertically distributed soil moisture simulations [1992, p.251-264, eng] 47-1965
Espey, W.H., Jr.
Storm water regulations—aircraft deicer/anti-icers operations [1993, p.2333-2338, eng] 47-4452
Ester, C.
Hydrometeorologic forecasting at Salt River Project [1992, p.137-142, eng] 47-2723
Estrada, M.
Respiratory electron transport activity of microplankton in the Weddell Sea during early spring: influence of the ice *cover and the ice edge* [1992, p.275-282, eng] 47-1332
Etheridge, D.M.
Changes in tropospheric methane between 1841 and 1978 from a high accumulation-rate antarctic ice core [1992, p.282-294, eng] 47-832
Etkin, D.
Arctic climate in the future [1992, p.17-34, eng] 47-1423
Etkin, D.A.
Comparison of conventional and passive microwave sea ice data sets for Hudson Bay [1991, 132p., eng] 47-4668
Comparison of several sea ice data sets [1991, p.41-47, eng] 47-3374
Eto, T.K.
Thermal modeling of freezing in biological tissue [1991, p.291-298, eng] 47-2559
Ettema, R.
Bend ice jams: laboratory observations [1992, p.855-864, eng] 47-3305
Droplet trajectories and icing-collision efficiencies for cylinders determined using LDV [1993, p.381-397, eng] 47-5208
Flow regulation for controlled river-ice formation [1993, 50p., eng] 47-4662
Model study of cable-moored conical platform [1993, p.12-31, eng] 47-4284
Unconventional energy sources for ice control at lock and dam installations [1992, 37p., eng] 47-697
Etzelmüller, B.
Glaciofluvial sediment transfer of a subpolar glacier, Erikbreen, Svalbard [1992, p.253-266, eng] 47-2121
European Helicopters Limited, Uxbridge, England
European Helicopters' ICE detection system enters final trials stage [1988, p.23, eng] 47-4609
Evangelisti, F.
O3 and NO2 absorption cross section measurements by multipath spectrophotometer [1992, p.205-211, eng] 47-1202
Evans, C.A.
Ice patterns and hydrothermal plumes, Lake Baikal, Russia: insights from space shuttle *hand-held photography* [1992, p.1559-1561, eng] 47-684
Evans, D.J.A.
Geomorphological evidence of Holocene climatic change from northwest Ellesmere Island, Canadian high arctic [1992, p.148-158, eng] 47-55
High-latitude rock glaciers: a case study of forms and processes in the Canadian Arctic [1993, p.17-35, eng] 47-3115
Evans, L.G.
Effects of material mixing on planetary gamma ray spectroscopy [*1992, p.14,701-14,715, eng*] 47-377
Evenden, L.D.
Identification of deep groundwater discharge areas in the Boggy Creek catchment, southeastern Manitoba, using excess aqueous helium [1992, p.2640-2652, eng] 47-3714
Everard, J.
Notch sensitivity of first-year sea ice [1993, p.1303-1313, eng] 47-4848
Everett, L.T.
International sharing of polar information resources [1992, 371p., eng] 47-1393
Everett, W.
Cryogenic ambient air vaporizers: frost growth, wind and seismic design for safety [1993, p.789-793, eng] 47-4876
Evgin, E.
Effect of boundary conditions on borehole indentor test results [1993, p.65-72, eng] 47-4232
Experimental study of the behaviour of columnar grained ice subjected to cyclic loading [1993, p.21-28, eng] 47-4226
Evin, M.
Prospecting and mapping of mountain permafrost and associated phenomena [1992, p.73-81, eng] 47-1746
Evolution of the snow cover and avalanche events in the Italian Alps during the 1991-92 winter season
Evolution of the snow cover and avalanche events in the Italian Alps during the 1991-92 winter season [1992, p.20-63, ita] 47-2616
Evseev, A.V.
Chemical analysis of snow cover as an indicator of contamination in the Kola Peninsula [1991, p.60-64, rus] 47-1987
Evseev, M.P.
Diagnosis and forecasting of significant 10-year anomalies in air temperatures in the western part of the Arctic during the spring and fall, with the aid of a spectral hydrodynamic model [1989, p.88-96, rus] 47-3660
Numerical experiment in hydrodynamic forecasting of pressure fields 5 days in advance in the Arctic, based on an atmospheric processes analogy [1989, p.53-65, rus] 47-3657
Evteev, A.O.
Morphological classification of the sites of origin of water-snow streams in Khibiny for estimating the range of their outburst [1991, p.155-160, rus] 47-334
Evzerov, V.IA.
Geology of Quaternary deposits and recent tectonics in glacial regions of eastern Europe [1992, 55p., rus] 47-241
Ewart, K.V.
Ice crystal growth and lectins [1992, p.113-114, eng] 47-906
Eyles, N.
Sedimentary and biological record of the last interglacial-glacial transition at Toronto, Canada [1992, p.119-137, eng] 47-2688
Ezaki, Y.
Mechanical properties of high water content snow [1992, p.313-321, eng] 47-3209
Ezman, A.T.
Iceberg warnings [1993, p.56-59, eng] 47-2144
Fabre, P.
Winter behavioural patterns of self draining roadways [1992, 23p., eng] 47-1621
Fabry, F.
Wind-profile estimation by conventional radars [1993, p.40-49, eng] 47-4165
Faccini, E.E.
Antarctic drifting sea ice atlas for *areas restricted from 0 to* 90 west longitude [1993, p.310-317, eng] 47-5118
Fagerlund, G.
Effect of industrial by-products on the frost resistance of concrete [1989, p.33-52, eng] 47-12
Fahleson, C.
Reliability of guyed masts with special reference to arctic conditions [1991, 18p., eng] 47-5011
Fahnestock, M.A.
Characteristics of the bed of the lower Columbia Glacier, Alaska [1993, p.837-846, eng] 47-2660
Hydrologic control of sliding velocity in two Alaskan glaciers: observation and theory [1992, 120p., eng] 47-283
Monitoring of the Greenland ice sheet using ERS-1 synthetic aperture imagery [1993, p.253-257, eng] 47-4421
Fahselt, D.
Vegetation of stressed calcareous screes and slopes on Sverdrup Pass, Ellesmere Island, Canada [1992, p.2359-2377, eng] 47-3837
Faiko, L.I.
Controlling river runoff with artificial glaciers [1991, p.54-59, rus] 47-1049
Thermal nonequilibrium of freezing bodies of water with the [illegible]onment [1991, p.115-118, rus] 47-2798
Using ice and ice phenomena in the national economy: geophysical aspect [1986, 155p., rus] 47-94
Fair, A.E.
Disposal of fine tails produced at the Syncrude oil sands mine [1993, p.203-212, eng] 47-4466
Fairall, C.W.
Remote sensing of the arctic boundary layer [1992, p.J33-J36, eng] 47-2411
Surface energy measurements on the arctic ice pack [1992, p.72-75, eng] 47-2384
Fairbridge, C.
Effect of restricted geometries on the structure and thermodynamic properties of ice [1992, p.8594-8599, eng] 47-1569
Falk, M.
New perspectives on the survival chances of a person buried in an avalanche [1992, p.24-31, eng] 47-1319
Falkingham, J.C.
Preliminary evaluation of ERS-1 SAR *data for operational use* in the Canadian sea ice monitoring program [1993, p.355-360, eng] 47-4439
Fan, K.
R-T relationship and stability of ceramic rhodium-iron resistance thermometers [1992, p.461-465, eng] 47-2984
Fan, S.M.
Measurements of NOx and NOy concentrations and fluxes over arctic tundra [1992, p.16,545-16,557, eng] 47-1454
Micrometeorological measurements of CH4 and CO2 exchange between the atmosphere and subarctic tundra [1992, p.16,627-16,643, eng] 47-1458
Farbrot, T.
Nitrogen uptake in the Weddell Sea during late winter and spring [1992, p.245-251, eng] 47-1330
Farmer, D.M.
Acoustic radiation beneath *the arctic ice cover* [1993, p.641-647, eng] 47-4842
Acoustical measurement of current and vorticity beneath ice [1992, p.827-849, eng] 47-1473
Farmer, L.D.
Beaufort Sea Ice-1: selected SAR results [1992, p.131-133, eng] 47-641
Clues to causes of deformation features in coastal sea ice [1992, p.385,388-389, eng] 47-2597
Passive microwave signatures of fractures and ridges in sea ice at 33.6 GHz (vertical polarization) as observed in aircraft images [1993, p.4645-4665, eng] 47-4387
Passive microwave signatures of sea ice [1992, p.47-71, eng] 47-3018
Sea ice thickness distributions derived from archived aerial photographs of the arctic sea ice pack [1992, p.B10-B15, eng] 47-3242
Farrell, B.F.
Polar low dynamics [1992, p.2484-2505, eng] 47-3673
Farris-Manning, P.J.
Repeat-pass interferometry with airborne synthetic aperture radar [1993, p.180-191, eng] 47-3359
Fartyshev, A.I.
Investigation of evolution of the Arctic shelf cryolithozone by mathematical simulation [1992, p.13-19, eng] 47-244

Farzam, H.
Non-chloride accelerating admixture for Class CF fly ash [1990, p.51-54, eng] 47-2719
Farzaneh, M.
Effect of voltage polarity on icicles grown on line insulators [1992, p.625-631, eng] 47-1850
Effect of voltage polarity on icicles grown on line insulators [1992, p.297-302, eng] 47-4303
Ice accretion on energized line insulators [1992, p.618-624, eng] 47-1849
Ice accretion on energized line insulators [1992, p.228-233, eng] 47-4307
Fatland, D.R.
Change detection on Alaska's North Slope using repeat-pass ERS-1 SAR images [1993, p.227-236, eng] 47-3360
Fauquemberg, P.
Methodology for full-scale iceberg impact experiments in the Antarctic [1992, p.718-723, eng] 47-1866
Faure, G.
Oxygen isotope study of the ice fields surrounding the Reckling Moraine on the East Antarctic ice sheet [1992, p.15-26, eng] 47-2869
Fedchenko, L.M.
Active and passive radar technique used to study microstructure of hail clouds during weather modification [1992, p.87-92, eng] 47-4346
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Aspects to be considered in planning logistic operations in the Weddell and Bellingshausen seas [1993, p.274-299, eng] 47-5116
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Regularities of the nitrogen regime of seasonally freezing soils of Karelia [1992, p.220-222, eng] 47-1733
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Application of the superplasticizer SFS as an antifrost admixture for concrete [1991, p.11-12, rus] 47-2156
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Frozen ground landscapes of Yakutia: methods of detection and problems in mapping [1991, 140p., rus] 47-96
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Nitrifying bacteria from frozen deposits in the Kolyma lowlands [1991, p.92-97, rus] 47-4816
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Industrial influence on glacial processes in mountains of circumpolar regions [1992, p.212-214, eng] 47-1114
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Abrasiveness of frozen and thawed coarse-clastic rocks and its effect on wear and tear of tools [1993, p.546-550, eng] 47-4579
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Microbubble mediated surface probe and the ice-antifreeze glycoprotein solution system [1993, p.67-74, eng] 47-4757
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Annual cycles of phytoplankton chlorophyll concentrations in the global ocean: a satellite view [1993, p.181-193, eng] 47-3462
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Preliminary study of ice nucleating properties of loess particles [1992, p.275-277, eng] 47-2266
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Characteristics of glacier outburst flood in the Yarkant River, Karakorum Mountains [1991, p.255-263, eng] 47-1612
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Chemical composition of snow near a mining and concentration plant: analysis of variability by multivariate statistical analysis methods [1993, p.79-86, eng] 47-5193
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Snowstorms over the western Washington lowlands [1992, 23p., eng] 47-2137
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Geomorphological changes in the Fortun River: an assessment of the impact of the altered fluvial processes after river regulation for hydropower [1992, p.506-514, eng] 47-1975
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Glaciers of North America: a field guide [1992, 176p., eng] 47-459
Systems: the world, the flesh, the metal [1992, p.22-31, eng] 47-480
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February 1972 Eastern Snow Conference weather experience at Oswego, New York [1992, p.135-144, eng] 47-4042
Lake-Effect Snow Observation Network (LESON) report for the 1991-1992 snow season [1992, p.227-234, eng] 47-4052
Fernández, P.
Real time system for flood forecasting of an ice dam outburst [1990, p.85-91, eng] 47-1169
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Correlation between discharge and hydrochemical parameters in the river at Juan Carlos I Station [1989, p.24-31, spa] 47-809
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Behaviour of high erosion-resistant silica fume-mortars for repair of hydraulic structures [1989, p.827-847, eng] 47-57
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Traffic safety of porous asphalt surface layers during winter—results of a study on highways [1992, p.359-362, ger] 47-50
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Long-term stability of permanent realizations of the triple point of gases in metal sealed cells [1992, p.251-256, eng] 47-2970
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Development of a field technique for measuring fresh water ice density [1992, p.203-212, eng] 47-4049
Development of an airborne MMW FM-CW radar for mapping river ice [1993, 10p., eng] 47-2757
Discussion of "Minimization of frazil-ice production by river flow regulation" [1991, p.1406-1409, eng] 47-1286
Kinematic model of river ice motion during dynamic breakup [1993, p.111-134, eng] 47-4907
Local influences on winter minimum air temperatures [1992, p.243-246, eng] 47-4054
Proceedings of the 49th annual Eastern Snow Conference, Oswego, NY, June 3-4, 1992 [1992, 273p., eng] 47-4026
Ferrigno, J.G.
Glaciers of Iran [1991, p.G31-G47, eng] 47-3824
Monitoring the dynamics of the antarctic coastline with Landsat images [1991, p.316-317, eng] 47-4676
Satellite image atlas of glaciers of the world. Glaciers of the Middle East and Africa [1991, 70p., eng] 47-3822
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Quick-setting claydite-concrete for winter concreting [1992, p.12-14, rus] 47-2152
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Clues to causes of deformation features in coastal sea ice [1992, p.385,388-389, eng] 47-2597
Forecasters handbook for the Bering Sea, Aleutian Islands, and Gulf of Alaska [1993, Var. p., eng] 47-4886
Major cloud plumes in the Arctic and their relation to fronts and ice movement [1992, p.925-945, eng] 47-591
Navy tactical applications guide. Volume 8, Part 2. Arctic East Siberian/Chukchi/Beaufort seas weather analysis and forecast applications. meteorological satellite systems [1992, Var. p., eng] 47-3911
Observation of flooded ice in arctic regions [1993, p.1305-1324, eng] 47-4905
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Digital DMSP OLS fine imagery sea ice applications [1991, p.153-155, eng] 47-3405
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Mathematical modeling of ice and thermal regime of water bodies under heavy thermal load [1992, p.55-61, eng] 47-2713
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Holocene water-level fluctuations of a subarctic lake at the tree line in northern Quebec [1993, p.7-14, eng] 47-4072
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Iceberg trajectory model—real-time verification [1992, 47p. + appends., eng] 47-2335
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Possible ice-core evidence for a fresh melt water cap over the Atlantic Ocean in the Early Holocene [1992, p.267-293, eng] 47-3560
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SHRP H-208: development of anti-icing technology [1992, 23p., eng] 47-932
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Bathymetry and sedimentary environments in proglacial lakes at the eastern Bering Piedmont Glacier of Alaska [1993, p.267-274, eng] 47-4566
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Chemical thermodynamics of cation exchange reactions: theoretical and practical considerations [1993, p.1-108, eng] 47-2222
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Hydrate dissociation enthalpy and guest size [1992, p.123-140, eng] 47-588
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Snow in north and east Tyrol 1897-1991 [1992, 2 vols., ger] 47-4208
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Last interglacial-glacial transition in Illinois: 123-25 ka [1992, p.71-88, eng] 47-2684
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Proceedings of the Fifth Symposium on Antarctic Logistics and Operations, San Carlos de Bariloche, Argentina, *8 to 10* June 1992 [1993, 365p., eng] 47-5111
Fookes, P.G.
Quaternary engineering geology [1991, p.73-98, eng] 47-3870
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Small-scale wetland restoration in the high Arctic: a long-term perspective [1993, p.59-68, eng] 47-3900
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Scallop shell mineralogy and crystalline characteristics: proxy records for interpreting antarctic nearshore marine hydrochemical *variability* [1992, p.27-38, eng] 47-2870
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Ice forces on light piers in the St. Lawrence Seaway (1992, p.67-72, eng) 47-4280
Landfast ice pressure measurements in the Beaufort Sea (1992, p.656-661, eng) 47-1854
Local contact pressures in ship/ice and structure/ice interactions (1993, p.169-185, eng) 47-2648
Two-dimensional extrusion of crushed ice. Part 1: experimental (1992, p.25-36, eng) 47-801
Two-dimensional extrusion of crushed ice. Part 2: analysis (1992, p.37-47, eng) 47-802

Fredlund, D.G.
Measuring negative pore water pressures in a freezing environment (1991, p.291-299, eng) 47-1127

Freeland, H.J.
Propagation of coastal-trapped waves under an ice cover in Hudson Bay (1992, p.593-620, eng) 47-2880

Freeman, C.G.
UV-excited luminescences from amorphous and polycrystalline H2O ices (1993, p.120-126, eng) 47-3513

Freeman, G.J.
Operational runoff forecasting and scheduling Pacific Gas and Electric's *hydro electric system* (1992, p.143-152, eng) 47-2724

Freezing system plugs pipeline segments for repair
Freezing system plugs pipeline segments for repair (1992, p.64, eng) 47-2637

Frémond, M.
Thermomechanical modelling of freezing soil (1993, p.48-60, eng) 47-4272

French, C.T.
Long-term biometeorological monitoring at two forest sites in Iceland and Newfoundland: initial results (1993, p.227-239, eng) 47-4539

French, H.M.
Pediments and cold-climate conditions, Barn Mountains, unglaciated northern Yukon, Canada (1992, p.145-157, eng) 47-4324

Fresnot, Y.
Azorella selago Hook. used to estimate *glacier fluctuations* and climatic history in the Kerguelen Islands over the last two centuries (1993, p.140-144, eng) 47-5269

Friberg, N.J.
Swing wheel snowthrower (1988, 10 col., eng) 47-3636

Frich, P.
Homogeneity problems in Danish and Greenlandic temperature time series (1993, p.J39-J42, eng) 47-3081

Fricke, B.A.
Soil thermal conductivity: effects of saturation and dry density (1992, p.158-165, eng) 47-1154

Fricke, J.R.
Acoustic scattering from elemental arctic ice features: numerical modeling results (1993, p.1784-1796, eng) 47-3231

Frieden, W.
Turbulent heat exchange between sea ice and the atmosphere in the Weddell Sea (Antarctica) (1992, p.338-339, ger) 47-218
Wind forcing and ice *motion in the Weddell Sea region* (1992, p.20.373-20.383, eng) 47-2051

Friedman, I.
Lithology and paleoclimatic implications of lacustrine deposits around Lake Vanda and Don Juan Pond, Antarctica (1993, p.83-94, eng) 47-4398

Fries, A.
Hybridization among provenances of lodgepole pine (1993, p.343-356, eng) 47-4548

Fries, C.
Development of planted *Pinus sylvestris* and *P. contorta* after soil preparation in a northern climate (1993, p.73-80, eng) 47-4997

Fries, L.M.
2.5-kVA arctic ground fault detector, final report (1993, 18p. + appends., eng) 47-2610

Friesen, B.C.
Disposal of fine tails produced at the *Syncrude oil sands mine* (1993, p.203-212, eng) 47-4466

Frisbie, T.R.
Field testing of new cutting edges for ice removal from pavements (1992, 10p., eng) 47-953

Frisk, G.V.
Determination of compressional wave and shear wave speed profiles in sea ice by crosshole tomography—theory and experiment (1993, p.721-738, eng) 47-3431

Frisvold, H.
Water balance study in Svalbard—inspection of various forms of snow erosion, June 5-10, 1991 (1991, 16p., nor) 47-2013

Fritsen, C.H.
Influence of particulate matter on spectral irradiance fields and energy transfer in the eastern Arctic Ocean (1992, p.527-541, eng) 47-3736

Fritts, H.C.
Mapping climate using tree-rings from western North America (1992, p.269-295, eng) 47-2089

Fröhling, P.W.
Detection of weather induced road condition (1992, 10p., eng) 47-955

Frolich, R.M.
How unstable is the west antarctic ice sheet (1992, p.21-22, eng) 47-1944
Melting of ice shelves and the mass balance of Antarctica (1992, p.375-387, eng) 47-1389

Frolking, S.
Methane from northern peatlands and climate change (1993, p.109-124, eng) 47-5233

Frost, H.J.
Crack nucleation mechanism in saline ice (1993, p.199-216, eng) 47-3754
Crack nucleation mechanisms and *fracture toughness* measurements in freshwater ice (1993, p.235-250, eng) 47-3757

Frozen assets
Frozen assets (1992, p.33-36, eng) 47-51

Frozen ground
Frozen ground (1992, 24p., eng) 47-2589
Frozen ground (1992, 23p., eng) 47-3264
Frozen ground (1993, 24p., eng) 47-4611

Fryxell, G.A.
Fragilariopsis cylindrus (Grunow) Krieger: the most abundant diatom in water column assemblages of *antarctic marginal* ice-edge zones (1992, p.609-627, eng) 47-1623
Phytoplankton in the Weddell Sea, *Antarctica: composition*, abundance and distribution in water-column assemblages of the marginal ice-edge zone during austral autumn (1993, p.335-348, eng) 47-4722

Fu, H.Y.
Premelting of ice in exfoliated graphite: a neutron diffraction study (1992, p.33-41, eng) 47-1383
Theory of ice premelting in monosized powders (1992, p.101-108, eng) 47-181

Fu, J.
Influence of evaporator and condenser inclination on the performance of a right-angled thermosyphon (1993, p.213-217, eng) 47-4249
Influence of filling charge, evaporator length and condenser length on the performance of a right-angled thermosyphon (1993, p.207-211, eng) 47-4248

Fu, Q.
Parameterization of the *radiative properties of cirrus clouds* (1993, p.2008-2025, eng) 47-4459

Fuchs, A.
New ice mill allows precise concentration determination of *methane and most* probably also other trace gases in the bubble air of very small ice samples (1993, p.199-203, eng) 47-3952

Fueki, K.
New band of emission from high-energy-electron-irradiated ice at very low temperature (1992, p.9558-9561, eng) 47-1567

Fuelberg, H.E.
Alternative representation of the ice canopy for calculating microwave brightness temperatures over a thunderstorm (1993, p.1006-1013, eng) 47-3567

Fuglem, M.K.
Problems of design for operation and transportation in subarctic offshore environments (1993, p.311-322, eng) 47-4472

Fujieda, H.
Bulletin on the budget for snow and cold weather operations *for 1986* (1986, p.99, jpn) 47-5189

Fujii, Y.
Activities of the wintering party at Syowa Station by the 32nd Japanese Antarctic Research Expedition in 1991 (1992, p.441-472, jpn) 47-3368
Spacing of icicles (1993, p.317-322, eng) 47-3934
Vertical profile of Pb-210 in an ice core from the Höghetta ice dome in Spitsbergen (1992, p.84-87, eng) 47-3008
Vertical profiles of total organic carbon and polar organic compounds in the ice core from Site-J, Greenland (1992, p.99-105, eng) 47-3010

Fujino, K.
Availability of MSR data for snow water estimation (1990, p.189-196, jpn) 47-885

Fujishiro, Y.
Current status and countermeasures in the problem of studded tires (1985, p.29-34, jpn) 47-5080

Fujita, S.
Measurement on the dielectric properties of acid-doped ice at 9.7 GHz (1992, p.799-803, eng) 47-359

Fujiwara, M.
Double-diffusive convection during solidification of a *binary* system (1992, p.586-600, eng) 47-3514
Visualization of temperature and *flow fields using liquid* crystals in the fluid regime during various solidification processes (1992, p.456-460, eng) 47-4393

Fujiyoshi, Y.
Observation of lined-up cumulus rows under the winter monsoon situation using MOS-1 and radar data (1990, p.197-203, jpn) 47-886

Fukao, S.
Dual polarization radar observations of anomalous wintertime thunderclouds in Japan (1992, p.838-844, eng) 47-361

Fukasawa, T.
Measurements of methane flux in Yakutsk (1993, p.10-17, eng) 47-3970

Fukuchi, M.
33rd Japanese Antarctic Research Expedition in 1991-93 (1992, p.31-37, jpn) 47-3622

Fukuda, M.
Genesis and occurrence of Ice Complex (Edoma) in lowland area along arctic coast of east Siberia near Tiksi (1993, p.101-103, eng) 47-3980
Proceedings (1993, 112p., eng) 47-3968
Results of installing traffic advisory signs with automatic display for winter (1992, p.79-84, jpn) 47-2509
Snowproofing measures in *Tonami City* (1986, p.46-53, jpn) 47-5180
Some characteristics of alpine permafrost, Mt. Daisetsu, central Hokkaido, northern Japan (1992, p.159-167, eng) 47-4325
Structure and physical properties of snow and ice (1986, 209p., jpn) 47-1679

Fukudome, K.
Resistance to freezing and thawing and chloride diffusion of anti-washout underwater concrete containing blast-furnace slag [1993, p.1565-1582, eng] 47-3618
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Characteristics of the freezing heat transfer of layered air-water flow in a circular tube [1989, p.91-97, eng] 47-915
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Freezing characteristics of aqueous solution on a horizontal downward facing cooled plate [1991, p.285-290, eng] 47-2558
Melting heat transfer along a horizontal heated tube immersed in a fluidized liquid ice bed [1993, p.353-359, eng] 47-4064
Production and heat transfer characteristics of liquid ice as new PCM [1992, p.347-364, eng] 47-2298
Recent advances in research on freezing and melting heat-transfer phenomena [1991, p.1157-1170, eng] 47-5109
Recent advances in research on water-freezing and ice-melting problems [1993, p.90-105, eng] 47-3287
Fukushi, H.
Mechanical opening and shutting device for snow removal storm drain openings [1992, p.29-34, jpn] 47-2491
Fukushima Prefecture Civil Engineering Department
Summary of avalanche countermeasure operations in Fukushima Prefecture [1985, p.45-52, jpn] 47-5153
Fukushima, Y.
Estimation of streamflow change by global warming in a glacier-covered high mountain area of the Nepal Himalaya [1991, p.181-188, eng] 47-1305
Fukuta, N.
Development of simple-operation sidewalk snow removal equipment [1993, p.26-29, jpn] 47-4788
Proceedings [1992, 523p., eng] 47-2253
Fukuzawa, Y.
Correspondence between radar precipitation gage output and ground weather observation data for blowing snow (Part 1) [1991, p.121-124, jpn] 47-2521
Study on snow fences [1984, p.96-100, jpn] 47-5075
Using blowing snow observations in traffic management [1990, p.30-33, jpn] 47-4686
Visibility reduced by snow in the wake of vehicles on highways [1992, 15p., eng] 47-963
Fülber, K.
Below-cloud scavenging of aerosol particles: particle-bound radionuclides—experimental [1993, p.605-618, eng] 47-4349
Full, W.E.
Evaluation of multichannel Wiener filters applied to fine resolution passive microwave images of first-year sea ice [1993, p.1-23, eng] 47-3917
Polynomial trend surface analysis applied to AVHRR images to improve definition of arctic leads [1992, p.197-218, eng] 47-982
Polynomial trend surface analysis applied to AVHRR images to improve definition of arctic leads through binary segmentation procedures [1991, p.161-189, eng] 47-3406
Funada, H.
Development of a method for predicting road surface temperature and icing on roads [1992, p.193-231, jpn] 47-3301
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Isotope stage 5 (130-74 ka) in Greenland—a review [1991, p.107-122, eng] 47-3484
Timing and character of the last interglacial-glacial transition in the eastern Canadian Arctic and northwest Greenland [1992, p.223-231, eng] 47-2694
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Analysis of scattering from a thin saline ice layer [1992, p.1262-1264, eng] 47-676
Scattering model for snow-covered sea ice [1992, p.804-810, eng] 47-360
Sea ice classification using fast learning neural networks [1992, p.1070-1071, eng] 47-670
T-matrix approach to scattering from a snow layer [1992, p.828-829, eng] 47-661
Funk, M.
Climate at the equilibrium line of glaciers [1992, p.397-411, eng] 47-1391
Mechanisms of fast flow in Jakobshavns Isbrae, West Greenland: Part 1. Measurements of temperature and water level in deep boreholes [1993, p.15-25, eng] 47-3937
Model of potential direct solar radiation for investigating occurrences of mountain permafrost [1992, p.139-142, eng] 47-1753
Furnes, G.E.
Wind and tidal induced currents in an ice covered ocean [1992, p.608-617, eng] 47-1848
Fursov, V.V.
Frost-susceptible soils as foundations of structures [1992, 166p., rus] 47-4977
Furukawa, G.T.
Argon triple point apparatus with multiple thermometer wells [1992, p.265-269, eng] 47-2973
Realization of the mercury triple point [1992, p.281-285, eng] 47-2976
Furukawa, Y.
Direct evidence for melting transition at interface between ice crystal and glass substrate [1993, p.1137-1142, eng] 47-3289
Temperature dependence of the growth form of negative crystal in an ice single crystal and evaporation kinetics for its surfaces [1993, p.571-581, eng] 47-3649
Three-dimensional pattern formation during growth of ice dendrites—its relation to universal law of dendritic growth [1993, p.234-239, eng] 47-3469
Futami, K.
Laboratory test on construction of ice domes and their load-carrying capacity [1992, p.203-226, jpn] 47-975
Fütterer, D.K.
ARCTIC '91: The Expedition ARK-VIII/3 of RV *Polarstern* in 1991 [1992, 267p., eng] 47-40
Fyall, W.L.
Specifying snow melting system performance [1992, p.241-252, eng] 47-3203
Gabestad, K.O.
Driver behavior during winter conditions [1988, 54p. + appends., nor] 47-4992
Manual for planning and implementing road surface condition studies in wintertime—vol.1 and 2 [1988, 2 vols., nor] 47-4991
Gabitov, R.M.
Characteristics of radiogeochemical anomalies in landscapes with water-saturated glacial formations [1991, p.26-34, rus] 47-169
Gabrielsen, P.
River flood forecasting in the Northeast during ice jam situations [1992, 10p., eng] 47-2131
Gadd, P.E.
Short and long term coastal changes along the U.S. Beaufort Sea [1992, p.600-607, eng] 47-1847
Gade, H.G.
When ice melts in sea water: a review [1993, p.139-165, eng] 47-4914
Gaffney, E.S.
Shock response of snow [1993, p.4852-4861, eng] 47-3794
Shock response of snow: analysis of experimental methods and constitutive model development [1992, 19p., eng] 47-705
Shock wave studies of snow [1992, p.107-110, eng] 47-1143
Gagarin, P.K.
Snow cover and moisture limit in the Tazheran steppe (Priol'khon'e) [1992, p.62-69, rus] 47-3273
Gäggeler, H.W.
Scavenging of atmospheric constituents by alpine snow [1991, p.483-493, eng] 47-2215
Gagné, R.
Frost resistance of high-strength concrete [1992, p.975-980, fre] 47-3342
Gagnon, B.
Lagoon sludge dewatering by natural freeze-thaw [1993, p.357-364, eng] 47-4477
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Full scale deflection of ice by an icebreaker [1991, 4p. + appends., eng] 47-1363
Gaigalas, A.I.
Lithology of glacial deposits in the western part of the Don Glacier tongue [1992, p.118-135, rus] 47-69
Gajewski, K.
Ecology and palaeoecology of the northern treeline [1992, p.113-120, eng] 47-1431
Holocene vegetation histories from three sites in the tundra of northwestern Quebec, Canada [1992, p.329-336, eng] 47-1589
Gallagher, M.W.
Measurement and modelling of cloudwater deposition to a snow-covered forest canopy [1992, p.2893-2903, eng] 47-1947
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Variations in the ice edge in the European North Sea, 1966-1991, from satellite data [1992, p.241-242, ger] 47-215
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Glaciation and deglaciation mechanisms in a coupled two-dimensional climate—ice-sheet model [1993, p.45-49, eng] 47-3939
Simulation of the last glacial cycle by a coupled, sectorially averaged climate-ice sheet model. 2. Response to insolation and CO2 variations [1992, p.15,713-15,740, eng] 47-998
Galletta, T.A.
"Tea kettle" effect snow [1992, p.101-106, eng] 47-4038
Gallimore, R.G.
Sensitivity experiments on the effect of orbitally-caused insolation changes on the interglacial climate of high northern latitudes [1991, p.223-229, eng] 47-3492
Gallinger, B.J.
Permafrost degradation and thermokarst processes associated with human-induced disturbances, Fort Norman, Northwest Territories [1991, 228p., eng] 47-2106
Galloway, J.P.
Early Holocene calcretes from the subarctic active Nogahabara Sand Dune field, northern Alaska [1992, p.100-111, eng] 47-613
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Effects of drifting on snow loads on large roofs [1993, p.508-513, eng] 47-5262
Effects of roof size and heat transfer on snow loads on flat roofs [1992, p.59-68, eng] 47-3188
Finite area element snow loading prediction—applications and advancements [1992, p.1537-1548, eng] 47-1583
Snow load prediction in the Andes Mountains and downtown Toronto [1992, p.135-145, eng] 47-3194
Gan, J.K.
Measuring negative pore water pressures in a freezing environment [1991, p.291-299, eng] 47-1127
Ganguly, S.
Ice nucleation in emulsified aqueous salt solutions: a differential scanning calorimetry study [1992, p.105-111, eng] 47-798
Surfactant-electrolyte interactions in concentrated water-in-oil emulsions: FT-IR spectroscopic and low-temperature differential scanning calorimetric studies [1992, p.243-256, eng] 47-194
Ganobcik, S.N.
Katabatic wind dynamics at Terra Nova Bay, Antarctica from the satellite image perspective [1992, p.J125-J128, eng] 47-2417
Gao, L.
Probabilistic approach to the problem of ice floe collision under wave action in the Marginal Ice Zone [1992, p.281-291, eng] 47-1035
Gao, Q.Z.
Features of interior rivers and feeding of glacial meltwater in the Hexi region, Gansu Province [1985, p.131-141, chi] 47-1528
Garagulia, L.S.
Mathematic modeling of conductive and convective heat transfer in the taliks of a cryolite zone [1991, p.55-64, eng] 47-420
García-García, F.
Laboratory measurements and parameterizations of supercooled water skin temperatures and bulk properties of gyrating hailstones [1992, p.2058-2073, eng] 47-1508
Gard, G.
Late Quaternary coccoliths at the North Pole: evidence of ice-free conditions and rapid sedimentation in the central Arctic Ocean [1993, p.227-230, eng] 47-2848
Gardelin, M.
Vertically distributed soil moisture simulations [1992, p.251-264, eng] 47-1965
Gardner, C.S.
Polar stratospheric clouds at the South Pole in 1990: lidar observations and analysis [1993, p.1001-1010, eng] 47-2701
Ranging performance of satellite laser altimeters [1992, p.1061-1072, eng] 47-1261
Gardner, J.A.
Bathymetry and sedimentary environments in proglacial lakes at the eastern Bering Piedmont Glacier of Alaska [1993, p.267-274, eng] 47-4566
Gardner, J.E.
Modified HNO3 seasonality in volcanic layers of a polar ice core: snow-pack effect or photochemical perturbation? [1993, p.219-230, eng] 47-3463
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Mass wasting on valley-side ice-cored moraines, Boundary Glacier, Alberta Canada [1991, p.123-128, eng] 47-4335
Zonation of freeze-thaw temperatures at a glacier headwall, Dome Glacier, Canadian Rockies [1992, p.89-102, eng] 47-848
Garfield, D.E.
Icing of turbine intake louvers [1993, 37p., eng] 47-4095
Garralla, S.
Holocene vegetation histories from three sites in the tundra of northwestern Quebec, Canada [1992, p.329-336, eng] 47-1589
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Microorganisms in antarctic sea ice [1993, p.167-218, eng] 47-4595
Winter ecology of the sea ice biota in Weddell Sea pack ice [1993, p.17-31, eng] 47-4575
Winter plankton assemblage in the ice edge zone of the Weddell and Scotia Seas: composition, biomass and spatial distributions [1993, p.311-338, eng] 47-3628
Garrison, G.R.
Experimental examination of growing and newly submerged sea ice including acoustic probing of the skeletal layer [1992, p.2075-2092, eng] 47-1125
Garrity, C.
Characterization of snow on floating ice and case studies of brightness temperature changes during the onset of melt [1992, p.313-328, eng] 47-3030
Passive microwave remote sensing of snow-covered floating ice during spring conditions in the Arctic and Antarctic [1991, 348p., eng] 47-3133
Snow cover and some of its effects on passive microwave signatures [1991, p.125-132, eng] 47-3381

Garrabrant, R.
Coherent Antarctic Radar Depth Sounder (CARDS) design, development and results [1989, 169p., eng] 47-349

Gascard, J.C.
Retrieval of mesoscale meteorological parameters from NOAA9 over Greenland and Barents seas for three consecutive days *of June* 1986 [1988, p.122-125, eng] 47-4198

Gasperoni, L.
Ozone absorption and Rayleigh scattering features in sunphotometric measurements taken at ultraviolet wavelengths [1992, p.227-245, eng] 47-1205

Gatsullin, V.
Glacigenic deposits of the Central Deep: a key to the Late Quaternary evolution of the eastern Barents Sea [1993, p.47-58, eng] 47-4017

Gatto, L.W.
Applications of ERS-1 SAR data for analyzing riverine and coastal processes and geomorphology [1993, p.873-878, eng] 47-4449

Geology and geohydrology at CRREL, Hanover, New Hampshire: relationship to subsurface contamination [1992, 83p., eng] 47-2568

River and lake ice conditions as interpreted from microwave imagery [1992, p.381-395, eng] 47-1914

Gault, B.A.
Seismicity associated with icebergs calving from glaciers near Mawson, East Antarctica [1992, p.473-480, eng] 47-1883

Gaumet, J.L.
Weather characterization by the mean of a vertically pointing CW radar [1993, p.379-381, eng] 47-3076

Gautier, C.
Multifractal cloud properties data assessment [1992, 15p., eng] 47-3632

Second generation ice navigation system: implementation phase I [1991, 35p. + appends., eng] 47-607

Second generation ice navigation system: implementation phase II [1992, 47p. + appends., eng] 47-605

Gavin, J.
Insolation regime of the warm to cold transitions [1992, p.307-339, eng] 47-2842

Recent temperature trends: are they reinforced by insolation shifts [1992, p.291-305, eng] 47-2841

Gavrilo, V.P.
Influence of structural anisotropy of sea ice on its mechanical *and electrical properties* [1992, p.670-674, eng] 47-1857

Study of oil intrusion influence on physical properties of sea ice [1992, p.666-669, eng] 47-1856

Gavrilov, A.V.
Ecological-geological regionalization of the cryolithozone in the USSR [1991, p.92-100, rus] 47-403

Gavrilov, N.I.
EO-4124A and EO-4125A multipurpose backhoe excavators [1991, p.2-4, rus] 47-2065

Gavrilova, M.K.
Climate and permafrost [1993, p.99-111, eng] 47-4146

Formation of soil-ground temperatures in the drained lake depressions in subarctic Yakutia [1992, p.262-268, eng] 47-1742

Thermal regime of a naled valley in the BAM zone [1991, p.146-151, rus] 47-2440

Gay, J.M.
Premelting of ice in exfoliated graphite: a neutron diffraction *study* [1992, p.33-41, eng] 47-1383

Gayet, J.F.
Comparison of in-cloud measurements obtained with six PMS 2D-C probes [1993, p.180-194, eng] 47-2768

Gaynor, J.E.
Turbulence structure of the atmospheric surface layer over arctic ice and near a lead [1992, p.J37-J40, eng] 47-2412

Gazaeva, Z.A.
Distribution of paths of movement of multi-cell hail clouds in the Northern Caucasus [1991, p.93-99, rus] 47-756

Gedzelman, S.D.
Form of cyclonic precipitation and its thermal impact [1993, p.1957-1978, eng] 47-4355

Geirsdóttir, A.
Review of the Late Pleistocene stratigraphy of Reykjavík, Iceland [1991, p.143-150, eng] 47-3486

Gellatly, A.F.
Formation of glacial flutes: assessment of models with evidence from Lyngsdalen, North Norway [1992, p.709-731, eng] 47-3441

Mid-Holocene glacial activity in the Pyrenees [1992, p.266-270, eng] 47-2000

Genthon, C.
Simulations of desert dust and sea-salt aerosols in Antarctica with a general circulation model of the atmosphere [1992, p.371-389, eng] 47-836

Gentzis, T.
Optical characteristics of heat-affected bitumens from the Nanisivik mine, N.W. Baffin Island, arctic Canada [1993, p.359-376, eng] 47-4829

Thermal maturity and source-rock potential in northwestern Melville Island, arctic Canada [1992, p.423-442, eng] 47-983

Thermal maturity and source-rock potential of the sedimentary succession from the Drake field, Sverdrup Basin, arctic Canada [1993, p.33-54, eng] 47-2596

George, M.F.
Freezing of water in hardboard: absence of changes in mechanical properties [1992, p.252-259, eng] 47-771

George, S.M.
Condensation and evaporation of H2O on ice surfaces [1992, p.8502-8509, eng] 47-1568

George, T.H.
Reflectance characteristics of arctic tundra vegetation from airborne radiometry [1993, p.1239-1244, eng] 47-4403

Georgiadis, T.
Energy-balance and surface layer measurements in Antarctica [1992, p.213-218, eng] 47-1203

Removal of sulphur dioxide and sulphates from the atmospheric surface layer during frost formation [1993, p.267-276, eng] 47-3474

Georgievskii, V.
Treatment of data on sea pollutions and dumping sites with radioecological indices method [1993, p.359-365, eng] 47-5042

Gerard, R.
Finite element modeling of surge propagation and an application to the Hay River, N.W.T. [1992, p.454-462, eng] 47-3308

Ice jam flood assessment—Yukon River at Dawson [1992, 145p., eng] 47-1244

Ice jam flood forecasting: Hay River, N.W.T. [1992, p.212-223, eng] 47-200

Probability analysis of historical ice jam flood data for a complex reach: a case study [1992, p.875-885, eng] 47-3306

Gerasimov, A.S.
Some aspects of the *statistical evaluation of the mechanical* properties of soil and foundations (with reference to permafrost regions) [1991, p.82-91, rus] 47-239

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Constructing mooring structures under conditions of the Far North [1992, p.15-18, rus] 47-372

Gerasimova, M.I.
Micromorphological features of the USSR zonal soils [1992, 214p. (Pertinent p.66-107), rus] 47-4661

Gérin, M.C.
Tools for examining subglacial bed deformation [1992, p.388-396, eng] 47-1390

Gerken, B.
Field investigation of bioremediation of tundra with residual hydrocarbons [1993, p.331-337, eng] 47-4474

Gerland, S.
Non-destructive high resolution density measurements of marine sediments [1993, 130p., ger] 47-4222

Gerrard, J.
Nature and geomorphological relationships of earth hummocks (thufa) in Iceland [1992, p.173-182, eng] 47-1012

Gershevich, E.G.
Optimizing the mineral feeding of plants—a method of increasing bioproductivity and protecting frozen soils in the BAM zone [1991, p.115-120, rus] 47-4820

Gershevich, V.D.
Transfer of ions within the system soil-snow and the role of ice surface in their migration in frozen soils [1992, p.127-135, eng] 47-1717

Gertjejansen, R.O.
Performance of wood-based siding in energy-efficient homes located in cold climates [1992, p.260-267, eng] 47-1160

Gerwick, B.C., Jr.
Arctic Research Commission's role in fostering engineering research [1992, p.548-552, eng] 47-1839

Geurts, M.-A.
Determination of pollen accumulation rates in frozen sediments [1993, p.87-93, eng] 47-3120

Ghan, S.J.
Computationally efficient approximations to stratiform cloud microphysics parameterization [1992, p.1572-1582, eng] 47-1998

Ghil, M.
Climate evolution in the Pliocene and Pleistocene from marine-sediment records and simulations: internal variability versus orbital forcing [1993, p.10,385-10,399, eng] 47-4392

Ghobrial, N.
Analysis and design for frost effect in soil-steel structures [1990, 117p., eng] 47-2104

Ghosal, D.N.
Problems of snow on road and airfields [1985, p.212-221, eng] 47-573

Ghosh, A.K.
Experiments on artificial acceleration of ice and snow thawing and its suitability in clearing roads, helipads, runways, etc. from accumulated snow in the snowbound areas [1985, p.248-263, eng] 47-576

Ghosh, S.
Deicing of roads [1985, p.264-278, eng] 47-577

Ghoshal, P.R.
Study of creep in a mountain snow pack [1985, p.257-270, eng] 47-544

Giada, M.
Ice level and volume variations of the Careser glacier (Ortles-Cevedale Group) between 1980 and 1990 [1991, p.221-227, ita] 47-3170

Giardino, J.R.
Model of water movement in rock glaciers and associated water characteristics [1992, p.159-184, eng] 47-851

Gibert, H.
Freeze-drying under vacuum and in an adsorbing fluidized bed: influence of operating pressure on drying kinetics [1991, p.237-246, eng] 47-2303

Gienko, A.IA.
Naleds of the Putorana Plateau and their effect on valley landscapes [1991, p.162-166, rus] 47-2443

Gieskes, W.W.C.
Influence of physical and biological processes on the concentration of O2 and CO2 in the ice-covered Weddell Sea in the spring of 1988 [1992, p.163-170, eng] 47-1326

Gil', A.F.
Using drained land and some examples of its improvement [1991, p.30-40, rus] 47-4105

Gilbert, G.D.
Measuring the point spread function of sea ice in situ [1992, p.517-526, eng] 47-3735

Gilbert, R.
Glacimarine sedimentary environment of Expedition Fiord, Canadian High Arctic [1993, p.257-273, eng] 47-3103

Ice scours in the sediments of glacial Lake Iroquois, Prince Edward County, eastern Ontario [1992, p.189-194, eng] 47-3789

Gilbert, W.G.
Geochemistry of Haines-Klukwan-Porcupine area, southeastern Alaska [1991, 75p. + 2 sheets, eng] 47-1488

Gilet, M.
Weather characterization by the mean of a vertically pointing CW radar [1993, p.379-381, eng] 47-3076

Gilfillan, R.E.
Thermally modified sand: an alternative for the treatment of *icy roadways* [1992, 4p., eng] 47-938

Gilichinskii, D.A.
Methane in permafrost sediments on the Kolyma-Indigirka lowland [1992, p.559-562, rus] 47-1497

Cryology of soils; collected scientific papers [1991, 131p., rus] 47-4801

Cryoprotective properties of water in the earth cryolithosphere *and its role in exobiology* [1993, p.65-75, eng] 47-2658

Influence of cryoconservation on amino acids composition of archeoseeds Arctofila fulva in permafrost conditions [1992, p.259-262, eng] 47-1741

Proceedings of the 1st International Conference on Cryopedology [1992, 272p., eng] 47-1699

Viable microorganisms in permafrost: the spectrum of possible applications to new investigations [1992, p.268-270, eng] 47-1743

Gillespie, P.S.
Thermal reversal tactical decision aid evaluation [1992, *p.75-83, eng*] 47-1068

Gillette, D.A.
Are changes in dust sedimentation to polar regions a sign of dust production due to a climatic sensitive variable or more efficient atmospheric transport? And where does the dust *come from* [1991, p.1719-1732, eng] 47-2221

Gil'manov, T.G.
Modeling the temperature regime of an arctic soil [1993, p.1-11, eng] 47-4011

Modeling the temperature regime of an arctic soil [1992, p.1-11, eng] 47-4875

Gineris, D.
Evaluating *ERS-1 ice motion and classification products* [1993, p.373-375, eng] 47-4442

Gingrich, C.D.
Tradeoff analysis of non-environmental effects of alternative deicers: an Illinois case study [1992, 12p., eng] 47-936

Giorgi, F.
Interactive coupling of a lake thermal model with a regional climate model [1993, p.5045-5057, eng] 47-3784

Multiyear surface climatology of a regional atmospheric model over the western United States [1993, p.75-95, eng] 47-2460

Simulation of the regional climate and hydrology of the Great Lakes basin [1993, p.32-33, eng] 47-3043

Use of nested models to simulate regional orographic precipitation [1992, p.671-680, eng] 47-2743

Giovanelli, G.
Energy-balance and surface layer measurements in Antarctica [1992, p.213-218, eng] 47-1203

Measurements of climatic parameters and ground-level ozone at Terra Nova Bay in Antarctica [1991, p.483-495, eng] 47-2007

O3 and NO2 absorption cross section measurements by multipath spectrophotometer [1992, p.205-211, eng] 47-1202

Girardi, D.
Long-term stability of permanent realizations of the triple point of gases in metal sealed cells [1992, p.251-256, eng] 47-2970

Gisler, H.
Snow-removing machine [1987, 8 col., eng] 47-4003

GISP2 Science Management Office
Greenland Ice Sheet Project Two. GISP2 core data report 1991 [1991, Var. p., eng] 47-4666
Greenland Ice Sheet Project Two. GISP2 internal data report 1991 [1991, Var. p., eng] 47-4669

Gisotdinov, A.M.
Calculating winter runoff from rivers in a cryolithozone based on the restoration of its hydrograph [1991, p.41-60, rus] 47-894
Naled systems in river basins as a result of the interaction of surface and ground waters [1991, p.66-76, rus] 47-2430

Gjessing, Y.
Cold air production and drainage in Finnmarksvidda. Part 1. Statement of the problem, background data and outline [1988, 17p., nor] 47-1696
Cold air production and drainage in Finnmarksvidda. Part 2. Diurnal and group averages from measurements in the period 1984-87 [1988, 104p., nor] 47-1695
Cold air production and drainage in Finnmarksvidda. Part 3. Study on the flow in a canyon with neutral stability [1988, 22p., nor] 47-1694
Recent results from drill cores on Jostedalsbreen [1988, 18p., nor] 47-1690

Gjørv, O.E.
Effect of condensed silica fume on the frost resistance of concrete [1989, p.149-160, eng] 47-14

Glacial retreat in the Pyrenees
Glacial retreat in the Pyrenees [1993, p.116-117, eng] 47-3318

Glancy, R.T.
Observing and forecasting a mesoscale snow event using MAPS [1992, 11p., eng] 47-2133

Glasser, N.
Evolution of large roches moutonnées [1992, p.253-264, eng] 47-4334

Glatzmaier, G.
Snow hydrology [1991, p.149-154, eng] 47-1504

Glazik, R.
Characteristics of the seasonal thawing of permafrost in Mongolia [1991, p.223-229, eng] 47-2569

Glazovskii, A.F.
Deglaciation and shoreline displacement on Alexandra Land, Franz Josef Land [1992, p.283-293, eng] 47-4340
Ice thickness and subglacial topography of the Fridtjof Glacier based on data from ground-based radar sounding [1991, p.161-166, rus] 47-336
Possibilities for studying the structure and the regime of Svalbard tide water glaciers by remote sensing methods [1991, p.151-161, eng] 47-30
Soviet glaciological studies in 1990 [1991, p.229-240, rus] 47-346
Studies of the tidewater Hansbreen Glacier on Spitsbergen [1991, p.143-149, rus] 47-2805

Glebova, L.N.
Ice sheet glaciations in Northern Eurasia and their role in the history of the ocean [1991, p.3-15, rus] 47-2782
Interrelations of the characteristics of glaciation in regional glacier systems [1991, p.67-76, rus] 47-323

Gleitz, M.
Physiological responses of a small antarctic diatom *(Chaetoceros* sp.) to simulated environmental constraints associated with sea-ice formation [1992, p.271-278, eng] 47-1943

Glendening, J.W.
Boundary-layer structure near an ice edge as a function of wind direction [1992, p.J20-J23, eng] 47-2488
Determining realistic wind stress forcing fields for marine arctic regions [1992, p.44-47, eng] 47-2376

Gloersen, P.
Some impromptu remarks regarding passive microwave measurements of sea ice properties and their relationship to sea ice thickness [1992, p.B76-B82, eng] 47-3254

Glotov, V.E.
Annual gas-geochemical cyclic recurrence in a seasonally thawed layer in the lowlands of the cryolithozone [1992, p.150-153, rus] 47-3336
Gas-bio-geochemical characteristics of the seasonally thawing layer in the Anadyr' and Khatyrka lowlands [1991, p.80-86, rus] 47-4814
Gas-geochemical processes as a result of soil seasonal freezing and thawing in the cryolithozone [1992, p.216-220, eng] 47-1732

Gluns, D.R.
Improved carrying case for snow tubes [1992, p.146-149, eng] 47-507

Glushchenkov, O.V.
Remote sensing of damage in ice using electromagnetic emission from cracks: theoretical background and preliminary experimental results [1993, p.97-111, eng] 47-3745

Glushchenko, A.S.
Improving the technology for building a roadbed in Southern Yakutia [1992, p.3-5, rus] 47-4086

Glushkov, B.V.
Lithology of glacial deposits in the western part of the Don Glacier tongue [1992, p.118-135, rus] 47-69

Gobbi, G.P.
1991 spring lidar campaign for polar stratospheric clouds studies at McMurdo, Antarctica: preliminary results [1992, p.367-373, eng] 47-2171
Combined observations of tropospheric and stratospheric thin clouds at McMurdo, Antarctica [1992, p.491-503, eng] 47-2175
Combined system for observations of tropospheric and stratospheric thin clouds [1993, p.34-40, eng] 47-2552
Estimates of denitrification in the 1990 antarctic spring stratosphere [1992, p.323-326, eng] 47-2167
Evidence for denitrification in the 1990 antarctic spring stratosphere: 1. Lidar and temperature measurements [1991, p.1995-1998, eng] 47-2027

Godlewska, M.
Distribution and abundance of krill *Euphausia superba* Dana at the ice edge zone between Elephant Island and the South Orkney Islands [1991, p.593-603, eng] 47-3094
Krill migration at the ice edge zone (December 1988-January 1989) [1991, p.583-592, eng] 47-3093

Godlewski, M.
Sea ice diatoms and ice edge planktonic diatoms at the northern limit of the Weddell Sea pack ice [1992, p.9-20, eng] 47-442

Goeyens, L.
Accumulation of suspended barite at mesopelagic depths and export production in the southern ocean [1992, p.1332-1335, eng] 47-873

Goff, H.D.
Influence of polysaccharides on the glass transition in frozen sucrose solutions and ice cream [1993, p.1268-1277, eng] 47-4849
Low-temperature scanning electron microscopy study of ice cream. 1. Techniques and general microstructure [1992, p.1-9, eng] 47-2014
Low-temperature scanning electron microscopy study of ice cream. 2. Influence of selected ingredients and processes [1992, p.11-23, eng] 47-2015

Gogineni, S.P.
Effects of freeze-up and melt processes on microwave signatures [1992, p.329-341, eng] 47-3031
Laboratory investigations of the electromagnetic properties of *artificial sea ice* [1992, p.177-200, eng] 47-3023
Radar backscatter from arctic sea ice during IAOE '91 [1992, p.1530-1532, eng] 47-681
Radar backscatter measurements from arctic sea ice during the fall freeze-up [1993, 66p., eng] 47-4621

Gogotov, I.N.
Purple non-sulphur bacterium from ancient cryogenic rocks of the Kolyma Lowland [1992, p.232-240, eng] 47-1736

Gogotova, G.I.
Sulfate-reducing bacteria in constant-frozen soils [1992, p.243-247, eng] 47-1738

Gokhman, IA.A.
Equipment for drilling boreholes in rocky and coarse-grained ground [1990, p.3-5, rus] 47-1412

Gokhman, M.R.
Determination of analytical temperatures of saline clayey soils taking into account the phase conversions of soil moisture in the below-freezing temperature spectrum [1993, p.23-26, eng] 47-4730

Gokhman, V.V.
Mineralization of natural waters on Spitsbergen [1991, p.147-155, rus] 47-333

Goldberg, J.
Improvements to expulsive separation ice protection blankets [1992, p.213-218, eng] 47-4050

Goldberg, L.F.
Experimental long-term performance of some thermal foundation systems [1992, p.127-136, eng] 47-1151

Golden, D.M.
Heterogeneous reactions on sulfuric acid surfaces [1993, p.122-126, eng] 47-3101

Goldfarb, G.
White phosphorus poisoning of waterfowl in an Alaskan salt marsh [1992, p.669-673, eng] 47-1235

Goldfarb, R.J.
Geochemically anomalous areas in the eastern Goodnews Bay 1 deg by 3 deg quadrangle, southwest Alaska [1992, p.156-162, eng] 47-615

Goldman, C.
Nitrate transport in subalpine streams, Lake Tahoe Basin, California-Nevada, U.S.A. [1993, p.17-21, eng] 47-2850

Goldner, L.S.
High-resolution He-4 melting-pressure thermometer for use near 2 K [1992, p.113-116, eng] 47-2955

Goldsack, B.
Breaking the ice [1992, p.22-27, eng] 47-3859

Goldschmidt, P.M.
Origin of sediment pellets from the arctic seafloor: sea ice or icebergs? [1992, p.S539-S565, eng] 47-1278

Gol'dshtein, R.V.
Deformation of ice cover: some results of plane numerical modelling [1992, p.367-371, eng] 47-167
Flows of fractal-broken ice [1992, p.576-581, rus] 47-2036
Ship in compressive ice. Analysis of the ice failure process. Report from the joint Finnish-Russian project [1993, 70p. + appends., eng] 47-3539

Goldthwait, R.P.
Historical overview of early Wisconsin glaciation [1992, p.13-18, eng] 47-2680

Golev, D.A.
Static stability parameter and the variation of barometric formations [1989, p.148-151, rus] 47-3667

Golitsyn, G.O.
Atmospheric and climatic changes [1992, p.33-43, rus] 47-3285

Golovin, V.L.
Characteristics of the operation of seepage tanks during winter [1988, p.136-143, rus] 47-978

Golubchikov, IU.N.
Contemporary periglacial nature in connection with problems of its management [1992, p.3-10, rus] 47-183

Golubev, V.N.
Evaporation of snow under isothermal conditions [1991, p.27-32, rus] 47-2785
Using structural-petrographic analysis for studying glacier movement [1991, p.139-143, rus] 47-2804

Golubev, V.S.
Experience in correction of precipitation point measurements and analysis of correction procedures [1993, p.325-328, eng] 47-3070
Preliminary assessments of accuracy characteristics of the double-fenced precipitation gauge [1991, p.101-106, eng] 47-797

Golyshina, O.V.
Nitrifying bacteria from frozen deposits in the Kolyma lowlands [1991, p.92-97, rus] 47-4816

Goncharov, S.V.
Southern boundary of the last Kara ice sheet [1991, p.154-159, rus] 47-2806

Gonda, T.
Growth rate of polyhedral ice crystals growing from the vapor phase and their habit change [1989, p.495-502, eng] 47-3465

Gong, N.H.
Small vertical supercooled cloud tunnel system for the study of ice (snow) crystal growth [1992, p.254-262, eng] 47-4074

González, J.A.
Inverse relation between frost survival and atmospheric pressure [1993, p.117-123, eng] 47-4744

Gooch, W.M.
Remote sensing of cirrus cloud parameters using advanced very-high-resolution radiometer 3.7- and 10.9-micron channels [1993, p.2171-2180, eng] 47-4713

Goodarzi, F.
Optical characteristics of heat-affected bitumens from the Nanisivik mine, N.W. Baffin Island, arctic Canada [1993, p.359-376, eng] 47-4829
Thermal maturity and source-rock potential in northwestern Melville Island, arctic Canada [1992, p.423-442, eng] 47-983
Thermal maturity and source-rock potential of the sedimentary succession from the Drake field, Sverdrup Basin, arctic Canada [1993, p.33-54, eng] 47-2596

Goodess, C.M.
Nature and causes of climate change: assessing the long-term future [1992, 248p., eng] 47-2223

Goodison, B.E.
Correction of Canadian winter precipitation data [1993, p.338-343, eng] 47-3072

Goodwin, I.D.
Basal ice accretion and debris entrainment within the coastal ice margin, Law Dome, Antarctica [1993, p.157-166, eng] 47-3949

Goodwin, R.
Building a Canadian Polar Information System [1992, p.88-94, eng] 47-1398
Contract indexing of industry and government gray literature at ASTIS [1992, p.112-118, eng] 47-1401

Gorbunov, A.P.
Dynamics of rock glaciers of the northern Tien Shan and the Djungar Ala Tau, Kazakhstan [1992, p.29-39, eng] 47-3124
Mountain permafrost and climatic change [1993, p.165-174, eng] 47-4151
Prospecting and mapping of mountain permafrost and associated phenomena [1992, p.73-81, eng] 47-1746
Studying ice wedges in Mongolia [1991, p.70-76, rus] 47-400

Gorbunov, B.Z.
Laboratory studies of the ice-forming characteristics of natural aerosol models [1992, p.245-247, eng] 47-2259

Gorcharuk, L.G.
Microorganism nucleic acids and biomass in alpine-forest soils in the northern Caucasus [1981, p.37-43, eng] 47-457

Gordon, J.E.
Formation of glacial flutes: assessment of models with evidence from Lyngsdalen, North Norway [1992, p.709-731, eng] 47-3441

Gorlachkin, S.V.
Distribution and renovation time of soil carbon in boreal and subarctic ecosystems of European Russia [1993. p.65-69. eng] 47-5230

Gorlach, U.
Occurrence of heavy metals in antarctic and Greenland ancient ice and recent snow [1990. p.137-151. eng] 47-2071

Gormly, P.
ANARE first aid manual (5th ed.) [1992. 82p.. eng] 47-1215

Gorsch, A.K.
Observation of flooded ice in arctic regions [1993. p.1305-1324. eng] 47-4905

Goroncy, I.
Temporal evolution of artificial radioactivity in the North and Baltic Sea after the reduction of the Sellafield discharges and the Chernobyl accident [1993. p.225-236. eng] 47-5033

Gosink, T.A.
Carbon dioxide and other trace gases in arctic seas [1992. p.3-20. eng] 47-107

Goss, K.M.
Open systems for ice prediction systems [1992. 7p.. eng] 47-965

Goss, W.P.
Thermal properties of wood and wood products [1992. p.193-203. eng] 47-1155

Gosselin, M.
In situ spectroradiometric estimation of microalgal biomass in first-year sea ice [1991. p.113-115. eng] 47-5

Gosset, M.
Dual-wavelength radar method for ice-water characterization in mixed-phase clouds [1992. p.538-547. eng] 47-412

Gostelow, T.P.
Influence of late and post glacial slope development on the engineering geology of Wenlock Shale near Ironbridge, Salop [1991. p.349-359. eng] 47-3887

Gotlib, I.A.L.
Effect of the water-exchange index on the temperature regime of hydrostation pools [1993. p.462-468. eng] 47-4014

Goto, S.
Mechanical properties of undisturbed Tone River gravel obtained by *in situ* freezing method [1992. p.15-25. eng] 47-1190

Goto, T.
Measures to prevent freezing of water intakes for snow drainage ditches in severe cold regions—experimental results of the Kasen snow drainage ditch as an example [1991. p.97-102. jpn] 47-2537

Goto, Y.
Measures to prevent freezing of water intakes for snow drainage ditches in severe cold regions—experimental results of the Kasen snow drainage ditch as an example [1991. p.97-102. jpn] 47-2537

Gottle, A.
Avalanche protection in the Bavarian Alps [1989. p.458-462 (p.463 missing). ger] 47-1197

Gottschalk, L.
Frequency of extremes and its relation to climate fluctuations [1992. p.47-58. eng] 47-1956

Govoni, J.W.
Light reflection from a sea ice cover during the onset of summer melt [1992. p.508-516. eng] 47-1809

Gow, A.J.
Effective permittivity of saline ice under thermal variation [1992. p.1256-1258. eng] 47-674

Laboratory investigations of the electromagnetic properties of artificial sea ice [1992. p.177-200. eng] 47-3023

Microwave sea ice signature modeling [1992. p.137-175. eng] 47-3022

Particle transport to the snow surface at the South Pole: the beginning of a tropospheric history [1993. p.188-207. eng] 47-3536

Petrographic and salinity characteristics of brackish water ice in the Bay of Bothnia [1992. 36p.. eng] 47-706

Physical and dynamic properties of sea ice in the polar oceans [1991. 46p.. eng] 47-704

Physical properties of sea ice relevant to remote sensing [1992. p.9-28. eng] 47-3016

Radar backscatter measurements from arctic sea ice during the fall freeze-up [1993. 66p.. eng] 47-4621

Towards a quantitative characterization of sea ice microstructure [1992. p.1249-1252. eng] 47-672

Goward, T.
Macrolichens and their zonal distribution in Wells Gray Provincial Park and its vicinity, British Columbia, Canada [1992. 60p.. eng] 47-4516

Gowing, M.M.
Winter plankton assemblage in the ice edge zone of the Weddell and Scotia Seas: composition, biomass and spatial distributions [1993. p.311-338. eng] 47-3628

Grabitz, D.
Potential transport of radionuclides and other pollutants by arctic sea ice [1993. p.267-284. eng] 47-5036

Grace, J.
Physiology of trees at treeline [1993. p.105-114. eng] 47-4533

Gradusov, B.P.
Mineralogy of silt material of soils of the forest tundra and northern taiga of the Kola Peninsula [1987. p.7-14. eng] 47-596

Graf, H.F.
Snow cover model for global climate simulations [1993. p.10,451-10,464. eng] 47-4293

Graf, W.
Investigations of accumulation on the Filchner/Ronne Ice Shelf (Antarctica) using isotopic stratigraphy [1990. p.57-71. ger] 47-875

Origin of green icebergs in Antarctica [1992. p.20,319-20,-324. eng] 47-2343

Graham, D.F.
Test of airborne, side-looking synthetic-aperture radar in central Newfoundland for geological reconnaissance [1991. p.257-265. eng] 47-4161

Grainger, C.A.
Measurements of cloud-droplet-size distributions in polluted and unpolluted stratiform [1993. p.106-115. eng] 47-4166

Grakhovskii, G.N.
Diagnosis and forecasting of significant 10-year anomalies in air temperatures in the western part of the Arctic during the spring and fall, with the aid of a spectral hydrodynamic model [1989. p.88-96. rus] 47-3660

Granberg, A.G.
Developing the productive energies of Northern USSR [1991. 229p.. rus] 47-2457

Northern Sea Route and the policy of new Russia [1992. p.5-14. eng] 47-4210

Granberg, H.B.
Relation between SAR imagery and regional sea ice ridging characteristics from BEPERS-88 [1992. p.2415-2432. eng] 47-256

Statistical properties of sea ice surface topography in the Baltic Sea [1993. p.127-142. eng] 47-2889

Granholm, G.
Statistical model for prediction of ice breakup in river Torneälven [1988. p.195-204. eng] 47-732

Granier, C.
Impact of heterogeneous chemistry on model predictions of ozone changes [1992. p.18,015-18,033. eng] 47-1565

Grant, D.R.
Quaternary stratigraphy, paleoecology, and glacial geology, Iles de la Madeleine, Quebec [1992. p.1981-1996. eng] 47-4157

Test of airborne, side-looking synthetic-aperture radar in central Newfoundland for geological reconnaissance [1991. p.257-265. eng] 47-4161

Grant, L.O.
Mechanistic studies of heterogeneous ice nucleation by AgI-AgCl and AgI-AgCl-4NaCl aerosols [1992. p.263-266. eng] 47-2263

Grant, R.F.
Dynamic simulation of phase changes in snowpacks and soils [1992. p.1051-1062. eng] 47-902

Grant, S.A.
Chemical thermodynamics of cation exchange reactions: theoretical and practical considerations [1993. p.1-108. eng] 47-2222

Grape, J.A.
Effect of confining stress on brittle indentation failure of columnar ice [1992. p.724-731. eng] 47-1867

Effect of confining stress on brittle indentation failure of columnar ice [1992. p.212-221. eng] 47-4305

Grasnick, M.P.
Applications of ground-penetrating radar in Quaternary geology [1992. p.471-490. ger] 47-1993

Grasnick, K.H.
Seasonal variations of ozone trends [1990. p.(10)265-(10)-268. eng] 47-1283

Gratton, D.J.
Using Landsat-5 Thematic Mapper and digital elevation data to determine the net radiation field of a mountain glacier [1993. p.315-331. eng] 47-2886

Graves, C.E.
New parameterizations and sensitivities for simple climate models [1993. p.5025-5036. eng] 47-3783

Gray, A.L.
Repeat-pass interferometry with airborne synthetic aperture radar [1993. p.180-191. eng] 47-3359

Gray, D.M.
Prairie Blowing Snow Model: characteristics, validation, operation [1993. p.165-192. eng] 47-3801

Snow and floating ice [1993. p.7/1-7/58. eng] 47-4637

Validation of local thermal equilibrium in unsaturated porous media with simultaneous flow and freezing [1993. p.323-332. eng] 47-4065

Gray, J.E.
Geochemically anomalous areas in the eastern Goodnews Bay 1 deg by 3 deg quadrangle, southwest Alaska [1992. p.156-162. eng] 47-615

Graybill, D.A.
Dendroclimatic evidence from the northern Soviet Union [1992. p.393-414. eng] 47-2093

Greatorex, A.
Overview of snow loads for Fairbanks, Alaska [1992. p.393-404. eng] 47-3217

Grebenets, V.I.
Industrial influence on glacial processes in mountains of circumpolar regions [1992. p.212-214. eng] 47-1114

Seasonal deformations of underground utilidors on permafrost in Norilsk [1993. p.151-155. eng] 47-4133

Grechishchev, S.E.
Changes in microstructure of fine-grained soils due to freezing [1992. p.1-10. eng] 47-3121

Studying engineering-geocryological and hydrogeological conditions of the upper zones of rocks in oil- and gas-bearing regions of the cryolithozone. Manual [1992. 288p.. rus] 47-3866

Greenan, H.J.
Induced flow channels in a natural snowpack [1992. p.55-60. eng] 47-4033

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Soil-pipeline interaction associated with a large diameter chilled pipeline in temperate climates [1993. p.25-33. eng] 47-4270

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Reliability and representativeness of a suspended sediment concentration monitoring programme for a remote alpine proglacial river [1992. p.191-200. eng] 47-1814

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Vertical directivity measurements of ice cracking [1993. p.553-562. eng] 47-4836

Greenland Ice-core Project (GRIP) Members
Climate instability during the last interglacial period recorded in the GRIP ice core [1993. p.203-207. eng] 47-4570

Gregersen, N.P.
MINSALT. An experiment with unsalted road in Västerbottens county [1991. 69p. + appends.. swe] 47-1216

Minsalt Gotland. The road users' attitude to road salt [1991. 39p. + appends.. swe] 47-2205

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Remote sensing of the arctic boundary layer [1992. p.J33-J36. eng] 47-2411

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Arctic environment: past, present and future [1992. 164p.. eng] 47-1421

Organic micropollutants in arctic snow and firn [1992. p.79-90. eng] 47-1428

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Geotechnical properties of Quaternary deposits in the Belfast area [1991. p.219-228. eng] 47-3879

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Beryllium 7 and Lead 210 in the western hemisphere arctic atmosphere: observations from three recent aircraft-based sampling programs [1992. p.16,709-16,715. eng] 47-1465

Tropospheric ozone and aerosol observations: the Alaskan Arctic [1992. p.16,451-16,471. eng] 47-1448

Greischar, L.L.
Analysis of gravity measurements on the Ross Ice Shelf, Antarctica [1992. p.105-155 + 1 microfiche. eng] 47-2874

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Absorption of solar radiation at the antarctic snow surface [1988. p.151-152. eng] 47-4206

Bio-optical observations of first-year arctic sea ice [1993. p.1059-1062. eng] 47-4266

Considerations for microwave remote sensing of thin sea ice [1992. p.291-301. eng] 47-3028

Determination of dielectric constant of young sea ice using microwave spectral radiometry [1993. p.4675-4679. eng] 47-4389

Effects of freeze-up and melt processes on microwave signatures [1992. p.329-341. eng] 47-3031

Laboratory investigations of the electromagnetic properties of artificial sea ice [1992. p.177-200. eng] 47-3023

Microwave remote sensing of the southern ocean ice cover [1992. p.243-259. eng] 47-3026

Microwave sea ice signature modeling: connecting models to the real world [1992. p.1268-1270. eng] 47-678

Observations and theoretical studies of microwave emission from thin saline ice [1993. p.8531-8545. eng] 47-3983

Optical properties of snow [1991. p.272-275. eng] 47-3056

Passive microwave remote sensing of thin sea ice using principal component analysis [1993. p.12,453-12,468. eng] 47-4522

Passive microwave signatures of simulated pancake ice and young pressure ridges [1992. p.1253-1255. eng] 47-673

Grewell, W.
Hintereisferner, Austria: mass-balance reconstruction and numerical modelling of the historical length variations [1992. p.233-244. eng] 47-464

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Astronomical theory of the glaciation cycles: calculation of a response model for the global ice volume [1990. p.81-96. eng] 47-3575

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Freezing flow in a subcooled permeable medium [1992. p.1036-1041. eng] 47-1672

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Yamal: problems in geocryology and hydrology [1991, p.12-13, rus] 47-2484
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Anomalous freezing point depression of solvents in a swollen homogeneous rubber network [1993, p.575-577, eng] 47-3562
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Classification of snow cover and precipitation using SSM/I measurements: case studies [1992, p.3349-3361, eng] 47-1442
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Measurements on a dielectric constant gas thermometer between 3 K and 84 K [1992, p.21-26, eng] 47-2942
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Recent variations of snow cover and snowfall in North America and their relation to precipitation and temperature variations [1993, p.1327-1344, eng] 47-5211
Towards unbiased estimates of North American precipitation [1993, p.J43-J47, eng] 47-3082
Groom, S.B.
Bio-optical variability across the Arctic Front [1992, p.455-461, eng] 47-1470
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"Taylor Ice-Dome" study: reconnaissance 1990-1991 [1991, p.69-71, eng] 47-2468
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Oxygen isotope study of the ice fields surrounding the Reckling Moraine on the East Antarctic ice sheet [1992, p.15-26, eng] 47-2869
Toward using borehole temperatures to calibrate an isotopic paleothermometer in central Greenland [1992, p.265-268, eng] 47-2026
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Glacial landforms and the age of deglaciation in the Tiksi area, East Siberia [1992, p.295-304, eng] 47-4341
Ice sheet glaciations in Northern Eurasia and their role in the history of the ocean [1991, p.3-15, rus] 47-2782
Sixtieth birthday of Vladimir Mikhailovich Kotlikov [1991, p.201-227, rus] 47-344
Southern boundary of the last Kara ice sheet [1991, p.154-159, rus] 47-2806
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Expedition to Novaja Zemlja and Franz Josef Land with RV *Dalnie Zelentsy* [1993, p.45-74, eng] 47-4878
Grousset, F.E.
Patterns of ice-rafted detritus in the glacial North Atlantic (40-55 deg N) [1993, p.175-192, eng] 47-4154
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Mid-Holocene glacial activity in the Pyrenees [1992, p.266-270, eng] 47-2000
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Ice particle emission from cometary analogues [1991, p.257-260, eng] 47-2112
Particle emission from artificial cometary surfaces: material science aspects [1990, p.401-411, eng] 47-4569
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What is being done to reduce ice jam damages [1992, p.243-245, eng] 47-622
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Anomalies in the intra-annual ozone variability in polar regions from ozone sounding area: Resolute and Amundsen-Scott stations [1991, p.272-279, eng] 47-2897
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Tropospheric ozone annual variation and possible troposphere-stratosphere coupling in the Arctic and Antarctic as derived from ozone soundings at Resolute and Amundsen-Scott stations [1993, p.89-98, eng] 47-3530
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Seasonal variations in dissolved inorganic nitrogen utilization in a subarctic Alaskan lake [1993, p.273-288, eng] 47-3647
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DC flashover performance of iced insulators under pressure and pollution conditions [1991, p.957-960, eng] 47-2177
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Submerged warm water jet discharge in an ice-covered reservoir or lake [1993, p.151-168, eng] 47-2647
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Carbonate isotopic composition of the loess-paleosol sequence and its implication of paleoclimatic change [1991, p.1979-1983, eng] 47-1951
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Energy criterion for low temperature failure of asphalt concrete [1992, p.50-52, rus] 47-2031
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Automorphic soil formation in the tundra zone of northern Yakutia [1991, p.11-20, rus] 47-4803
Micromorphological features of the USSR zonal soils [1992, 214p. (Pertinent p.66-107), rus] 47-4661
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Sea ice—a climate component [1993, p.9-13, eng] 47-4416
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Grímsvötn Caldera, Vatnajökull: subglacial topography and structure of caldera infill [1989, p.1-20, eng] 47-710
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Atmospheric microphysical measurements in Terra Nova Bay [1991, p.145-154, ita] 47-1824
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Interactive computer model to simulate water quality of streamflow from forested watersheds in Arizona [1990, p.285-292, eng] 47-5220
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Atmospheric boundary layer features observed in the spring marginal ice zone [1988, p.73-74, eng] 47-4185
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Iceberg impact program [1991, p.81-87, fre] 47-3181
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Methodology for full-scale iceberg impact experiments in the Antarctic [1992, p.718-723, eng] 47-1866
Polar engineering [1990, p.84-87, fre] 47-3164
Guide to proper salt storage
Guide to proper salt storage [1992, p.55-56,82-83, eng] 47-1923
Guidelines for determining flood flow frequency
Guidelines for determining flood flow frequency [1982, 28p. + appends., eng] 47-2777
Guillemet, B.
Pre-EUCREX in-flight humidity intercomparison [1993, p.479-483, eng] 47-3078
Gulin, S.D.
Accelerated heating of a hydraulic system in subzero ambient temperatures [1990, p.6, rus] 47-1420
Gulliksen, B.
Ecology of sea ice biota. 1. Habitat, terminology, and methodology [1992, p.417-427, eng] 47-1334
Ecology of sea ice biota. 2. Global significance [1992, p.429-444, eng] 47-1335
Gundestrup, N.S.
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Bore-hole survey at dome GRIP 1991 [1993, p.399-402, eng] 47-5209
Greenland: a temptation and a challenge [1993, p.12-16, eng] 47-4728
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Soil-fabric measurement using phase transition porosimetry [1993, p.1019-1036, eng] 47-5105
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Realization and intercomparison of cryogenic triple points by means of sealed cells [1992, p.261-263, eng] 47-2972
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Semi-discrete element approach to the river ice breakup and jamming process [1993, p.65-69, eng] 47-4450
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Snow avalanches—classification, detection and search of victims [1985, p.341-346, eng] 47-551
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Necessity for creating network for the gauging of snow in the Himalayas [1985, p.79-83, eng] 47-526
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Constraints on ice-sheet thickness over Tibet during the last 40,000 years [1992, p.283-290, eng] 47-4022
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1992: Catastrophic avalanches in Turkey [1992, p.56-61, eng] 47-1322
Gurikov, IU.V.
Effect of freeze-thaw processes on calcium ion mobility in the example of brown forest soil [1991, p.57-60, rus] 47-4810
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Analysis and interpretation of patterns within and between hydroclimatological time series in an alpine glacier basin [1992, p.821-839, eng] 47-3679
Reliability and representativeness of a suspended sediment concentration monitoring programme for a remote alpine proglacial river [1992, p.191-200, eng] 47-1814
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Recent advances and future implications of remote sensing for hydrologic modeling [1991, p.471-495, eng] 47-1381
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Frost-and-salt resistant concretes [1992, p.18-20, rus] 47-2151
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Climatic rhythm of the last interglacial in northern Eurasia [1991, p.191-213, eng] 47-3490
Guseinov, IU.Z.
Improving the effectiveness of drying gas in northern regions [1990, p.42-43, rus] 47-2476
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Electromagnetic emissions associated with dynamic processes in ice [1992, p.43-46, eng] 47-414
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Effects of a straw mulch on the thermal conditions in soil after snow-cover loss [1993, p.12-23, eng] 47-4012
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Debris flow characteristics in an area of continuous permafrost, St. Elias Range, Yukon Territory [1993, p.41-56, eng] 47-4984
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NSF's role in polar information [1992, p.243-249, eng] 47-1407
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Spatially distributed snowmelt model for application in alpine terrain [1991, p.51-60, eng] 47-1292
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Faint young sun paradox: simulations using a two-dimensional, seasonal radiative-dynamical climate model with thermodynamic sea-ice [1991, p.135-138, eng] 47-4482
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Interannual variability of wintertime snow cover across the Northern Hemisphere [1992, p.1441-1447, eng] 47-2178
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Mathematical model of frost heave and thaw settlement in pavements [1993, 126p., eng] 47-4870
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Alkali-silicate concrete for salt-and-frost resistant structures [1990, p.4-6, rus] 47-2161
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Triple-point of trichlorofluoromethane [1992, p.277-279, eng] 47-2975
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Snow surface temperature variation near a snow pit [1992, p.269-272, eng] 47-4058
Haas, P.A.
Automated snow depth measurement [1993, p.74-79, eng] 47-3065
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Aircraft ground deicing, a flight crew perspective [1993, p.19-23, eng] 47-3313

Habbe, K.A.
Cryogenic wedge within gravels, north of Kempten, Bavaria, F.R.G. (1992, p.365-374, eng) 47-2057
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Coupled subsurface-boundary layer model of water on Mars (1993, p.3319-3337, eng) 47-2670
One-dimensional modeling study of carbonaceous haze effects on the springtime arctic environment (1992, p.20,599-20,613, eng) 47-2053
Hadjinicolaou, J.
Proceedings (1993, 2078p. (2 vols.), eng) 47-4465
Haeberli, W.
Construction, environmental problems and natural hazards in periglacial mountain belts (1992, p.111-124, eng) 47-1750
Fluctuations of glaciers 1985-1990. Volume VI (1993, 319p. + maps, eng) 47-3910
Glacier mass balance bulletin. Bulletin No.2 (1990-1991) (1993, 73p., eng) 47-3712
Mountain permafrost and climatic change (1993, p.165-174, eng) 47-4151
Permafrost research sites in the Alps: excursions of the International Workshop on Permafrost and Periglacial Environments in Mountain Areas (1992, p.189-202, eng) 47-1770
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Inverse relation between frost survival and atmospheric pressure (1993, p.117-123, eng) 47-4744
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Properties of granulated blast-furnace slag cement concrete (1993, p.1367-1383, eng) 47-3617
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Treatments of incoherent scattering for the parabolic equation and astral propagation models (1991, p.265-281, eng) 47-1075
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Application of ground penetrating radar techniques to peatland investigations (1992, p.217-221, eng) 47-635
GPR and dielectric classification of glacial materials (1992, p.133-138, eng) 47-633
Proceedings (1992, 365p., eng) 47-630
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Construction of the new central building of Syowa Station, Antarctica. 1. Preliminary design of the building (1993, p.61-102, jpn) 47-4358
Laboratory test on construction of ice domes and their load-carrying capacity (1992, p.203-226, jpn) 47-975
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Analysis of energy dissipation caused by snow compaction during displacement plowing (1991, p.177-181, eng) 47-1800
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Measurements of airborne carbonaceous aerosols in the eastern Arctic (1992, p.429-433, eng) 47-2544
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Glacial and climatic history of the central Peruvian Andes (1989, p.439-445, eng) 47-5256
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Bore-hole survey at Camp Century, 1989 (1993, p.187-193, eng) 47-2649
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Geochemistry of Quebec North Shore salmon rivers during snowmelt: organic acid pulse and aluminum mobilization (1992, p.1938-1952, eng) 47-2659
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Effect of photosynthetic photon flux density on development of frost hardiness in top and roots of *Larix leptolepis* seedlings (1993, p.204-212, eng) 47-4998
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Dynamics of subcritical double-diffusive convection in the southern ocean: an application to polynyas (1993, p.371-383, eng) 47-4844
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Cold air production and drainage in Finnmarksvidda. Part 2. Diurnal and group averages from measurements in the period 1984-87 [1988, 104p., nor] 47-1695

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Cold air production and drainage in Finnmarksvidda. Part 6. Diurnal and group averages from measurements in the period 1987-1988 [1989, 51p., nor] 47-1691

Long precipitation series in Norway—analysis of homogeneity and regionalization [1993, p.J56-J61, eng] 47-3085

Hansson, H.C.

PIXE analysis as a tool for dating of ice cores from the Greenland ice sheet [1993, p.428-434, eng] 47-4592

Harvey, P.M.

Present-day periglacial microforms in the Lesotho Highlands: implications for present and past climatic conditions [1992, p.353-361, eng] 47-2242

Hoppoldt, H.

Note on ground thermal regimes and global solar radiation at 4720 m a.s.l., High Andes of Argentina [1992, p.241-245, eng] 47-1778

Haruda, N.

Performance tests on the 10t class B-B-D snow removal truck [1991, p.74-91, jpn] 47-4972

Harbor, J.M.

Numerical modeling of the development of U-shaped valleys by glacial erosion [1992, p.1364-1375, eng] 47-770

On the mathematical description of glaciated valley cross sections [1992, p.477-485, eng] 47-1052

Relative rates of glacial and nonglacial erosion in alpine environments [1993, p.1-7, eng] 47-3422

Hardaker, P.J.

Comparison of experimental and theoretical scattering effects from melting ice spheres at microwave and millimetre-wave frequencies [1992, p.545-548, eng] 47-1561

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Air-snow exchange processes [1991, p.277-278, eng] 47-3057

Harderup, L.E.

Concrete slab on the ground and moisture control—verification of some methods to improve the moisture conditions in the foundation [1992, p.117-125, eng] 47-3453

Hardiman, K.C.

Report on the investigation of lateral ice pressure techniques in model ice at the Institute for Marine Dynamics [1992, n.p., eng] 47-1358

Hardin, P.J.

Greenland observed at high resolution by the Seasat scatterometer [1992, p.327-329, eng] 47-646

High-resolution land/ice imaging using Seasat scatterometer measurements [1992, p.440-442, eng] 47-648

Hardman, M.

Validation of passive microwave snow cover algorithms using spatially interpolated surface point measurements [1992, p.818-819, eng] 47-659

Hardwick, C.D.

Airborne instrumentation and computing facilities for the Canadian Atlantic Storms Program (CASP II) [1993, p.181-185, eng] 47-3069

Hardy, D.L.

Lagoon sludge dewatering by natural freeze-thaw [1993, p.357-364, eng] 47-4477

Hardy, J.P.

Characterization of hillslope thermal and hydrologic processes at the Sleepers River Research Watershed [1992, p.161-167, eng] 47-4045

Hare, F.K.

No great change: a commentary on 50 years of watching arctic science [1992, p.7-16, eng] 47-1422

Harestad, A.S.

Estimating effects of snow on shrub availability for black-tailed deer in southwestern British Columbia [1992, p.308-313, eng] 47-1760

Hari, J.

Measurement of the spatial distribution of ice thickness and water temperature in the vicinity of a thermal power plant [1988, p.99-103, eng] 47-723

Hariprasad, N.M.

Solar chest for melting snow performance evaluation [1985, p.203-211, eng] 47-572

Trials for the measurement of static and impact pressure of snow and avalanches [1985, p.226-243, eng] 47-541

Harlin, J.

Hydrological modeling of extreme floods in Sweden [1992, p.107-117, swe] 47-1958

Parameter uncertainty and simulation of design floods in Sweden [1992, p.209-230, eng] 47-174

Spillway design floods in Sweden: 1. New guidelines [1992, p.505-519, eng] 47-922

Spillway design floods in Sweden: 2. Applications and sensitivity analysis [1992, p.521-539, eng] 47-923

Harper, J.R.

Development of a national directory of Canadian marine oil-spill specialists [1991, 62p., eng] 47-2334

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Longbow-Apache field experiment: data report [1992, 53p., eng] 47-701

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Summary of atmospheric transport to Barrow, Alaska during the Arctic Gas and Aerosol Sampling Program (March 1983 and April 1986) [1988, p.116-118, eng] 47-4196

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Debris flow characteristics in an area of continuous permafrost, St. Elias Range, Yukon Territory [1993, p.41-56, eng] 47-4984

Hydrogen and oxygen isotopes and the origin of the ice in peat plateaus [1992, p.19-27, eng] 47-3123

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Mapping Alaska's North Slope with aerial photography [1981, p.179-182, eng] 47-1194

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Dendritic crystallization of supercooled solutions [1989, 113p., eng] 47-86

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Detection of radical pairs in glassy systems [1993, p.59-61, eng] 47-2110

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Rock of ages [1992, p.1-4, eng] 47-3861

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General circulation models, palaeoclimatic data and last interglacial climates [1991, p.231-242, eng] 47-3493

Harrison, W.

Mechanisms of fast flow in Jakobshavns Isbrae, West Greenland: Part 1. Measurements of temperature and water level in deep boreholes [1993, p.15-25, eng] 47-3937

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Determination of glacier speed by time-lapse photography under unfavorable conditions [1992, p.257-265, eng] 47-466

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Arctic Boundary Layer Expedition (ABLE 3A): July-August 1988 [1992, p.16,383-16,394, eng] 47-1444

Carbon monoxide and methane in the North American arctic and subarctic troposphere: July-August 1988 [1992, p.16,589-16,599, eng] 47-1456

Soluble species in the arctic summer troposphere: acidic gases, aerosols, and precipitation [1992, p.16,531-16,543, eng] 47-1453

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Pediments and cold-climate conditions, Barn Mountains, unglaciated northern Yukon, Canada [1992, p.145-157, eng] 47-4324

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Shaft construction by raise boring through artificially frozen ground [1991, p.705-719, eng] 47-993

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Specifying snow melting system performance [1992, p.241-252, eng] 47-3203

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Radiation and eddy flux experiment 1991 (REFLEX I) [1992, 72p., eng] 47-41

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Ice threshold in molecular clouds: a diagnostic of the infrared radiation field [1992, p.599-601, eng] 47-1787

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Geologic use of polar marine diatoms [1993, p.134-253, eng] 47-4823

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Hasegawa, Y.

Road heating control using snowfall forecast data [1993, p.43-50, jpn] 47-4792

Hashimoto, K.

Melting process of packed beds of ice particles by water flow [1991, p.327-333, eng] 47-2561

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Application of routing technologies to rural snow and ice control [1991, p.202-211, eng] 47-1804

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Energy and structure of Bjerrum defects in ice Ih determined with an additive and a nonadditive potential [1992, p.4326-4335, eng] 47-222

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Climate change and evapotranspiration modelling [1992, 160p., eng] 47-2122

Use of digital geographical databases in hydrological modelling [1993, 158p., eng] 47-2830

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Dramatic retreat of Mount Kenya's glaciers between 1963 and 1987: greenhouse forcing [1992, p.127-133, eng] 47-1097

Glaciers of Africa [1991, p.G49-G70, eng] 47-3825

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Effect of soil moisture and thaw depth on CH4 flux from wet coastal tundra ecosystems on the North Slope of Alaska [1993, p.329-337, eng] 47-3434

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Avalanche countermeasures in the Tsuchidaru stretch of the Kanetsu Highway [1985, p.32-36, jpn] 47-5151

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Characteristics of snow pressure acting on avalanche-preventive fences [1992, p.323-331, eng] 47-3210

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Cargo container lift device [1987, 6 col., eng] 47-3852

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Characteristics of heat pump system operating with frost formation [1991, p.391-396, eng] 47-2566

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Rotational Raman lidar to measure the atmospheric temperature from the ground to 30 km [1993, p.90-101, eng] 47-3357

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Track maintenance vehicle with vertically adjustable track conditioner implement, particularly a snow tiller apparatus [1988, 6 col., eng] 47-3643

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Tradeoff analysis of non-environmental effects of alternative deicers: an Illinois case study [1992, 12p., eng] 47-936

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Effects of deicing salt on visible symptoms, element concentrations and membrane damage in first-year needles of roadside Scots pine (*Pinus sylvestris*) [1992, p.179-185, eng] 47-3995

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Use of expert systems in combination with active and passive microwave data to classify sea ice [1992, p.1625-1627, eng] 47-685

Hawkes, I.

Hard rock tunneling machine characteristics [1972, p.1149-1158, eng] 47-2614

Hawkins, A.B.

Discussion of Session 1a. [Processes and materials properties of glacially derived deposits] [1991, p.171-180, eng] 47-3874

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Digital DMSP OLS fine imagery sea ice applications [1991, p.153-155, eng] 47-3405

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River flood forecasting in the Northeast during ice jam situations [1992, 10p., eng] 47-2131

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Behaviour of New Zealand glaciers and atmospheric circulation changes over the past 130 years [1992, p.97-106, eng] 47-54

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Application of GIS in modelling winter orographic precipitation, Gunnison River basin, Colorado, USA [1993, p.491-499, eng] 47-4460

Simulation of precipitation in the Gunnison River basin using an orographic-precipitation model [1992, p.651-660, eng] 47-2741

Using coupled atmospheric and hydrologic models to investigate the effects of climate change in mountainous regions [1992, p.691-700, eng] 47-2745

Hayakawa, K.I.

Parametric analysis for thawing frozen spheroidal (prolate and oblate) or finitely cylindrical food [1992, p.236-240, eng] 47-2606

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Summary and improvement trends for studded tires [1985, p. 52-62, jpn] 47-5083

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Operational use of an orographic precipitation model [1992, 14p., eng] 47-2135

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IPIX radar: a tool for ocean surveillance and meteorological research (1991, p.25-36, eng) 47-3373
Neural network-based adaptive radar detection scheme for small ice targets in sea clutter (1992, p.1528-1529, eng) 47-741
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Site characterization measurements of background and targets in support of smart weapons testing (1993, 96p., eng) 47-4664
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Overwinter nitrate loss and denitrification potential of cultivated soils in Alberta (1992, p.877-884, eng) 47-1795
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Heat Wave introduced for cold weather starting (1992, p.42, eng) 47-592
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Hydrometeorological analysis of ice breakup on the Nashwaak River, New Brunswick (1992, p.349-354, fre) 47-201
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Inference of cirrus cloud properties using satellite-observed visible and infrared radiances. Part 2: verification of theoretical cirrus radiative properties (1993, p.1305-1322, eng) 47-3732
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Stratigraphy and sedimentation of a terminal moraine deposited in a marine environment—two examples from the Raridge in Ostfold, southeast Norway (1991, p.3-14, eng) 47-3832
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Origin of certain high-elevation local broad uplands in the central Appalachians south of the glacial border, U.S.A.—a paleoperiglacial hypothesis (1992, p.31-61, eng) 47-846
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On the relation between ozone and potential vorticity (1993, p.811-814, eng) 47-4726
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Recent variations of snow cover and snowfall in North America and their relation to precipitation and temperature variations (1993, p.1327-1344, eng) 47-5211
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Low energy small house 50%. Experimental house research (1992, 39p. + append., fin) 47-2584
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Homogeneity of precipitation time series in Finland (1993, p.J52-J55, eng) 47-3084
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Sea ice feature and type identification in merged ERS-1 SAR and Landsat Thematic Mapper imagery (1993, p.361-365, eng) 47-4440
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Industrial applications of freeze concentration technology. Final report (1987, Var. p., eng) 47-1622
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Ice patterns and hydrothermal plumes, Lake Baikal, Russia: insights from space shuttle hand-held photography (1992, p.1559-1561, eng) 47-684
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Winds causing deflation and snow drifting in Kilpisjärvi area (1991, p.309-316, fin) 47-2321
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Origins and engineering hazards of Swedish glaciomarine and marine clays (1991, p.257-264, eng) 47-3882
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Melting of ice shelves and the mass balance of Antarctica (1992, p.375-387, eng) 47-1389
Ocean interactions with the base of Amery Ice Shelf, Antarctica (1992, p.20,305-20,317, eng) 47-2342
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Ice patterns and hydrothermal plumes, Lake Baikal, Russia: insights from space shuttle hand-held photography (1992, p.1559-1561, eng) 47-684
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Snow surveying comes of age in the west (1992, p.10-17, eng) 47-489
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Quaternary geology of the Bissett area, southeastern Manitoba: applications to drift prospecting (1993, p.63-69, eng) 47-3706
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Image contrast in high-resolution electron microscopy of biological macromolecules: TMV in ice (1992, p.1-18, eng) 47-1676
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Circular polarization for remote sensing of precipitation: polarization diversity work at the National Research Council of Canada (1992, p.7-16, eng) 47-1562
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Homo tirolensis, a mummy frozen in time (1992, p.296, eng) 47-1907
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Natural hazards data resources directory (1990, 247p. (Pertinent p.7-8,82-84), eng) 47-3821
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Origin of sediment pellets from the arctic seafloor: sea ice or icebergs? (1992, p.S539-S565, eng) 47-1278
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Snow versus rain: looking beyond the "magic" numbers (1992, p.683-691, eng) 47-2764
Héquette, A.
Morphosedimentological dynamics and coastal evolution in the Kongsfjorden area, Spitsbergen (1992, p.321-328, eng) 47-4076
Storm-generated currents and offshore sediment transport on a sandy shoreface, Tibjak Beach, Canadian Beaufort Sea (1993, p.283-304, eng) 47-5201
Herakovich, C.T.
MEET'N'93 (1993, 2 vols. (Pertinent p.352-374), eng) 47-3761
[illegible]rbert, G.A.
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In situ patterns of intracellular photosynthate allocation by sea ice algae in the Canadian High Arctic (1992, p.545-551, eng) 47-1789
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High frequency satellite cloud motion at high latitudes (1993, p.465-468, eng) 47-3077
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Mercury point realization: estimate of some uncertainties (1992, p.287-291, eng) 47-2977
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Glacier mass balance bulletin. Bulletin No.2 (1990-1991) (1993, 73p., eng) 47-3712
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Managing water resources during global change (1992, 860p., eng) 47-2721
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Influence of the freezing process on vapour transport during sublimation in vacuum-freeze-drying of macroscopic samples (1993, p.1727-1738, eng) 47-4413
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Atmospheric longwave radiation spectrum on the antarctic plateau (1992, p.11-12, eng) 47-2366
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Ice jam flood assessment—Yukon River at Dawson [1992, 145p., eng] 47-1244
Hicks, F.E.
Finite element modeling of surge propagation and an application to the Hay River, N.W.T. [1992, p.454-462, eng] 47-3308
Hicock, S.R.
Sunnybrook drift in the Toronto area, Canada: reinvestigation and reinterpretation [1992, p.139-161, eng] 47-2689
Hietala, K.
GPR applications in geotechnical investigations of peat for road survey purposes [1992, p.293-305, eng] 47-636
Higashi, A.
Global warming and sea level rise—discussions and report from IPCC workshop [1991, p.58-65, jpn] 47-407
Higashiura, M.
Experimental and theoretical study on heat mechanism of groundwater flow (first report) [1991, p.69-88, jpn] 47-3293
Higashiyama, Y.
Snow removal from a pantiled roof using electrically heated roof tiles [1992, p.253-262, eng] 47-3204
Hight, D.W.
Influence of late and post glacial slope development on the engineering geology of Wenlock Shale near Ironbridge, Salop [1991, p.349-359, eng] 47-3887
Higuchi, I.
Road snow removal in Hokuriku regional construction [1985, p.42-48, jpn] 47-5098
Higuchi, K.
Estimation of streamflow change by global warming in a glacier-covered high mountain area of the Nepal Himalaya [1991, p.181-188, eng] 47-1305
Influence of humidity on the ablation of continental-type glaciers [1992, p.107-114, eng] 47-1094
Higuchi, T.
Snow recycling house in a heavy snowfall district [1992, p.405-408, eng] 47-3218
Hill, C.T.
Analysis and interpretation of patterns within and between hydroclimatological time series in an alpine glacier basin [1992, p.821-839, eng] 47-3679
Reliability and representativeness of a suspended sediment concentration monitoring programme for a remote alpine proglacial river [1992, p.191-200, eng] 47-1814
Hill, E.G.
Aerodynamic effects of aircraft ground deicing anti-icing fluids [1993, p.24-34, eng] 47-3314
Hill, G.E.
Radiosonde supercooled liquid water detector [1990, 97p., eng] 47-4882
Hill, M.C.
Beaufort Sea ice design features: acquisition of data on EIFs [1992, Var. p., eng] 47-2227
Hill, P.R.
Storm-generated currents and offshore sediment transport on a sandy shoreface, Tibjak Beach, Canadian Beaufort Sea [1993, p.283-304, eng] 47-5201
Hillaire-Marcel, C.
Paleoenvironments of the last interglacial in northwest North Atlantic region and adjacent mainland Canada [1991, p.95-106, eng] 47-3483
Hillhouse, J.W.
Age of the late Cenozoic Bigbendian marine transgression of the Alaskan arctic coastal plain: significance for permafrost history and paleoclimate [1992, p.44-51, eng] 47-611
Hincha, D.K.
Time- and temperature-dependent solute loading of isolated thylakoids during freezing [1992, p.607-615, eng] 47-4370
Hinchey, M.J.
Hydroelastic stability of marine risers [1991, p.31-41, eng] 47-1141
Research on hovercraft and suction bow icebreakers [1992, p.243-251, eng] 47-1032
Some exploratory tests on circular and sidewall air cushion icebreaker bows [1990, 60p., eng] 47-1347
Hinckley, T.M.
Root cold hardiness and native distribution of subalpine conifers [1992, p.932-938, eng] 47-1187
Hind, A.K.
Equilibrium constant of NO2 with N2O4 and the temperature dependence of the visible spectrum of NO2: a critical review and implications for measurements of NO2 in the polar stratosphere [1993, p.257-276, eng] 47-3464
Hindman, E.E.
Nine-winter record of cloud-droplet physical and chemical properties at a mountain-top site in Colorado, USA [1993, p.15-22, eng] 47-3099
Hines, M.E.
Emissions of biogenic sulfur gases from Alaskan tundra [1992, p.16,703-16,707, eng] 47-1464
Hinkel, K.M.
Are soil tongues in northeastern Indiana periglacial relics or active fingering zones [1993, p.75-83, eng] 47-5203
Detection of nonconductive heat transport in soils using spectral analysis [1993, p.1017-1023, eng] 47-3579
Fractal geometry of thermal and chemical time series from the active layer, Alaska [1992, p.315-322, eng] 47-2239
Palsa-scale frost mounds [1992, p.305-325, eng] 47-857
Spectral signature of coupled flow in the refreezing active layer, northern Alaska [1992, p.273-284, eng] 47-709
Hinzman, L.D.
Change detection on Alaska's North Slope using repeat-pass ERS-1 SAR images [1993, p.227-236, eng] 47-3360
Hippius, E.V.
Some aspects of radioactive wastes dumping: international regulation [1993, p.585-594, eng] 47-5056
Hirai, K.
Static friction of roofing materials against an ice mass [1992, p.231-240, eng] 47-3202
Hirai, M.
Safeguarding of high speed highways [1984, p.40-44, jpn] 47-5065
Hirai, Y.
Snow removal channeling operations in Iwamizawa City [1992, p.205-208, jpn] 47-2505
Hirama, T.
Study on methods for predicting road surface freezing [1993, p.38-42, jpn] 47-4791
Hirasawa, M.
Estimate of sea ice freezing [1992, p.147-154, eng] 47-1025
Study on icing of marine structures [1991, p.271-276, jpn] 47-2499
Study on the improvement of the airport functions in cold regions (Part 1) [1992, p.145-149, jpn] 47-132
Technical problems of floating type ice barriers [1991, p.265-270, jpn] 47-2498
Traffic in mountainous areas of snowy and cold regions [1991, p.39-44, jpn] 47-2532
Hirasawa, Y.
Study on phase changes of heterogeneous composite materials: effects of parameters on solidification process [1991, p.225-230, eng] 47-2556
Hirata, M.
Snow clearing removal technique of Sapporo [1991, 7p., eng] 47-4779
Hirata, T.
Freezing and thawing heat transfer with water flow around isothermally cooled cylinders in staggered and aligned arrangements [1992, p.681-687, eng] 47-8
Hirche, H.J.
Bio-optical variability across the Arctic Front [1992, p.455-461, eng] 47-1470
Distribution of dominant copepods in the Nansen Basin, Arctic Ocean, in summer [1992, p.S485-S505, eng] 47-1275
Hirose, T.
Automated sea-ice tracking for LIMEX '87 and '89 [1992, p.173-191, eng] 47-2346
Hirvas, H.
Glacial stratigraphy in Lapland [1992, p.41-42, eng] 47-3546
Till stratigraphy and glacial history of the Vestfold Hills area, East Antarctica [1993, p.81-95, eng] 47-4753
Hisdal, H.
KOFOT—a practical tool for comparative analysis and extension of runoff series [1992, p.622-631, eng] 47-1978
Hisdal, V.
Atmospheric CO2 and global warming: a critical review [1992, 76p., eng] 47-2289
Hishita, T.
Development of technology for continuous transport of snow [1986, p.59-63, jpn] 47-5181
Hixson, S.E.
Soil denitrification rates in a subalpine watershed of the eastern Sierra Nevada [1992, p.217-231, eng] 47-510
Hjartarson, Á.
Ages of the Fossvogur layers and the Álftanes end-moraine, SW-Iceland [1989, p.21-31, eng] 47-711
Hjort, C.
Isotope stage 5 (130-74 ka) in Greenland—a review [1991, p.107-122, eng] 47-3484
Hobbie, J.E.
Nitrogen and phosphorus concentrations and export for the upper Kuparuk River on the North Slope of Alaska in 1980 [1992, p.61-69, eng] 47-1604
Hochstöger, F.
Analysis of snow cover patterns as derived from oblique aerial photographs [1991, p.91-99, eng] 47-1296
Hock, R.
Evolution of the internal drainage system in the lower part of the ablation area of Storglaciären, Sweden [1993, p.537-546, eng] 47-3173
Hoelzle, M.
Fluctuations of glaciers 1985-1990. Volume VI [1993, 319p. + maps, eng] 47-3910
Glacier mass balance bulletin. Bulletin No.2 (1990-1991) [1993, 73p., eng] 47-3712
Model of potential direct solar radiation for investigating occurrences of mountain permafrost [1992, p.139-142, eng] 47-1753
Permafrost occurrence from BTS measurements and climatic parameters in the eastern Swiss Alps [1992, p.143-147, eng] 47-1754
Hoffman, R.
Field investigation of bioremediation of tundra with residual hydrocarbons [1993, p.331-337, eng] 47-4474
Hoffmann, H.E.
Alpha Jet surface icing at different flight velocities: the results [1992, 61p., ger] 47-2586
Höfle, H.C.
Further evidence for a glacial maximum in Antarctica during the Late Neogene [1992, p.125-137, eng] 47-1008
Hofmann, D.J.
Evidence for denitrification in the 1990 antarctic spring stratosphere: 1. Lidar and temperature measurements [1991, p.1995-1998, eng] 47-2027
Observation and possible causes of new ozone depletion in Antarctica in 1991 [1992, p.283-287, eng] 47-484
Hofmann, J.
Investigations of present and former periglacial, nival and glacial features in central Helan Shan (Inner Mongolia/Peoples Rep. of China) [1992, p.139-154, eng] 47-1009
Hogan, A.W.
Local influences on winter minimum air temperatures [1992, p.243-246, eng] 47-4054
Meteorological surveys in support of ice airfields in Antarctica [1992, p.42-43, eng] 47-2375
Observation of recurrent temperature lapse near the surface at the South Pole [1988, p.145-147, eng] 47-4204
Particle transport to the snow surface at the South Pole: the beginning of a tropospheric history [1993, p.188-207, eng] 47-3536
Physical properties of suspended ice crystals with respect to optical effects [1990, p.123-132, eng] 47-912
Physical variation of water vapor, and the relation with carbon dioxide [1992, p.2245-2248, eng] 47-1145
Source strength terms for winter dispersion models [1992, p.149-155, eng] 47-1069
Högberget, R.
Plankton primary productivity in an arctic lake: 71.2 deg N—diurnal variations of productivity under the midnight sun [1988, 85p., nor] 47-2247
Högell, S.
Measurement and simulation of runoff from long-term rains and snowmelt. Study site: Risvollan in Trondheim [1992, p.127-135, nor] 47-1959
Hoham, R.W.
Environmental influences on snow algal microbes [1992, p.78-83, eng] 47-496
Höhn, W.
Perturbation analysis of transient freezing of a laminar liquid flow in a cooled two-dimensional channel [1993, p.294-301, eng] 47-3838
Hokkaido Development Bureau
Data on Hokkaido roads and snow [1993, 26p., jpn] 47-4796
Outline of the Civil Engineering Research Institute, 1992 [1992, 37p., jpn] 47-4689
Roads in Hokkaido [1992, 27p., eng] 47-4690
Study on road construction for the 21st century in snowy and cold regions [1991, p.5-24, jpn] 47-2530
Tests on road snow removal (conclusion)—tests on snow removal in urban areas [1992, p.247-262, jpn] 47-2493
Tests on road snow removal (continuation)—tests on snow removal in urban areas [1991, p.159-178, jpn] 47-2522
Winter road maintenance by the Hokkaido Development Bureau [1992, 39p., eng] 47-4799
Holden, C.
Ice capade for science [1992, p.26, eng] 47-1073
Holdsworth, G.
Ice core climate signals from Mount Logan, Yukon, A.D. 1700-1897 [1992, p.483-504, eng] 47-2097
Neoglacial glacier fluctuations in the Canadian Rockies [1993, p.144-153, eng] 47-5122
Holecz, F.
Monitoring of snowcover in high mountain terrain with ERS-1 SAR [1993, p.583-588, eng] 47-4446
Holladay, J.S.
Airborne EM ice measurement sensor: phases 1 and 2 [1992, 67p., eng] 47-455
Operational airborne sea ice thickness measurement system [1992, p.B55-B59, eng] 47-3251
Operational airborne sea ice thickness measurement system [1991, p.167-177, eng] 47-3384
Holland, D.M.
Investigation of the general circulation of the Arctic Ocean with an isopycnal model [1992, p.98-100, eng] 47-2391
Sensitivity study of a dynamic thermodynamic sea-ice model [1992, p.91-93, eng] 47-2389
Sensitivity study of a dynamic thermodynamic sea ice model [1993, p.2561-2586, eng] 47-2626
Holmes, D.S.
Neutron and gamma radiation effects on cryogenic temperature sensors [1992, p.1237-1242, eng] 47-2999

Holmes, D.S. *(cont.)*
Resolution and accuracy of cryogenic temperature measurements [1992, p.1225-1230, eng] 47-2998
Holmlund, P.
Cirques at low altitudes need not necessarily have been cut by small glaciers [1991, p.9-16, eng] 47-4316
Holowczenko, A.
Water freezing enhancement for thermal storage brine tube [1988, 6 col., eng] 47-3641
Holt, A.R.
Comparison of experimental and theoretical scattering effects from melting ice spheres at microwave and millimetre-wave frequencies [1992, p.545-548, eng] 47-1561
Holt, B.
Approach to identification of sea ice types from spaceborne SAR data [1992, p.355-360, eng] 47-3033
Determination of sea ice motion from satellite images [1992, p.343-354, eng] 47-3032
Microwave remote sensing of polynyas [1992, p.303-311, eng] 47-3029
Preliminary results from the ASF/GPS ice classification algorithm [1992, p.573-575, eng] 47-650
Sea ice radar signatures from ERS-1 SAR during late summer and fall in the Beaufort and Chukchi Seas [1993, p.339-342, eng] 47-4436
Holub, P.
Borehole logging in alpine permafrost, Upper Engadin, Swiss Alps [1992, p.125-132, eng] 47-1751
Homma, Y.
Removal of snow from membrane structures [1992, p.263-274, eng] 47-3205
Honda, A.
On the relationships between air temperature fluctuations in Hokkaido and Okhotsk Sea ice [1992, p.307-310, jpn] 47-156
Honda, M.
Model operations for towns of the north—surface layout of snow removal drains [1985, p.34-39, jpn] 47-5165
Hondoh, T.
Crystallographic analyses of clathrate hydrates included in Vostok ice cores [1992, p.268-278, jpn] 47-976
Honey, R.C.
Measuring the point spread function of sea ice *in situ* [1992, p.517-526, eng] 47-3735
Hong, J.T.
Effects of natural convection on ice formation inside a horizontal cylinder [1992, p.131-145, eng] 47-790
Honrath, R.E., Jr.
Nitrogen oxides in the arctic troposphere [1992, 289p., eng] 47-271
Seasonal cycle of nitrogen oxides in the arctic troposphere at Barrow, Alaska [1992, p.20,615-20,630, eng] 47-2054
Hooghiemstra, H.
Interglacial to glacial climatic change: observations from selected Colombian pollen records [1992, p.71-84, eng] 47-2833
Hooke, R.L.
Evolution of the internal drainage system in the lower part of the ablation area of Storglaciären, Sweden [1993, p.537-546, eng] 47-3173
Intra-seasonal changes in deformation profiles revealed by borehole studies, Storglaciären, Sweden [1992, p.348-358, eng] 47-1387
Proceedings [1992, 239p., eng] 47-1076
Hooli, J.
Flood control on the middle reaches of the River Iijoki [1992, p.431-442, eng] 47-1970
Hooton, R.D.
Influence of silica fume replacement of cement on physical properties and resistance to sulfate attack, freezing and thawing, and alkali-silica reactivity [1993, p.143-151, eng] 47-4351
New method for assessing frost damage in non-air entrained hydraulic structures [1992, p.339-355, eng] 47-2575
Hoover, G.A.
Aircraft ice detectors and related technologies for onground and inflight applications. Final report [1993, 43p., eng] 47-4601
Hope, A.S.
Reflectance characteristics of arctic tundra vegetation from airborne radiometry [1993, p.1239-1244, eng] 47-4403
Hopkins, E.L.
Method and apparatus for scraping ice and snow and illuminating a scraping area [1988, 6 col., eng] 47-3502
Hopkins, M.A.
Mesoscale simulation of the arctic ice pack [1993, p.85-96, eng] 47-3744
Numerical simulation of systems of multitudinous polygonal blocks [1992, 69p., eng] 47-2923
Hopkins, T.L.
Community structure and trophic ecology of zooplankton in the Scotia Sea marginal ice zone in winter (1988) [1993, p.81-105, eng] 47-3604
Horanyi, M.
Sublimation and reformation of icy grains in the primitive solar nebula [1991, p.333-344, eng] 47-990
Hori, Y.
Study on dynamical structure in water and heavy water by low-frequency Raman spectroscopy [1992, p.1961-1968, eng] 47-1056
Horibe, A.
Freezing characteristics along a horizontal cooled tube immersed in aqueous binary solution with main flow [1993, p.54-62, eng] 47-3792
Horibe, K.
Tests on developing a one-touch (oil pressure-type) mechanism, for changing the edge of a snow removal grader [1982, p.47-50, jpn] 47-4939
Tests on developing an ice groove cutting device [1982, p.37-46, jpn] 47-4938
Tests on improving a (shear pin) safety mechanism for snow removal graders [1982, p.51-56, jpn] 47-4940
Horikawa, I.
Snow removal in Fukui [1985, p.72-76, jpn] 47-5172
Horikawa, R.
Performance tests on a rotary snowplow (with a single loading operation) [1991, p.199-204, jpn] 47-2523
Performance tests on rotary snow plows in single file [1990, p.1-9, jpn] 47-4963
Horikoshi, K.
Utilization of psychrophilic microorganisms isolated from low-temperature environments [1992, p.200-205, eng] 47-139
Horioka, M.
Dielectric dispersion of *supercooled trimethyleneglycol*-water mixtures [1992, p.4204-4211, eng] 47-3580
Scaling observed in glycerol-water and propylene glycol-water mixtures [1991, p.2835-2838, eng] 47-918
Horita, N.
Law prohibiting use of studded tires in Japan, results of chemical deicing agents test and investigation on efficient operation of road heating facilities [1992, 12p., eng] 47-962
Study on the effects of the popularization of studless tires—2nd report [1992, p.65-72, jpn] 47-2508
Horjen, I.
Frazil production in partly filled tunnels [1988, p.139-140, nor] 47-726
Hornbeck, J.W.
Lithologic composition and rock weathering potential of forested, *glacial-till soils* [1992, 7p., eng] 47-430
Horne, T.A.
Early warnings [1993, p.T-11,T-14, eng] 47-5002
Horneck, G.
Simulation of the climate on Mars for exobiological studies [1992, p.240-243, eng] 47-1737
Horner, R.
Ecology of sea ice biota. 1. Habitat, terminology, and methodology [1992, p.417-427, eng] 47-1334
Ecology of sea ice biota. 2. *Global significance* [1992, p.429-444, eng] 47-1335
Hornig, R.
Development of an international standard for safe winter operation [1993, p.14-18, eng] 47-3312
Hoshiai, T.
Ecology of sea ice biota. 1. Habitat, terminology, and methodology [1992, p.417-427, eng] 47-1334
Ecology of sea ice biota. 2. Global significance [1992, p.429-444, eng] 47-1335
Hoshino, J.
Snow removal equipment with an emergency water pump [1991, p.145-150, jpn] 47-2519
Hosoya, M.
Newly developed snow vehicle (SM100S) for Antarctica. 2. Design of the system [1992, p.376-392, jpn] 47-3364
Newly developed snow vehicle (SM100S) for Antarctica. 5. Result of general performance tests [1992, p.410-440, jpn] 47-3367
Hosseinmostafa, R.
Comparison of radar backscatter from antarctic and arctic sea ice [1992, p.1533-1535, eng] 47-682
Hostetler, S.W.
Interactive coupling of a lake thermal model with a regional climate model [1993, p.5045-5057, eng] 47-3784
Simulation of the regional climate and hydrology of the Great Lakes basin [1993, p.32-33, eng] 47-3043
Hosben, H.C.
Coupled subsurface-boundary layer model of water on Mars [1993, p.3319-3337, eng] 47-2670
Houghton, J.T.
Climate change 1992. The supplementary report to the IPCC scientific assessment [1992, 200p., eng] 47-2592
Houghton, R.A.
Warming the North: what happens? [1993, p.1-8, eng] 47-5223
Hover, K.C.
Cold-weather concreting study [1992, p.458-464, eng] 47-2291
Influence of immersion vibration on the void system of air *entrained concrete* [1992, p.99-126, eng] 47-2573
Hovey, F.W.
Estimating effects of snow on shrub availability for black-tailed deer in southwestern British Columbia [1992, p.308-313, eng] 47-1760
How Arizona handles winter roads
How Arizona handles winter roads [1993, p.19, eng] 47-3683
How to design and use snow fences
How to design and use snow fences [1992, p.20-21, eng] 47-2324
How to evaluate deicers
How to evaluate deicers [1992, p.23,25-26, eng] 47-2327
How Vancouver uses thermal mapping
How Vancouver uses thermal mapping [1992, p.23,25-27, eng] 47-2329
Howard, C.D.D.
Experience with probabilistic forecasts for cumulative stochastic optimization [1992, p.119-128, eng] 47-2722
Howard, J.
Scattering effects of ice needles in satellite communications [1989, p.411-415, eng] 47-2073
Howard, K.W.F.
Groundwater contamination due to road de-icing chemicals—salt balance implications [1993, p.1-8, eng] 47-5190
Howarth, P.J.
Using Landsat-5 Thematic Mapper and digital elevation data to determine the net radiation field of a mountain glacier [1993, p.315-331, eng] 47-2886
Howell, D.G.
Tectonics and petroleum potential of the Brooks Range fold and thrust belt—a progress report [1992, p.112-126, eng] 47-614
Howington, J.P.
Distribution of enteric bacteria in antarctic seawater surrounding a sewage outfall [1993, p.645-650, eng] 47-3678
Hoyasu, M.
Scavenging effect of snow [1985, p.61-64, jpn] 47-5101
Hromadka, T.V.
Mathematical model of frost heave and thaw settlement in pavements [1993, 126p., eng] 47-4870
Hsiao, S.I.C.
Dynamics of ice algae and phytoplankton in Frobisher Bay [1992, p.645-651, eng] 47-1790
Hsiung, C.C.
Air containing propeller stream and its application in ice clearance [1993, p.53-58, eng] 47-4230
Clearing of ice fragments in continuous-mode icebreaking [1991, 102p., eng] 47-1371
Computation of *ship/pack ice interaction with wave effect* [1990, 36p., eng] 47-1357
Investigation of air containing propeller stream. Part I: physical modelling. Part II: mathematical modelling [1993, 4p., eng] 47-4863
Using the air containing stream for channel ice clearance [1992, 94p., eng] 47-1361
Hsui, A.T.
On: "An analytical study of a two-layer transient thermal *conduction problem* as applied to soil temperature surveys" by T.H. Larson and A.T. Hsui [1992, p.1644-1645, eng] 47-2001
Hu, R.J.
Outline of avalanches in the Tien Shan mountains [1992, p.7-10, eng] 47-1078
Hu, R.M.
Antarctic total ozone change correlated to the stratosphere wind and temperature during the polar night [1992, p.45-50, chi] 47-1256
Hu, S.X.
Alpine frozen soil development in Qilian Mountains and its relationship with glacial change [1985, p.109-115, chi] 47-1525
Hu, X.G.
Analysis and simulation of annual runoff processes for some rivers in Hexi region [1992, p.71-83, chi] 47-1541
Study of glacier meltwater resources in China [1992, p.141-145, eng] 47-1101
Huang, M.H.
Basal deformation of Ürümqi Glacier No.1, Tien Shan mountains, China [1992, p.123-126, eng] 47-1096
Experimental study of the influence of mixing silt on ice creep [1992, p.1827-1830, eng] 47-1952
General features of *glacier motion in Qilian Mountains* [1985, p.61-72, chi] 47-1520
Great breakthrough in the theory of formation of thick layered ground ice—the tenth anniversary of Cheng's theory [1992, p.97-100, chi] 47-1644
Movement mechanisms of Ürümqi Glacier No.1, Tien Shan *mountains, China* [1992, p.39-44, eng] 47-1084
Outline of avalanches in the southeastern Tibet Plateau, China [1992, p.146-150, eng] 47-1102
Snowline/ the equilibrium line [1992, p.285-286, chi] 47-1670
Temperature regime of No.5 Glacier, Yanglong River in Qilian Mountains [1985, p.54-60, chi] 47-1519
Thermal properties and *temperature distribution of snow/firn* on the Law Dome ice cap, Antarctica [1991, p.38-46, eng] 47-39
Huang, M.Y.
Three-dimensional numerical simulation of ice phase microphysics in cumulus clouds—part 2: effects of multiplication processes [1991, p.459-470, eng] 47-426

Huang, N.S.
Study of the preparation of sealed cells for thermometry [1992, p.257-260, eng] 47-2971
Huang, S.K.
Study of superconductive transition temperatures for thermometric fixed points [1992, p.239-242, eng] 47-2967
Huang, S.S.
Numerical simulation of influence of the anomalies of the central-eastern equatorial Pacific SST and arctic sea ice cover in summer on the atmospheric circulation [1992, p.401-411, eng] 47-353
Hubbard, R.M.
Air flow across an alpine forest clearing in winter [1990, p.172-175, eng] 47-1491
Huber, A.
Effects of impulse waves on storage reservoirs [1992, p.96-100, ger] 47-1214
Morphological and human changes of Swiss lakeshores [1992, p.334-336, ger] 47-2202
Huber, J.
Constitutive equation for temperate firn derived from strain rates of two firn pits (Kesselwandferner, Oetztal Alps, 1967-1989) [1993, p.295-303, eng] 47-3932
Huber, M.
Solar UV-spectra in various environmental conditions [1992, p.413-417, eng] 47-1810
Huck, J.R.
Dielectric properties of normal supercooled water obtained in alcohol/water mixtures [1992, p.1136-1143, eng] 47-2294
Huckaby, D.A.
Inclusion-exclusion calculation of the dipole-dipole energy of hexagonal ice and of cubic ice [1993, p.8105-8109, eng] 47-3581
Hudgins, D.M.
Mid- and far-infrared spectroscopy of ices: optical constants and integrated absorbances [1993, p.713-870, eng] 47-4736
Hudson, R.L.
Experimental study of the sublimation of water ice and the release of trapped gases [1991, p.326-332, eng] 47-989
Far-IR study of irradiated amorphous ice: an unreported oscillation between amorphous and crystalline phases [1992, p.6500-6504, eng] 47-251
Huebner, M.
Early Holocene calcretes from the subarctic active Nogahabara Sand Dune field, northern Alaska [1992, p.100-111, eng] 47-613
Huels, M.A.
Quenching of the dissociative electron attachment resonances of O2 physisorbed on amorphous ice [1993, p.340-346, eng] 47-5191
Huggins, A.W.
Australian Winter Storms Experiment (AWSE) 1: supercooled liquid water and precipitation-enhancement opportunities [1992, p.1041-1055, eng] 47-9
Field performance of a spinning-reflector microwave radiometer [1993, p.420-427, eng] 47-3775
Hughes, J.M.O.
Some aspects of the behavior of Beaufort Sea clays [1985, p.487-514, eng] 47-1617
Hughes, M.K.
Dendroclimatic evidence from the western Himalaya [1992, p.415-431, eng] 47-2094
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Pleistocene montane glaciations in the Mackenzie Mountains, Northwest Territories [1992, p.69-83, eng] 47-829
Sangamonian and early Wisconsinan stages in western Canada and northwestern United States [1992, p.253-268, eng] 47-2696
Hughes, P.
Hail: the white plague [1993, p.16-21, eng] 47-3924
Hughes, T.
Theoretical calving rates from glaciers along ice walls grounded in water of variable depths [1992, p.282-294, eng] 47-469
Hui, D.
Buckling of unidirectional graphite/epoxy composite plates at low temperatures [1991, 11p., eng] 47-692
Hulsey, J.L.
Cold region logistics planning and management [1993, p.1-11, eng] 47-4283
Humer, K.
Tensile, fracture and thermal properties of polyarylates at room and cryogenic temperatures [1993, p.686-691, eng] 47-4765
Humlum, O.
Observations on rock moisture variability in gneiss and basalt under natural, arctic conditions [1992, p.197-205, eng] 47-4328
Humphrey, D.N.
Tire chips as insulation beneath gravel surfaced roads [1993, p.137-149, eng] 47-4132
Humphrey, N.F.
Characteristics of the bed of the lower Columbia Glacier, Alaska [1993, p.837-846, eng] 47-2660
Meltwater refreezing in the accumulation area of the Greenland ice sheet: Pâkitsoq, summer 1991 [1992, p.13-17, eng] 47-1632
Hunke, N.T.
Exceptionally long, narrow drumlins formed in subglacial cavities, North Dakota [1993, p.15-24, eng] 47-4016
Hunnewell, S.
Development of a field technique for measuring fresh water ice density [1992, p.203-212, eng] 47-4049
Hunt, J.C.R.
Saltating particles over flat beds [1993, p.661-685, eng] 47-5195
Hunt, K.M.
Industrial applications of freeze concentration technology. *Final report* [1987, Var. p., eng] 47-1622
Huokuna, M.
Numerical model for ice cover formation in rivers [1988, p.147-164, eng] 47-728
Huovinen, S.
Abrasion of concrete structures by ice [1993, p.69-82, eng] 47-3286
Hurrell, J.W.
Analysis of low-frequency climate variations over the Northern Hemisphere using historical atmospheric data [1993, p.355-360, eng] 47-3050
Hussain, K.
Supersaturation spectra of ice nuclei [1992, p.309-312, eng] 47-2274
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Evaluation of low temperature and permanent deformation characteristics of some polymer modified asphalts [1990, 246p., eng] 47-3132
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Theme lecture: Periglacial and slope processes [1991, p.283-331, eng] 47-3885
Hutt, D.L.
Extinction of visible and infrared beams by falling snow [1992, p.5121-5132, eng] 47-449
Obscuration in snow and smoke [1990, p.101-110, eng] 47-910
Hutter, K.
Thermo-mechanically coupled ice-sheet response—cold, polythermal, temperate [1993, p.65-86, eng] 47-3941
Hvidt, A.
Ice-nucleating activity in the freeze-tolerant tardigrade *Adorybiotus coronifer* [1991, p.401-404, eng] 47-2107
Hyakutake, K.
Satellite observations of the area of sea ice in the Sea of Okhotsk [1992, p.281-284, eng] 47-150
Hyatt, J.A.
Cavity development in ice-rich permafrost, Pangnirtung, Baffin Island, Northwest Territories [1992, p.293-313, eng] 47-2238
Hyde, W.T.
Simulations of continental ice sheet growth over the last glacial-interglacial cycle: experiments with a one level seasonal energy balance model including seasonal ice albedo feedback [1992, p.37-55, eng] 47-1885
Hyndman, R.D.
"Ice" beneath the deep sea: studies of methane hydrate layers beneath the continental slope off Vancouver Island [1992, p.21-26, eng] 47-2821
Hyvärinen, V.
Case study of whirl ice-holes [1988, p.191-193, eng] 47-731
Hyvönen, E.
GPR and dielectric classification of glacial materials [1992, p.133-138, eng] 47-633
Hyyppä, J.
Classification of low-salinity sea ice types by ranging scatterometer [1992, p.2399-2413, eng] 47-255
IAdroshnikov, V.I.
Calculating the dynamics of snow avalanches [1993, p.4-8, rus] 47-4084
Protecting railroads on Sakhalin from avalanches [1992, p.2-11, rus] 47-371
IAkimets, V.
Arctic radioactive contamination: past legacy and future [1993, p.169-190, eng] 47-5029
IAkovlev, L.F.
Forecasting the temperature of water in the Norwegian Sea [1991, p.110-120, rus] 47-3962
IAkunin, L.P.
Changeability of ice cover and navigation conditions in the Bering Sea [1992, p.795-796, eng] 47-1877
Role of Penzhinskaya Bay and Shelikhov Gulf on ice productivity of the Okhotsk Sea [1992, p.348-350, eng] 47-162
IAkupov, V.S.
Regional characteristics governing permafrost thickness [1990, 142p., rus] 47-99
IAmskikh, A.F.
Paleosoils of the southern Yenisey region of Siberia: chronology, paleogeography, and cryogenesis [1991, p.27-34, rus] 47-4805
IAnbykh, N.N.
Frost resistance of concretes with air draw-in and gas-forming admixtures [1990, p.35-37, rus] 47-2163
IAniia, IA.
Studies of the tidewater Hansbreen Glacier on Spitsbergen [1991, p.143-149, rus] 47-2805
IArtsev, M.B.
Electromagnetic emissions associated with dynamic processes in ice [1992, p.43-46, eng] 47-414
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Naleds of the Putorana Plateau and their effect on valley landscapes [1991, p.162-166, rus] 47-2443
IAtsevich, S.E.
Remote sensing of snow using radar methods [1992, 36p., rus] 47-2910
Ice forecasting model helps operators extend arctic exploration periods
Ice forecasting model helps operators extend arctic exploration periods [1992, p.34, eng] 47-921
Ice plugs help in pipeline retrofit
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Igarashi, T.
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Igor Ilinskiy—multi-purpose arctic cargo ship [1990, p.28, eng] 47-104
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Some results of the derivation of ice sheet elevations in Antarctica from ERS-1 altimeter data [1993, p.241-245, eng] 47-4419
Iijima, H.
Actual conditions and countermeasures for pavement abrasion [1985, p.42-51, jpn] 47-5082
Maintenance and inspection of snow removal equipment [1986, p.33-38, jpn] 47-5178
Iina, I.
Bulletin on road snow removal in the 1985 snowstorms [1985, p.82-83, jpn] 47-5104
Bulletin on the budget for snow and cold weather operations for 1985 [1985, p.123, jpn] 47-5093
Estimated budget requirements for snow and cold weather operations for 1985 [1984, p.111-112, jpn] 47-5078
Estimated budget requirements for snow and cold weather operations for 1986 [1985, p.85-86, jpn] 47-5174
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Development of shock absorbers for snow removal graders [1993, p.30-33, jpn] 47-4789
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Thermodynamical behaviour of liquid water near the triple point [1991, p.4181-4198, eng] 47-917
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Detection of the Labrador current using ice-floe movement in synthetic aperture radar imagery and ice beacon trajectories [1992, p.223-245, eng] 47-2349
Momentum and heat fluxes over open water, sea ice and snow cover on an arctic lagoon [1992, p.75-80, eng] 47-119
Ocean circulation revealed by ice floe tracking [1993, p.351-353, eng] 47-4438
Ikegami, N.
Development of simple-operation sidewalk snow removal equipment [1993, p.26-29, jpn] 47-4788
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Hot water drill for glaciological research [1992, p.365-368, ger] 47-2204
Mechanisms of fast flow in Jakobshavns Isbrae, West Greenland: Part 1. Measurements of temperature and water level in deep boreholes [1993, p.15-25, eng] 47-3937
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Controlling river runoff with artificial glaciers [1991, p.54-59, rus] 47-1049
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Geoacoustic model of bottom sediments in the Baltic and Barents Seas [1992, p.953-956, rus] 47-1498
Il'in, V.M.
Designing technology for cloud modification [1991, p.106-112, rus] 47-758
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Glaciological examination—a necessary phase of developing arctic and subarctic regions [1991, p.186-190, rus] 47-2811
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Natural cleaning processes of arctic waters and ice from petroleum hydrocarbons and the role of microorganisms in them: annual cycle of field observations [1991, p.91-101, rus] 47-889
Ima, M.
Looking back at the snowstorms of 1984 [1984, p.75-79, jpn] 47-5071
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Simulations of rapid bimodal granular flows [1992, p.131-140, eng] 47-2127

Imura, S.
Study on phase changes of heterogeneous composite materials: effects of parameters on solidification process [1991, p.225-230, eng] 47-2556
Inaba, H.
Study of snow melting mechanism by solar radiative absorption material [1992, p.715-726, eng] 47-4363
Inagaki, M.
Study on the performance of various anti-skid devices [1985, p.90-95, jpn] 47-5089
Incoll, P.
Panelised forms of building construction for antarctic regions [1992, p.564-570, eng] 47-1842
India. Department of Ocean Development
Workshop on Antarctic Studies, May 3-5, 1988, National Physical Laboratory: seven years of antarctic research [1988, 54p., eng] 47-3630
Ingersoll, C.A.
Plant reproductive ecology and community structure along a subalpine snowmelt gradient [1991, 184p., eng] 47-296
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Recharge area evaluation for Moonlight Springs, Nome, Alaska [1992, 69p. + 2 sheets, eng] 47-1487
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Interannual variability of the atmospheric circulation and sea-ice cover in the Hudson Bay-Baffin Bay-Labrador Sea region, 1953-88 [1991, p.358-361, eng] 47-4490
Propagation of coastal-trapped waves under an ice cover in Hudson Bay [1992, p.593-620, eng] 47-2880
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Problem of evaluating the accuracy of radar measurements [1991, p.40-44, rus] 47-751
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Development of equipment for dealing with high snowbanks [1985, p.54-61, jpn] 47-5169
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Friction coefficient between model ice and roughened model surface [1992, p.131-137, jpn] 47-130
Science of snow and ice (1) [1984, p.15-18, jpn] 47-5062
Science of snow and ice (2) [1985, p.9-13, jpn] 47-5079
Science of snow and ice (3) [1985, p.7-10, jpn] 47-5094
Science of snow and ice (4) [1985, p.7-11, jpn] 47-5148
Science of snow and ice (5) [1985, p.7-10, jpn] 47-5162
Intera Technologies Limited
1985/86 season analysis: Lancaster Sound winter ice regime, Volume II [1986, 164p. + appends bound separately, eng] 47-522
International Arctic Science Committee
Acronyms and abbreviations for the polar science community [1992, 42p., eng] 47-2338
International Association for Great Lakes Research
35th conference, University of Waterloo, Ontario, May 31-June 4, 1992 [1992, 193p., eng] 47-600
International Conference on Cryopedology, 1st, Pushchino, Nov. 10-16, 1992
Proceedings of the 1st International Conference on Cryopedology [1992, 272p., eng] 47-1699
International Conference on Fly Ash, Silica Fume, Slag, and Natural Pozzolans in Concrete, 4th, Istanbul, Turkey, May 3-8, 1992
Proceedings [1993, 1681p. (2 vols.), eng] 47-3605
International Conference on Ground Penetrating Radar, 4th, Rovaniemi, Finland, June 8-13, 1992
Proceedings [1992, 365p., eng] 47-630
International Conference on Ice Technology, 3rd, Cambridge, MA, Aug. 11-13, 1992
Advances in ice technology; proceedings of the 3rd international conference [1992, 365p., eng] 47-1013
International Conference on Nucleation and Atmospheric Aerosols, 13th, Salt Lake City, UT, Aug. 24-28, 1992
Proceedings [1992, 523p., eng] 47-2253
International Conference on Offshore Mechanics and Arctic Engineering, 12th, Glasgow, Scotland, June 20-24, 1993
Proceedings. Vol.4. Arctic/polar technology [1993, 219p., eng] 47-4223
International Conference on Snow Engineering, 2nd, Santa Barbara, CA, June 21-26, 1992
Proceedings [1992, 485p., eng] 47-3182
International Geoscience and Remote Sensing Symposium, 12th, Houston, TX, May 26-29, 1992
IGARSS '92. International space year: space remote sensing [1992, 1776p. (2 vols.), eng] 47-637
International Niagara Working Committee
On the 1990-1991 operation of the Lake Erie-Niagara River ice boom [1991, 32p. + figs., eng] 47-4667
International Offshore and Polar Engineering Conference, 2nd, San Francisco, June 14-19, 1992
Proceedings. Vol.2 [1992, 806p., eng] 47-1828
International Scientific Advisory Committee
Report and recommendations [1991, 34p. + appends., eng] 47-432
International Symposium of Glacier Caves and Karst in Polar Regions, 1st, Madrid, Oct. 1-5, 1990
Proceedings [1991, 237p., eng] 47-22
International Symposium on Okhotsk Sea and Sea Ice, 7th, Mombetsu, Hokkaido, Japan, Feb. 2-5, 1992
Abstracts [1992, 415p., eng] 47-106
International Symposium on Snow Removal and Ice Control Technology, 3rd, Minneapolis, MN, Sep. 14-18, 1992
Preprints [1992, Var. p. (2 vols.), eng] 47-925
Intrieri, J.M.
Method for determining cirrus cloud particle sizes using lidar and radar backscatter technique [1993, p.1074-1082, eng] 47-4081
Irita, H.
Study on protective effect of finish coatings on frost damage of aerated lightweight concrete [1992, p.155-159, jpn] 47-134
Irons, J.G., III
Seasonal temperature patterns in an arctic and two subarctic Alaskan (USA) headwater streams [1992, p.147-157, eng] 47-780
Spatial and seasonal patterns of streambed water temperatures in an Alaskan subarctic stream [1989, p.381-390, eng] 47-2581
Irwin, P.A.
Effects of drifting on snow loads on large roofs [1993, p.508-513, eng] 47-5262
Effects of roof size and heat transfer on snow loads on flat roofs [1992, p.59-68, eng] 47-3188
Finite area element snow loading prediction—applications and advancements [1992, p.1537-1548, eng] 47-1583
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Isaac, G.A.
Aircraft observations of the origin and growth of very large snowflakes [1993, p.53-56, eng] 47-2846
Temperature-precipitation relationships for Canadian stations [1992, p.822-830, eng] 47-1268
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Freeze-thaw durability and scaling resistance of concrete paving blocks [1992, p.1017-1024, fre] 47-3343
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Geometry of OH- defect in condensed water phase. Defect localization and cooperative interaction of H-bonds [1992, p.14-19, eng] 47-203
MNDO/HB study of proton transfer in the condensed phase of H2O including medium effects in the combined "supermolecule and pseudo-continuum" model [1992, p.19-25, eng] 47-204
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Bulldozer equipment with a controlled blade for maintaining mountain roads [1992, p.17-18, rus] 47-2063
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Western Barents Sea and the Svalbard archipelago 18,000 years ago—a finite-difference computer model reconstruction [1992, p.295-301, eng] 47-470
Ishida, K.
Capability of sea ice monitoring by satellite remote sensing [1992, p.267-271, jpn] 47-147
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Study on blowing snow and snowdrift countermeasures [1993, p.1-4, jpn] 47-4783
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Aiming at lush green roads safe from snow—snowbreak forests along the Nakagawamachi-Kokufu stretch of Route R-40 [1992, p.91-96, jpn] 47-2510
Numerical simulation to estimate the wind- and snowbreak efficiency of snowbreak forests [1991, p.125-130, jpn] 47-2539
Ishihara, M.
Doppler radar analysis of the structure of mesoscale snow bands developed between the winter monsoon and the land breeze [1989, p.503-520, eng] 47-3466
Ishikawa, H.
Characteristics of snow pressure acting on avalanche-preventive fences [1992, p.323-331, eng] 47-3210
Ishikawa, I.
Direct evidence for melting transition at interface between ice crystal and glass substrate [1993, p.1137-1142, eng] 47-3289
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Relation between atmospheric and ice conditions along the Okhotsk Sea coast of Hokkaido [1992, p.41-46, jpn] 47-113
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Heat balance characteristics during fine periods on the lower parts of the Franz Josef Glacier, South Westland, New Zealand [1992, p.397-410, eng] 47-793
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Visibility reduced by snow in the wake of vehicles on highways [1992, 15p., eng] 47-963
Ishizaka, T.
Development of a method for predicting road surface temperature and icing on roads [1992, p.193-231, jpn] 47-3301
Development of a system for forecasting road surface freezing [1993, p.51-54, jpn] 47-4793
Ishizawa, K.
Laboratory test on construction of ice domes and their load-carrying capacity [1992, p.203-226, jpn] 47-975
Ishizuka, T.
Aiming at lush green roads safe from snow—snowbreak forests along the Nakagawamachi-Kokufu stretch of Route R-40 [1992, p.91-96, jpn] 47-2510
Ishizuka, Y.
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Wind tunnel experiments for building the snow shelter at Nita in Teshikagacho on National Highway 243 [1985, p.53-62, jpn] 47-4951
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Wind tunnel experiments on snowbreak forest planting in the Sarakitomanai district of Wakkanai on National Highway 40 [1983, p.17-32, jpn] 47-4943
Wind tunnel experiments on the snow shelter facility on National Highway 231 [1982, p.67-72, jpn] 47-4942
Ishman, S.E.
Circumantarctic benthic foraminifers [1993, p.105-133, eng] 47-4822
Late Neogene antarctic glacio-eustatic record, Victoria Land Basin margin, Antarctica [1992, p.327-347, eng] 47-2047
Ismail, K.A.R.
Complete model for the laminar flow of supercooled liquid water [1992, p.335-349, eng] 47-5265
Numerical and experimental study on supercooled laminar flow of water [1991, p.899-903, eng] 47-5108
Isobe, K.
Correspondence between radar precipitation gage output and ground weather observation data for blowing snow (Part 1) [1991, p.121-124, jpn] 47-2521
Pipe transport system for snow [1985, p.83-89, jpn] 47-5088
Using blowing snow observations in traffic management [1990, p.30-33, jpn] 47-4686
Ispirian, R.A.
Multilayered insulation ensuring human activity in extreme climatic conditions [1991, p.33, rus] 47-2477
Israel, IU.A.
Radioactivity and environmental problems for the seas and oceans [1993, p.65-78, eng] 47-5021
Israelsson, H.
Potential applications of polarimetry to the classification of sea ice [1992, p.419-430, eng] 47-3038
Issler, D.R.
New approach to shale compaction and stratigraphic restoration, Beaufort-Mackenzie basin and Mackenzie corridor, northern Canada [1992, p.1170-1189, eng] 47-2775
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Effectiveness of code provisions for snow accumulations on stepped roofs [1992, p.439-452, eng] 47-3220
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Itabashi, N.
Tests on improving the efficiency of road surface maintenance [1983, p.67-88, jpn] 47-4946
Tests on improving the efficiency of road surface maintenance [1984, p.43-68, jpn] 47-4948
Tests on snow removal trucks [1987, p.35-56, jpn] 47-4957
Italy. Programma Nazionale di Ricerche in Antartide
Antarctic Project: physics of the atmosphere and cosmophysics. Collection of publications Jan. 1986-July 1991, Vol.1 [1991, 634p., eng] 47-1821
Ito, H.
Kinematics of two dimensional granular material on a non-linear viscous base [1992, p.65-68, eng] 47-117
Report on improving the accuracy of radar precipitation gages (3rd report) [1992, p.165-170, jpn] 47-2492
Report on improving the accuracy of radar precipitation gages (Part 2)—study on using radar for runoff forecasting [1991, p.109-114, jpn] 47-2520
Ito, K.
Countermeasures to the problem of studded tires in Hokkaido [1985, p.63-68, jpn] 47-5084
Ito, N.
Frost heave damage to roads from abnormally low temperatures [1985, p.73-76, jpn] 47-5086
Transmission system for Q/L image of earth observation satellite data (2) [1992, p.244-248, jpn] 47-143
Ito, T.
Investigations on snow disasters and development of a disaster potential index [1992, p.147-156, eng] 47-3195
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Mechanical opening and shutting device for snow removal storm drain openings [1992, p.29-34, jpn] 47-2491

Iturriaga, R.
Influence of particulate matter on spectral irradiance fields and energy transfer in the eastern Arctic Ocean [1992, p.527-541, eng] 47-3736
IUdintseva, I.I.
Using schist and schist ash as a means of improving cultivated podzol soils [1991, p.66-75, rus] 47-4108
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Total atmospheric ozone measurements in Antarctica, 1988-1989 [1991, p.66-69, rus] 47-1577
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Cirrus identification from multichannel satellite data [1992, p.729-733, eng] 47-3158
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"Panarctic Flora and Fauna" Workshop (Moscow, 25 Feb.- 1 Mar.; Leningrad, 4-6 Mar. 1991) [1992, p.140-144, rus] 47-4094
Problems in identifying the tundra type of vegetation [1991, p.30-41, rus] 47-2356
Ivanov, A.I.
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Problem of the baroclinic instability of integral circulation of waters in the Norwegian Sea [1991, p.50-58, rus] 47-3690
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Variable pitch propellers for ice navigating ships [1990, p.38-40, rus] 47-4091
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Fluctuations in the water level of the Yenisey estuary during the summer-fall navigation period [1991, p.122-127, rus] 47-3699
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Exogenous processes of the Altai highlands and their relations [1991, p.26-33, rus] 47-3276
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Regelation of ice through debris at glacier beds: implications for sediment transport [1993, p.559-562, eng] 47-3997
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Introduction of rainwater infiltration facilities in cold regions [1992, p.213-218, jpn] 47-2506
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Analysis for dynamic ice structure interaction involving finite difference model and damage considerations [1993, p.199-206, eng] 47-4247
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Izmailov, V.V.
Natural cleaning processes of arctic waters and ice from petroleum hydrocarbons and the role of microorganisms in them: annual cycle of field observations [1991, p.91-101, rus] 47-889
Izotov, V.N.
Possibility of using nondestructive diagnostic methods to *evaluate the condition of the material in the foundations of* buildings and structures erected on permafrost: (operational-information material) [1989, 44p., rus] 47-2316
Izrael', IU.A.
Earth's ozone shield and its variation [1992, 288p., rus] 47-1501
Izumi, K.
Aircraft measurement of atmospheric CO2 over Siberia [1993, p.21-29, eng] 47-3971
Mechanical properties of high water content snow [1992, p.313-321, eng] 47-3209
Izumi, M.
Estimation of ground snow depth based on topographic factors [1992, p.21-32, eng] 47-3185
Field measurement and characteristic analyses of snow load on flat roofs [1992, p.69-80, eng] 47-3189
Jackson, G.
Optical characteristics of heat-affected bitumens from the Nanisivik mine, N.W. Baffin Island, arctic Canada [1993, p.359-376, eng] 47-4829
Jackson, L.E., Jr.
Late Wisconsinan glaciation of the Glenlyon Range, Pelly Mountains, *Yukon Territory, Canada* [1992, p.2007-2012, eng] 47-4158
Jackson, M.P.A.
Diapirism on Triton: a record of crustal layering and instability [1993, p.299-302, eng] 47-4593
Jackson, P.H.
Snow-disposal unit and method [1986, 8 col., eng] 47-4265
Jackson, P.M.
Marginal Ice Zone oceanographic variability and its effects on acoustic propagation [1991, p.87-101, eng] 47-1074
Jackson, W.A.
Hydrologic analysis of the Gulkana National Wild River, Alaska [1989, p.331-340, eng] 47-2579
Jacob, D.J.
Deposition of ozone to tundra [1992, p.16,473-16,479, eng] 47-1449
Summertime photochemistry of the troposphere at high northern latitudes [1992, p.16,421-16,431, eng] 47-1446
Jacobs, M.
Development of a portable ice-thickness measuring instrument. Final report. Phase I [1992, 28p., eng] 47-4883
Jacobs, S.S.
Is the antarctic ice sheet growing [1992, p.29-33, eng] 47-1072
Melting of ice shelves and the mass balance of Antarctica [1992, p.375-387, eng] 47-1389
Ocean interactions with the base of Amery Ice Shelf, Antarctica [1992, p.20,305-20,317, eng] 47-2342
Jacobson, J.S.
Acidic mist and nitrogen fertilization effects on growth, nitrate reductase activity, gas exchange, and frost hardiness of red spruce seedlings [1992, p.611-622, eng] 47-1558
Jacoby, G.C., Jr.
Dendroclimatic evidence from northern North America [1992, p.296-311, eng] 47-2090
Jacyszyn, F.
Influence of water ice absorption on transmission for a 10.5- to 12.5-micron filter/window [1992, p.1952-1954, eng] 47-2234
Jaeger, C.H.
Adaptive significance of nitrogen storage in *Bistorta bistortoides*, an alpine herb [1992, p.578-585, eng] 47-2711
Jaenicke, R.
Application of microholography for ground-based *in situ* measurements in stratus cloud layers: a case study [1993, p.277-293, eng] 47-3772
Jaffe, D.A.
Seasonal cycle of nitrogen oxides in the arctic troposphere at Barrow, Alaska [1992, p.20,615-20,630, eng] 47-2054
Jaffrezo, J.L.
Sulfate in the air, surface snow and snowpits at Dye 3, Greenland [1991, p.1693-1704, eng] 47-2219
Jahn, A.
Slow soil movement in Tarfala Valley, Kebnekaise Mountains, Swedish Lapland [1991, p.93-107, eng] 47-4309
Jain, S.C.
Flow regulation for controlled river-ice formation [1993, 50p., eng] 47-4662
Jain, S.K.
Short review on the potentialities of isotope techniques in snow hydrology [1985, p.144-150, eng] 47-567
Jairell, R.L.
Harvesting snow when water levels are low [1992, p.121-124, eng] 47-501
Trapping efficiency of snow fences and implications for system design [1992, 11p., eng] 47-944
Jakob, M.
Active rock glaciers and the lower limit of discontinuous alpine permafrost, Khumbu Himalaya, Nepal [1992, p.253-256, eng] 47-1780
Jakobsen, B.H.
Aspects of the genesis, geography and evolution of the soils of Greenland [1992, p.71-84, eng] 47-1707
Jakosky, B.M.
Coupled subsurface-boundary layer model of water on Mars [1993, p.3319-3337, eng] 47-2670
Geographic variations in the thermal and diffusive stability of ground ice on Mars [1993, p.3345-3364, eng] 47-2672
Jakubowski, G.S.
Comparison of correlations to describe natural convection heat transfer to a melting ice object [1991, p.41-48, eng] 47-2767
Jamaleddine, A.
Simulation of ice-shedding on electrical transmission lines using ADINA [1993, p.523-536, eng] 47-4857
James, J.
Physiology of trees at treeline [1993, p.105-114, eng] 47-4533
James, S.P.
Angular variation of the infrared emissivity of ice and water surfaces [1992, p.2873-2886, eng] 47-821
James, T.S.
Comparison of VLBI data with the ICE-3G glacial rebound model [1993, p.871-874, eng] 47-4631
Hudson Bay free-air gravity anomaly and glacial rebound [1992, p.861-864, eng] 47-2598
Postglacial deformation [1991, 198p., eng] 47-291
Jameson, A.R.
Observing precipitation through dual-polarization radar measurements [1992, p.1365-1374, eng] 47-822
Jamieson, J.B.
Experience with rutschblocks [1992, p.1,4-5, eng] 47-1886
Snowpack characteristics associated with avalanche accidents [1992, p.862-866, eng] 47-1441
Jania, J.
Possibilities for studying the structure and the regime of Svalbard tide water glaciers by remote sensing methods [1991, p.151-161, eng] 47-30
Janna, W.S.
Comparison of correlations to describe natural convection heat transfer to a melting ice object [1991, p.41-48, eng] 47-2767
Janoo, V.C.
Low temperature cracking experiment at USACRREL Frost Effects Research Facility [1992, p.289-307, eng] 47-1139
Performance of asphalt concrete airport pavements during thaw weakening periods: a field study [1992, p.167-183, eng] 47-1135
Use of falling weight deflectometer (FWD) to characterize seasonal variation in pavement response [1992, p.395-404, eng] 47-2628
Janssen, D.J.
Comparison of four aggregates using the Washington hydraulic fracture test [1991, p.57-67, eng] 47-1131
Jansson, P.
Intra-seasonal changes in deformation profiles revealed by *borehole studies, Storglaciären, Sweden* [1992, p.348-358, eng] 47-1387
Japan Association for Mechanization of Construction (Nihon kensetsu kikaika kyokai)
New snow protection engineering handbook [1988, 527p., jpn] 47-4724
Jarrett, T.K.
Prototype climate information system [1993, 71p., eng] 47-2611
Järvinen, E.
Results from indentation tests in sea ice [1993, p.177-185, eng] 47-4245
Jarvis, E.P.
Seismic characteristics of an airgun fired over snow [1993, p.201-207, eng] 47-2651
Short-offset seismic refraction results near Rothera Station, Antarctic Peninsula [1992, p.479-480, eng] 47-905
Jasek, M.
Ice jam flood assessment—Yukon River at Dawson [1992, 145p., eng] 47-1244
Jaworowski, Z.
Atmospheric CO2 and global warming: a critical review [1992, 76p., eng] 47-2289
Do glaciers tell a true atmospheric CO2 story [1992, p.227-284, eng] 47-235
Jean-Baptiste, P.
Measurement of helium isotopes in Vostok ice core [1993, p.491-497, fre] 47-3041
Jefferies, M.G.
Some aspects of the behavior of Beaufort Sea clays [1985, p.487-514, eng] 47-1617

Jeffries, M.O.
Arctic ice shelves and ice islands: origin, growth and disintegration, physical characteristics, structural-stratigraphic variability, and dynamics [1992, p.245-267, eng] 47-827
C-band SAR backscatter from ice on shallow tundra lakes: observations and modelling [1993, p.333-337, eng] 47-4435
Fast-ice properties and structure in McMurdo Sound [1991, p.94-95, eng] 47-3516
Structural characteristics and development of sea ice in the western Ross Sea [1993, p.63-75, eng] 47-2245
Summer pack-ice properties and structure in the western Ross Sea [1991, p.95-97, eng] 47-3517
Jenkins, A.
Melting of ice shelves and the mass balance of Antarctica [1992, p.375-387, eng] 47-1389
Jenkins, M.A.
Effect of soil moisture and thaw depth on CH4 flux from wet coastal tundra ecosystems on the North Slope of Alaska [1993, p.329-337, eng] 47-3434
Jenkins, M.J.
Mountain conifers reduce snow avalanche hazard in French Alps [1993, p.4-5, eng] 47-1887
Jenkins, R.B.
Influence of immersion vibration on the void system of air entrained concrete [1992, p.99-126, eng] 47-2573
Jenkins, T.F.
Comparison of analytical methods for determination of volatile organic compounds in soils [1992, p.1932-1938, eng] 47-862
Comparison of cartridge and membrane solid-phase extraction with salting-out solvent extraction for preconcentration of nitroaromatic and nitramine explosives from water [1992, 31p., eng] 47-2232
Comparison of solid phase extraction with salting-out solvent extraction for preconcentration of nitroaromatic and nitramine explosives from water [1993, p.316-321, eng] 47-3913
Development of field screening methods for TNT, 2,4-DNT and RDX in soil [1992, p.33-45, eng] 47-1819
Field screening methods for TNT, RDX and 2,4-DNT in soil and water [1993, p.282-287, eng] 47-3912
Identification of TNT transformation products in soil [1992, 31p., eng] 47-699
Jenkins, W.T.
Polar operations manual [1988, Var. p., eng] 47-4665
Jensen, E.J.
Numerical model of polar mesospheric cloud formation and evolution [1990, 183p., eng] 47-88
Jensen, J.A.
Rapid Deployment Imagery Terminal (RDIT) using DMSP special sensor data [1992, p.202-211, eng] 47-1070
Jensen, L.
Time series analyses of radiation, temperature and discharge at Austre Okstindbreen, Nordland, Norway [1992, p.718-727, eng] 47-1984
Jensen, O.G.
Analysis of ground-probing radar data: predictive deconvolution [1991, p.134-139, eng] 47-3309
Jensen, T.G.
Coupling of the CSU GCM to a simple ocean and sea ice model [1991, p.321-322, eng] 47-4485
Jentsch, V.
Cloud-ice-vapor feedbacks in a global climate model [1987, p.417-437, eng] 47-4456
Jessberger, H.L.
Strength and creep behaviour of frozen saline fine sand [1992, p.3033, eng] 47-1817
Jessop, A.M.
Climatic changes in central and eastern Canada inferred from deep borehole temperature data [1992, p.129-141, eng] 47-2020
Ground temperature histories in eastern and central Canada from geothermal measurements: evidence of climatic change [1992, p.167-184, eng] 47-2022
Jeyaram, A.
Snowmelt runoff using Landsat imageries [1985, p.11-21, eng] 47-558
Jezek, K.C.
Analysis of synthetic aperture radar data collected over the southwestern Greenland ice sheet [1993, p.119-132, eng] 47-3946
Laboratory investigations of the electromagnetic properties of artificial sea ice [1992, p.177-200, eng] 47-3023
Radar backscatter measurements from arctic sea ice during the fall freeze-up [1993, 66p., eng] 47-4621
Sea ice altimetry [1992, p.111-135, eng] 47-3021
Spatial patterns in backscatter strength across the Greenland ice sheet [1993, p.269-272, eng] 47-4424
Jia, P.Q.
Review of antarctic sea ice problems: observations [1992, p.51-58, chi] 47-73
Jiang, G.W.
Preliminary study of ice nucleating properties of loess particles [1992, p.275-277, eng] 47-2266
Jiao, K.Q.
Glaciologic studies on Guliya Ice Cap [1992, p.233-241, chi] 47-1663
Jin, M.X.
Basal deformation of Ürümqi Glacier No.1, Tien Shan mountains, China [1992, p.123-126, eng] 47-1096
Recent change and trend prediction of glaciers in Qilian Mountain [1992, p.1-9, chi] 47-1533
Surface movement velocity of the Qiyi Glacier in Qilian Mountain [1992, p.40-44, chi] 47-1537
Jing, X.P.
Basal deformation of Ürümqi Glacier No.1, Tien Shan mountains, China [1992, p.123-126, eng] 47-1096
Jo, C.H.
Numerical study of movement of an icebreaking tanker moored to an offshore SPM terminal in arctic condition [1992, 152p., eng] 47-273
Joetsu City Construction Department
Snow countermeasures in Joetsu City [1985, p.45-49, jpn] 47-5167
Joh, O.
Statistical analysis of annual extreme ground snow weights for structural design [1992, p.3-14, eng] 47-3183
Survey of roof snow depths by aerial photogrammetry [1992, p.93-103, eng] 47-3191
Johannessen, B.O.
Airborne video as satellite imagery ground truthing [1992, p.337-349, eng] 47-1040
Calibrated ERS-1 SAR signatures and video underflights over arctic ice [1992, p.1536-1538, eng] 47-683
Johannessen, O.M.
Ambient noise generation by ice-ocean jets, eddies and tidal current in the marginal ice zone [1992, p.28-38, eng] 47-4717
Ice studies in the Barents Sea by ERS-1 SAR during SIZEX 92 [1993, p.277-282, eng] 47-4425
Microwave study programs of air-ice-ocean interactive processes in the seasonal ice zone of the Greenland and Barents seas [1992, p.261-289, eng] 47-3027
Northeast passage: ERS-1 ice routing for the Polar/Vessel *L'Astrolabe* [1991, p.227-236, eng] 47-3410
Spatial variation in ambient sound level within ice edge eddies [1993, p.563-571, eng] 47-4837
Johannessen, T.
What were the primary forcing mechanisms of high-frequency Holocene climate and glacier variations [1992, p.79-84, eng] 47-53
Jóhannesson, T.
Degree-day glacier mass balance modelling with applications to glaciers in Iceland and Norway [1993, 40p., eng] 47-3707
Glacier hydrology in a changing climate [1992, p.683-692, eng] 47-1980
Johansen, B.
Many challenges ahead for exploration, development in Norwegian-Russian Arctic [1992, p.31-32, eng] 47-919
Johansson, B.
Reliability of guyed masts with special reference to arctic conditions [1991, 18p., eng] 47-5011
Johansson, R.
C-band radar backscatter of Baltic Sea ice: theoretical predictions compared with calibrated SAR measurements [1992, p.2447-2468, eng] 47-258
Johari, G.P.
Calorimetric study of pressure-amorphized cubic ice [1990, p.1212-1214, eng] 47-817
Defect theory for the glass transition and residual entropy of hyperquenched water [1993, p.7324-7329, eng] 47-3684
Dielectric study of the structure of hyperquenched glassy water and its crystallized forms [1992, p.5851-5855, eng] 47-988
John, R.D.
Environmental impacts of three runway de-icers [1993, p.323-330, eng] 47-4473
Johnsen, S.J.
Bore-hole survey at dome GRIP 1991 [1993, p.399-402, eng] 47-5209
Irregular glacial interstadials recorded in a new Greenland ice core [1992, p.311-313, eng] 47-485
On flow model dating of stable isotope records from Greenland ice cores [1993, p.13-24, eng] 47-2863
PIXE analysis as a tool for dating of ice cores from the Greenland ice sheet [1993, p.428-434, eng] 47-4592
Johnson, B.
Black carbon concentration in a Greenland Dye-3 ice core [1992, p.1951-1953, eng] 47-1181
Black carbon concentration in Byrd Station ice core: from 13,000 to 700 years before present [1992, p.625-629, eng] 47-2005
Johnson, D.B.
Hail growth hysteresis [1992, p.2525-2532, eng] 47-3674
Johnson, D.E.
Numerical simulations of the 2 August 1981 CCOPE supercell storm with and without ice microphysics [1993, p.745-759, eng] 47-3510
Johnson, F.
Evaluation of limits to the performance of the surface roughness meter [1993, p.140-145, eng] 47-4591
Johnson, G.L.
Mobile marine operations structure [1989, 38 col., eng] 47-3323
Mobile marine operations structure [1988, 30 col., eng] 47-4261
Using a nuclear submarine for arctic research [1992, p.209,220-221, eng] 47-2600
Johnson, J.B.
Effects of temperature on an ISL-PVDF shock sensor between +20 C and -40 C [1992, p.891-892, eng] 47-1142
Shock response of snow [1993, p.4852-4861, eng] 47-3794
Shock response of snow: analysis of experimental methods and constitutive model development [1992, 19p., eng] 47-705
Shock wave studies of snow [1992, p.107-110, eng] 47-1143
Johnson, L.
Nansen Arctic Ocean Drilling Program [1992, p.553-556, eng] 47-1840
Johnson, P.G.
Development of an ice-dammed lake: the contemporary and older sedimentary record [1992, p.304-313, eng] 47-1587
Micro-relief on a rock glacier, Dalton Range, Yukon, Canada [1992, p.41-47, eng] 47-3125
Stagnant glacier ice, St. Elias Mountains, Yukon [1992, p.13-19, eng] 47-4319
Johnson, R.C.
Model study of cable-moored conical platform [1993, p.12-31, eng] 47-4284
Johnsson, H.
Electrical conductivity in soil solution of frozen and unfrozen soils measured by time domain reflectometry [1992, p.241-250, eng] 47-1964
Johnsson, M.J.
Tectonics and petroleum potential of the Brooks Range fold and thrust belt—a progress report [1992, p.112-126, eng] 47-614
Johnston, C.A.
Influence of beaver and bogs on greenhouse gases at Voyageurs National Park [1992, p.471-479, eng] 47-2732
Johnston, C.D.
Durability of high early strength silica fume concretes subjected to accelerated and normal curing [1993, p.1167-1187, eng] 47-3613
Experience with rutschblocks [1992, p.1,4-5, eng] 47-1886
Snowpack characteristics associated with avalanche accidents [1992, p.862-866, eng] 47-1441
Johnston, J.C.
Urban snow dump quality and pollutant reduction in snowmelt by sedimentation [1993, p.9-21, eng] 47-3719
Johnston, P.V.
Evidence for heterogeneous reactions in the antarctic autumn stratosphere [1993, p.49-51, eng] 47-1594
Joint CSCE-ASCE National Conference on Environmental Engineering, 2nd, Montreal, July 12-14, 1993
Proceedings [1993, 2078p. (2 vols.), eng] 47-4465
Jonas, D.L.
Staff weather advisor: a person for all seasons (and many reasons) [1992, 3p., eng] 47-958
Jonasson, C.
Lichenometrical studies and dating of debris flow deposits in the High Tatra Mountains, Poland [1991, p.141-146, eng] 47-4337
Jonasson, S.
Root mechanical properties related to disturbed and stressed habitats in the Arctic [1992, p.179-186, eng] 47-1557
Jones, D.
Canadian experience with air cushion vehicle skirts [1993, p.23-34, eng] 47-3797
Jones, D.E.
Compressive strength of ice cubes of different sizes [1993, p.142-148, eng] 47-4060
Jones, E.P.
Tracing upper waters of the Nansen Basin in the Arctic Ocean [1992, p.S425-S433, eng] 47-1272
Jones, H.G.
Laboratory investigation of the leaching of solute from snowpack by rainfall [1992, p.169-178, eng] 47-376
Nitrogen dynamics and sub-ice meltwater patterns in a small boreal lake during snowmelt [1992, p.169-180, eng] 47-4046
Jones, K.F.
Comments on "The density of natural ice accretions related to non-dimensional icing parameters" by K.F. Jones [1993, p.599-609, eng] 47-3646
Jones, M.B.
Winter injury to Subalpine red spruce: influence of prior vigor and effects on subsequent growth [1992, p.888-892, eng] 47-1481
Jones, P.D.
Behaviour of New Zealand glaciers and atmospheric circulation changes over the past 130 years [1992, p.97-106, eng] 47-54
Climate since A.D. 1500 [1992, 679p., eng] 47-2078
Climate since A.D. 1500: introduction [1992, p.1-16, eng] 47-2079

Climatic variations in the longest instrumental records [1992, p.246-268, eng] 47-2088
Climatic variations over the last 500 years [1992, p.649-665, eng] 47-2102
Decadal timescale links between Antarctic Peninsula ice-core *oxygen-18, deuterium and temperature* [1993, p.14-26, eng] 47-4143

Jones, R.A.
NMR imaging of roots: effects after root freezing of containerised conifer seedlings [1992, p.329-334, eng] 47-1627

Jones, R.H.
Apples and oranges of salt and sand [1992, p.58-59, eng] 47-1928

Jones, S.B.
Revised snowstorm maximization method for Canadian boreal regions [1993, p.449-454, eng] 47-4401

Jones, S.J.
First-year sea ice forces on a mobile arctic caisson in the Beaufort Sea [1991, 3p., eng] 47-1365
Model ice forces on an upward breaking multifaceted cone [1993, 52p. + appends., eng] 47-3709
Proposed standard method for conduct and analysis of ice resistance model tests [1992, 10p., eng] 47-1341
Some thermal and mechanical properties of flooded ice [1990, 96p., eng] 47-1346

Jonsson, S.
Local climate and mass balance of a blue-ice area in western Dronning Maud Land, Antarctica [1990, p.11-29, eng] 47-3571

Jorat, L.J.
Dielectric properties of normal supercooled water obtained in alcohol/water mixtures [1992, p.1136-1143, eng] 47-2294

Jordaan, I.J.
Description of multi-year ice indentation tests at Hobson's Choice Ice Island—1990 [1993, p.145-155, eng] 47-4242
Flow properties of crushed ice [1993, p.11-19, eng] 47-4225
Fracture and damage of ice: towards practical implementation [1993, p.251-260, eng] 47-3758
Iceberg trajectory model—real-time verification [1992, 47p. + appends., eng] 47-2335
Probabilistic analysis of local ice pressures [1993, p.83-89, eng] 47-2668
Problems of design for operation and transportation in subarctic offshore environments [1993, p.311-322, eng] 47-4472

Jordan, J.E.
Airborne instrumentation and computing facilities for the Canadian Atlantic Storms Program (CASP II) [1993, p.181-185, eng] 47-3069

Jordan, J.R.
Remote sensing of the arctic boundary layer [1992, p.J33-J36, eng] 47-2411

Jordan, R.
Comparison of millimeter-wave radar observations of snow with energy and mass transfer simulation [1992, p.815-817, eng] 47-658

Jörgensen-Dahl, A.
Arctic and the rest [1991, p.55-61, eng] 47-4859

Jörgensen, P.
Hydrogeology at Romerike [1992, p.3/1-3/10, eng] 47-2823

Jorgenson, J.K.
Schooling behaviour of arctic cod, *Boreogadus saida*, in relation *to drifting pack ice* [1993, p.345-357, eng] 47-4061

Josberger, E.G.
Use of microwave radiometry for characterizing snow storage in large river basins [1991, p.73-80, eng] 47-1294

Josefsson, M.
Ground temperature variations in a subarctic mountain valley, Abisko, northern Sweden [1990, p.179-190, eng] 47-4312

Joseph, P.
Evaluation of polymer-modified asphalts in Ontario [1992, p.243-269, eng] 47-1137

Josephson, J.
Cleanup in the Arctic [1993, p.585, eng] 47-4020

Joshi, A.P.
Annual nutrient budget for an alpine grassland in the Garhwal *Himalaya* [1992, p.21-26, eng] 47-512

Joshi, M.D.
Possibilities of snow cover estimation using satellite imageries [1985, p.120-124, eng] 47-530
Slope monitoring in high hills using LANDSAT imageries [1985, p.196-203, eng] 47-538

Joshi, R.C.
Creep behavior of fine-grained frozen soils: discussion and *reply [1993, p.385-389, eng]* 47-4515
Temperature-independent relationships for frozen soils [1992, p.1-21, eng] 47-516

Joshi, S.R.
Geochemistry and organic contaminants in the sediments of Great Slave Lake, Northwest Territories, Canada [1992, p.10-19, eng] 47-3349

Jost, D.T.
Scavenging of atmospheric constituents by alpine snow [1991, p.483-493, eng] 47-2215

Jousseame, S.
Paleoclimatic tracers: an investigation using an atmospheric general circulation model under ice age conditions. 1. Desert dust [1993, p.2767-2805, eng] 47-2702

Jouzel, J.
Extending the Vostok ice-core record *of palaeoclimate to the* penultimate glacial period [1993, p.407-411, eng] 47-4573
Glacials-interglacials in Vostok: climate and greenhouse gases [1993, p.131-143, eng] 47-4587
Ice core record: past archive of the climate and signpost to the future [1992, p.227-234, eng] 47-3142
Last deglaciation in Antarctica: further evidence of a "Younger Dryas" type climatic event [1993, p.229-266, eng] 47-2866

Juárez-Badillo, E.
Creep behavior of fine-grained frozen soils: discussion and reply [1993, p.385-389, eng] 47-4515

Judd, D.
Depth sensors, part 2 [1993, p.6-7, eng] 47-3263
Working wih ultrasonic snow depth sensors [1993, p.6-7, *eng*] 47-3262

Judge, A.S.
Analysis of ground-probing radar data: predictive deconvolution [1991, p.134-139, eng] 47-3309
Characterization of massive ground ice at Yaya Lake, Northwest Territories using radar stratigraphy techniques [1993, p.23-32, eng] 47-3703
Geothermal conditions for gas hydrate stability in the Beaufort-Mackenzie area: the global change aspect [1992, p.251-263, eng] 47-2025

Juillet-Leclerc, A.
New method to reconstruct sea surface salinity: application to the North Atlantic Ocean during the Younger Dryas [1992, p.201-217, eng] 47-3559

Juil, A.J.T.
Cosmogenic nuclides in ice sheets [1992, p.227-233, eng] 47-1478

Jump, B.E.
ITS-90 traceability with non-ITS-90 equations [1992, p.203-208, eng] 47-2965

Jung, D.H.
Statistical analysis of low temperature thermal stress restrained specimen test *results [1992, p.200-223, eng]* 47-1136

Junttila, O.
Growth and development of northern forest trees as affected by temperature and light [1993, p.43-57, eng] 47-4528
Influence of season and phenology on freezing tolerance in *Silene acaulis* L., a subarctic and arctic cushion plant of circumpolar distribution [1993, p.423-426, eng] 47-4911

Jurick, R.
Tracer gas for *meteorological analysis in the Fairbanks* basin [1981, 33p. + appends., eng] 47-5246

Jyumonji, M.
Active remote sensing of the earth using a powerful dye laser [1992, p.254-258, eng] 47-145

Kaasen, N.O.
Afforestation of Lutz spruce, Sitka spruce, and Norway spruce in the Vesteraalen Islands, Norway [1993, p.427-436, *eng*] 47-4553

Kaasen, T.
Afforestation of Lutz spruce, Sitka spruce, and Norway spruce in the Vesteraalen Islands, Norway [1993, p.427-436, eng] 47-4553

Kachroo, P.N.
Single pressure-time parameter for snow under compression [1985, p.249-256, eng] 47-543
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Kadomtseva, T.G.
Characteristics of climate and glacier ablation in the *inter*tropical Andes [1991, p.99-107, rus] 47-2795
Snow cover distribution in the upland zones of the Greater Caucasus [1991, p.34-39, rus] 47-318
Snow cover of non-Soviet Asia [1991, p.28-34, rus] 47-317

Kadonaga, L.
Smoky futures, blurred visions: fire, boreal forests, and global *warming forecasts* [1992, p.517-525, *eng*] 47-2736

Kadota, T.
Predictions of changes of glacier mass balance in the Nepal Himalaya and Tibetan Plateau: a case study of air temperature increase for three glaciers [1992, p.89-94, eng] 47-1092

Kadoyama, Y.
Study on skid resistance of winter tires [1985, p.50-53, jpn] 47-5168

Kadzhaia, T.G.
Chain-type excavators for digging slit trenches in rocks [1991, p.4-6, rus] 47-2066

Kaga, T.
Freeze sampling of the riverbed sediment at Chubetsu Dam [1992, p.329-334, jpn] 47-2507

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Analysis of the dynamic characteristics of the shaft line and main thrust bearing of the "Arctic" type icebreaker [1992, p.15-19, rus] 47-2919

Kageorge, P.W.
Pneumatic deicers with inextensible threads [1987, 8 col., eng] 47-3999

Kahl, J.D.
"Major" *arctic haze event north of Point Barrow, Alaska,* April 1986 [1988, p.112-115, eng] 47-4195
Absence of evidence for greenhouse warming over the Arctic Ocean in the past 40 years [1993, p.335-337, eng] 47-1939
In situ meteorological sounding archives for arctic studies [1992, p.1824-1830, eng] 47-1625
Lower tropospheric temperature trends over the Arctic Ocean: 1950-1990 [1992, p.141-144, eng] 47-2402
Predicted heights of buoyant convection above open leads in the winter arctic pack ice cover [1992, p.J3/45-J3/48, *eng*] 47-880
Trend analyses of tropospheric temperatures in the Arctic—is there evidence of greenhouse warming [1992, p.137-140, eng] 47-2401
Tropospheric low-level temperature inversions in the Canadian Arctic [1992, p.511-529, eng] 47-2876

Kahle, K.H.
Cold Weather Transit Technology Program. Volume 1: Executive *summary.* Final report [1992, 34p., eng] 47-4612

Kahrs, J.E.
Synoptic climatology of continental polar mesolows over central North America in winter [1992, p.145-146, eng] 47-2403

Kajiya, Y.
Winter road management, testing and research trends in Europe and the United States [1991, p.137-140, jpn] 47-2541

Kaku, T.
Study in skid resistance on compacted snow and ice covered road surfaces [1984, p.600-606, jpn] 47-860

Kakuta, S.
Surface-temperature history during the last 1000 years near Prudhoe Bay, Alaska: applying control theory to the inversion of borehole temperature profiles [1992, p.225-244, eng] 47-2023

Kalafut, J.
Effects of temperature on an ISL-PVDF shock sensor between +20 C and -40 C [1992, p.891-892, eng] 47-1142

Kaldeich, B.
Proceedings [1993, 2 vol., eng] 47-4415

Kalema, T.
Thermal analysis of buildings—verification and further development of the TASE program [1992, 185p., eng] 47-2590

Kalinichenko, L.A.
Method for short-term forecasting of the position of the close *pack ice edge in the northern Caspian Sea* [1992, p.58-63, eng] 47-3992

Kalinin, E.N.
Probabilistic estimate of the Okhotsk Sea ice vertical profile [1992, p.57-61, eng] 47-115

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Regional characteristics governing permafrost thickness [1990, 142p., rus] 47-99

Kalitowski, M.
Snow science: reflections on the past, perspectives on the future [1992, 46p., eng] 47-477

Kaliuzhnyi, I.L.
Effectiveness of snow fences in cultivated fields [1991, p.57-66, rus] 47-384
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Comments on "Detection of climatic change in the western North American Arctic using a synoptic climatological approach" [1993, p.1473-1478, eng] 47-5215
Summer energy balance on West Gulkana Glacier, Alaska, and linkages to a temporal synoptic index [1992, p.15-34, eng] 47-1003

Kalma, J.D.
Bioclimatology of frost [1992, 144p., eng] 47-1794

Kalov, Kh.M.
Statistical evaluation of the correlations among the parameters of hail clouds during cloud seeding [1991, p.136-143, rus] 47-761

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Disko Bugt Project 1991, west Greenland [1992, p.36-41, eng] 47-1638

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Komb, B.
Characteristics of the bed of the lower Columbia Glacier, Alaska [1993, p.837-846, eng] 47-2660
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Kamenshchikov, L.
Oil from beneath the ice [1992, p.9-11, rus] 47-2934

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New sea ice normals (1961-90) and the latest sea ice condition in the Sea of Okhotsk [1992, p.27-29, jpn] 47-109

Kamimura, H.
Automation of snow removal graders [1990, p.20-23, jpn] 47-4684
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Reliability of snow removal equipment [1986, p.39-45, jpn] 47-5179

Kamimura, S.
Estimation of daily snow mass on the ground using air temperature and precipitation data [1992, p.157-167, eng] 47-3196
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Development of snow removal information systems [1990, p.9-11, jpn] 47-4681

Kaminski, D.F.
PASCON: an expert system for passive snow control on highways [1991, p.193-201, eng] 47-1803

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Kaminuma, K.
U.S. Palmer Station in Antarctica [1991, p.3-6, jpn] 47-404

Kamleska, L.
Distribution and abundance of krill *Euphausia superba* Dana at the ice edge zone between Elephant Island and the South Orkney Islands [1991, p.593-603, eng] 47-3094

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New band of emission from high-energy-electron-irradiated ice at very low temperature [1992, p.9558-9561, eng] 47-1567

Kamiyama, K.
Atmospheric conditions reflected in chemical components in *snow over east Queen Maud Land, Antarctica* [1992, p.88-98, eng] 47-3009

Kamyshev, A.P.
Restoring disturbed soils under conditions in the Far North: basis for design solutions [1991, p.10-11, rus] 47-2482

Kanaev, L.A.
Geography of avalanches [1992, 331p., *rus*] 47-3505
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Kanda, H.
Antarctic science conference, Germany, 1991 [1992, p.57-60, jpn] 47-3624

Kaneda, Y.
Three-dimensional numerical simulation of snowdrift [1992, 13p., eng] 47-942

Kaneko, K.
Oscillation of the freezing potential of aqueous lithium chloride solutions containing ethanol [1992, p.2511-2516, eng] 47-461

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Snow removal channeling operations—battle against snow and ice bars [1992, p.201-204, jpn] 47-2504

Kanerva, H.K.
Low temperature cracking experiment at USACRREL Frost Effects Research Facility [1992, p.289-307, eng] 47-1139

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Current processes in slightly soddy-podzolic loamy soils [1991, p.13-29, *rus*] 47-4104

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Comparison: Palaeoenvironmental change record of Chinese loess and antarctic ice cores over the last 150,000 years [1991, p.15-23, eng] 47-37

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Fragilariopsis cylindrus (Grunow) Krieger: the most abundant diatom in water column assemblages of antarctic marginal ice-edge zones [1992, p.609-627, eng] 47-1623
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Characteristics of the recent climatic variations over the Qilian Mountain area [1992, p.45-53, chi] 47-1538
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Study on local circulation and temperature in alpine glaciated area [1992, p.141-152, chi] 47-1631
Study on the climatic variation in the Qilian Mountain region for the historical period [1992, p.54-63, chi] 47-1539

Kango, G.H.
Some aspects of snow hydrology [1985, p.6-10, eng] 47-557

Kant, R.
On some physical properties of snowpack [1985, p.133-143, eng] 47-532

Kantonen, J.
Road weather service system in Finland and savings in driving costs [1992, 12p., eng] 47-966

Kanzawa, H.
Stratospheric sudden cooling after solar proton event over Syowa Station, Antarctica [1992, p.361-366, eng] 47-1336

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Modeling the temperature regime of an arctic soil [1993, p.1-11, eng] 47-4011
Modeling the temperature regime of an arctic soil [1992, p.1-11, eng] 47-4875

Kapitul'chuk, I.P.
Automated dual polarization complex for studying the characteristics of cumulonimbus [1992, p.79-95, rus] 47-4659

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Fluid film and heat flows on its boundaries at sliding of solid body on melting surface [1992, p.25-30, eng] 47-5004

Kapustin, V.N.
Measurements of airborne carbonaceous aerosols in the eastern Arctic [1992, p.429-433, eng] 47-2544

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Karagiozis, A.N.
Thermal performance of a residential dynamic wall [1992, p.229-234, eng] 47-1158

Karal, K.
Proceedings. Vol.2 [1992, 806p., eng] 47-1828

Karaulov, A.M.
Calculating embankments built of geotextile blocks filled with water-saturated soil [1991, p.66-72, rus] 47-188

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Effects of freezing and moisture on impact properties of glass fiber reinforced RTM parts [1992, p.135-142, eng] 47-4627

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Improving the norms for construction, road-making and mining equipment of the "KhL" type [1990, p.24-25, rus] 47-1416

Karentz, D.
Ozone depletion and UV-B radiation in the Antarctic— limitations to ecological assessment [1992, p.231-232, eng] 47-4505

Karepov, V.A.
Modern means of improving the microclimate of cabs and preparing construction and road-making machines for starting at low temperatures [1990, p.25-26, rus] 47-1417

Kargel, J.S.
Brine volcanism and the interior structures of asteroids and icy satellites [1991, p.368-390, eng] 47-991

Karl, D.M.
Grounding of the *Bahia Paraiso:* microbial ecology of the 1989 antarctic oil spill [1992, p.77-89, eng] 47-1257

Karl, T.R.
Recent temperature trends: are they reinforced by insolation *shifts* [1992, p.291-305, *eng*] 47-2841
Recent variations of snow cover and snowfall in North America and their relation to precipitation and temperature variations [1993, p.1327-1344, eng] 47-5211

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Glacial landforms and the age of deglaciation in the Tiksi area, East Siberia [1992, p.295-304, eng] 47-4341
Reconstructing Holocene glacier variations from glacial lake sediments: studies from Nordvestlandet and Jostedalsbreen- *Jotunheimen, southern Norway* [1992, p.327-348, eng] 47-4343

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Performance of mountain birch in different environments in Sweden and Iceland: *implications for afforestation* [1993, p.79-88, eng] 47-4531

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Karmov, L.N.
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Kärnä, T.
Construction of platforms for the Russian northern continental shelf [1992, p.557-563, eng] 47-1841
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Results from indentation tests in sea ice [1993, p.177-185, eng] 47-4245

Karnatsevich, I.V.
Energy resource of winter season in Siberia and polar areas [1992, p.177-179, eng] 47-1725

Karol', I.L.
Earth's ozone shield and its variation [1992, 288p., *rus*] 47-1501

Karpova, I.P.
Forecasting the temperature of water in the Norwegian Sea [1991, p.110-120, rus] 47-3962

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Contact force and damage evolution in a moving uniaxial ice bar [1992, p.129-134, eng] 47-4287
Continuum damage propagation in a wedge-shape ice bar [1992, p.662-665, eng] 47-1855

Kartozia, B.A.
Development of mining excavations under difficult mining engineering conditions: a handbook [1991, 319p. (Pertinent p.156-176), rus] 47-362

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Seasonal cycle of plankton biomass distributed above the thermocline in the Oyashio region, western subarctic Pacific [1992, p.182-187, eng] 47-138

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Measurement and visualization of cooling and freezing processes of water between the horizontal concentric cylinders [1991, p.391-398, eng] 47-2563

Kashkarov, N.G.
Solid wastes from the drilling of boreholes in the Far North: means of reduction [1991, p.26, rus] 47-2489

Kasparov, A.
Ostrova De-Longa: an analysis of palaeoenvironmental data [1992, p.301-306, eng] 47-3857

Kasper, J.N.
Development of an ice-dammed lake: *the contemporary and* older sedimentary record [1992, p.304-313, eng] 47-1587

Kasse, K.
Periglacial microjointing and faulting in Weichselian fluvioaeolian deposits [1993, p.15-30, eng] 47-5005
Weichselian Upper Pleniglacial aeolian and ice-cored morphology in the southern Netherlands (Noord-Brabant, Groote Peel) [1992, p.327-342, eng] 47-2240

Kasser, P.
Climate at the equilibrium line of glaciers [1992, p.397-411, eng] 47-1391

Kasting, J.F.
Paradox lost and paradox found [1992, p.676-677, eng] 47-1220

Katada, Y.
Trends in snow removal machinery at the Hokkaido Development Bureau [1980, p.37-45, jpn] 47-4931

Katakawa, K.
Characteristics of snow pressure acting on avalanche-preventive fences [1992, p.323-331, eng] 47-3210

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Wind tunnel experiments on road improvement at Mineoka on National Highway 238 [1991, p.57-68, jpn] 47-4970
Wind tunnel experiments on snow countermeasures for the stretch of National Highway 238 between Numanoue in Monbetsushi and Old Monbetsu [1991, p.69-73, jpn] 47-4971

Katano, K.
Tests on snowbreaks, windbreaks and obstacles to visibility—wind tunnel experiments on snow *countermeasures between* Numanoue and Old Mombetsu in the city of Mombetsu on National Highway 238 [1991, p.211-214, jpn] 47-2525

Katayama, O.
Study and design of countermeasures for blowing snow [1985, p.96-101, jpn] 47-5090
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Apparatus for changing artificial snow to wet snow [1988, 6 col., eng] 47-3634
Kate, J.M.
Approach to slope and subsurface studies in avalanche prone area by air photos [1985, p.204-211, eng] 47-539
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Arctic Centre news [1993, 12p., eng] 47-4613
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Goals and methods of winter maintenance in Finland [1992, 7p., eng] 47-928
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Numerical simulation of pack ice movement using the momentum conservation method [1992, 7p., eng] 47-2117
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Approximate equations including effects of friction coefficient for the buckling failure load of an ice sheet [1992, p.126-130, jpn] 47-129
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Sea level variations in the southern part of the Okhotsk Sea [1992, p.326-328, eng] 47-159
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Physical properties of snow cover and estimation of snowmelt runoff in a small watershed in high alpine Tianshan [1991, p.169-177, eng] 47-1304
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Expedition ARKTIS VIII/1 of RV *Polarstern* in 1991 [1992, 75p., ger] 47-1221
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Empirical model for prediction of snowmelt runoff in Sutlej [1985, p.76-103, eng] 47-563
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Frensor—a new smart pavement sensor [1993, p.19-22, eng] 47-3060
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Kauranne, K.
Glacial stratigraphy, engineering geology and earth construction [1992, 167p., eng] 47-3543
Regolith exploration geochemistry in arctic and temperate terrains [1992, 443p., eng] 47-1643
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Recent developments of the Mackenzie Delta Pipeline Project [1993, p.101-115, eng] 47-4276
Kaverzin, S.V.
Efficiency of hydraulic gears of motor vehicles at low temperatures [1986, 141p., rus] 47-95
Kawabata, T.
Current status and development of snow removal equipment [1986, p.27-32, jpn] 47-5177
Kawaguchi, S.
Proceedings of the NIPR Symposium on Polar Meteorology and Glaciology, No.6 [1992, 167p., eng] 47-3000
Kawahami, A.
Winter in Yuzawa [1985, p.106-111, jpn] 47-5091
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Climatology of surface-based inversion in the North American Arctic [1992, p.15,699-15,712, eng] 47-997
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Automated mapping of mountain permafrost using the program PERMAKART within the geographical information system ARC/INFO [1992, p.133-138, eng] 47-1752
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Rhine-Linth glacier in the upper Wurm: a model of the last alpine glaciation [1993, p.15-17, eng] 47-4749
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Improved ice and snow control with pavement-specific forecasting [1992, p.46-47,83, eng] 47-1920
Kellner, G.
Correlation of SAR-derived roughness parameters with air drag coefficients over MIZ sea ice [1988, p.75-78, eng] 47-4186
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Oxygen isotope data from the McMurdo Ice Shelf, Antarctica: implications for debris band formation and glacial history [1991, p.73-76, eng] 47-2470
Radiocarbon dates from the McMurdo Ice Shelf, Antarctica: implications for debris band formation and glacial history [1991, p.77-79, eng] 47-2471
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Apparent moratorium on greenhouse warming [1993, p.265-267, eng] 47-3045
Kelly, J.J.
Rapid spectroscopic determination of per cent aromatics, per cent saturates and freezing point of JP-4 aviation fuel [1993, p.623-631, eng] 47-3985
Kelly, K.
Measurements of high number densities of ice crystals in the tops of tropical cumulonimbus [1993, p.8639-8664, eng] 47-4379
Kelly, M.
Isotope stage 5 (130-74 ka) in Greenland—a review [1991, p.107-122, eng] 47-3484
Kelty, J.
Bore-hole survey at Camp Century, 1989 [1993, p.187-193, eng] 47-2649
Kemnitz, R.T.
Water resources data for Alaska, water year 1991 [1992, 415p., eng] 47-2776
Kemp, D.
Greenhouse effect and global warming: a Canadian perspective [1991, p.121-130, eng] 47-4729
Kempema, E.W.
Interactions of frazil and anchor ice with sedimentary particles in a flume [1993, p.137-149, eng] 47-2646
Kennedy, D.J.L.
Effectiveness of code provisions for snow accumulations on stepped roofs [1992, p.439-452, eng] 47-3220
Kennedy, H.
Performance of the *Nathaniel B. Palmer* in ice [1993, p.300-309, eng] 47-5117
Kennedy, T.W.
Effect of multiple freeze-thaw cycles on long-term performance of asphalt concrete treated with antistripping agents [1992, p.512-520, eng] 47-2629
Kennepohl, G.
Evaluation of polymer-modified asphalts in Ontario [1992, p.243-269, eng] 47-1137
Kenner, R.D.
Laboratory measurements of the loss of ClO on Pyrex ice and NAT at 183 K [1993, p.193-196, eng] 47-2857
Kennett, M.
Degree-day glacier mass balance modelling with applications to glaciers in Iceland and Norway [1993, 40p., eng] 47-3707
Kennicutt, M.C., II
Hydrocarbon contamination on the Antarctic Peninsula. I. *Arthur Harbor-subtidal sediments* [1992, p.499-506, eng] 47-1931
Hydrocarbon contamination on the Antarctic Peninsula. II. *Arthur Harbor inter- and subtidal limpets (Nacella concinna)* [1992, p.506-511, eng] 47-1932
Kenny, T.M.
Guard against freezing in water lines [1991, p.44-47, eng] 47-1996
Kenyon, R.M.
Deformation properties of warm permafrost [1985, p.473-486, eng] 47-1616
Kerimov, A.M.
Laboratory investigations of ice-forming properties transformation of crystallizing agent aerosol [1992, p.255-257, eng] 47-2261
Kerkmann, J.
Meteorological trends in the Italian Alps during the 1991-92 winter season [1992, p.8-19, ita] 47-2615
Kern-Hansen, C.
Measuring water level and discharge—practical experiences in Greenland [1988, p.67-84, eng] 47-720
Kern, M.
Feasibility and limits of cold preconditioning prior to depositing [1992, p.280,283-284, ger] 47-1280
Kernodle, J.M.
Computation of a snowpack-loss component for a water-budget model for the San Juan aquifer basin in New Mexico and Colorado [1992, p.141-145, eng] 47-506
Kerr, A.D.
Effect of fatigue on the bearing capacity of floating ice sheets [1993, p.257-263, eng] 47-3929

Kerr, A.D. *(cont.)*
Initiation of maritime ice sheets [1990, p.69-79, eng] 47-3574

Kerr, G.L.
Recent trends in glaciers and glacier runoff, Wind River Range, Wyoming [1989, p.159-169, eng] 47-2578

Kerr, R.C.
On the use of electrical resistance and temperature as measures of the solid fraction in a mushy layer [1992, p.495-501, eng] 47-2607

Kershaw, P.
Sellafield as a source of radioactivity to the Barents Sea [1993, p.91-104, eng] 47-5023

Keshari, A.K.
Use of microwave radiometry for monitoring the alpine environment [1991, p.81-89, eng] 47-1295

Kettle, R.J.
Soil-pipeline interaction associated with a large diameter chilled pipeline in temperate climates [1993, p.25-33, eng] 47-4270

Kettles, I.M.
Glacial geology and glacial sediment geochemistry in the Clyde Forks-Westport area of Ontario [1992, 34p. + maps, eng] 47-3148

Key, J.R.
Arctic cloudiness: comparison of ISCCP-C2 and Nimbus-7 satellite-derived cloud products with a surface-based cloud climatology [1992, p.1514-1527, eng] 47-2179

Arctic radiation forcing fields for dynamic-thermodynamic sea ice models [1992, p.C9-C13, eng] 47-3257

Arctic radiative fluxes and cloud forcing estimated from the ISCCP C2 cloud data set [1992, p.13-16, eng] 47-2367

Arctic sea ice albedo: a comparison of two satellite-derived data sets [1993, p.41-44, eng] 47-2844

Assimilation of a knowledge base and physical models to reduce errors in passive-microwave classifications of sea ice [1992, p.579-581, eng] 47-652

Detectability of arctic leads using thermal imagery under varying atmospheric conditions [1993, p.12,469-12,482, eng] 47-4523

Sea ice feature and type identification in merged ERS-1 SAR and Landsat Thematic Mapper imagery [1993, p.361-365, eng] 47-4440

Keys, J.G.
DSIR's stratospheric trace gas programme in Antarctica [1992, p.311-321, eng] 47-2166

Evidence for heterogeneous reactions in the antarctic autumn stratosphere [1993, p.49-51, eng] 47-1594

Measurements and model calculations of HCl column amounts and related parameters over McMurdo during the austral spring in 1989 [1992, p.20,795-20,804, eng] 47-2055

Keyser, L.F.
Comment on porosities of ice films used to simulate stratospheric cloud surfaces [1993, p.2800-2803, eng] 47-3178

Kezys, V.
IPIX radar: a tool for ocean surveillance and meteorological research [1991, p.25-36, eng] 47-3373

Khaimotskii, G.F.
Electric cab heater for construction and road-making machines [1990, p.26-27, rus] 47-1418

Khalil, M.A.K.
Arctic haze: patterns and relationships to regional signatures of trace gases [1993, p.27-36, eng] 47-3461

Constraints imposed by the ice core data on the budgets of nitrous oxide and methane [1989, p.403-410, eng] 47-4639

Permafrost methane content: 1. Experimental data from sites in northern Alaska [1993, p.591-594, eng] 47-3437

Permafrost methane content: 2. Modeling theory and results [1993, p.595-607, eng] 47-3438

Khalsa, S.J.S.
TOVS temperature sounding record for the Arctic [1991, p.366-367, eng] 47-4492

Khanna, R.K.
Identification and yield of carbonic acid and formaldehyde in irradiated ices [1993, p.5505-5510, eng] 47-3650

Temperature dependence of (nu)3 and (nu)4 bandwidths and complex refractive indices for crystalline methane [1993, p.5511-5515, eng] 47-3651

Khapaev, S.A.
Names of glaciers in the Kuban' River basin [1990, p.100-105, rus] 47-2041

Kharadly, M.M.Z.
Scattering by rain and melting snow [1989, p.406-410, eng] 47-19

Kharchenko, T.N.
Remote sensing of snow using radar methods [1992, 36p., rus] 47-2910

Kharin, V.N.
Chemical composition of snow near a mining and concentration plant: analysis of variability by multivariate statistical analysis methods [1993, p.79-86, eng] 47-5193

Kharionovskii, V.V.
Experience in full-scale tests of arctic gas pipelines [1992, p.110-118, eng] 47-1836

New technical solution for the reliable anchoring of an underground pipeline in frost-heaving ground [1992, p.20-22, rus] 47-2900

Site surveys of pipelines in the Far North [1993, p.30-35, rus] 47-4083

Kharitonov, K.V.
Novaya Zemlya: analyzing radiation safety and ecological consequences of nuclear tests [1992, p.65-74, rus] 47-3862

Khatib, I.F.
Arctic pipeline limit states for secondary loadings [1992, p.7-14, eng] 47-1830

Khayat, K.H.
Cryogenic frost resistance of lightweight concrete containing *silica fume* [1989, p.915-928, eng] 47-59

Silica fume in concrete—an overview [1993, p.835-872, eng] 47-3611

Kheisin, D.E.
Dynamics of ice cover interacting with ocean and atmosphere [1993, p.51-55, eng] 47-4300

Khismatullin, Sh.D.
Erosion of agricultural lands in the Irkutsk region [1991, p.49-61, rus] 47-3279

Khlevnoi, B.B.
Temperature measurements in radiometry [1992, p.37-39, eng] 47-2944

Khmelevskoi, I.F.
Calculating and mapping the fields of components in the water-ice balance of glaciers [1991, p.94-102, rus] 47-326

Khodakov, V.G.
Problems in studying geographical regularities in the characteristics of snow cover hardness [1983, p.86-90, rus] 47-1248

Khodakovskii, I.L.
Behavior of artificial radionuclides in seawater [1993, p.213-223, eng] 47-5032

Kholmovoi, G.V.
Lithology of glacial deposits in the western part of the Don *Glacier tongue* [1992, p.118-135, rus] 47-69

Kholod, S.S.
Phytocatena in the vegetation cover of mountain territories (in the example of the tundra zone of northeastern USSR) [1991, p.42-51, rus] 47-2357

Khorgani, V.G.
Peculiarities of vertical distribution of aerosol particles and ice nuclei in cloud atmosphere [1992, p.427-430, eng] 47-2281

Khor'kov, V.I.
Ice spillways: construction and analytical-experimental bases [1992, 47p., rus] 47-2935

Khrapatyi, N.G.
Vibrations of offshore ice-resistant structures [1992, p.300-301, eng] 47-154

Khrgian, A.Kh.
Earth's ozone shield and its variation [1992, 288p., rus] 47-1501

Khrushchev, V.A.
Energy criterion for low temperature failure of asphalt concrete [1992, p.50-52, rus] 47-2031

Khrutzhii, S.F.
Changes in the extent of permafrost during the Late Quaternary period in the territory of the former Soviet Union [1993, p.113-119, eng] 47-4147

Khudiakova, A.I.
Effect of the water-exchange index on the temperature regime of hydrostation pools [1993, p.462-468, eng] 47-4014

Khular, Y.L.
General appreciation of ice-snow avalanche and glaciers in Chandra-Bhaga valley [1985, p.347-353, eng] 47-552

Kiel, A.
Investigations of runoff and fluvial sediment transport of Jökulsá Vestri and Eystri, central Iceland. *Contribution to* the hydrology of periglacial regions [1989, 128p., ger] 47-2706

Kielland, K.
Preferential use of organic nitrogen for growth by a non-mycorrhizal Arctic sedge [1993, p.150-153, eng] 47-1597

Processes controlling nitrogen release and turnover in arctic tundra [1991, 192p., eng] 47-295

Kiernicki, J.
Ice accretion on energized line insulators [1992, p.618-624, eng] 47-1849

Ice accretion on energized line insulators [1992, p.228-233, eng] 47-4307

Kikuchi, K.
Crystal structure of typical snow crystals of low temperature types [1989, p.521-528, eng] 47-3467

Kilburn, J.E.
Geochemically anomalous areas in the eastern Goodnews Bay 1 deg by 3 deg quadrangle, southwest Alaska [1992, p.156-162, eng] 47-615

Kilius, L.R.
I-129 as a tracer of European reprocessing emissions in the North Atlantic and Arctic oceans [1993, p.145-156, eng] 47-5027

Kil'matov, T.R.
Effect of cabbeling in the mixing of sea water and its seasonal manifestation on the Pacific Ocean Subarctic Front [1991, p.628-631, eng] 47-2898

Kilminskinov, V.V.
Analysis of conditions and long-term forecast of ice-dam levels on the Lena [1992, p.64-69, eng] 47-3993

Kilpatric, B.
River flood forecasting in the Northeast during ice jam situations [1992, 10p., eng] 47-2131

Kim, C.J.
Two-dimensional freezing of water filled between vertical concentric tubes involving density anomaly and volume expansion [1993, p.2647-2656, eng] 47-4414

Kim, D.H.
Modelling of snowdrift around prismatic buildings for antarctic environment [1992, p.73-79, eng] 47-4281

Snowdrift around antarctic building—effects of corner geometry and wind incidence [1992, p.587-591, eng] 47-1845

Snowdrift around antarctic buildings—effects of corner geometry and wind incidence [1993, p.61-65, eng] 47-4302

Snowdrift around buildings for antarctic environment [1992, p.2797-2808, eng] 47-2643

Kim, H.O.
Plastic buckling of pipes under bending and internal pressure [1992, p.46-51, eng] 47-1835

Kim, J.D.
Continuum damage propagation in a wedge-shape ice bar [1992, p.662-665, eng] 47-1855

Kim, K.S.
Effect of low temperature on dynamic tensile strength of rocks [1992, p.61-69, eng] 47-1233

Kim, M.G.
Two-dimensional freezing of water filled between vertical *concentric tubes involving density anomaly and volume expansion* [1993, p.2647-2656, eng] 47-4414

Kim, M.H.
Melting heat transfer along a horizontal heated tube *immersed in a fluidized liquid ice bed* [1993, p.353-359, eng] 47-4064

Kim, N.S.
Common features of ice nuclei concentration—temperature *dependencies* [1992, p.279-281, eng] 47-2267

Ice forming capability of various aerosols under haloid *influence* [1992, p.313-315, eng] 47-2275

Kimura, C.
Snow-weathering test apparatus for *self-propelled vehicle* [1989, 6 col., eng] 47-3329

Kimura, T.
Estimation of snowfall intensity on measurements of total snow weight *using a pressure pillow* [1992, p.115-122, jpn] 47-3296

Experimental and theoretical study *on heat mechanism of* groundwater flow (first report) [1991, p.69-88, jpn] 47-3293

Kincaid, R.H.
Inclusion-exclusion *calculation of the dipole-dipole energy of* hexagonal ice and of cubic ice [1993, p.8105-8109, eng] 47-3581

King, A.W.
Quantifying regional changes in terrestrial carbon storage by extrapolation from local ecosystem models [1993, p.221-234, eng] 47-5239

King, E.C.
Seismic characteristics of an airgun fired over snow [1993, p.201-207, eng] 47-2651

Short-offset seismic *refraction results near Rothera Station,* Antarctic Peninsula [1992, p.479-480, eng] 47-905

King, J.C.
Atmospheric water-vapour transport to Antarctica inferred from radiosonde data [1993, p.325-342, eng] 47-2712

Recent climate variability in the Antarctic Peninsula [1991, p.354-357, eng] 47-4489

King, L.
Prospecting and mapping of mountain permafrost and associated phenomena [1992, p.73-81, eng] 47-1746

Kinoshita, M.
Properties of high-strength concrete with silica fume using high-range water reducer of slump retaining type [1989, p.79-97, eng] 47-62

Kinsey, J.S.
Characterization of PM-10 emissions from antiskid materials applied to ice- and snow-covered roadways [1993, Var. p., eng] 47-4617

Kipfstuhl, J.
Origin of green icebergs in Antarctica [1992, p.20,319-20,324, eng] 47-2343

Kipphut, G.W.
Access pipes for sampling through thick ice [1992, p.267-269, eng] 47-1607

Biogeochemistry of manganese- and iron-rich sediments in Toolik Lake, Alaska [1992, p.45-59, eng] 47-1603

Flux of CO2 and CH4 from lakes and rivers in arctic Alaska [1992, p.23-36, eng] 47-1601

Influence of light and nutrient addition upon the sediment chemistry of iron in an arctic lake [1992, p.91-101, eng] 47-1606

Kirby, S.H.
Effects of dispersed particulates on the rheology of water ice at planetary conditions [1992, p.20,883-20,897, eng] 47-2293

Kirchknopf, H.
Construction and documentation of the test strip "Josefsberg" along B 20 employed to determine the qualitative changes and ice prevention properties of a surface with an admixture of VERGLIMIT [1986, 60p., ger] 47-4988

Kirchner, S.
1000 years of explosive volcanism recorded at the South Pole [1992, p.335-350, eng] 47-834

Kireev, V.A.
Nonstationary heat and mass transfer in disturbed rock masifs [1992, 224p., rus] 47-3863

Kirnbauer, R.
Analysis of snow cover patterns as derived from oblique aerial photographs [1991, p.91-99, eng] 47-1296
Spatially distributed snowmelt model for application in alpine terrain [1991, p.51-60, eng] 47-1292

Kiselev, A.A.
Determining parameters of ice jams and accumulation of bottom ice based on field studies of the Amgun' River [1991, p.24-29, rus] 47-1045
Field studies of the freezing processes of the Amgun' River [1991, p.38-46, rus] 47-1047
Laboratory studies of hydraulic resistance to ice jams [1991, p.30-37, rus] 47-1046

Kishi, S.
Friction coefficient between model ice and roughened model surface [1992, p.131-137, jpn] 47-130

Kislov, A.V.
Three-dimensional atmospheric circulation model with a comprehensive description of physical processes and simplified dynamics [1991, p.241-246, eng] 47-2895

Kita, T.
Resistance to freezing and thawing and chloride diffusion of anti-washout underwater concrete containing blast-furnace slag [1993, p.1565-1582, eng] 47-3618

Kitada, T.
Numerical modeling of long-range transport of acidic species in association with meso-(beta)-convective-clouds across the Japan Sea resulting in acid snow over coastal Japan. 1. Model description and qualitative verifications [1993, p.1061-1076, eng] 47-4581
Numerical modeling of long-range transport of acidic species in association with meso-(beta)-convective-clouds across the Japan Sea resulting in acid snow over coastal Japan. 2. Results and discussion [1993, p.1077-1090, eng] 47-4582

Kitaev, L.M.
Study of the distribution of snow cover in the central forest-steppe [1992, p.64-68, rus] 47-1991

Kitaev, V.V.
Determination of the phase interface of the aggregate state of water in soil [1989, p.84-92, eng] 47-1222
Determining depth of phase change front of solid water in soil [1992, p.193-201, chi] 47-1658

Kitamura, T.
Interaction between sea ice floes and protective coastal structure [1992, p.86-90, jpn] 47-121

Kite, G.W.
Applying a climatic change scenario to a semi-distributed watershed model [1992, p.113-120, eng] 47-500

Kitoh, A.
Local and remote responses to excessive snow mass over Eurasia appearing in the northern spring and summer climate—a study with MRI-GCM [1991, p.473-487, eng] 47-819

Kittel, W
Macrozooplankton near the pack ice between Elephant Island and the South Orkney Islands (December 1988-January 1989) [1991, p.565-582, eng] 47-3092

Kivi, K.
Effects of antarctic sea ice biota on seeding as studied in aquarium experiments [1992, p.333-339, eng] 47-1333

Kivimaa, S.
Full-scale trials on hull resistance and bow ice load in level ice on board the cutter M.S. *Uisko* [1992, p.169-180, eng] 47-1027

Kivisild, H.R.
Analysis for dynamic ice structure interaction involving finite difference model and damage considerations [1993, p.199-206, eng] 47-4247

Kiyohara, K.
On the thermodynamic stability of clathrate hydrate. I [1993, p.4098-4109, eng] 47-2673
Thermodynamic stability of clathrate hydrate. 2. Simultaneous occupation of larger and smaller cages [1993, p.8110-8118, eng] 47-3582

Kjelaas, A.G.
Statistical analysis of sea ice for the eastern Barents Sea [1991, p.61-80, eng] 47-3399
Trend analysis of the Barents Sea ice cover [1992, p.325-335, eng] 47-1039

Kjeldsen, S.P.
Some results from the Labrador Ice Margin Experiment [1992, p.732-739, eng] 47-1868

Klaus, D.A.
Lamp mounting [1988, 6 col., eng] 47-3766

Klein, K.
Iceberg/seabed interaction events observed during the *DIGS* experiment [1991, p.74-87, eng] 47-1140
Methodology for full-scale iceberg impact experiments in the Antarctic [1992, p.718-723, eng] 47-1866

Kleinman, R.L.
Cold Weather Transit Technology Program. Volume 1: Executive summary. Final report [1992, 34p., eng] 47-4612

Kleman, J.
Palimpsest glacial landscape in northwestern Sweden [1992, p.305-325, eng] 47-4342

Klepikov, V.S.
Settlement of lumpy frozen soil during thawing under conditions of compression [1991, p.72-76, rus] 47-189

Kliger, B.A.
Evaluating the possibility of using hail prevention shells and rockets in high-mountain regions [1991, p.156-160, rus] 47-764

Klimanov, V.A.
Global warming and future agroclimatic resources of the Russian Plain [1991, p.83-88, rus] 47-1253

Klimashevskii, S.N.
Effect of the bow form of ships on ice-navigability [1992, p.6-8, rus] 47-2917

Klimaszewski, M.
Conditions of the Pleistocene glaciation of mountainous regions [1993, p.1-18, eng] 47-4982

Klimin, A.I.
Methods for improving instruments for contact determination of physical-mechanical properties of snow [1991, p.97-102, rus] 47-388

Kline, T.C.
Carbon dioxide and other trace gases in arctic seas [1992, p.3-20, eng] 47-107

Kling, G.W.
Biogeochemistry and zoogeography of lakes and rivers in arctic Alaska [1992, p.1-14, eng] 47-1599
Flux of CO2 and CH4 from lakes and rivers in arctic Alaska [1992, p.23-36, eng] 47-1601

Klinger, A.V.
Multilayered insulation ensuring human activity in extreme climatic conditions [1991, p.33, rus] 47-2477

Klinger, J.
How far do results of recent simulation experiments fit current models of cometary nuclei [1989, p.493-497, eng] 47-5125

Klinting, P.
Ice loads on vertical bridge pier at two different model scales [1992, p.93-110, eng] 47-585

Klokov, V.D.
Development of a wheeled runway for McMurdo on the Ross Ice Shelf [1992, 31p., eng] 47-2120

Klusek, Z.
Distribution and abundance of krill *Euphausia superba* Dana at the ice edge zone between Elephant Island and the South Orkney Islands [1991, p.593-603, eng] 47-3094
Krill migration at the ice edge zone (December 1988-January 1989) [1991, p.583-592, eng] 47-3093

Knight, C.W.
Wetlands: an editorial perspective [1993, p.13-16, eng] 47-4097

Knight, N.C.
Magnitude of error factors in estimates of snow-particle masses from images [1993, p.804-809, eng] 47-3512

Knight, P.
Big savings at the ice margin [1992, p.22-26, eng] 47-445

Knight, R.W.
Recent temperature trends: are they reinforced by insolation shifts [1992, p.291-305, eng] 47-2841
Recent variations of snow cover and snowfall in North America and their relation to precipitation and temperature variations [1993, p.1327-1344, eng] 47-5211

Knikern, F.E.
SAR: a new ice analysis tool [1993, p.22-23, eng] 47-2143

Knoflacher, H.
Survey of the influence of studded tires on traffic safety and determination of roadway surface wear from studs [1974, 90p., ger] 47-5010

Knoke, G.S.
Arctic ice stress measurements [1991, p.645-650, eng] 47-2183

Knollenberg, R.G.
Measurements of high number densities of ice crystals in the tops of tropical cumulonimbus [1993, p.8639-8664, eng] 47-4379

Knowler, J.C.
Wing slat anti-ice air duct system [1986, 6 col., eng] 47-4263

Knudsen, K.L.
Early Pleistocene glacial-interglacial cycle in the Breidavík group on Tjörnes, Iceland: sedimentary facies, foraminifera, and molluscs [1992, p.733-757, eng] 47-3473

Knudsen, N.T.
Glacier inventory and atlas of West Greenland [1992, 194p., eng] 47-3519
Time series analyses of radiation, temperature and discharge at Austre Okstindbreen, Nordland, Norway [1992, p.718-727, eng] 47-1984
Variations of climate and glacier mass balance, Svartisen, Norway [1992, p.703-710, eng] 47-1982
Volumetric changes at the East Svartisen ice cap during 1945-85 [1992, p.728-735, eng] 47-1985

Knudsen, P.
Analysis of the gravity field in the Norwegian Sea and mapping of the ice cap of Greenland using ERS-1 altimeter measurements [1993, p.413-418, eng] 47-4443

Knuth, K.V.
Icing of turbine intake louvers [1993, 37p., eng] 47-4095

Knuts, S.
Model calculations of Auger energy shifts in liquid water and ice [1992, p.95-103, eng] 47-1675

Knutsson, G.
Studies of some acid springs in till, Lofsdalen, Sweden [1992, p.366-375, eng] 47-1969

Knutsson, S.
Laboratory study of the compaction properties of frozen soils [1993, p.69-77, eng] 47-4123
Sensitivity analysis of frost heave—a theoretical study [1993, p.3-16, eng] 47-4115

Kobak, K.
Residence time of carbon in soils of the boreal zone [1993, p.51-57, eng] 47-5228

Kobayashi, K.
Snow pressure on avalanche prevention structures built on the periphery of small sections of cut slopes [1985, p.63-68, jpn] 47-5156

Kobayashi, R.
Modeling and numerical simulations of dendritic crystal growth [1993, p.410-423, eng] 47-4071

Kobayashi, S.
Mechanical properties of high water content snow [1992, p.313-321, eng] 47-3209
Radiative temperature of ice surface in Svalbard, 1991 [1992, p.286-289, jpn] 47-151

Kobayashi, T.
Engineering studies on pneumatic conveying systems of snow [1992, p.275-286, eng] 47-3206
Texture and hardness of compacted snow [1986, p.64-69, jpn] 47-5182
Three-dimensional numerical simulation of snowdrift [1992, 13p., eng] 47-942

Kochan, H.
Laboratory simulation of a cometary nucleus: experimental setup and first results [1989, p.487-492, eng] 47-5124
Particle emission from artificial cometary surfaces: material science aspects [1990, p.401-411, eng] 47-4569

Kochanski, W.W.
Finite area element snow loading prediction—applications and advancements [1992, p.1537-1548, eng] 47-1583
Snow load prediction in the Andes Mountains and downtown Toronto [1992, p.135-145, eng] 47-3194

Kochmen'eva, N.V.
Sublimational drainage of frozen soils in Zabaikalye [1992, p.122-126, eng] 47-1716

Kochs, M.
Influence of the freezing process on vapour transport during sublimation in vacuum-freeze-drying of macroscopic samples [1993, p.1727-1738, eng] 47-4413

Koci, B.R.
Development of a thermal mechanical drill for sampling ice and rock from great depths [1992, p.377-382, eng] 47-913
Study of ice borehole closure by finite element method [1992, p.77-89, eng] 47-1020

Kodama, M.
Stratospheric sudden cooling after solar proton event over Syowa Station, Antarctica [1992, p.361-366, eng] 47-1336

Kodama, T.
MOS-1 multi-sensor data set and sea ice study [1991, p.277-287, eng] 47-3391

Kodera, K.
Quasi-decadal modulation of the influence of equatorial quasi-biennial oscillation on the north polar stratospheric temperatures [1993, p.7245-7250, eng] 47-3830

Koehler, B.G.
Fourier transform infrared studies of the interactions of HCl *with model polar stratospheric cloud films* [1993, p.10,563-10,571, eng] 47-4294
Spectroscopic studies of model polar stratospheric cloud films [1992, p.1303-1313, eng] 47-1172

Koerner, R.M.
Past climate changes as deduced from Canadian ice cores [1992, p.61-70, eng] 47-1426

Kofman, W.
Radar sounding of a temperate glacier: modelling and interpretation [1992, p.278-280, eng] 47-645

Kofsky, I.L.
Phenomenology of a water venting in low earth orbit [1992, p.325-347, eng] 47-81

Koga, S.
Measures to prevent freezing of the Hakucho Bridge drain pipes [1991, p.209-214, jpn] 47-2542

Koganezawa, S.
Fundamental research on supercooling phenomenon on heat transfer surface: investigation of freezing phenomenon of supercooled water droplet and its relationship with the effect of heat transfer surface [1991, p.319-326, eng] 47-2560

Koh, G.
Dielectric properties of ice and snow at 26.5 to 40 GHz [1992, p.820-822, eng] 47-660

Kohata, S.
Temperature dependence of the growth form of negative crystal in an ice single crystal and evaporation kinetics for its surfaces [1993, p.571-581, eng] 47-3649

Kohl, H.
Ice particle emission from cometary analogues [1991, p.257-260, eng] 47-2112

Kohler, J.
Intra-seasonal changes in deformation profiles revealed by borehole studies, Storglaciären, Sweden [1992, p.348-358, eng] 47-1387

Kohlmeyer, C.R.C.
Petroleum pollution prevention, response and remediation in the Antarctic: an equipment and procedural approach [1993, p.157-172, eng] 47-5112

Kohnen, H.
Transport concept at the antarctic stations and for field operations of the Alfred Wegener Institute [1993, p.267-273, eng] 47-5115

Kohno, T.
Stratospheric sudden cooling after solar proton event over Syowa Station, Antarctica [1992, p.361-366, eng] 47-1336

Kohonen, R.
Application of the transfer function approach in the thermal analysis of dynamic wall structures [1992, p.240-251, eng] 47-1159

Koike, T.
Observation of lined-up cumulus rows under the winter monsoon situation using MOS-1 and radar data [1990, p.197-203, jpn] 47-886
Trial of the measurement of CO2 concentration in a forest and photosynthesis of woody species native to eastern Siberia [1993, p.69-74, eng] 47-3977

Koizumi, S.
Study on the effects of the popularization of studless tires—1st report [1991, p.33-38, jpn] 47-2531

Kokubun, M.
Review of a wind tunnel experimental facility [1981, p.45-62, jpn] 47-4937

Kokubun, S.
Programs of JARE-32 in 1990-1992 [1991, p.28-34, jpn] 47-406
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Kolberg, S.
Use of a digital terrain model in snowmelt modeling [1992, p.196-203, nor] 47-1961

Kol'chik, IU.N.
Numerical modeling of heat transfer in irregular solidification of a liquid [1993, p.519-528, eng] 47-3800

Kolchugina, T.P.
Carbon cycling in boreal forest and sub-arctic ecosystems: biospheric responses and feedbacks to global climate change [1993, 282p., eng] 47-5222
Climate warming and the carbon cycle in the permafrost zone of the former Soviet Union [1993, p.149-163, eng] 47-4150
Framework to quantify the natural terrestrial carbon cycle of the former Soviet Union [1993, p.259-275, eng] 47-5242

Kolesnichenko, V.I.
High-pressure melting—solidification of a substance [1993, p.1037-1044, eng] 47-4075

Kolesnikov, A.I.
Inelastic incoherent neutron scattering study of D2O and H2O ice VIII in the range 2-140 meV [1992, p.308-312, eng] 47-195

Kolesov, S.A.
Evaluation of ice compression [1989, p.72-76, eng] 47-1225
Stresses and forces under ice compacting [1993, p.139-142, eng] 47-4299

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Arctic: arena for international environmental security? [1993, p.277-289, eng] 47-4727

Kolomeev, M.P.
Changes of characteristics of arctic sea ice in case of a doubling of carbon dioxide [1992, p.34-40, eng] 47-3991
Tropospheric aerosol and climate: results from numerical experiments employing a three-dimensional seasonal energy-balance model [1991, p.253-257, eng] 47-2896

Kolondra, L.
Studies of the tidewater Hansbreen Glacier on Spitsbergen [1991, p.143-149, rus] 47-2805

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Information analysis in the study of naleds [1991, p.90-95, rus] 47-2432

Komalov, A.S.
Laboratory investigations of ice-forming properties transformation of crystallizing agent aerosol [1992, p.255-257, eng] 47-2261

Komárek, J.
Heavy metals in water, ice and biological material from Spitsbergen, Svalbard [1992, p.99-101, eng] 47-2355

Komarov, I.S.
Engineering geology of the USSR: platform regions in European USSR [1992, 2 vols., rus] 47-3858

Komatsu, S.
Snow and ice operations in the mountains and highways of Chugoku [1986, p.85-92, jpn] 47-5185

Komissarov, A.V.
Slope runoff in the Transural steppe region of Bashkiria [1991, p.77-80, eng] 47-796

Kömle, N.I.
Evolution of a porous H2O-CO2-ice sample in response to irradiation [1993, p.9065-9073, eng] 47-4508
Temperature evolution and vapour pressure build-up in porous ices [1992, p.1311-1323, eng] 47-1468
Temperature evolution of porous ice samples covered by a dust mantle [1992, p.204-212, eng] 47-1953

Komori, T.
Freeze sampling of the riverbed sediment at Chubetsu Dam [1992, p.329-334, jpn] 47-2507

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Seed bank composition in a subarctic pine-birch forest in Finnish Lapland: natural variation and the effect of simulated acid rain [1993, p.379-384, eng] 47-4583

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Application of chemicals for snowy and icy road surfaces in Hokkaido [1991, p.131-136, jpn] 47-2540
Law prohibiting use of studded tires in Japan, results of chemical deicing agents test and investigation on efficient operation of road heating facilities [1992, 12p., eng] 47-962
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Study on the effects of the popularization of studless tires—2nd report [1992, p.65-72, jpn] 47-2508
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Traffic in mountainous areas of snowy and cold regions [1991, p.39-44, jpn] 47-2532

Kondo, J.
Snowmelt and heat balance in snow-covered forested areas [1992, p.1322-1327, eng] 47-1122

Kondo, S.
New sea ice normals (1961-90) and the latest sea ice condition in the Sea of Okhotsk [1992, p.27-29, jpn] 47-109

Kondo, T.
Development of pneumatic snow conveyance equipment [1992, 10p., eng] 47-954

Kondo, Y.
Reactive nitrogen, ozone, and nitrate aerosols observed in the arctic stratosphere in January 1990 [1992, p.13,025-13,-038, eng] 47-80

Kondrasheva, N.
Residence time of carbon in soils of the boreal zone [1993, p.51-57, eng] 47-5228

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Basic principles for the design of a roadbed and small man-made structures on permafrost on the Tommot-Yakutsk railroad line [1993, p.11-13, rus] 47-4085

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Changes in the extent of permafrost during the Late Quaternary period in the territory of the former Soviet Union [1993, p.113-119, eng] 47-4147

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Total atmospheric ozone measurements in Antarctica, 1988-1989 [1991, p.66-69, rus] 47-1577

Konetschny, H.
Rehabilitation of avalanche protection forests [1989, p.482-486, ger] 47-1198

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Geo-Radar in tunneling—the tunnel radar [1992, p.41-45, eng] 47-631

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Three-dimensional numerical simulation of ice phase microphysics in cumulus clouds—part 2: effects of multiplication processes [1991, p.459-470, eng] 47-426

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Effective permittivity of saline ice under thermal variation [1992, p.1256-1258, eng] 47-674

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Analysis of ice nucleus observation over Huhehot area in winter season [1992, p.325-326, eng] 47-2278

Konishkin, M.A.
Discovery of ice massifs in Late Pleistocene sediments in the Ural coast of Baydaratskaya Guba [1991, p.227-228, rus] 47-345

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Safeguarding deep excavations from snowdrifts in high-altitude sections of railroads [1992, p.17, rus] 47-370

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Economic Quaternary geology in Sweden—some comments on the contemporary situation [1992, p.75-87, eng] 47-3549

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Antarctic climate research data. Part 5: PPI radar data at Syowa Station, Antarctica, from February to December 1989 [1992, 60p., eng] 47-42
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Report on improving the accuracy of radar precipitation gages (3rd report) [1992, p.165-170, jpn] 47-2492

Konno, N.
Tension and compression tests of 13-3/8" lbs/ft L-80 HF-ERW casings with buttress connections [1992, p.169-173, eng] 47-1838

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Effectiveness of applying meliorative agents on tundra soils [1991, p.76-88, rus] 47-4109
Using schist and schist ash as a means of improving cultivated podzol soils [1991, p.66-75, rus] 47-4108

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Laws of the kinetic theory of strength of frozen soils [1993, p.892-897, eng] 47-3506
Strength characteristics of frozen ground at variable temperatures [1991, 91p., rus] 47-1502

Konrad, J.M.
Frost heave potential [1993, p.797-806, eng] 47-5252

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Characteristics of the formation of the cryogenic structure of the upper layer of permafrost in the southern Gydan Peninsula [1991, p.48-53, rus] 47-1989

Koo, K.K.
Dendritic growth of ice crystals with natural convection [1992, 192p., eng] 47-279

Kopaigorodskii, E.M.
Reinforced concrete supports of the ice resistant platforms (IRP) under the action of the local ice loading [1992, p.359-362, eng] 47-165

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Distribution of microflagellates and diatoms in the sea-ice zone between Elephant Island and the South Orkney Islands (December 1988-January 1989) [1991, p.515-528, eng] 47-3089
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Formation of snow cover on roofs of industrial buildings in Yakutia [1992, p.136-138, rus] 47-2781

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On the engulfment of spherical particles by a moving ice-liquid interface [1993, p.475-489, eng] 47-4289

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Glaciation of the Verkhoyansk-Kolyma region [1989, 143p., rus] 47-869

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Analytical solutions for modelling of ice structure interaction [1993, p.59-61, eng] 47-4121

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Distinguishing feature of frost and salt penetration corrosion [1992, p.57-60, rus] 47-185

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Observations of large-size river water temperature and accuracy of hydrothermal calculations [1991, p.95-98, eng] 47-4924

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Mire induction, ecosystem dynamics and lateral extension on raised bogs in the southern coastal area of Finland [1992, p.25-94, eng] 47-3525

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Concreting at subfreezing temperatures [1992, p.382-397, eng] 47-606
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Korhonen, P.
Determining maintenance truck station network and snow plow routes in Finland [1992. 17p., eng] 47-930
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Glaciers of Novaya Zemlya and the climate [1990. p.23-29. rus] 47-172
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Efficient numerical solution for the multidimensional solidification (or melting) problem using a microcomputer [1993. p.673-683. eng] 47-2653
Kornilov, T.A.
Formation of snow cover on roofs of industrial buildings in Yakutia [1992. p.136-138. rus] 47-2781
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Ecological analysis of pigment content in the leaves of mountain-tundra dwarf shrubs [1992. p.55-77. rus] 47-4093
Korotkevich, IU.S.
*Delta*N-15 of N2 in air trapped in polar ice: a tracer of gas transport in the firn and a possible constraint on ice age-gas age differences [1992. p.15,683-15,697. eng] 47-996
Korovinkov, V.F.
Quick-setting claydite-concrete for winter concreting [1992. p.12-14. rus] 47-2152
Koroseard, V.
Utilizing capillary suction fabric to prevent moisture accumulation in thermal insulation of cold, impermeable surfaces [1992. p.95-110. eng] 47-3452
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Mathematical approach to the segmentation of sea-ice SAR images [1993. p.313-332. eng] 47-2753
Quantitative analysis of sea ice remote sensing imagery [1993. p.295-311. eng] 47-2752
Korsunov, V.M.
Soil formation in mountain boreal forests of Siberia [1991. 151p., rus] 47-2284
Korzhikov, A.IA.
Dependence of the formation of anomalies in air temperature above arctic seas during the autumn period on the H500 field [1989. p.122-127. rus] 47-3664
Korzun, A.V.
Chemical analysis of snow cover as an indicator of contamination in the Kola Peninsula [1991. p.60-64. rus] 47-1987
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Investigation of cirrus microstructure on May 15, 1989 [1992. p.714-724. eng] 47-3157
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Diagnosis of large-scale reconstructions in the troposphere of the Northern Hemisphere [1989. p.97-103. rus] 47-3661
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On the crystal structure and growth of river ice [1988. p.181-190. eng] 47-730
Petrographic and salinity characteristics of brackish water ice in the Bay of Bothnia [1992. 36p., eng] 47-706
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Winter ice on the German coast between the Ems and Oder Rivers, 1991/92 [1992. p.153-155. ger] 47-2010
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Altitudinal zonation of selected geomorphological phenomena in an alpine periglacial area (Abisko, northern Sweden) [1992. p.183-196. eng] 47-4327
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Experiments on ice-sphere flows along an inclined chute [1992. p.123-129. eng] 47-2126
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Lichenometrical studies and dating of debris flow deposits in the High Tatra Mountains, Poland [1991. p.141-146. eng] 47-4337
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High-energy geomorphic events in the Polish Tatra Mountains [1992. p.123-131. eng] 47-4322
Lichenometrical studies and dating of debris flow deposits in the High Tatra Mountains, Poland [1991. p.141-146. eng] 47-4337
Southern limit of relict rock glaciers, Central Apennines, Italy [1992. p.257-260. eng] 47-1781
Kotel'nikov, B.N.
EO-4124A and EO-4125A multipurpose backhoe excavators [1991. p.2-4. rus] 47-2065
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Glaciological mapping and global seasonal snow storage [1992. p.123-147. eng] 47-1764
Glaciological zonation and seasonal snow resources throughout the world [1991. p.4-19. rus] 47-315
Global changes during the latest glacial-interglacial cycle [1992. p.89-113. eng] 47-1762
Global changes in the environment as "mirrored" in an ice core [1992. p.59-68. rus] 47-1250
Kottmeier, C.
Meteorological research using a high mast on an antarctic ice shelf [1987. p.5-10. eng] 47-2912
Radiation and eddy flux experiment 1991 (REFLEX I) [1992. 72p., eng] 47-41
Wind forcing and ice motion in the Weddell Sea region [1992. p.20,373-20,383. eng] 47-2051
Kou, L.H.
Refractive indices of water and ice in the 0.65- to 2.5-micron spectral range [1993. p.3531-3540. eng] 47-5147
Kouchi, A.
Ultraviolet-induced amorphization of cubic ice and its implications *for the evolution of ice grains* [1991. p.87-90. eng] 47-2111
Kouhia, I.
Low energy small house 50°c. Experimental house research [1992. 39p. + appends., fin] 47-2584
Transparent insulations. Cold-region application [1992. 32p., eng] 47-4619
Koul, B.B.
Avalanche forecasting by acoustic monitoring of snowpacks [1985. p.318-323. eng] 47-549
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Cold region logistics planning and management [1993. p.1-11. eng] 47-4283
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Freeze-thaw durability of air-entrained CSF concrete [1991. p.203-208. eng] 47-863
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Beaufort Sea Ice-1: an overview [1991. p.189-205. eng] 47-3386
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Influence of structural anisotropy of sea ice on its mechanical and electrical properties [1992. p.670-674. eng] 47-1857
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Study on the characteristics of icy road surfaces [1990. p.34-37. jpn] 47-4687
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Role of multiple lake interaction in the western New York *lake-effect snowstorm* of 24-26 November 1991 [1992. p.125-134. eng] 47-4041
Kraay, G.W.
Influence of physical and biological processes on the concentration of O2 and CO2 in the ice-covered Weddell Sea in the spring of 1988 [1992. p.163-170. eng] 47-1326
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Airborne laser altimetry measurements *for sea ice thickness* [1992. p.B39-B42. eng] 47-3248
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Kraft, U.
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Forest fires in the former Soviet Union: past, present and future greenhouse gas contributions to the atmosphere [1993. p.179-186. eng] 47-5236
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Model for vertical structure of phytoplankton community in arctic regions [1992. p.314-316. eng] 47-157
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Comparison of energy performance of commonly used insulation configurations for slab-on-grade floors [1992. p.137-146. eng] 47-1152
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Novaya Zemlya test site and the problem of the radioactive pollution of the polar ocean [1993. p.27-36. eng] 47-5018
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IPIX radar: a tool for ocean surveillance and meteorological research [1991. p.25-36. eng] 47-3373
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Artificial naled formation for water storage [1991. p.233-235. rus] 47-2453
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Concrete hardening with low water requirement cements at *subfreezing temperatures* [1991. p.17-18. rus] 47-2155
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Frequency of extremes and its relation to climate fluctuations [1992. p.47-58. eng] 47-1956
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Theoretical approach of thermal regime of snow-covered sea ice [1992. p.62-64. eng] 47-116
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Kravtsov, IU.V.
Winter water migration through deep-frozen soils of West Siberia [1992. P.111-115. eng] 47-1714
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Effect of freezing-thawing cycles on the heat-mass-exchangeable properties of cryogenic soils [1992. p.136-139. eng] 47-1718
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Estimating avalanche hazard in the territory of Afghanistan [1991. p.86-93. rus] 47-2793
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Thermokarstic and glaciokarstic hydrology in Spitsbergen glaciers [1991. p.185-198. eng] 47-33
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Rhine-Linth glacier in the upper Wurm: a model of the last alpine glaciation [1993. p.15-17. eng] 47-4749
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Simulated antarctic fast ice ecosystem [1993. p.6929-6946. eng] 47-4139
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Nitrogen and phosphorus concentrations and export for the upper Kuparuk River on the North Slope of Alaska in 1980 [1992. p.61-69. eng] 47-1604
Water and sediment export of the upper Kuparuk River drainage of the North Slope of Alaska [1992. p.71-81. eng] 47-1605
Krimmel, R.M.
Terminus of Hubbard Glacier, Alaska [1992. p.151-157. eng] 47-1103
Krishnan, V.
Chemical constituents of two snow falls around Manali District, Kulu, Himachal Pradesh [1985. p.151-156. eng] 47-534
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Nitrogen uptake in the Weddell Sea during late winter and spring [1992. p.245-251. eng] 47-1330
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Durability of concrete in Iceland [1992. p.381-392. eng] 47-2576
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Extracellular acid phosphatase activities in *Eriophorum vaginatum* tussocks: a modeling synthesis [1993, p.50-55, eng] 47-3428
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Adsorption of HCl on ice under stratospheric conditions: a computational study [1992, p.1355-1358, eng] 47-49
Sticking of HCl and ClOH to ice: a computational study [1992, p.7079-7088, eng] 47-1265
Surface melting of the (0001) face of TIP4P ice [1992, p.365-382, eng] 47-1189
Krokli, B.
Flood forecasting and snow mapping by satellite [1992, p.453-459, nor] 47-1972
Kroll, R.E.
Performance of wood-based siding in energy-efficient homes located in cold climates [1992, p.260-267, eng] 47-1160
Krouse, H.R.
Hydrogen and oxygen isotopes and the origin of the ice in peat plateaus [1992, p.19-27, eng] 47-3123
Ice core climate signals from Mount Logan, Yukon, A.D. 1700-1897 [1992, p.483-504, eng] 47-2097
Kroyer, G.
Development of a new de-icing agent [1985, 34p., ger] 47-5009
Kruger, J.
Moraine-ridge formation along a stationary ice front in Iceland [1993, p.101-109, eng] 47-4851
Krummenacher, B.
Monitoring of periglacial phenomena in the Furggentälti Swiss Alps [1992, p.149-155, eng] 47-1755
Kruspe, G.
Cold air outbreak near Spitsbergen in springtime—boundary-layer modification and cloud development [1992, p.13-46, eng] 47-900
Kruss, P.D.
Dramatic retreat of Mount Kenya's glaciers between 1963 and 1987: greenhouse forcing [1992, p.127-133, eng] 47-1097
Krutskikh, B.A.
Climatic regime of the Arctic at the transition from the 20th to the 21st century [1991, 200p., rus] 47-3334
Krylov, A.D.
Frazil ice formation due to difference in heat and salt exchange across a density interface [1992, p.497-506, eng] 47-2250
Internal ice generation as a result of differential exchange of heat and salt through the interface between turbulent layers [1992, p.38-42, eng] 47-4563
Thermal effects of marine water mixing with different temperatures and salinities [1991, p.72-76, eng] 47-4927
Krylov, B.A.
Field studies of the hardening of concrete piles in winter [1991, p.22-24, rus] 47-2158
Krysell, M.
Bromoform in the Nansen Basin in the Arctic Ocean [1991, p.187-197, eng] 47-1195
Halocarbon ratio and tritium/He-3 dating of water masses in the Nansen Basin, Arctic Ocean [1992, p.S435-S458, eng] 47-1273
Kubo, H.
Experiments with frost-heave prevention in concrete troughs [1993, p.89-96, eng] 47-4126
Kubota, S.
Development of an automatic guidance system for a dump truck in single file with a rotary snowplow [1992, p.55-69, jpn] 47-4974
Tests on improving the efficiency of fresh snow removal - tests on snowplows with variable configurations for curved surfaces [1992, p.287-292, jpn] 47-2495
Kuchin, V.A.
Some climatic characteristics of precipitation in the Asian Arctic for medium-range weather forecasting [1989, p.138-147, rus] 47-3666
Kudo, G.
Effect of snow-free duration on leaf life-span of four alpine plant species [1992, p.1684-1688, eng] 47-3826
Leaf characteristics and survivorship in an evergreen shrub, *Ledum palustre* ssp. decumbens in accordance with latitudinal change [1993, p.87-94, eng] 47-3979
Performance and phenology of alpine herbs along a snow-melting gradient [1992, p.297-304, eng] 47-3340
Kudo, N.
Snow removal in Hakkodata [1986, p.75-84, jpn] 47-5184
Kudriashov, B.B.
Core drilling by electromechanical drill [1993, p.235-237, eng] 47-4576
Drilling boreholes in glacial and subglacial rocks, with core selection by an electromechanical drill on a load- bearing cable [1991, p.165-170, rus] 47-2808
Kudriashov, V.V.
Thermal and moisture dust control treatment of a perennially frozen disturbed coal mine [1991, 135p., rus] 47-101
Kuehn, G.A.
Compressive strength of ice cubes of different sizes [1993, p.142-148, eng] 47-4060
Ductile ice [1993, p.151-157, eng] 47-3564
Kuemmel, D.A.
Accident analysis of ice control operations [1992, 14p., eng] 47-961
Traffic volume reductions due to winter storm conditions [1992, 11p., eng] 47-959
Kuga, Y.
Extinction behavior of snow between 18 GHz and 90 GHz: comparison between theory and experiments [1992, p.809-811, eng] 47-656
Kuhl, S.C.
Seasonal river runoff calculated from a global atmospheric model [1992, p.2029-2039, eng] 47-776
Kuhle, M.
Observations supporting the Pleistocene inland glaciation of High Asia [1991, p.133-231, eng] 47-1608
Snow-line plunge changed the face of the old world. Scientists discover new clues to the Ice Age [1988, p.15-18, eng] 47-4645
Kuhn, G.
Character of clasts in glaciomarine sediments as an indicator of transport and depositional processes, Weddell and Lazarev Seas, Antarctica [1993, p.477-487, eng] 47-3644
Transfer of watershed-model-parameter values to noncalibrated basins in the Gunnison River basin, Colorado [1992, p.741-750, eng] 47-2749
Kuhry, P.
Peatland development in relation to Holocene climatic change in Manitoba and Saskatchewan (Canada) [1992, p.1070-1090, eng] 47-1798
Kuhs, W.F.
Neutron diffraction studies of ices III and IX on under-pressure and recovered samples [1993, p.4878-4888, eng] 47-3234
Structure of ice-Ih [1986, p.1-65, eng] 47-2306
Kujala, K.
Evaluation of factors affecting frost susceptibility in soils [1993, p.83-87, eng] 47-4125
Kujala, P.
Ship in compressive ice. Analysis of the ice failure process. *Report from the joint Finnish-Russian project* [1993, 70p. + appends., eng] 47-3539
Kujansuu, R.
Deglaciation of Finnish Lapland [1992, p.21-31, eng] 47-3544
Kukko, H.
Frost effects on the microstructure of high strength concrete, and methods for their analysis [1992, 133p. + appends., eng] 47-3135
Kukkonen, I.
Detecting organic chemical contaminants by spectral-induced polarization method in glacial till environment [1992, p.1014-1017, eng] 47-779
Kukla, G.J.
Insolation regime of the warm to cold transitions [1992, p.307-339, eng] 47-2842
Interglacial-glacial transitions [1992, p.1-13, eng] 47-2832
Recent temperature trends: are they reinforced by insolation shifts [1992, p.291-305, eng] 47-2841
Start of a glacial [1992, 353p., eng] 47-2831
Wisconsinan ice-sheet initiation: Milankovitch forcing, paleoclimatic data, and global climate modeling [1992, p.53-69, eng] 47-2683
Kulachkova, O.G.
Assessment of the technogenic migration of chemical elements through terrain of a large urbanized territory [1991, p.42-49, rus] 47-3278
Kulakov, M.IU.
Analysis of factors determining the circulation of waters in the Chukchi Sea, based on data from a test area with heated buoy stations [1991, p.59-64, rus] 47-3691
Estimates of parameters of vertical turbulent exchange in the Chukchi Sea based on observational data [1991, p.101-106, rus] 47-3696
Parametrization of the coefficient of vertical turbulent viscosity in modeling of water circulation in arctic seas [1991, p.22-33, rus] 47-3687
Kulakov, V.V.
Studying naleds to estimate fresh ground water reserves [1991, p.131-137, rus] 47-2438
Kulat, A.C.
Adjustable, manual snowplow [1989, 4 col., eng] 47-3411
Kul'chitskii, V.A.
Investigation of the effect of the freezing of a foundation on the bearing capacity of a rigid airfield pavement [1990, p.96-101, rus] 47-2759
Kulemin, G.P.
Remote sensing of snow using radar methods [1992, 36p., rus] 47-2910
Kulikov, A.
Power plants of future icebreakers [1990, p.43-44, rus] 47-4092
Kulikov, A.I.
Cryogenesis and functioning of microbial communities in soil of Zabaikalye areas [1992, p.199-203, eng] 47-1729
Heat energetics of cryopedogenesis [1992, p.173-177, eng] 47-1724
Hydrothermy of slope soils in Transbaikal [1991, p.69-76, rus] 47-3280
Kulkarni, A.K.
Initiation of first snow surveys in the Himalayas—a brief appraisal [1985, p.164-174, eng] 47-536
Winter and spring precipitation over the northwestern Himalayas—a brief appraisal [1985, p.175-185, eng] 47-537
Kullman, L.
Ground frost restriction of subarctic Picea abies forest in northern Sweden. A dendroecological analysis [1991, p.167-178, eng] 47-4339
High latitude environments and environmental change [1992, p.478-488, eng] 47-1744
Pine (*Pinus sylvestris* L.) tree-limit surveillance during recent decades, central Sweden [1993, p.24-31, eng] 47-3424
Kulmatov, R.A.
Chemical composition of precipitation in Uzbekistan [1993, p.413-419, eng] 47-4068
Kumagai, K.
Scavenging effect of snow [1985, p.61-64, jpn] 47-5101
Kumagai, M.
Engineering studies on pneumatic conveying systems of snow [1992, p.275-286, eng] 47-3206
Kumamoto, Y.
Development of shock absorbers for snow removal graders [1993, p.30-33, jpn] 47-4789
Kumar, V.S.
Satellite snow cover mapping and snowmelt runoff modelling in Beas basin [1991, p.101-109, eng] 47-1297
Snow melt runoff for a sub-catchment of Beas basin [1985, p.43-63, eng] 47-561
Kumarsa, M.K.
Air exfiltration and moisture accumulation in residential wall cavities [1992, p.491-500, eng] 47-1162
Thermal performance of a residential dynamic wall [1992, p.229-234, eng] 47-1158
Kumor, M.K.
Swelling of cyclic frozen expansive clay soils in the environment contaminated by sodium chloride [1993, p.97-102, eng] 47-4127
Kunakhovich, M.G.
Studying the stability of a snow catchment on a glacier [1991, p.102-107, rus] 47-327
Kung, C.S.
Parameter uncertainty and simulation of design floods in Sweden [1992, p.209-230, eng] 47-174
Kunin, I.V.
Using structural-petrographic analysis for studying glacier movement [1991, p.139-143, rus] 47-2804
Kuo, S.S.
Stress and time effects on the creep rate of polycrystalline ice [1992, p.209-224, eng] 47-1030
Kuosa, H.
Effects of antarctic sea ice biota on seeding as studied in aquarium experiments [1992, p.333-339, eng] 47-1333
Kupatadze, T.S.
Safeguarding deep excavations from snowdrifts in high-altitude sections of railroads [1992, p.17, rus] 47-370
Kuperman, W.A.
Experimental and theoretical analysis of spatial coherence on a horizontal array under the arctic ice [1992, p.3-16, eng] 47-4714
Kuranel, R.Y.
Minerals Management Service regulation of floating drilling unit operations in the Beaufort and Chukchi Outer Continental Shelf [1992, p.227-241, eng] 47-1031
Kuranchi, K.
Study on the effects of the popularization of studless tires—1st report [1991, p.33-38, jpn] 47-2531
Study on the effects of the popularization of studless tires—2nd report [1992, p.65-72, jpn] 47-2508
Kurazhov, V.K.
Diagnosis of large-scale reconstructions in the troposphere of the Northern Hemisphere [1989, p.97-103, rus] 47-3661
Kurfurst, P.J.
Canada-Russia geotechnical studies of permafrost: Bovanenkovo test site, Yamal Peninsula, Western Siberia [1992, 402p., eng] 47-977
Kurioka, S.
Thermodynamical behaviour of liquid water near the triple point [1991, p.4181-4198, eng] 47-917
Kurita, G.
Performance tests on the 10t class B-B-D snow removal truck [1991, p.74-91, jpn] 47-4972
Tests on snow removal trucks [1990, p.36-67, jpn] 47-4966
Kurita, I.
Tests on improving the efficiency of snow removal equipment on snow removal trucks [1991, p.203-210, jpn] 47-2524
Kuriyama, H.
Avalanche countermeasures (1) [1985, p.53-57, jpn] 47-5154

Avalanche countermeasures (2) [1985, p.62-66, jpn] 47-5170

Kuroda, H.
Collapse of peroxide-scavenging systems in apple flower-buds associated with freezing injury [1992, p.743-750, eng] 47-1000

Kuroda, T.
Structure and physical properties of snow and ice [1986, 209p., jpn] 47-1679
Ultraviolet-induced amorphization of cubic ice and its implications for the evolution of ice grains [1991, p.87-90, eng] 47-2111

Kurokawa, K.
Measurement results for snow pressure acting on hanging-shelf avalanche guards [1992, p.103-108, jpn] 47-2512

Kuroki, M.
Snowdrifts on National Highway 7 [1984, p.51-57, jpn] 47-5067

Kurosaki, Y.
Characteristics of a water sprinkler system with variable flow rates to melt snow on railway tracks [1992, p.727-738, eng] 47-4364

Kurppa, L.
Cold climate related studies in Finland and in the Kola area in Russia: a new product—bibliography and database [1992, p.102-107, eng] 47-1400

Kurter, A.
Glaciers of Turkey [1991, p.G1-G30, eng] 47-3823

Kurylo, M.J.
International efforts in the study of stratospheric ozone depletion: a 1990 status report [1992, p.221-226, eng] 47-1204

Kurz, W.A.
Estimating carbon budgets of *Canadian forest ecosystems* using a national scale model [1993, p.243-252, eng] 47-5240

Kushnir, S.IA.
Use of geotextiles in earth structures for oil—gas pipelines under West Siberia conditions [1992, p.81-84, eng] 47-1579

Kusky, T.M.
Deformation history of the McHugh Complex, Seldovia Quadrangle, south-central Alaska [1992, p.17-32, eng] 47-609

Kutzbach, J.E.
General circulation models, palaeoclimatic data and last interglacial climates [1991, p.231-242, eng] 47-3493
Modeling large climatic changes of the past [1992, p.669-688, eng] 47-4502
Sensitivity experiments on the effect of orbitally-caused insolation changes on the interglacial climate of high northern latitudes [1991, p.223-229, eng] 47-3492

Kuusela, R.
Anti-icing activities in Finland: field tests with liquid and prewetted chemicals [1992, 11p., eng] 47-934
Methods and reasons for cutting usage of salt in Finland [1992, 7p., eng] 47-940
New ideas and equipment for winter maintenance in *Finland* [1992, 8p., eng] 47-949

Kuz'min, I.I.
Problems of evaluation and management of risk of radioactive contamination of oceans [1993, p.425-438, eng] 47-5046
Use of ALARA in decision making on costly international cleanup effort of radioactive contamination [1993, p.573-584, eng] 47-5055

Kuz'min, V.A.
Effect of cabbeling in the mixing of sea water and its seasonal manifestation on the Pacific Ocean Subarctic Front [1991, *p.628-631, eng*] 47-2898
Landscapes and soils of the mountain subarctic Transbaikal [1992, p.94-98, rus] 47-3269

Kuz'minykh, A.I.
System approach *to selecting anti-naled procedures* [1991, p.210-214, rus] 47-2449
Winter temperature regime of culverts in channels with naleds [1991, p.205-210, rus] 47-2448

Kuznetsov, A.V.
Characteristics of synoptic processes in homogeneous groups of macro-changes in the Arctic [1989, p.43-52, rus] 47-3656

Kuznetsov, G.I.
New technology for insulating the bottom of an alluvial reservoir on a frozen base [1992, p.84-91, rus] 47-2033

Kuznetsov, I.M.
Evaluation of ice compression [1989, p.72-76, eng] 47-1225
Possibility of forecasting the conditions of ice edges in the *Greenland Sea up to 30 days in advance* [1990, p.89-93, rus] 47-3593
Possibility of short term forecasting of sea ice thickness [1990, p.94-97, rus] 47-3594
Some characteristics of spatial irregularity in the thickness of *stationary and drifting ice* [1990, p.42-53, rus] 47-3588

Kuznetsov, IU.V.
Radioactive contamination of the northern seas: approaches to the assessment of the impact on the marine environment and man [1993, p.379-394, eng] 47-5044

Kuznetsov, V.L.
Problem of water circulation *in the Kara Sea* [1991, p.34-41, rus] 47-3688

Kuznetsova, E.G.
Effect of fertilization and liming on the potassium condition of soils [1991, p.56-65, rus] 47-4107

Kvambekk, A.S.
Upward looking sonar ice draft series from the Greenland Sea [1992, p.B25-B28, *eng*] 47-3246

Kvenvolden, K.A.
Methane in permafrost—preliminary results from coring at Fairbanks, Alaska [1993, p.609-616, eng] 47-3439

Kvon, V.I.
Mathematical modeling of ice and thermal regime of water bodies under heavy thermal load [1992, p.55-61, eng] 47-2713

Kwok, K.C.S.
Modelling of snowdrift around prismatic buildings for antarctic *environment* [1992, p.73-79, eng] 47-4281
Snowdrift around antarctic building—effects of corner *geometry and wind incidence* [1992, p.587-591, *eng*] 47-1845
Snowdrift around antarctic buildings—effects of corner geometry and wind incidence [1993, p.61-65, eng] 47-4302
Snowdrift around *buildings for antarctic environment* [1992, p.2797-2808, eng] 47-2643

Kwok, R.
Approach to identification of sea ice types from spaceborne SAR data [1992, p.355-360, eng] 47-3033
Characterization of spatial statistics of distributed targets in SAR data [1993, p.345-363, eng] 47-2754
Determination of sea ice motion from satellite images [1992, p.343-354, eng] 47-3032
Effective permittivity of saline ice under thermal variation [1992, p.1256-1258, eng] 47-674
Performance of the ice motion tracker at the Alaska SAR Facility [1992, p.588-590, *eng*] 47-655
Polarimetric emission from anisotropic media for passive remote sensing of sea ice [1992, p.966-968, eng] 47-666
Polarimetric remote sensing of sea ice in the Beaufort Sea [1992, p.972-974, eng] 47-668
Potential applications of polarimetry to the classification of sea ice [1992, p.419-430, eng] 47-3038
Preliminary results from the ASF/GPS ice classification algorithm [1992, p.573-575, eng] 47-650
Sea ice radar signatures from ERS-1 SAR during late summer and fall in the Beaufort and Chukchi Seas [1993, p.339-342, *eng*] 47-4436
Summer arctic ice concentrations and characteristics from SAR and SSM/I data [1993, p.367-372, eng] 47-4441

Kyoshi, H.
Report on the water shortage of 1990 [1991, p.55-60, jpn] 47-2518

Kyro, E.
Occurrence of ozone laminae near the boundary of the stratospheric polar vortex [1993, p.8883-8890, eng] 47-4381

Kytin, IU.A.
Current tendencies of anthropogenic changes in physical-mechanical *properties of natural ice* [1991, p.126-129, rus] 47-2801

La Roi, G.H.
High subarctic forest-tundra of northwestern Canada: position, width, and vegetation gradients in relation to climate [1992, *p.1-9, eng*] 47-3348

Lake, M.
Biodegradation of organic pollutants in soil and groundwater [1992, p.15/1-15/13, eng] 47-2827
Contaminants which will be studied in this project [1992, p.7/1-7/14, eng] 47-2826

Laaksonen, A.
Theoretical studies on binary homogeneous nucleation [1992, 12p., eng] 47-229

Laasanen, O.
Proceedings [1988, 243p., eng] 47-716

Labeyrie, L.
New method to reconstruct sea surface salinity: application to the North Atlantic Ocean during the Younger Dryas [1992, p.201-217, eng] 47-3559
Norwegian Sea record of the last interglacial to glacial transition [1992, p.173-183, eng] 47-2835

Labitzke, K.
Variability of the arctic stratosphere in winter [1992, p.179-180, ger] 47-210

LaBrecque, D.R.
Determination of the water content of snow by dielectric measurements [1992, 38p., eng] 47-1899

Labrie, D.
Refractive indices of water and ice in the 0.65- to 2.5-micron spectral range [1993, p.3531-3540, eng] 47-5147

Lach, R.P.
Finite element modelling of pressuremeter tests and footings on frozen soils [1992, p.351-375, eng] 47-196

LaChapelle, E.R.
Field guide to snow crystals [1992, 101p., eng] 47-1620

Lacombe, J.
Performance predictions for a passive infrared intrusion detection *system* [1992, p.133-140, *eng*] 47-1167

Ladanyi, B.
Design of piles in permafrost under combined lateral and axial load—discussion and reply [1992, p.162-166, eng] 47-2642
Determination of creep properties of frozen soils by means of the borehole stress relaxation test [1993, p.170-186, eng] 47-4164
Erratum: sharp cone testing of creep properties of frozen sand [1992, p.1008, eng] 47-3355
Experience with the performance of load-controlled cone penetration tests in permafrost and ice [1992, p.1-8, eng] 47-2677
Freezing pressure development on a buried chilled pipeline [1993, p.23-33, eng] 47-4117
Sharp cone testing of creep properties of frozen sand [1992, p.757-764, eng] 47-1440

Laflamme, J.
Ice detector estimation of atmospheric icing on a cable [1993, p.305-316, *eng*] 47-3933

LaFleche, P.T.
Analysis of ground-probing radar data: predictive deconvolution [1991, p.134-139, eng] 47-3309

Lafleur, P.M.
Seasonal changes in the radiation balance of subarctic forest and tundra [1993, p.32-36, eng] 47-3425

LaFleur, R.S.
Drag reduction of a cylinder/endwall junction using the ice formation method [1993, p.26-32, eng] 47-4021
Evolution theory for optimal control of a Couette iceform design model [1992, p.2617-2629, eng] 47-2148
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Laforte, J.L.
Aerodynamic acceptance testing of aircraft ground de/anti-icing fluids [1992, 41p. + appends., eng] 47-2226
Aircraft take-off laboratory simulation for de/anti-icing study [1992, p.183-193, eng] 47-1578
Effect of voltage polarity on icicles grown on line insulators [1992, p.625-631, eng] 47-1850
Effect of voltage polarity on icicles grown on line insulators [1992, p.297-302, eng] 47-4303
Experimental evaluation of flat plate boundary layer growth over an anti-icing fluid film [1993, p.96-104, eng] 47-5007

Lag, J.
Humus accumulation and soil formation in Svalbard [1992, p.222-228, eng] 47-1734

Lahav, M.
Energy density of water and ice nucleation. (Response) [1993, p.1469-1470, *eng*] 47-2319

Lai, P.S.H.
Resistance of fly ash concrete to freezing and thawing [1993, p.205-226, eng] 47-3607

Lai, Z.M.
Analysis of temperature-runoff relationship in the eastern section of Qilian Mountain [1992, p.84-90, chi] 47-1542
Runoff variation of the inland rivers in Gansu Province and its climate dependence [1992, p.64-70, chi] 47-1540
Variations of runoff supply and discharge of rivers with elevation in Qilian Mountains [1985, p.124-130, chi] 47-1527

Laird, C.M.
Development of laser ice-cutting apparatus [1991, p.89-91, *eng*] 47-2474

Laird, S.K.
NO adsorption on ice at low concentrations [1992, p.569-574, eng] 47-202

Laj, P.
Changing sources of impurities to the *Greenland ice sheet* over the last 250 years [1992, p.2627-2640, eng] 47-901
Modified HNO3 seasonality in volcanic layers of a polar ice core: snow-pack effect or photochemical perturbation? [1993, p.219-230, eng] 47-3463
Sulfur mass loading of the atmosphere from volcanic eruptions: calibration of the ice core record on the basis of sulfate aerosol deposition in polar regions from the 1982 El Chichon eruption [1990, 7p. + appends., eng] 47-4618

Lal, A.M.W.
Mathematical model for river ice processes [1993, 80p., eng] 47-4871

Lal, D.
Cosmogenic nuclides in ice sheets [1992, p.227-233, eng] 47-1478

Lal, J.
Structural study of water confined in porous glass by neutron scattering [1993, p.4246-4252, eng] 47-2675

Lal, M.
Submicron size aerosols and weather forecasting in East Antarctica [1988, p.105-107, eng] 47-4193
Surface flaw density from three-point bend tests on ice beams [1991, 91p., eng] 47-1369

Lal, R.
Seasonal soil loss and erodibility variation on a Miamian silt loam soil [1992, p.1560-1565, eng] 47-1184

Lallement, C.
40 years of snow cover measurements in France: network evaluation, forecast interest (application of historical and realtime data to the multipurpose of water management) [1992, p.18-27, eng] 47-490

Lamanna, R.
Hydrogen-bond cooperativity and free-volume effects on normal and supercooled water self-diffusion [1992, p.R7367-R7370, eng] 47-1891

Lamarche, L.
Computer model of glaze accretion on wires [1993, p.89-95, eng] 47-4235

Lamb, D.
Aerosol scavenging by ice in supercooled clouds [1991, p.63-74, eng] 47-2208
Study on the in-cloud removal of trace chemicals with a detailed microphysical and chemical model [1993, p.53-56, eng] 47-3100
The sorption and reactions of SO2, H2O2, and O3 on ice [1993, p.131-134, eng] 47-3102

Lamb, H.H.
Climate, history and the modern world [1982, 387p., eng] 47-1680

Lamb, J.M.
Summary report of the Working Group on Legal, Economic and Policy Priorities [1993, p.17-26, eng] 47-5017

Lambert, A.
Comparison of VLBI data with the ICE-3G glacial rebound model [1993, p.871-874, eng] 47-4631

Lambert, R.
Snow is their profession—the French "Pisteurs-Secouristes" [1992, p.32-39, eng] 47-1320

Lamke, R.D.
Water resources data for Alaska, water year 1991 [1992, 415p., eng] 47-2776

Lamothe, M.
Sangamonian and early Wisconsinan events in the St. Lawrence lowland and Appalachians of southern Quebec, Canada [1992, p.171-184, eng] 47-2691

Lan, Y.C.
Satellite snow cover monitoring and snowmelt runoff prediction in the high alpine area of northwestern China [1991, p.161-168, eng] 47-1303

Lancelot, C.
On processes determining the vertical stability of surface waters in the marginal ice zone of the northwestern Weddell Sea and their relationship with phytoplankton bloom development [1992, p.237-243, eng] 47-1329

Lancraft, T.M.
Community structure and trophic ecology of zooplankton in the Scotia Sea marginal ice zone in winter (1988) [1993, p.81-105, eng] 47-3604

Landine, P.G.
Prairie Blowing Snow Model: characteristics, validation, operation [1993, p.165-192, eng] 47-3801

Landsberger, S.
Elemental source signatures of aerosols from the Canadian high Arctic [1992, p.181-187, eng] 47-1554

Landvik, J.Y.
Weichselian stratigraphy and palaeoenvironments at Bellsund, western Svalbard [1992, p.335-358, eng] 47-2044

Lane, L.S.
Kaltag fault, northern Yukon, Canada: constraints on evolution of arctic Alaska [1992, p.653-656, eng] 47-2599

Lang, H.
Forecasting meltwater runoff from snow-covered areas and from glacier basins [1986, p.99-127, eng] 47-2312

Lang, R.H.
Mean wave propagation in a slab of one-dimensional discrete random medium [1992, p.301-314, eng] 47-441

Lang, S.J.
Isotopic analysis of carbon dioxide from air trapped in polar ice [1991, 148p., eng] 47-4604

Lange, M.A.
Antarctic ice thickness distributions obtained from aerial photography [1992, p.B16-B18, eng] 47-3243
Arctic Centre news [1993, 12p., eng] 47-4613
Drill hole and ice-core studies of sea-ice thickness distributions in the Arctic and Antarctic [1992, p.B1-B4, eng] 47-3240
Effects of global changes on social life in the Arctic and possible response strategies [1993, 64p., eng] 47-4877
Microwave remote sensing of the southern ocean ice cover [1992, p.243-259, eng] 47-3026
Roughness of Weddell Sea ice and estimates of the air-ice drag coefficient [1993, p.12,439-12,452, eng] 47-4521

Langland, R.H.
Polar low sensitivity to sea surface temperature and horizontal grid resolution in a numerical model [1988, p.83-86, eng] 47-4188

Langlois, M.
Frost resistance of high-strength concrete [1992, p.975-980, fre] 47-3342
Influence of curing on the salt scaling resistance of concrete with and without silica fume [1989, p.971-989, eng] 47-61

Langlois, P.M.
Comparison of normalized radar cross section measurements and models for snow cover at 35, 95, and 225 GHz [1992, p.1655-1657, eng] 47-686

Langmore, J.P.
Quantitative energy-filtered electron microscopy of biological molecules in ice [1992, p.349-373, eng] 47-1677

Langner, C.G.
Pipeline trenching [1986, 4 col., eng] 47-4262

Langston, L.S.
Drag reduction of a cylinder/endwall junction using the ice formation method [1993, p.26-32, eng] 47-4021

Langway, C.C., Jr.
Shallow ice core drilling project at Byrd Station, Antarctica [1991, p.60-61, eng] 47-2463

Lanning, L.
Use of trees and shrubs for control of blowing snow in select locations along Wyoming highways [1992, 30p., eng] 47-4214

LaPotin, P.J.
Water resource modelling using remote sensing and object-oriented simulation [1993, p.153-165, eng] 47-3346

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Anti-icing activities in Finland: field tests with liquid and prewetted chemicals [1992, 11p., eng] 47-934
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Safety and service life of equipment designed for cold climate operation [1992, p.111-123, eng] 47-586

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Postglacial paleophytogeography and paleoclimates in the western St. Lawrence River region, Quebec [1992, p.151-172, fre] 47-3788

Larsen, B.
Cenozoic sedimentary processes on the antarctic continental margin and the record from deep drilling [1992, p.77-103, eng] 47-1007

Larsen, E.
Eemian-Early Weichselian N-S temperature gradients: North Atlantic-NW Europe [1991, p.161-166, eng] 47-3488
Late Quaternary land-sea interactions: Fennoscandia and Svalbard—the Nordic seas [1991, p.151-159, eng] 47-3487

Larsen, E.S.
Development of fracture energy of FRC materials. Freeze-thaw resistance of FRC materials [1992, 39p., eng] 47-2588

Larsen, J.B.
Testing winter desiccation resistance for species and provenance selection at timberlines [1993, p.59-64, eng] 47-4529

Larsen, S.H.H.
Ozone 'minihole' over northern Scandinavia [1992, p.1447-1451, eng] 47-739

Larson, T.
Impact of hygrothermal gradients on juvenile wood [1992, p.210-218, eng] 47-1157
Performance of an attic radiant barrier for a simulated Minnesota winter [1992, p.114-122, eng] 47-1150

Larson, T.H.
On: "An analytical study of a two-layer transient thermal conduction problem as applied to soil temperature surveys" by T.H. Larson and A.T. Hsui [1992, p.1644-1645, eng] 47-2001

Larsson, A.M.
Influence of physical and biological processes on the concentration of O2 and CO2 in the ice-covered Weddell Sea in the spring of 1988 [1992, p.163-170, eng] 47-1326

Larsson, N.P.O.
PIXE analysis as a tool for dating of ice cores from the Greenland ice sheet [1993, p.428-434, eng] 47-4592

LaSage, D.M.
Ground-water resources of the Palmer area, Alaska [1992, 39p. + 1 sheet, eng] 47-1486

Lashov, E.S.
Using piecewise polynomial smoothing in statistical series analysis [1991, p.96-100, rus] 47-3695

Lassoie, J.P.
Acidic mist and nitrogen fertilization effects on growth, nitrate reductase activity, gas exchange, and frost hardiness of red spruce seedlings [1992, p.611-622, eng] 47-1558

Laternser, M.
Measurements of firn density in the lower accumulation area of the Greenland ice sheet: EPOCH 1992 [1993, p.62-65, eng] 47-4918

Latham, J.
Development of ice and precipitation in New Mexican summertime cumulus clouds [1993, p.91-120, eng] 47-2146

Lau, M.
Mathematical model to describe hinge crack failure of a sheet ice reinforced ridge beam [1991, 16p. + appends., eng] 47-1354
Model ice forces on an upward breaking multifaceted cone [1993, 52p. + appends., eng] 47-3709
Model test investigation of level and multi-year ridge ice forces on downward breaking conical structures [1991, 2 vols., eng] 47-1355

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Ice mechanics in the LeadEx program [1991, p.651-656, eng] 47-2184

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Evolution of stratiform cirrus simulated in a lifting layer [1992, p.23-33, eng] 47-6

Laudát, F.
Dielectric study of frozen aqueous solutions of ionic materials by means of thermally stimulated depolarization currents [1991, p.211-224, eng] 47-3998

Laudát, J.
Dielectric study of frozen aqueous solutions of ionic materials by means of thermally stimulated depolarization currents [1991, p.211-224, eng] 47-3998

Laughlin, G.P.
Bioclimatology of frost [1992, 144p., eng] 47-1794

Laumann, T.
Degree-day glacier mass balance modelling with applications to glaciers in Iceland and Norway [1993, 40p., eng] 47-3707
Reactions of a calving glacier to large changes in water level [1992, p.158-162, eng] 47-1104

Launiainen, J.
Polaarialueiden tutkimus ja globaalinen ilmaston-ja ympäristönmuutos [1993, p.21-31, fin] 47-4996

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Verification of the National Weather Service extended streamflow prediction procedure [1992, p.163-172, eng] 47-2725

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Approach to determine the origin and age of massive ice blockages in two arctic caves [1993, p.77-85, eng] 47-3119
Kinetic enrichment of stable isotopes in cryogenic calcites [1992, p.217-228, eng] 47-3159

Laursen, G.A.
Characterization and comparison of macrofungal communities in an *Alnus tenuifolia* and an *Alnus crispa* forest in Alaska [1992, p.1247-1258, eng] 47-1483

Lauten, G.N.
Physiological and spectral analysis of the effects of sodium chloride on *Syringa vulgaris* [1992, p.236-238, eng] 47-644

Lautridou, J.P.
Present-day periglacial processes and landforms in mountain areas [1992, p.93-101, eng] 47-1748

Lavrov, S.A.
Calculating the thermal regime of soils in areas with snow fences [1991, p.67-74, rus] 47-385

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Temporal variability of suspended sediment flux from a subarctic glacial river, southern Iceland [1992, p.233-243, eng] 47-1815

Lawson, D.E.
Applications of ERS-1 SAR data for analyzing riverine and coastal processes and geomorphology [1993, p.873-878, eng] 47-4449
Determining the intrinsic permeability of frazil ice. Part 2: field investigations [1992, 15p., eng] 47-695
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Aircraft observations of the origin and growth of very large snowflakes [1993, p.53-56, eng] 47-2846
New airborne precipitation spectrometer for atmospheric research [1993, p.30-35, eng] 47-3062
Novel digital holographic imaging system for observing ice crystals in cirrus [1993, p.25-29, eng] 47-3061
Relative dispersion of ice crystals in seeded cumuli [1993, p.1055-1073, eng] 47-4080

Lax, J.
Physical modeling of conductive and convective energy transfer in ventilated low-temperature snow [1988, p.153-157, eng] 47-4207

Laxon, S.W.C.
Antarctic ice sheet topography mapped with the ERS-1 radar altimeter [1993, p.1649-1650, eng] 47-5119
Sea ice altimetry [1992, p.111-135, eng] 47-3021

Lay, L.B.
International sharing of polar information resources [1992, 371p., eng] 47-1393

Layman, R.
Determination of soil moisture distribution from impedance and gravimetric measurements [1992, p.18,969-18,977, eng] 47-1624
Lazare, M.
Canadian Climate Centre second-generation general circulation model and its equilibrium climate [1992, p.1013-1044, eng] 47-1269
Greenhouse gas-induced climate change simulated with the CCC second-generation general circulation model [1992, p.1045-1077, eng] 47-1270
Lazareva, I.P.
Chemical composition of snow near a mining and concentration plant: analysis of variability by multivariate statistical analysis methods [1993, p.79-86, eng] 47-5193
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Stress-optic effects in ice [1993, p.113-117, eng] 47-3746
Lea, P.D.
Last interglacial-glacial transition in North America [1992, 317p., eng] 47-2678
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Long-term response of an arctic sedge to climate change: a simulation study [1992, p.323-340, eng] 47-2288
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Association between extremes in North American snow cover extent and United States temperatures [1993, p.1345-1355, eng] 47-5212
Temporal characteristics of USA snowfall 1945-1946 through to 1984-1985 [1993, p.65-76, eng] 47-4981
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Application of GIS in modelling winter orographic precipitation, Gunnison River basin, Colorado, USA [1993, p.491-499, eng] 47-4460
Simulation of precipitation in the Gunnison River basin using an orographic-precipitation model [1992, p.651-660, eng] 47-2741
Using coupled atmospheric and hydrologic models to investigate the effects of climate change in mountainous regions [1992, p.691-700, eng] 47-2745
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Mechanism of mass transfer and chemogenic deformation of frozen ground during its interaction with saline solutions [1990, p.55-66, rus] 47-1255
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Influence of structural anisotropy of sea ice on its mechanical and electrical properties [1992, p.670-674, eng] 47-1857
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Space and time regularities in the thermal state of waters in the northern European basin [1991, p.24-43, rus] 47-3956
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Nitrifying bacteria from frozen deposits in the Kolyma lowlands [1991, p.92-97, rus] 47-4816
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Stochastic model of flow duration curves for rivers in British Columbia, Canada [1991, 148p., eng] 47-302
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Forestry in New Zealand's southern high country [1993, p.529-548, eng] 47-4560
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Can greenhouse warming induce ice sheet growth [1993, p.272-275, eng] 47-3046
Modeling study of the role of snow on sea ice in producing interannual climate variations [1991, p.323-326, eng] 47-4486
Variations in snow on sea ice: a mechanism for producing climate variations [1993, p.10,401-10,410, eng] 47-4291
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Fourier domain multifrequency classification of single frequency SAR images of sea ice [1991, p.111-118, eng] 47-3402
SICAR: a program for semi-automated digitizing of composite ice charts [1991, p.33-41, eng] 47-3396
Snow, sea ice and climate: a study of scales [1992, p.45-59, eng] 47-1425
Spatial and temporal variation of sea ice geophysical properties and microwave remote sensing observations: the SIMS'90 experiment [1992, p.233-251, eng] 47-3320
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Surface albedo of snow covered first year and multi-year sea ice [1991, p.133-140, eng] 47-3382
Ledroit, M.
Katabatic wind intensity and direction over Antarctica derived from scatterometer data [1992, p.1021-1024, eng] 47-2907
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Studies on the characteristics of meteorological phenomena and cold wave at King Sejong Station, Antarctica [1992, p.1-16, kor] 47-2926
Study on the meteorological characteristics over King Sejong Station, Antarctica during 1990 [1991, p.63-70, kor] 47-1571
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Experimental observations and theoretical studies on solidification processes in saline solutions [1993, p.157-167, eng] 47-3288
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Ab initio studies on the structural and dynamical properties of ice [1993, p.4863-4872, eng] 47-3583
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Comparison of cloud microphysics parameterizations for simulation of mesoscale clouds and precipitation [1992, p.2699-2712, eng] 47-2251
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Development and verification of a three-dimensional large-scale cloud model [1991, 165p., eng] 47-87
Effects of infrared cooling and ice microphysics on large-scale cloud simulations [1991, p.295-298, eng] 47-4484
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Frost tolerance of tobacco plants transformed with the gene encoding the antifreeze-protein from winter flounder (*Pseudopleuronectes americanus*) [1992, 136p., eng] 47-277
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Lee, P.C.S.
Numerical modeling of long-range transport of acidic species in association with meso-(beta)-convective-clouds across the Japan Sea resulting in acid snow over coastal Japan. 1. Model description and qualitative verifications [1993, p.1061-1076, eng] 47-4581
Numerical modeling of long-range transport of acidic species in association with meso-(beta)-convective-clouds across the Japan Sea resulting in acid snow over coastal Japan. 2. Results and discussion [1993, p.1077-1090, eng] 47-4582
Lee, S.J.
Reliability-based design of transmission towers under wind and ice loadings [1993, p.1125-1130, eng] 47-5263
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New parameterizations and sensitivities for simple climate models [1993, p.5025-5036, eng] 47-3783
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Equilibrium analysis of projected climate change effects on the global soil organic matter pool [1993, p.59-63, eng] 47-5229
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SPOT multispectral data and digital terrain model for the analysis of ice-snow fields on arctic glaciers [1992, p.425-440, eng] 47-2661
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Storm water regulations—aircraft deicer/anti-icers operations [1993, p.2333-2338, eng] 47-4452
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Estimation of biases in precipitation gage measurements: an example using the United States raingage network [1993, p.J48-J51, eng] 47-3083
Legendre, L.
Chlorophyll *a* biomass and growth of sea-ice microalgae along a salinity gradient (southeastern Hudson Bay, Canadian Arctic) [1992, p.206-210, eng] 47-140
Chlorophyll *a* biomass and growth of sea-ice microalgae along a salinity gradient (southeastern Hudson Bay, Canadian Arctic) [1992, p.445-453, eng] 47-1469
Ecology of sea ice biota. 1. Habitat, terminology, and methodology [1992, p.417-427, eng] 47-1334
Ecology of sea ice biota. 2. Global significance [1992, p.429-444, eng] 47-1335
In situ spectroradiometric estimation of microalgal biomass in first-year sea ice [1991, p.113-115, eng] 47-5
Model for vertical structure of phytoplankton community in arctic regions [1992, p.314-316, eng] 47-157
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Source strength terms for winter dispersion models [1992, p.149-155, eng] 47-1069
Legin, V.K.
Radioactive contamination of the northern seas: approaches to the assessment of the impact on the marine environment and man [1993, p.379-394, eng] 47-5044
Legrand, M.R.
Ammonium to sulphate ratio in aerosol and snow of Greenland and antarctic regions [1993, p.687-690, eng] 47-4167
Field investigation of major and minor ions along Summit (central Greenland) ice cores by ion chromatography [1993, p.251-258, eng] 47-4754
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Soils of alpine mountains [1992, p.155-181, eng] 47-1211
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Use of concrete for new structures on Adélie Coast [1991, p.76-80, fre] 47-3180
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Assessing the completeness of the deglacial-marine stratigraphy record on west Spitsbergen by accelerator mass spectrometry radiocarbon dating [1993, p.1-6, eng] 47-4015
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Arctic push moraines, a case study of the Thompson Glacier moraine, Axel Heiberg Island, N.W.T., Canada [1992, p.161-171, eng] 47-1011
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First year ice ridge characteristics and loads on offshore structures [1992, p.681-687, eng] 47-1860
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Identification of clear and cloudy pixels at high latitudes from AVHRR radiances [1993, p.2005-2024, eng] 47-5106
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Modeling of contaminant transport [1992, p.17/1-17/12, eng] 47-2828
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Potential tree line in the Faroe Islands [1993, p.463-474, eng] 47-4556
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Radical polymerization of N,N-dimethyl-N-decylacetylmethacryloylethylammonium bromide in frozen aqueous solutions [1992, p.95-97, eng] 47-1118
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Transitions in frozen gelatinized-starch systems studied by differential scanning calorimetry [1992, p.179-183, eng] 47-743
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Snow conditions during MLRS-TGW BBU1 Captive Flight Program, Fort Drum, New York, January-February 1991 [1992, 76p., eng] 47-700
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Glacimarine sedimentary environment of Expedition Fiord Canadian High Arctic [1993, p.257-273, eng] 47-3103
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UV-excited luminescences from amorphous and polycrystalline H2O ices [1993, p.120-126, eng] 47-3513
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Thin-ice statistics for strength calculations without sub-category classification [1991, p.213-226, eng] 47-3409
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Noise and vibration levels in artificial polar bear dens as related to selected petroleum exploration and developmental activities [1992, p.20-24, eng] 47-3350
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Coastal zone color scanner pigment concentrations in the southern ocean and relationships to geophysical surface features [1993, p.2419-2451, eng] 47-2625
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Numerical study of three-dimensional natural convection and freezing in water [1992, p.640-650, eng] 47-4362
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Atactic polypropylene as a viscosity index improver for low-temperature oils [1993, p.509-512, eng] 47-4385

Leont'eva, O.V.
Using naleds for regulating the flow of mountain rivers in Siberia [1991, p.236-238, rus] 47-2454

Leontyeva, E.
Estimates of cloud optical thickness from ground-based measurements of incoming solar radiation in the Arctic [1992, p.4-6, eng] 47-2364

LePage, K.
Experimental and theoretical analysis of spatial coherence on a horizontal array under the arctic ice [1992, p.3-16, eng] 47-4714

Leppäjärvi, R.
Hydrological yearbook 1989 [1992, 174p., eng] 47-3154
Ice reduction of winter discharges [1992, p.563-567, eng] 47-1976

Leppäranta, M.
Bothnian Experiment in Preparation for ERS-1, 1988 (BEP-ERS-88)—an overview [1992, p.2377-2398, eng] 47-254
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Lerche, I.
Analysis of the Beaufort-Mackenzie Basin, Canada: burial, thermal and hydrocarbon histories [1992, p.510-525, eng] 47-1171

Leshchikov, F.N.
Cryogenic phenomena on the banks of the Angara water reservoirs [1992, p.99-102, rus] 47-3270

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Potential leachate production due to cold weather effects [1992, p.660-667, eng] 47-3345

Lettenmaier, D.P.
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Hydrologic forecasting [1993, p.26/1-26/30, eng] 47-4638

Lenenberger, C.E.
Passive transponder for locating avalanche victims [1987, 8 col., eng] 47-4006

Leung, Y.K.
Energy conservation in commercial air conditioning through ice storage and *cold air distribution design* [1992, p.419-425, eng] 47-3798

Levan, J.M.
Look at lake effect snow cloudbands with satellite imagery [1992, p.235-242, eng] 47-4053

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Geologic use of polar marine diatoms [1993, p.134-253, eng] 47-4823
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Lever, J.H.
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Levi, L.
Comments on "The density of natural ice accretions related to non-dimensional icing parameters" by K.F. Jones [1993, p.599-609, eng] 47-3646

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Cryogenic thermometer calibration system based on triple points from D2 to H2O [1992, p.1067-1069, eng] 47-2993

Levkov, L.
Ice crystal nucleation scheme applying by 3-D simulation of cirrus clouds [1992, p.237-240, eng] 47-2257

Lew, H.S.
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Lewis, D.
Large-scale circulation of the Arctic Ocean: implications for pollutant transport [1993, p.285-309, eng] 47-5037

Lewis, E.O.
Surface-based radar remote sensing of ice in Canada [1992, p.259-266, eng] 47-146

Lewis, J.D.
Glacigenic soils of the Taff Valley, South Wales: their geomorphology, geology and engineering properties [1991, p.423-430, eng] 47-3894

Lewis, J.E.
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Lewis, R.W.
Finite element modelling of natural-convection-controlled change of phase [1992, p.1019-1036, eng] 47-193

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Climatic changes in central and eastern Canada inferred from deep borehole temperature data [1992, p.129-141, eng] 47-2020
Influence of terrain on bedrock temperatures [1992, p.87-100, eng] 47-2019

Lewis, W.M., Jr.
Seasonality of methane emissions from five lakes and associated wetlands of the Colorado Rockies [1992, p.323-338, eng] 47-2235

Lewkowicz, A.G.
Climatic change and the permafrost landscape [1992, p.91-104, eng] 47-1429
*Factors influencing the distribution and initiation of active-*layer detachment slides on Ellesmere Island, arctic Canada [1992, p.223-250, eng] 47-854
Response of the Canadian permafrost environment to climatic change [1992, p.287-317, eng] 47-2018
Solifluction meter for permafrost sites [1992, p.11-18, eng] 47-3122

Leynaert, A.
Silica cycle in the antarctic ocean: is the Weddell Sea atypical [1993, p.1-15, eng] 47-4574

L'Hirondelle, S.J.
Acidic mist and nitrogen fertilization effects on growth, nitrate reductase activity, gas exchange, and frost hardiness of red spruce seedlings [1992, p.611-622, eng] 47-1558

Li, B.L.
Interpretation of aerial and satellite photographs of the glacial landforms in the Baitou Mountain area, Jilin Province [1992, p.431-438, chi] 47-2224

Li, B.S.
Alpine timberline of Tibet [1993, p.511-527, eng] 47-4559

Li, C.F.
Tree ring climate during the recent thousand years in Qilian Mountains and its reflection on the glacier [1985, p.97-108, chi] 47-1524

Li, F.
Study of ice borehole closure by finite element method [1992, p.77-89, eng] 47-1020

Li, F.C.
Simulation of the recurrence probability of ice islands in the Arctic Ocean [1992, 169p., eng] 47-272

Li, G.
Experimental study of the influence of mixing silt on ice creep [1992, p.1827-1830, eng] 47-1952

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Changes of crystal c-axis orientation fabric in uniaxial extension tests [1992, p.29-35, chi] 47-72
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Formation and utilization of "stream icing" in the mountainous regions [1985, p.172-185, chi] 47-1532

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Glacial and lake fluctuations in the area of the west Kunlun mountains during the last 45,000 years [1992, p.79-84, eng] 47-1090
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Li, S.M.
Water soluble organic constituents in arctic aerosols and snow *pack [1993, p.45-48, eng]* 47-2845

Li, S.S.
Model for the anisotropic reflectance of pure snow [1982, 60p., eng] 47-4644

Li, Y.N.
Fracture analysis of penetration through floating sea ice plate and size effect [1993, p.131-144, eng] 47-3748

Li, Z.
Identification of clear and cloudy pixels at high latitudes from AVHRR radiances [1993, p.2005-2024, eng] 47-5106

Li, Z.J.
Ice features in Liaodong Gulf in the winter of 1988-1989 [1992, p.317-320, eng] 47-158

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Glacioclimatological features in the Tanggula mountains, China [1992, p.1-6, eng] 47-1077

Li, Z.R.
Study of superconductive transition temperatures for thermometric fixed points [1992, p.239-242, eng] 47-2967

Lialiagin, N.A.
Laboratory studies of the porosity of bottom ice, formed during static ice formation [1990, p.155-159, rus] 47-3602

Liang, L.H.
Investigation on the distribution of snow cover in the burned forest region of Amur of Da Hinggan Ling [1992, p.134-140, chi] 47-1650

Liang, S.S.
Effects of natural convection on ice formation inside a horizontal cylinder [1992, p.131-145, eng] 47-790

Lidmar-Bergström, K.
Landforms in Skane, south Sweden: preglacial and glacial landforms analyzed from two relief maps [1991, p.61-91, eng] 47-4308

Lied, K.
Snow avalanche and rock fall mapping projects and experiences [1992, p.1-19, nor] 47-2676

Lieffers, V.J.
Effects of summer frosts and subsequent shade on foliage gas exchange in peatland tamarack and black spruce [1992, p.973-979, eng] 47-1188

Lienhart, D.A.
Mechanism of freeze-thaw deterioration of rock in the Great Lakes region [1993, p.77-87, eng] 47-4888

Liestöl, O.
Ground temperature measurements in mountain permafrost, Jotunheimen, southern Norway [1992, p.231-234, eng] 47-1776

Lifanova, T.A.
Influence of aqueous solution of anti-icing additives on corrosion of materials of construction [1993, p.563-566, eng] 47-4386

Lifshits, F.A.
Errors in measuring water discharge during hydrometric surveys of small and medium rivers in permafrost regions [1991, p.147-158, rus] 47-899

Light, R.
Autonomous Conductivity Temperature Vehicle: recent *developments* [1991, p.633-637, eng] 47-2181

Ligowski, R.
Distribution of net phytoplankton in the sea-ice zone between Elephant Island and the South Orkney Islands (December 1988-January 1989) [1991, p.529-546, eng] 47-3090
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Sea ice microalgae at the northern boundary of the pack ice between Elephant Island and South Orkney Islands (December 1988-January 1989) [1991, p.547-563, eng] 47-3091

Likhachev, A.V.
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Fundamentals of the theory of calculating the navigation value of ice data [1991, p.15-33, rus] 47-90

Likhterova, N.M.
Influence of aqueous solution of anti-icing additives on corro*sion of materials of construction* [1993, p.563-566, eng] 47-4386

Lin, C.A.
Strongly temperature dependent microphysical processes and the atmosphere [1992, p.309-315, eng] 47-3996
Structure of a winter storm producing heavy precipitation over Nova Scotia [1990, p.411-426, eng] 47-627

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New fractal texture classification of cloud and ice cap surface features from LANDSAT imagery [1992, p.137-139, eng] 47-643

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Air flow across an alpine forest clearing in winter [1990, p.172-175, eng] 47-1491

Lin, N.H.
Cloud acidity and acidic deposition in the lower troposphere and ozone depletion in the antarctic stratosphere: modeling and data analysis regarding the role of atmospheric aerosol [1991, 190p., eng] 47-47

Lin, P.
R-T relationship and stability of ceramic rhodium-iron resist*ance thermometers* [1992, p.461-465, eng] 47-2984

R-T relationship and tolerances of China-made industrial platinum resistance thermometers in the temperature range from -200 to 0 C [1992, p.423-425, eng] 47-2979

Study of Chinese standard rhodium-iron resistance thermometers [1992, p.453-456, eng] 47-2982

Lin, R.Q.

Study of the astronomical theory of ice ages in a two-dimensional nonlinear climate model [1991, p.495-496, eng] 47-4496

Lindberg, C.

Simulation of the climate on Mars for exobiological studies [1992, p.240-243, eng] 47-1737

Lindberg, W.R.

Negatively buoyant jet (or plume) with applications to snowplow exit flow behavior [1991, p.219-229, eng] 47-1806

Lindesay, J.A.

Global climate change: environmental and climatic links between Antarctica and South Africa [1991, p.193-219, eng] 47-4978

Lindgren, D.

Accelerating adaptation of trees at tree limits by selective breeding [1993, p.299-320, eng] 47-4545

Lindgren, K.

Cold acclimation of *Pinus sylvestris* and *Pinus contorta* provenances as measured by freezing tolerance of detached needles [1992, p.309-315, eng] 47-2295

Lindh, L.

Geomorphic features as indicators of climatic fluctuations in a periglacial environment, northern Sweden [1990, p.203-210, eng] 47-4314

Lindholm, J.E.

Field measurements of northern Baltic pressure ridges [1992, 21p. + appends., eng] 47-2587

Lindner, B.L.

Computational modeling of antarctic lake ice [1992, p.105-116, eng] 47-1022

Global change implications for antarctic lakes [1993, p.276-279, eng] 47-3047

Hemispherical asymmetry in the Martian polar caps [1993, p.3339-3344, eng] 47-2671

Lindner, L.

Outline of stratigraphy of the Pleistocene and the Holocene in south and central Spitsbergen [1991, p.165-172, eng] 47-2769

Quaternary landforms, sediments and morphogenetic evolution of Hansbreen-Sofiekammen region, Wedel Jarlsberg Land, Spitsbergen [1992, p.91-101, eng] 47-4649

Lindquist, D.S.

Modeling watershed management for water augmentation [1992, p.221-229, eng] 47-2729

Lindroth, A.

Errors in net radiometry: comparison and evaluation of six radiometer designs [1992, p.762-783, eng] 47-1471

Lindsay, J.F.

Three-dimensional geologic block model of a polar fan-delta complex, Canning River, North Slope, Canada [1992, p.183-201, eng] 47-4366

Lindsay, R.

Spatial structure of the surface temperature field of arctic pack ice determined with AVHRR [1992, p.76-79, eng] 47-2385

Lindström, E.

Glacial ice-flows on the islands of Bornholm and Christiansö, Denmark [1991, p.17-35, eng] 47-4317

Lindström, G.

Floods in Sweden—occurrence and trends [1992, p.65-74, eng] 47-1957

Spillway design floods in Sweden: 1. New guidelines [1992, p.505-519, eng] 47-922

Spillway design floods in Sweden: 2. Applications and sensitivity analysis [1992, p.521-539, eng] 47-923

Lines, R.

Species and provenance choice at northern tree limits in maritime climates [1993, p.265-276, eng] 47-4542

Ling, S.K.

On designing the temperature scale in the range 13.8 K to 273.16 K [1992, p.145-150, eng] 47-2961

Linkins, A.E.

Extracellular acid phosphatase activities in *Eriophorum vaginatum* tussocks: a modeling synthesis [1993, p.50-55, eng] 47-3428

Linsley, G.

International Arctic Seas Assessment Project IASAP (1993-1996) [1993, p.443-447, eng] 47-5048

Liou, K.N.

Effects of infrared cooling and ice microphysics on large-scale cloud simulations [1991, p.295-298, eng] 47-4484

Effects of small ice crystals on cirrus infrared radiative properties [1992, p.1487-1493, eng] 47-411

Inference of cirrus cloud properties using satellite-observed visible and infrared radiances. Part I: parameterization of radiance fields [1993, p.1279-1304, eng] 47-3731

Parameterization of the radiative properties of cirrus clouds [1993, p.2008-2025, eng] 47-4459

Remote sensing of cirrus cloud parameters using advanced very-high-resolution radiometer 3.7- and 10.9-micron channels [1993, p.2171-2180, eng] 47-4713

Transfer of polarized infrared radiation in optically anisotropic media: application to horizontally oriented ice crystals [1993, p.1243-1256, eng] 47-4737

Lipa, J.A.

Low temperature system for advanced thermal control [1992, p.949-952, eng] 47-2987

Thermometry in the thermodynamic limit [1992, p.1213-1218, eng] 47-2996

Lipkin, R.

Early Holocene calcretes from the subarctic active Nogahabara Sand Dune field, northern Alaska [1992, p.100-111, eng] 47-613

Lipp, G.

On the engulfment of spherical particles by a moving ice-liquid interface [1993, p.475-489, eng] 47-4289

Lipski, M.

Environmental conditions and phytoplankton standing crop near pack-ice in the Scotia Sea (December 1988-January 1989) [1991, p.507-513, eng] 47-3088

Hydrology and hydrochemistry of the surface water layer near the ice-edge in the Scotia Sea (December 1989-January 1989) [1991, p.495-505, eng] 47-3087

Lipson, S.G.

Optical study of surface melting on ice [1993, p.491-505, eng] 47-3648

Liptak, R.J.

Scallop shell mineralogy and crystalline characteristics: proxy records for interpreting antarctic nearshore marine hydrochemical variability [1992, p.27-38, eng] 47-2870

Lishtvan, I.I.

On the characteristics of mass transfer during the freezing of peat [1991, p.51-56, rus] 47-4809

List, R.

Laboratory measurements and parameterizations of supercooled water skin temperatures and bulk properties of gyrating hailstones [1992, p.2058-2073, eng] 47-1508

Measurements of the heat and mass transfer parameters characterizing conical graupel growth [1993, p.1591-1609, eng] 47-4832

Lister, P.J.

Description and verification of a road ice prediction model [1992, 11p., eng] 47-971

Open systems for ice prediction systems [1992, 7p., eng] 47-965

Litfin, K.T.

Power and knowledge in international environmental politics: the case of stratospheric ozone depletion [1992, 474p., eng] 47-2046

Little, J.A.

Report on Session 1b. [Engineering implications of glacially derived deposits] [1991, p.183-193, eng] 47-3875

Littledeer, T.F.

Automobile windshield cleaning tool [1989, 4 col., eng] 47-3326

Litvan, G.G.

Effect of sealers on the freeze-thaw resistance of mortar [1992, p.1141-1147, eng] 47-791

Litvinov, I.V.

Estimation of cloud resources for dispersion over the USSR territory [1992, p.13-18, eng] 47-3988

Liu, A.

Thermocapillary convection during solid-liquid phase change [1992, p.1068-1070, eng] 47-1673

Liu, A.K.

Wave attenuation in the marginal ice zone during LIMEX [1992, p.192-206, eng] 47-2347

Wave effects on ocean-ice interaction in the marginal ice zone [1993, p.10,025-10,036, eng] 47-4374

Waves and mesoscale features in the marginal ice zone [1993, p.343-348, eng] 47-4437

Liu, C.

Field and laboratory tests on adfreeze strength of ground to model concrete piles [1993, p.103-109, eng] 47-4128

Liu, C.H.

Calculation of ice surface temperature and determination of temperature jump value in Qilian Mountain [1992, p.34-39, chi] 47-1536

Observation, interpolation and trend study of glacial mass balance on the Qiyi Glacier in Qilian Mountain [1992, p.21-33, chi] 47-1535

Recent change and trend prediction of glaciers in Qilian Mountain [1992, p.1-9, chi] 47-1533

Relation between recent glacier variations and climate in the Tien Shan mountains, central Asia [1992, p.11-16, eng] 47-1079

Surface movement velocity of the Qiyi Glacier in Qilian Mountain [1992, p.40-44, chi] 47-1537

Liu, F.

Compression jig for x-ray topography of ice [1993, p.416-421, eng] 47-3468

Dynamic observations of dislocation generation at grain boundaries in ice [1993, p.1261-1276, eng] 47-3986

Liu, F.H.

Study of the preparation of sealed cells for thermometry [1992, p.257-260, eng] 47-2971

Liu, G.Y.

Tree ring climate during the recent thousand years in Qilian Mountains and its reflection on the glacier [1985, p.97-108, chi] 47-1524

Liu, H.

Transitions in frozen gelatinized-starch systems studied by differential scanning calorimetry [1992, p.179-183, eng] 47-743

Liu, J.H.

Application of nonlinear colour enhancement on transparencies for interpretation of glacier surface characteristics [1992, p.190-192, eng] 47-1110

Liu, J.M.

Experimental study on conditions for ice formation of saturated sand in freezing and thawing cycles [1992, p.101-106, chi] 47-1645

Liu, J.R.

Seismic survey in thickness of Glacier No.1 of Yanglong River [1985, p.22-26, chi] 47-1516

Liu, J.S.

Glacier lake outburst flood disasters in China [1992, p.180-184, eng] 47-1108

Jökulhlaups in the Kunmalike River, southern Tien Shan mountains, China [1992, p.85-88, eng] 47-1091

Liu, S.H.

Characteristics of radiation over Mizuho Station in Antarctica [1993, p.39-45, chi] 47-4647

Liu, S.Y.

Glacioclimatological features in the Tanggula mountains, China [1992, p.1-6, eng] 47-1077

Recent fluctuations of glaciers in the Gongga mountains [1992, p.163-167, eng] 47-1105

Liu, X.

Measurements and model calculations of HCl column amounts and related parameters over McMurdo during the austral spring in 1989 [1992, p.20,795-20,804, eng] 47-2055

Liu, Y.F.

Energy balance of a snow cover and simulation of snowmelt in the western Tien Shan mountains, China [1992, p.73-78, eng] 47-1089

Liu, Z.

Acoustic remote sensing study of boundary layer blocking near Ross Island, Antarctica [1992, p.J29-J32, eng] 47-2410

Katabatic surges across the Ross Ice Shelf, Antarctica: atmospheric circulation changes and oceanographic impacts [1992, p.29-32, eng] 47-2371

Liu, Z.C.

Energy balance of a snow cover and simulation of snowmelt in the western Tien Shan mountains, China [1992, p.73-78, eng] 47-1089

Temperature regime studies and mathematical calculations for dry snow covers in the western Tien Shan mountains, China [1992, p.185-189, eng] 47-1109

Liu, Z.X.

Temperature regime of No.5 Glacier, Yanglong River in Qilian Mountains [1985, p.54-60, chi] 47-1519

Liubarskii, A.N.

Large-scale statistical structure of antarctic temperature fields [1992, p.18-25, rus] 47-4922

Liubich, M.IU.

Convergence of the solution to certain models of climatic systems [1992, p.100-104, rus] 47-3809

Liubimov, G.A.

Calculating time characteristics of the period of winter runoff from rivers in the BAM zone [1991, p.85-93, rus] 47-898

Problems in calculating the minimal runoff from periodically freezing on drying-up rivers [1991, p.61-71, rus] 47-895

Livet, J.

Winter behavioural patterns of self draining roadways [1992, 23p., eng] 47-1621

Livingston, E.

Matched field tomography results in the Arctic [1992, p.24-27, eng] 47-4716

Livingston, G.P.

Methane emissions from Alaska arctic tundra: an assessment of local spatial variability [1992, p.16,661-16,670, eng] 47-1460

Significance of stomatal control on methane release from *Carex*-dominated wetlands [1993, p.339-355, eng] 47-3435

Livingstone, C.E.

Beaufort Sea Ice-1: an overview [1991, p.189-205, eng] 47-3386

Beaufort Sea Ice-1: selected SAR results [1992, p.131-133, eng] 47-641

Lizotte, M.P.

Natural fluorescence and photosynthetic quantum yields in vertically stable phytoplankton from perennially ice-covered lakes (dry valleys) [1991, p.226-228, eng] 47-2192

Photosynthetic capacity in microalgae associated with antarctic pack ice [1992, p.497-502, eng] 47-1337

Spectral irradiance and bio-optical properties in perennially ice-covered lakes of the dry valleys (McMurdo Sound, Antarctica) [1992, p.1-14, eng] 47-2868

Ljesevic, M.

Influence of Pleistocene glaciation on location and morphology of deep pothole. Example: Montenegro's mountains [1991, p.147-150, eng] 47-29

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Creep law of rock ice with anisotropic fabric inferred from homogenization [1991, p.242-245, eng] 47-2314
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Internal melting and ice accretion at the bottom of temperate glaciers [1993, p.50-64, eng] 47-3940
Strategies for modelling climate changes [1993, p.385-398, eng] 47-4845

Lobanova, A.G.
Application of data of short-term hydrometeorological studies to computations of river runoff [1991, p.70-76, eng] 47-5196

Lock, G.S.H.
Influence of evaporator and condenser inclination on the performance of a right-angled thermosyphon [1993, p.213-217, eng] 47-4249
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Lockhart, W.L.
Presence and implications of chemical contaminants in the freshwaters of the Canadian Arctic [1992, p.165-245, eng] 47-264

Loftsson, J.
Forest development in Iceland [1993, p.453-461, eng] 47-4555

Lohanick, A.W.
Inferring snow cover on sea ice from passive microwave signatures [1991, p.119-124, eng] 47-3380
Microwave brightness temperatures of laboratory-grown undeformed first-year ice with an evolving snow cover [1993, p.4667-4674, eng] 47-4388
Microwave remote sensing of the southern ocean ice cover [1992, p.243-259, eng] 47-3026
Passive microwave signatures of fractures and ridges in sea ice at 33.6 GHz (vertical polarization) as observed in aircraft images [1993, p.4645-4665, eng] 47-4387
Passive microwave signatures of sea ice [1992, p.47-71, eng] 47-3018

Lohmeier, S.P.
Comparison of normalized radar cross section measurements and models for snow cover at 35, 95, and 225 GHz [1992, p.1655-1657, eng] 47-686

Loiselle, M.C.
Preliminary analysis of historical snow data using a geographic information system [1992, p.81-88, eng] 47-4036

Lokshina, I.IU.
Anticipated human modifications of global climate [1990, p.11-23, eng] 47-171

Loktionova, E.M.
Large-scale characteristics of the global distribution of snow cover [1992, p.148-159, eng] 47-1765
Macroscale characteristics of snow cover distribution throughout the world [1991, p.20-28, rus] 47-316
Mesoscale interactions in the snow cover-atmosphere system during a period of snow melting on the southern slope of the Greater Caucasus [1991, p.48-53, rus] 47-321
Snow cover distribution in the upland zones of the Greater Caucasus [1991, p.34-39, rus] 47-318

Lolaev, A.B.
Multifunctional combined foundations on permafrost soils [1993, p.164-167, eng] 47-3576

Lomax, A.S.
Investigation of antarctic sea ice concentration by means of selected algorithms [1992, 102p., eng] 47-2763

Lombraña, J.I.
Near-optimum heating profiles in freeze-drying in accordance to the transport parameters and product nature [1991, p.394-404, eng] 47-2304
Simulation and design of heating profiles in heat controlled freeze-drying of pharmaceuticals in vials by the application of a sublimation cylindrical model [1993, p.85-102, eng] 47-2882

Lomidze, I.N.
Safeguarding deep excavations from snowdrifts in high-altitude sections of railroads [1992, p.17, rus] 47-370

Londono, J.D.
Neutron diffraction studies of ices III and IX on under-pressure and recovered samples [1993, p.4878-4888, eng] 47-3234

Long, A.B.
Australian Winter Storms Experiment (AWSE) I: supercooled liquid water and precipitation-enhancement opportunities [1992, p.1041-1055, eng] 47-9

Long, D.
Identification of features due to former permafrost in the North Sea [1991, p.369-372, eng] 47-3888
Influence of stratigraphy on the variation in geotechnical properties of the offshore Quaternary succession, Scotland [1991, p.119-126, eng] 47-3871

Long, D.G.
Greenland observed at high resolution by the Seasat scatterometer [1992, p.327-329, eng] 47-646
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Long, K.
Site characterization measurements of background and targets in support of smart weapons testing [1993, 96p., eng] 47-4664

Long, W.E.
Iceberg production in the Prince William Sound area [1992, 5p., eng] 47-2774

Longo, P.D.
Ship superstructure icing: data collection and instrument performance on USCGC *Midgett* research cruise [1992, 133p., eng] 47-2924

Lönne, I.
Physical signatures of ice advance in a Younger Dryas ice-contact delta, Troms, northern Norway: implications for glacier-terminus history [1993, p.59-70, eng] 47-4018

Lord, E.R.F.
Disposal of fine tails produced at the Syncrude oil sands mine [1993, p.203-212, eng] 47-4466

Lord, M.L.
Exceptionally long, narrow drumlins formed in subglacial cavities, North Dakota [1993, p.15-24, eng] 47-4016

Lord, N.
Analysis of radar studies on the Siple Coast [1991, p.62-63, eng] 47-2464

Lorenson, T.D.
Methane in permafrost—preliminary results from coring at Fairbanks, Alaska [1993, p.609-616, eng] 47-3439

Lorius, C.J.
Glacials-interglacials in Vostok: climate and greenhouse gases [1993, p.131-143, eng] 47-4587
Ice core record: past archive of the climate and signpost to the future [1992, p.227-234, eng] 47-3142

Lorius, K.
Global changes during the latest glacial-interglacial cycle [1992, p.89-113, eng] 47-1762

Lortie, G.
Postglacial paleophytogeography and paleoclimates in the western St. Lawrence River region, Quebec [1992, p.151-172, fre] 47-3788

Löset, S.
Numerical modelling of the temperature distribution in tabular icebergs [1993, p.103-115, eng] 47-2644
Thermal energy conservation in icebergs and tracking by temperature [1993, p.10,001-10,012, eng] 47-4372

Losno, R.
Aluminium solubility in rainwater and molten snow [1993, p.29-43, eng] 47-5145

Loth, B.
Snow cover model for global applicability [1992, p.268-269, ger] 47-216
Snow cover model for global climate simulations [1993, p.10,451-10,464, eng] 47-4293

Lotti, R.
Abrupt color changes in isotope stage 5 in North Atlantic deep sea cores: implications for rapid change of climate-driven events [1992, p.185-205, eng] 47-2836

Louchez, P.R.
Aerodynamic acceptance testing of aircraft ground de/anti-icing fluids [1992, 41p. + appends., eng] 47-2226
Aircraft take-off laboratory simulation for de/anti-icing study [1992, p.183-193, eng] 47-1578
Experimental evaluation of flat plate boundary layer growth over an anti-icing fluid film [1993, p.96-104, eng] 47-5007

Louis, N.
Gulags and goldmines [1992, p.28-34, eng] 47-3860

Lövas, S.M.
Airborne video as satellite imagery ground truthing [1992, p.337-349, eng] 47-1040
Barents Sea ice conditions as observed by passive microwave and other techniques [1991, p.101-115, eng] 47-3379
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Trend analysis of the Barents Sea ice cover [1992, p.325-335, eng] 47-1039

Low, T.A.
Lessons learned from an ice storm emergency [1993, p.38-49, eng] 47-4624

Löwen, H.
Dynamical criterion for freezing of colloidal liquids [1993, p.1557-1560, eng] 47-4347

Lozano, N.
Thermal behavior of rip rap in a cross-drainage structure [1993, p.35-43, eng] 47-4118

Lozhkin, A.V.
Late Quaternary lacustrine pollen records from southwestern Beringia [1993, p.314-324, eng] 47-5142

Lozowski, E.P.
Simulating marine icing conditions in the refrigerated marine icing wind tunnel [1991, 85p. + appends., eng] 47-1370
Some thermal and mechanical properties of flooded ice [1990, 96p., eng] 47-1346
Stochastic modelling of icicle formation [1993, p.59-64, eng] 47-4231

Lu, H.F.
Tectonics and petroleum potential of the Brooks Range fold and thrust belt—a progress report [1992, p.112-126, eng] 47-614

Lu, L.H.
Review of antarctic sea ice problems: observations [1992, p.51-58, chi] 47-73

Lu, M.
Effect of naturally-occurring ice thickness variations in reducing global loads on offshore structures [1992, p.253-265, eng] 47-1033

Lu, M.C.
Massive ice interactions with offshore structures [1992, 153p., eng] 47-3129

Lu, R.R.
Extreme heavy debris flow in Mt. Gongga [1992, p.174-177, chi] 47-1655

Lu, Y.L.
Early diagenesis and biogeochemistry of iodine in west antarctic ocean [1992, p.115-123, chi] 47-219

Lu, Z.N.
Air flow across an alpine forest clearing in winter [1990, p.172-175, eng] 47-1491

Lu, Z.Y.
Rockslide and debris flow from Mount Cayley, B.C., in June 1984 [1992, p.614-626, eng] 47-1185

Lualin, T.
Accuracy of submarine ice draft measurements [1992, p.B22-B24, eng] 47-3245

Lucas, M.I.
Global climate change: environmental and climatic links between Antarctica and South Africa [1991, p.193-219, eng] 47-4978
New South African research programme in the southern ocean [1993, p.61-67, eng] 47-4723

Lucchitta, B.K.
Monitoring the dynamics of the antarctic coastline with Landsat images [1991, p.316-317, eng] 47-4676

Luce, M.P.
Extending the shipping season in the Canadian Arctic and prospects for the future [1982, p.351-365, eng] 47-1041

Luckman, B.H.
Debris flows and snow avalanche landforms in the Lairig Ghru, Cairngorm Mountains, Scotland [1992, p.109-121, eng] 47-4321
Estimating ecesis for tree-ring dating of moraines: a comparative study from the Canadian Cordillera [1993, p.63-68, eng] 47-3430
Neoglacial glacier fluctuations in the Canadian Rockies [1993, p.144-153, eng] 47-5122

Ludlam, D.M.
Snow: a skimpy year [1993, p.38-41, eng] 47-2765

Luk, C.H.
Ice and rubble failure loads on sloping structures by two-dimensional upper-bound plastic limit analysis [1993, p.157-168, eng] 47-4243

Luke, K.W.
Experimental long-term performance of some thermal foundation systems [1992, p.127-136, eng] 47-1151

Lukina, F.Kh.
Using cast-in-situ concrete for bored and cast-in-place piles in permafrost soils in the Noril'sk industrial region [1991, p.18-19, rus] 47-2361

Lukowski, A.
Sea ice diatoms and ice edge planktonic diatoms at the northern limit of the Weddell Sea pack ice [1992, p.9-20, eng] 47-442

Lukowski, T.I.
Beaufort Sea Ice-1: selected SAR results [1992, p.131-133, eng] 47-641

Lunardini, V.J.
Measurement of heat losses from a conduit-type heat distribution system [1990, p.435-449, eng] 47-4862
On: "An analytical study of a two-layer transient thermal conduction problem as applied to soil temperature surveys" by T.H. Larson and A.T. Hsui [1992, p.1644-1645, eng] 47-2001

Lundgaard, L.
Calculation of phase diagrams of gas-hydrates [1992, p.141-149, eng] 47-589

Lundin, L.C.
Electrical conductivity in soil solution of frozen and unfrozen soils measured by time domain reflectometry [1992, p.241-250, eng] 47-1964
Significance of groundwater levels for discharge peak flows [1992, p.316-323, eng] 47-1967

Lundquist, D.
Flood forecasting and snow mapping by satellite [1992, p.453-459, nor] 47-1972

Lundqvist, J.
Deposition of the Late Wisconsin Johnston moraine, south-central Wisconsin [1993, p.53-59, eng] 47-4751
Glacial stratigraphy in Sweden [1992, p.43-59, eng] 47-3547
Moraines and late glacial activity in southern Värmland, southwestern Sweden [1992, p.245-252, eng] 47-4333

Lunine, J.I.
Calorimetric studies of the ammonia-water system with application to the outer solar system [1993, p.13,109-13,117, eng] 47-4412
Sublimation and reformation of icy grains in the primitive solar nebula [1991, p.333-344, eng] 47-990

Lunne, T.
Experience with the performance of load-controlled cone penetration tests in permafrost and ice [1992, p.1-8, eng] 47-2677

Luo, B.P.
Homogeneous freezing of sulfuric acid droplets. 1. Formation of H2SO4 x 4H2O (SAT) [1992, p.225-228, eng] 47-2254
Homogeneous freezing of sulfuric acid droplets. 2. Implications for PSCs and heterogeneous chemistry [1992, p.229-232, eng] 47-2255
Luscinska, M.
Occurrence of algae on tundra soils in Oscar II Land, Spitsbergen [1992, p.131-147, eng] 47-4652
Luscombe, A.
Integrated multi-sensor mission concepts for the Canadian ice community [1992, p.334-336, eng] 47-647
Luther, H.
Measurements on a dielectric constant gas thermometer between 3 K and 84 K [1992, p.21-26, eng] 47-2942
Lutjeharms, J.R.E.
New South African research programme in the southern ocean [1993, p.61-67, eng] 47-4723
Luyendyk, B.P.
Glacial flow reorientation in the southwestern Fosdick Mountains, Ford Ranges, Marie Byrd Land [1991, p.67-69, eng] 47-2467
Luzian, R.
Avalanche events and weather conditions in Austria, winter 1987/88, 1988/89, 1989/90 and 1990/91 [1992, 188p., ger] 47-1496
Lyberis, N.
SPOT multispectral data and digital terrain model for the analysis of ice-snow fields on arctic glaciers [1992, p.425-440, eng] 47-2661
Lynch, J.F.
Ice edge noise observations from the 1988-89 Greenland Sea tomography experiment [1992, p.611-619, eng] 47-4719
Lyons, W.B.
Stable isotopic biogeochemistry of carbon and nitrogen in a perennially ice-covered antarctic lake [1993, p.159-172, eng] 47-4906
Lysaght, M.J.
Rapid spectroscopic determination of per cent aromatics, per cent saturates and freezing point of JP-4 aviation fuel [1993, p.623-631, eng] 47-3985
Lystsov, V.N.
Radioecological risk assessment for solid radioactive waste (SRW) dumped into the Kara Sea by the former USSR [1993, p.395-414, eng] 47-5045
Lytle, V.I.
Comparison of radar backscatter from antarctic and arctic sea ice [1992, p.1533-1535, eng] 47-682
Lytton, R.L.
Temperature and suction profiles beneath highway pavements: computed and measured [1991, p.268-276, eng] 47-1126
Ma, F.R.
Temperature regime of No.5 Glacier, Yanglong River in Qilian Mountains [1985, p.54-60, chi] 47-1519
Ma, H.
Energy balance of a snow cover and simulation of snowmelt in the western Tien Shan mountains, China [1992, p.73-78, eng] 47-1089
Outline of avalanches in the Tien Shan mountains [1992, p.7-10, eng] 47-1078
Temperature regime studies and mathematical calculations for dry snow covers in the western Tien Shan mountains, China [1992, p.185-189, eng] 47-1109
Ma, H.J.
Development of instrumentation for measuring dielectric constant of sea ice [1992, p.1271-1272, eng] 47-679
Maasch, K.A.
Possible effects of anthropogenically-increased CO2 on the dynamics of climate: implications for ice age cycles [1993, p.1051-1054, eng] 47-4630
MacAyeal, D.R.
Irregular oscillations of the west antarctic ice sheet [1992, p.29-32, eng] 47-352
Steady flow of a viscous ice stream across a no-slip/free-slip transition at the bed [1993, p.167-185, eng] 47-3950
Tutorial on the use of control methods in ice-sheet modeling [1993, p.91-98, eng] 47-3943
MacBean, G.A.
Atmospheric and climatic changes [1992, p.33-43, rus] 47-3285
MacDonald, G.M.
Ecology and palaeocology of the northern treeline [1992, p.113-120, eng] 47-1431
Macdougall, N.
Swedes develop deicing system [1990, p.7, eng] 47-21
MacGregor, J.G.
Tests on arch-shaped ice-resisting walls for offshore structures [1993, p.42-51, eng] 47-2547
Macheret, IU.IA.
Volumetric hydrothermal state and regime of Spitsbergen glaciers based on data from airborne radio echo sounding [1991, p.40-53, rus] 47-2787
Machowski, J.
Status of polar ice under international law [1992, p.149-175, eng] 47-4561
MacKay, M.H.
Evaluation of frost action mitigation procedures for highly frost-susceptible soils [1992, p.91-109, eng] 47-1134
Macke, A.
Scattering of light by polyhedral ice crystals [1993, p.2780-2788, eng] 47-4348
Mackinlay, I.
Perspective: Building design [1992, p.481-484, eng] 47-3228
Roof snow/ice loads at north-facing roof eaves compared to ground snow load: proposed testing [1992, p.353-363, eng] 47-3213
MacKinnon, M.D.
Disposal of fine tails produced at the Syncrude oil sands mine [1993, p.203-212, eng] 47-4466
MacLean, S.F., Jr.
Design of greenhouses for the manipulation of temperature in tundra plant communities [1993, p.56-62, eng] 47-3429
Maclennan, G.
New Finnish-built icebreaker for the Soviet Union [1988, p.182-183, eng] 47-2932
MacLeod, D.R.
Highway construction and management in cold regions [1993, p.137-161, eng] 47-4278
MacMahon, J.A.
Seed entrapment in alpine ecosystems: effects of soil particle size and diaspore morphology [1991, p.1668-1677, eng] 47-767
MacPherson, J.I.
Use of a wing-mounted airflow pod for airborne wind and flux measurement [1993, p.169-174, eng] 47-3068
Macpherson, S.R.
Structure of a winter storm producing heavy precipitation over Nova Scotia [1990, p.411-426, eng] 47-627
Macqueen, A.D.
I suppose you haven't got this, but—some thoughts on building up a glaciological collection [1992, p.307-316, eng] 47-1408
Ice cores: a bibliography [1992, 48p., eng] 47-3152
MacQueen, R.W.
Optical characteristics of heat-affected bitumens from the Nanisivik mine, N.W. Baffin Island, arctic Canada [1993, p.359-376, eng] 47-4829
Mader, H.M.
Observations of the water-vein system in polycrystalline ice [1992, p.333-347, eng] 47-1386
Thermal behaviour of the water-vein system in polycrystalline ice [1992, p.359-374, eng] 47-1388
Madsen, H.
How has the problem been solved over many centuries. Background to and description of recent nordic activities in the correction of precipitation measurement [1988, p.3-11, swe] 47-1689
On the choice of threshold levels in partial duration series [1992, p.604-615, eng] 47-1977
Mae, S.
Measurement on the dielectric properties of acid-doped ice at 9.7 GHz [1992, p.799-803, eng] 47-359
Maeda, K.
MOS-1 multi-sensor data set and sea ice study [1991, p.277-287, eng] 47-3391
Maeda, T.
Algorithm for remote sensing of vertical salt density distributions in the sea ice [1992, p.277-280, eng] 47-149
Development of simple-operation sidewalk snow removal equipment [1993, p.26-29, jpn] 47-4788
Tests on the surface layout of snow removal drains [1990, p.23-30, jpn] 47-4964
Maekawa, E.
Newly developed snow vehicle (SM100S) for Antarctica. 4. Low temperature properties of crawler belt [1992, p.398-409, jpn] 47-3366
Maekawa, Y.
Dual polarization radar observations of anomalous wintertime thunderclouds in Japan [1992, p.838-844, eng] 47-361
Ice depolarizations on K(a) band (20 GHz) satellite-to-ground path and correlation with radar observations [1993, p.249-259, eng] 47-4062
Maeno, N.
Continuous 770-year record of volcanic activity from East Antarctica [1991, p.17,353-17,359, eng] 47-348
Dielectric properties of frozen clay and silt soils [1993, p.265-273, eng] 47-3930
Structure and physical properties of snow and ice [1986, 209p., jpn] 47-1679
Maes, M.A.
Extreme values of thermal loading parameters in concrete bridges [1992, p.935-946, eng] 47-3341
Probabilistic analysis of local ice pressures [1993, p.83-89, eng] 47-2668
Magenheim, B.
Microwave ice accretion measuring instruments [1987, 20 col., eng] 47-3854
Magerl, G.
Detection of weather induced road condition [1992, 10p., eng] 47-955
Magerowski, A.
Upgrading sand, gravel to meet freeze-thaw specs [1989, p.62,64,66, eng] 47-76
Magiton, A.S.
Roller compacted concrete with high values of strength, frost resistance, and impermeability [1993, p.400-404, eng] 47-4013
Magnásson, M.M.
Snow avalanches in Iceland during the winter 1987/88 [1989, p.114-117, ice] 47-715
Magoon, L.B.
Subsurface temperatures and geothermal gradients on the North Slope of Alaska [1993, p.275-293, eng] 47-3931
Mahjoub, M.
Snowmelt runoff forecasting: case study of Karadj reservoir, Iran [1991, p.213-220, eng] 47-1308
Mahoney, J.L.
Snowfall-event climatology: the finale [1992, p.66-77, eng] 47-495
Mahrenholtz, O.
Creep and creep damage of polycrystalline ice under multiaxial variable loading [1993, p.1-10, eng] 47-4224
Determination of creep damage parameters for polycrystalline ice [1992, p.181-192, eng] 47-1028
Primary creep of ice plate under constant loading [1993, p.97-104, eng] 47-4236
Maishman, D.
Shaft construction by raise boring through artificially frozen ground [1991, p.705-719, eng] 47-993
Maizels, J.
Boulder ring structures produced during jökulhlaup flows [1992, p.21-33, eng] 47-4320
Majewski, J.
Electron diffraction and imaging of uncompressed monolayers of amphiphilic molecules on vitreous and hexagonal ice [1993, p.899-902, eng] 47-4880
Major hydrocarbon structures in Barents Sea, Kara Sea regions
Major hydrocarbon structures in Barents Sea, Kara Sea regions [1993, p.34-35, eng] 47-2004
Majorowicz, J.A.
Geothermal conditions for gas hydrate stability in the Beaufort-Mackenzie area: the global change aspect [1992, p.251-263, eng] 47-2025
Mak, L.M.
Some exploratory tests on circular and sidewall air cushion icebreaker bows [1990, 60p., eng] 47-1347
Makarov, M.I.
Elements of the material balance under conditions of an alpine lichen heath of the North Caucasus [1983, p.58-61, eng] 47-799
Makarov, O.V.
Some recent results of Russian measurements of surface ozone in Antarctica. A meteorological interpretation [1993, p.99-105, eng] 47-3531
Makarov, V.N.
Geochemical exploration for hidden deposits in the cryolithozone [1988, 108p., rus] 47-2315
Geochemical processes at the soil-snow boundary [1991, p.60-67, rus] 47-4811
Geochemical study of atmospheric aerosols in Yakutsk [1993, p.4-9, eng] 47-3969
Measurements of methane flux in Yakutsk [1993, p.10-17, eng] 47-3970
Revised estimate of pollutant reserve in the snow cover [1989, p.59-63, eng] 47-1224
Makeev, O.V.
Cryology of soils [1991, p.3-10, rus] 47-4802
Cryopedology: fundamental and technical basis [1992, p.7-15, eng] 47-1700
Makeev, V.
Ostrova De-Longa: an analysis of palaeoenvironmental data [1992, p.301-306, eng] 47-3857
Makhonin, G.I.
Yamal: problems in geocryology and hydrology [1991, p.12-13, rus] 47-2484
Maki, A.W.
Of measured risks: the environmental impacts of the Prudhoe Bay, Alaska oil field [1992, p.1691-1707, eng] 47-2604
Mäkinen, E.
Floating drilling platform [1988, 4 col., eng] 47-3846
Makino, T.
Scaling observed in glycerol-water and propylene glycol-water mixtures [1991, p.2835-2838, eng] 47-918
Makitov, V.S.
Distribution of paths of movement of multi-cell hail clouds in the Northern Caucasus [1991, p.93-99, rus] 47-756
Estimating the time needed for hail cloud modifications to take effect [1991, p.149-156, rus] 47-763
Makkonen, L.
Spacing of icicles [1993, p.317-322, eng] 47-3934
Makshtas, A.P.
Evaluating the role of the West Spitsbergen current in the formation of a sea ice boundary [1992, p.157-164, rus] 47-3814
Sensitivity of a thermodynamic model of sea ice to parametrization of short-wave and long-wave radiation [1992, p.116-137, rus] 47-3811
Maksimenko, N.A.
Thermal effects of marine water mixing with different temperatures and salinities [1991, p.72-76, eng] 47-4927

Maksimov, A.V.
Improving the technology for building a roadbed in Southern Yakutia [1992, p.3-5, rus] 47-4086
Maksimov, V.V.
Cryogenic structure and properties of technogenic soils of placer mines in Northern Yakutia [1991, p.76-87, rus] 47-401
Maksimovich, S.N.
Conditions for the formation and forecasting of frontal and air mass icing in the Central Volga region [1991, p.10-13, rus] 47-891
Maksimovich, S.V.
Cryogenesis in the system of factors causing variegation in the soil-plant cover in the floodplains of Mongolia (in the example of the Orhon River floodplain of the lower course) [1991, p.34-37, rus] 47-4806
Maksutkin, D.O.
Current state and prospects for the development of new technology for cold climate regions [1990, p.2-3, rus] 47-1411
Malagnino, E.C.
Geomorphology of James Ross Island [1992, p.7-36, spa] 47-866
Malakhov, S.G.
Concentrations of metals in soil and snow as a function of distance from pollutant emission sites [1993, p.111-115, eng] 47-5003
Malanson, G.P.
Characteristics of two landslide-dammed lakes in a glaciated alpine environment [1993, p.441-445, eng] 47-3563
Snow-avalanche paths: conduits from the periglacial-alpine to the subalpine-depositional zone [1992, p.185-202, eng] 47-852
Unusual early-winter flood and its varying geomorphic impact along a subalpine river in the Rocky Mountains of Montana, U.S.A. [1993, p.145-155, eng] 47-4369
Mal'bakhova, N.M.
Interrelationship of the structure of hail clouds with the vertical structure of wind in the troposphere [1991, p.99-106, rus] 47-757
Malhotra, V.M.
Concrete incorporating high volumes of ASTM Class F fly ashes: mechanical properties and resistance to deicing salt scaling and to chloride-ion penetration [1993, p.319-349, eng] 47-3608
Durability of concrete incorporating high-volume of low-calcium (ASTM class F) fly ash [1989, p.93-104, eng] 47-13
Effects of surfaces on the melting/freezing behavior of fluids in derivatized- and nude-porous silica [1993, p.121-126, eng] 47-4709
Proceedings [1993, 1681p. (2 vols.), eng] 47-3605
Malik, L.
Evaluation of FCAW consumables for offshore and arctic structure fabrication [1993, p.76-82, eng] 47-2667
Malik, L.K.
Geographical forecasting of the consequences of hydropower construction in Siberia and the Far East [1990, 316p. (Pertinent p.49-52), rus] 47-70
Malik, Z.A.
Influence of air-void system on freeze-thaw durability of concrete [1992, 255p., eng] 47-270
Mal'kov, IU.K.
Modeling the thermodynamic processes of permafrost [1990, 155p., rus] 47-2317
Mallard, L.
Seasonal changes of antarctic marine bacterioplankton [1991, p.213-218, eng] 47-2070
Mallick, V.
Effect of temperature on the strength of adhesive joints [1992, p.185-190, eng] 47-878
Malmström, B.
Distribution of block fields in Scandinavia [1991, p.110-113, swe] 47-2852
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Changes of characteristics of arctic sea ice in case of a doubling of carbon dioxide [1992, p.34-40, eng] 47-3991
Tropospheric aerosol and climate: results from numerical experiments employing a three-dimensional seasonal energy-balance model [1991, p.253-257, eng] 47-2896
Man, C.S.
Deformation properties of warm permafrost [1985, p.473-486, eng] 47-1616
Nonsteady channel flow of ice as a modified second-order fluid with power-law viscosity [1992, p.35-57, eng] 47-1323
Manabe, S.
Century-scale effects of increased atmospheric CO2 on the ocean-atmosphere system [1993, p.215-218, eng] 47-4571
Manak, D.K.
Sensitivity study of a dynamic thermodynamic sea-ice model [1992, p.91-93, eng] 47-2389
Sensitivity study of a dynamic thermodynamic sea ice model [1993, p.2561-2586, eng] 47-2626
Manby, G.
SPOT multispectral data and digital terrain model for the analysis of ice-snow fields on arctic glaciers [1992, p.425-440, eng] 47-2661
Mancini, E.
Antarctic temperature perturbation due to the QBO and the secular ozone trend [1992, p.317-329, eng] 47-1209
Mandal, B.N.
Initiation of first snow surveys in the Himalayas—a brief appraisal [1985, p.164-174, eng] 47-536
Winter and spring precipitation over the northwestern Himalayas—a brief appraisal [1985, p.175-185, eng] 47-537
Mandel', S.Z.
Propagation of M2 waves in the Arctic Ocean [1991, p.6-13, rus] 47-3685
Mangerud, J.
Last glacial maximum on Spitsbergen, Svalbard [1992, p.1-31, eng] 47-4406
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Hydrogram characteristics as a function of meteorological data and elaboration of the discharge curve of the river at Juan Carlos I Station [1989, p.32-40, spa] 47-810
Time series correlogramme and spectral analysis of the Cazadora Glacier drainage and meteorological parameters, Spanish Antarctic Base (BAE), Livingston Island (South Shetland, Antarctic) [1991, p.69-91, eng] 47-25
Mani, M.
Toughness indices of steel fiber reinforced concrete at subzero temperatures [1993, p.863-873, eng] 47-5107
Manikian, V.
Civil engineering in the arctic North Slope, Alaska [1992, p.1-6, eng] 47-1829
Manninen, A.T.
Effects of ice ridge properties on calculated surface backscattering in BEPERS-88 [1992, p.2469-2487, eng] 47-259
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Trials of calcium magnesium acetate (CMA) deicer on highways in the Province of Ontario [1992, 18p., eng] 47-937
Manore, M.J.
Automated sea-ice tracking for LIMEX '87 and '89 [1992, p.173-191, eng] 47-2346
Integration of optical and active microwave data of a snow-covered sea ice surface [1991, p.209-215, eng] 47-3387
Maury, M.T.
Sea ice classification using fast learning neural networks [1992, p.1070-1071, eng] 47-670
Mantripp, D.R.
Antarctic ice sheet topography mapped with the ERS-1 radar altimeter [1993, p.1649-1650, eng] 47-5119
Validating the UK-PAF land ice product surface elevation [1993, p.483-488, eng] 47-4444
Manucharov, A.S.
Effect of agricultural development on the variation of thixotropic properties of tundra soils [1987, p.45-49, eng] 47-598
Manuil'skii, V.D.
Formation of cryoresistance and hardiness of plants to low temperatures [1992, 185p., rus] 47-2282
Manukalo, V.A.
On spatial irregularities in the frost penetration of soils in river basins [1991, p.119-123, rus] 47-3282
Mao, W.
Realization and intercomparison of cryogenic triple points by means of sealed cells [1992, p.261-263, eng] 47-2972
Mao, Y.Z.
R-T relationship and stability of ceramic rhodium-iron resistance thermometers [1992, p.461-465, eng] 47-2984
R-T relationship and tolerances of China-made industrial platinum resistance thermometers in the temperature range from -200 to 0 C [1992, p.423-425, eng] 47-2979
Rhodium-iron resistance thermometer for practical use [1992, p.467-470, eng] 47-2985
Study of Chinese standard rhodium-iron resistance thermometers [1992, p.453-456, eng] 47-2982
Maracci, G.
Reflectance of antarctic surfaces from multispectral radiometers: the correction of atmospheric effects [1993, p.11-21, eng] 47-2553
Marani, S.
Ozone absorption and Rayleigh scattering features in sunphotometric measurements taken at ultraviolet wavelengths [1992, p.227-245, eng] 47-1205
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Using Landsat-5 Thematic Mapper and digital elevation data to determine the net radiation field of a mountain glacier [1993, p.315-331, eng] 47-2886
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Boundary element analysis of macrocracking of ice in a large test basin [1992, p.91-104, eng] 47-1021
Elastic analysis of stresses in ice structure interactions [1993, p.83-88, eng] 47-4234
Marchand, J.
Deicer salt scaling resistance of roller-compacted concrete pavements containing fly ash and silica fume [1993, p.151-178, eng] 47-3606
Freeze-thaw durability and scaling resistance of concrete paving blocks [1992, p.1017-1024, fre] 47-3343
Marchant, D.R.
Subglacial meltwater channel systems and ice sheet overriding, Asgard Range, Antarctica [1991, p.109-121, eng] 47-4310
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Formation mechanism of the vertical structure of the Greenland convective gyre [1992, p.138-144, rus] 47-3812
On the propagation of discontinuities in a drifting ice cover [1992, p.346-358, eng] 47-3230
Marchenko, P.E.
Possibility of using the third central moment of doppler spectra to indicate ice particles with a diameter of less than 0.5 cm [1991, p.14-18, rus] 47-748
Third central moment of falling velocity of water drops and its relationship to variabilities in the microstructure of hailstorm clouds [1991, p.19-31, rus] 47-749
Marchenko, S.IU.
Improving the norms for construction, road-making and mining equipment of the "KhL" type [1990, p.24-25, rus] 47-1416
Marciniak, J.
Mountain structure and glaciation of the Caucasus Mountains [1990, p.242-251,270, ger] 47-3793
Marcotte, D.L.
Airborne instrumentation and computing facilities for the Canadian Atlantic Storms Program (CASP II) [1993, p.181-185, eng] 47-3069
Marcus, M.G.
Climate and glacier change: the dilemma of the representative station [1992, p.1-14, eng] 47-1002
Mareschal, J.C.
Ground temperature histories in eastern and central Canada from geothermal measurements: evidence of climatic change [1992, p.167-184, eng] 47-2022
Margolis, H.A.
Influence of cultural practices on the relationship between frost tolerance and water content of containerized black spruce, white spruce, and jack pine seedlings [1993, p.503-511, eng] 47-3844
Marienfeld, P.
Iceberg scouring in Scoresby Sund and on the East Greenland continental shelf [1993, p.37-53, eng] 47-4297
Recent sedimentary processes in Scoresby Sund, East Greenland [1992, p.169-186, eng] 47-227
Marin, P.
Recent dynamics of subarctic dunes as determined by tree-ring analysis of white spruce, Hudson Bay, Quebec [1992, p.316-330, eng] 47-4407
Mariscovich, L., Jr.
Suspension freezing of bottom sediment and biota in the Northwest Passage and implications for Arctic Ocean sedimentation [1992, p.693-703, eng] 47-379
Marker, M.E.
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Applications of new remote-sensing and image processing technologies to improve ice forecasting [1991, p.217-226, eng] 47-3388
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Iceberg movement prediction off the Canadian east coast [1988, p.435-462, eng] 47-3820
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Markov, M.L.
Accumulation of water in freezing river beds [1991, p.77-84, rus] 47-897
Annual dynamics of naleds in ground water and methods for calculating them [1991, p.103-116, rus] 47-2434
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Characterizing the distribution of observed precipitation and runoff over the continental United States [1992, p.99-119, eng] 47-228
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Marks, L.
Outline of stratigraphy of the Pleistocene and the Holocene in south and central Spitsbergen [1991, p.165-172, eng] 47-2769
Quaternary landforms, sediments and morphogenetic evolution of Hansbreen-Sofiekammen region, Wedel Jarlsberg Land, Spitsbergen [1992, p.91-101, eng] 47-4649
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Sensitivity of streamflow simulation to changes in climatic inputs [1992, p.257-272, eng] 47-3802
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Evaporation and ice growth in Mackenzie Delta lakes [1991, p.257-266, eng] 47-1812

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Decadal timescale links between Antarctic Peninsula ice-core oxygen-18, deuterium and temperature [1993, p.14-26, eng] 47-4143
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Long-term variations in the turbidity of the arctic atmosphere in Russia [1992, p.531-549, eng] 47-2877
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Improved real-time global sea surface temperature analysis [1993, p.114-119, eng] 47-2461
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Field and laboratory investigations of the clay tills at the test bed site at the Building Research Establishment, Garston, Hertfordshire [1991, p.229-238, eng] 47-3880
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Recent trends in glaciers and glacier runoff, Wind River Range, Wyoming [1989, p.159-169, eng] 47-2578
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Lagoon sludge dewatering by natural freeze-thaw [1993, p.357-364, eng] 47-4477
Martens, C.S.
Carbon and hydrogen isotopic characterization of methane from wetlands and lakes of the Yukon-Kuskokwim Delta, western Alaska [1992, p.16,689-16,701, eng] 47-1463
Marthinsen, A.
Ice deflector [1988, 4 col., eng] 47-4101
Marti, J.
Laboratory simulations of PSC particle formation [1993, p.359-362, eng] 47-4141
Survey and new measurements of ice vapor pressure at temperatures between 170 and 250K [1993, p.363-366, eng] 47-4142
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Atmospheric radiation regime at Russkaya Station [1991, p.17-22, rus] 47-1574
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Rock glaciers II: models and mechanisms [1992, p.127-186, eng] 47-423
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Absolute spectral radiation thermometry at the National Physical Laboratory [1992, p.41-45, eng] 47-2945
NPL total radiation thermometer: extension of its range to 450 C [1992, p.31-35, eng] 47-2943
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Effect of severe storms on the ice cover of the northern Tatarskiy Strait [1992, p.17,753-17,764, eng] 47-1064
Microwave remote sensing of polynyas [1992, p.303-311, eng] 47-3029
Martin, W.W.
Sea ice flexural rigidity: a comparison of methods [1993, p.247-255, eng] 47-3928
Martineau, M.J.
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Chlorophyll *a* biomass and growth of sea-ice microalgae along a salinity gradient (southeastern Hudson Bay, Canadian Arctic) [1992, p.445-453, eng] 47-1469
Martinec, J.
Areal modelling of snow water equivalent based on remote sensing techniques [1991, p.121-129, eng] 47-1299
Indirect evaluation of snow reserves in mountain basins [1991, p.111-119, eng] 47-1298
Rainfall-snowmelt peaks in a warmer climate [1992, p.195-202, eng] 47-2728
Martinerie, P.
Physical and climatic parameters which influence the air content in polar ice [1992, p.1-13, eng] 47-458
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First results of the Greenland '90 Expedition, Ilulissat and Alfred-Wegener Peninsula glaciers [1991, p.171-184, eng] 47-32
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Respiratory electron transport activity of microplankton in the Weddell Sea during early spring: influence of the ice cover and the ice edge [1992, p.275-282, eng] 47-1332
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Effect of fatigue on the bearing capacity of floating ice sheets [1993, p.257-263, eng] 47-3929
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Drag coefficients for winter antarctic pack ice [1993, p.12,431-12,437, eng] 47-4520
Martynenko, I.A.
Investigations of primary minerals cryogenic weathering as related to podzolization [1992, p.149-153, eng] 47-1721
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Case study of heavy snowfall in Oklahoma [1993, p.648-660, eng] 47-4256
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Freeze sampling of the riverbed sediment at Chubetsu Dam [1992, p.329-334, jpn] 47-2507
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Improving the effectiveness of methods of bio-recultivating disturbed soil under conditions of the Far North [1992, p.22-26, rus] 47-368
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U.S. rangeland technology: rehabilitating Russia's oil, gas production sites [1993, p.4-7, eng] 47-4096
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Snowmelt runoff forecasting: case study of Karadj reservoir, Iran [1991, p.213-220, eng] 47-1308
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Arctic radiation forcing fields for dynamic-thermodynamic sea ice models [1992, p.C9-C13, eng] 47-3257
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Interannual variability of short-period changes in sea ice and atmospheric synoptic conditions in the Canada Basin [1988, p.28-31, eng] 47-4178
Predicted heights of buoyant convection above open leads in the winter arctic pack ice cover [1992, p.J3/45-J3/48, eng] 47-880
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Use of satellite observations in ice cover simulations [1992, p.385-404, eng] 47-3036
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Growth habits and growth rates of snow crystals [1993, p.3-16, eng] 47-3727
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Mass balance and fluctuations of glaciers in the USSR, 1985-1987
Mass balance and fluctuations of glaciers in the USSR, 1985-1987 [1991, p.211-222, rus] 47-2814
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"Taylor Ice-Dome" study: reconnaissance 1990-1991 [1991, p.69-71, eng] 47-2468
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Dimensional variations, capillary absorption and freeze-thaw resistance of repair mortars admixed with polymers [1993, p.301-308, eng] 47-3421
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Trend analysis of the Barents Sea ice cover [1992, p.325-335, eng] 47-1039
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Afforestation for avalanche prevention and control [1985, p.392-395, eng] 47-556
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Chaotic characteristics of snowmelt runoff: a preliminary study [1990, p.125-134, eng] 47-5217
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Characteristics of snow pressure acting on avalanche-preventive fences [1992, p.323-331, eng] 47-3210
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Development of a method for predicting road surface temperature and icing on roads [1992, p.193-231, jpn] 47-3301
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Collision between graupel particles: a field observation and theory [1992, p.1037-1043, eng] 47-4019
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Large isotope effect due to quantum tunneling in the conversion reaction of electrons to H and D atoms in irradiated H2O/D2O ice [1992, p.5211-5213, eng] 47-1937
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Tests on preventing pavement cracks in agricultural roads [1991, p.107-112, jpn] 47-2496
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Sensitivity experiment of ocean general circulation model—responses for wind stress (first report) [1991, p.39-68, jpn] 47-3292
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Soil characteristics and C and N storage in soil [1993, p.59-65, eng] 47-3976
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Developing a device to record snowplow operation [1985, p.43-52, jpn] 47-4950
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Boreal carbon pools: approaches and constraints in global extrapolations [1993, p.9-20, eng] 47-5224

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"Little Ice Age" variations of outlet glaciers from the Jostedalsbreen ice-cap, southern Norway: a regional lichenometric-dating study of ice-marginal moraine sequences and their climatic significance [1993, p.45-66, eng] 47-5006
Ecology of recently-deglaciated terrain: a geoecological approach to glacier forelands and primary succession [1992, 386p., eng] 47-1066
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Sangamonian and early Wisconsinan stages in western Canada and northwestern United States [1992, p.253-268, eng] 47-2696
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Mass wasting on valley-side ice-cored moraines, Boundary Glacier, Alberta Canada [1991, p.123-128, eng] 47-4335
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Laboratory simulations of PSC particle formation [1993, p.359-362, eng] 47-4141
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McIntosh, R.E.
Comparison of normalized radar cross section measurements and models for snow cover at 35, 95, and 225 GHz [1992, p.1655-1657, eng] 47-686
McKay, C.P.
Computational modeling of antarctic lake ice [1992, p.105-116, eng] 47-1022
Global change implications for antarctic lakes [1993, p.276-279, eng] 47-3047

Perennial ice covers and their influence on antarctic lake ecosystems [1993. p.53-70. eng] 47-4396

Relevance of antarctic microbial ecosystems to exobiology [1993. p.593-601. eng] 47-4599

McKay, G.

Patterned ground formation and solar radiation ground heating [1992. p.249-263. eng] 47-985

McKee, T.B.

Annual snowpack patterns across the Rockies: long-term trends and associated 500-mb synoptic patterns [1993. p.633-647. eng] 47-4255

McKendrick, J.D.

Improving the effectiveness of methods of bio-recultivating disturbed soil under conditions of the Far North [1992. p.22-26. rus] 47-368

U.S. rangeland technology: rehabilitating Russia's oil, gas production sites [1993. p.4-7. eng] 47-4096

McKenna, J.T.

Winter storms test new anti-ice tactics [1993. p.38-40. eng] 47-4607

McKenna, R.F.

Ice-floe collisions interpreted from acceleration data during LIMEX '89 [1992. p.246-269. eng] 47-2350

Modelling of the ice failure processes in ship-ice interaction [1991. 156p.. eng] 47-1360

McKenzie, R.L.

Increased ultraviolet radiation in New Zealand (45 deg S) relative to Germany (48 deg N) [1992. p.135-137. eng] 47-374

McKim, H.J.

Determination of soil moisture distribution from impedance and gravimetric measurements [1992. p.18,969-18,977. eng] 47-1624

McKim, H.L.

Water resource modelling using remote sensing and object-oriented simulation [1993. p.153-165. eng] 47-3346

McKittrick, L.R.

On the effect of phase transformations and dislocation density gradients on saline ice compliance [1993. p.189-198. eng] 47-3753

McLaren, A.S.

Contour mapping of Arctic basin ice draft and roughness parameters [1992. p.17,715-17,728. eng] 47-1061

Seasonal variations of atmospheric circulation and sea ice motion in the Arctic [1988. p.20-23. eng] 47-4177

McLaughlin, S.

Use of high resolution data from the Nested Grid Model for the prediction of lake-effect snows [1992. 11p.. eng] 47-2138

Use of high resolution data from the nested grid model for the prediction of lake-effect snows [1992. p.89-99. eng] 47-4037

McLean, P.J.

Coastal influence on winter road surface temperatures in the County of Devon, United Kingdom [1992. 24p.. eng] 47-968

McManamon, A.

Snow estimation—a GIS application for water resources forecasting [1993. p.856-861. eng] 47-4402

McManus, J.

Abrupt color changes in isotope stage 5 in North Atlantic deep sea cores: implications for rapid change of climate-driven events [1992. p.185-205. eng] 47-2836

McNairn, H.

Scale and remotely sensed data for change detection in the James Bay, Ontario, coastal wetlands [1993. p.45-49. eng] 47-3724

McNaughton, G.

Root cold hardiness and native distribution of subalpine conifers [1992. p.932-938. eng] 47-1187

McNeill, L.S.

Fourier transform infrared studies of the interactions of HCl with model polar stratospheric cloud films [1993. p.10,563-10,571. eng] 47-4294

McNutt, L.

Automated sea-ice tracking for LIMEX '87 and '89 [1992. p.173-191. eng] 47-2346

McPhee, M.G.

Spatial variability in mixed layer properties measured under refreezing leads [1992. p.J53-J55. eng] 47-2415

Strategies for estimating turbulent fluxes in polar ocean boundary layers [1992. p.J49-J52. eng] 47-2414

McQuaid, C.D.

New South African research programme in the southern ocean [1993. p.61-67. eng] 47-4723

McQueen, R.

Front Range/Palmer Divide blizzard of 7 Jan 1992 [1992. 6p.. eng] 47-2132

McRae, W.H.

Ice Branch operational use of ice beacons on sea ice [1991. p.53-59. eng] 47-3398

Mead, J.B.

Polarimetric observations and theory of millimeter- wave backscatter from snow cover [1993. p.38-46. eng] 47-3172

Meadows, J.

Environmental management in Antarctica: a guide to the literature resources [1992. p.229-241. eng] 47-1406

Mears, A.

Avalanche characteristics and structure response, East Riverside avalanche shed, Highway 550, Ouray County, Colorado [1992. 113p.. eng] 47-4614

Measures, C.I.

Distribution of aluminium in the Greenland Sea and its relationship to ventilation processes [1992. p.17,787-17,800. eng] 47-1065

Mechoso, C.R.

Generation mechanisms of quasi-stationary waves in the Southern Hemisphere [1992. p.J8-J11. eng] 47-2405

Medina, J.G.

Estimation of cloud liquid water in winter storms on the Mongollon Rim—report on task 1 [1993. 19p.. eng] 47-4913

Simulation of winter precipitation in western mountain watersheds with a local-scale model [1992. p.661-670. eng] 47-2742

Medvedskii, R.I.

Estimation of casings strength properties [1992. p.68-69. eng] 47-3265

Meehl, G.A.

Enhanced research program on the long-range climatic effects of increased atmospheric carbon dioxide—a continuation. Summary of research activities for 1990 [1991. Var. p.. eng] 47-882

Global coupled models: atmosphere, ocean, sea ice [1992. p.555-581. eng] 47-4501

Meerkoetter, R.

Detection of polar stratospheric clouds from NOAA-HIRS data: a case study [1992. p.1351-1354. eng] 47-48

Mehl, P.M.

Calorimetric investigation of the glass transition and relaxation in 60:40 ethylene glycol: water. Part 1. Isothermal annealing experiments [1993. p.177-197. eng] 47-3779

Meier, E.

Monitoring of snowcover in high mountain terrain with ERS-1 SAR [1993. p.583-588. eng] 47-4446

Meike, T.

Measurement results for snow pressure acting on hanging-shelf avalanche guards [1992. p.103-108. jpn] 47-2512

Meko, D.M.

Dendroclimatic evidence from the Great Plains of the United States [1992. p.312-330. eng] 47-2091

Melack, J.M.

Sources and spatial variation of the chemical composition of snow in the Tien Shan, China [1992. p.25-32. eng] 47-1082

Melander, O.

Proceedings of the Fifth Symposium on Antarctic Logistics and Operations, San Carlos de Bariloche, Argentina, 8 to 10 June 1992 [1993. 365p.. eng] 47-5111

Meleshite, M.I.

Lithology of glacial deposits in the western part of the Don Glacier tongue [1992. p.118-135. rus] 47-69

Meleshko, V.P.

Atmospheric general circulation/mixed layer ocean model for climate studies and long-term weather forecasting [1991. p.1-9. eng] 47-1176

Melles, M.

Character of clasts in glaciomarine sediments as an indicator of transport and depositional processes, Weddell and Lazarev Seas, Antarctica [1993. p.477-487. eng] 47-3644

Melling, H.

Topography of the upper and lower surfaces of 10 hectares of deformed sea ice [1993. p.349-369. eng] 47-5206

Melloh, R.A.

Applications of ERS-1 SAR data for analyzing riverine and coastal processes and geomorphology [1993. p.873-878. eng] 47-4449

Passive microwave signatures of sea ice [1992. p.47-71. eng] 47-3018

River and lake ice conditions as interpreted from microwave imagery [1992. p.381-395. eng] 47-1914

Mellon, M.T.

Geographic variations in the thermal and diffusive stability of ground ice on Mars [1993. p.3345-3364. eng] 47-2672

Mellons, B.

Cryogenic thermometer calibration system based on triple points from D2 to H2O [1992. p.1067-1069. eng] 47-2993

Mellor, G.L.

Modeling the seasonal variability of a coupled arctic ice-ocean system [1992. p.20,285-20,304. eng] 47-2341

Mellor, M.

Hard rock tunneling machine characteristics [1972. p.1149-1158. eng] 47-2614

Penetration of rocks by continuous water jets [1974. p.H1/1-H1/15. eng] 47-2200

Mel'nichenko, S.V.

Quick-setting claydite-concrete for winter concreting [1992. p.12-14. rus] 47-2152

Mel'nikov, E.S.

Studying engineering-geocryological and hydrogeological conditions of the upper zones of rocks in oil- and gas-bearing regions of the cryolithozone. Manual [1992. 288p.. rus] 47-3866

Melnikov, I.A.

Ecology of sea ice biota. 1. Habitat, terminology, and methodology [1992. p.417-427. eng] 47-1334

Ecology of sea ice biota. 2. Global significance [1992. p.429-444. eng] 47-1335

Mel'nikov, P.I.

Upper surface layer of permafrost: collected scientific papers [1991. 100p.. rus] 47-392

Mel'nikov, V.P.

Fundamentals of amplitude-phase measurements using induced polarization [1974. 222p.. rus] 47-2911

Mel'nikova, N.G.

Reconstruction of humidification conditions of eastern Issyk-Kul' areas for the last 390 years from dendrochronological data [1991. p.80-86. rus] 47-2792

Meloni, P.

Non cosine response of optics in the evaluation of bi-hemispherical reflectance of antarctic surfaces [1992. p.149-157. eng] 47-1199

Melouki, M.

Determination of creep properties of frozen soils by means of the borehole stress relaxation test [1993. p.170-186. eng] 47-4164

Melsom, A.

Effects of variable eddy viscosity on wave-induced currents under ice [1993. p.78-88. eng] 47-4218

Melville Shipping Limited

Properties of EG/AD/S doped ice at the IMD ice tank [1990. 31p.. eng] 47-1367

Menashi, J.D.

Remote sensing of sea-ice thickness in the Weddell Sea [1991. p.92-93. eng] 47-3515

Méndez-Lango, E.

Triple-point of trichlorofluoromethane [1992. p.277-279. eng] 47-2975

Menemenlis, D.

Acoustical measurement of current and vorticity beneath ice [1992. p.827-849. eng] 47-1473

Meng, G.L.

Ice features in Liaodong Gulf in the winter of 1988-1989 [1992. p.317-320. eng] 47-158

Menke, W.H.

Icequakes in Entujökull and Kötlujökull [1989. p.96-98. ice] 47-713

Menshikov, V.F.

Some aspects of radioactive wastes dumping: international regulation [1993. p.585-594. eng] 47-5056

Menshutin, V.M.

Mesoscale interactions in the snow cover-atmosphere system during a period of snow melting on the southern slope of the Greater Caucasus [1991. p.48-53. rus] 47-321

Regularities and distribution of snow cover in the high mountain regions of the Greater Caucasus [1991. p.39-43. rus] 47-319

Menzies, J.

Cryogenic wedge within gravels, north of Kempten, Bavaria, F.R.G. [1992. p.365-374. eng] 47-2057

Meredith, D.J.

Low-temperature physics: an introduction for scientists and engineers [1992. 296p.. eng] 47-4858

Meredith, R.W.

Marginal Ice Zone oceanographic variability and its effects on acoustic propagation [1991. p.87-101. eng] 47-1074

Merkulov, D.M.

System approach to selecting anti-naled procedures [1991. p.210-214. rus] 47-2449

Winter temperature regime of culverts in channels with naleds [1991. p.205-210. rus] 47-2448

Merlo, V.

Low-frequency light scattering from disordered hydrogen-bonded solids [1992. p.2845-2852. eng] 47-1511

Merrifield, M.

Doppler acoustic studies of fine scale variability in the Arctic Ocean [1992. p.17-23. eng] 47-4715

Merzhanov, K.M.

On the homogeneous nucleation of water and ice in the supersaturated water vapour at temperatures below -41 C [1992. p.249-254. eng] 47-2260

Messerli, B.

Climate change and natural resource dynamics of the Atacama Altiplano during the last 18,000 years: a preliminary synthesis [1993. p.117-127. eng] 47-4710

Mészáros, E.

Global and regional changes in atmospheric composition [1993. 175p.. eng] 47-3136

Metcalfe, J.R.

Correction of Canadian winter precipitation data [1993. p.338-343. eng] 47-3072

Metge, M.

Beaufort Sea ice design features: acquisition of data on EIFs [1992. Var. p.. eng] 47-2227

Flow properties of crushed ice: crushing plus extrusion tests [1993. p.45-51. eng] 47-4229

Meyer, C.W.

Gas dependence of the effective area of the piston gage to be used for the NIST realization of the ITS-90 [1992. p.133-138. eng] 47-2959

Meyer, D.F.
Flood generation and destruction of "Drift" Glacier by the 1989-90 eruption of Redoubt Volcano, Alaska [1992, p.33-38, eng] 47-1083
Meyer, F.
Process and measuring probe for the determination of ice or snow formation [1988, 6 col., eng] 47-3762
Meylan, M.
Finite-floe wave reflection and transmission coefficients from a semi-infinite model [1993, p.12,537-12,542, eng] 47-4524
Mi, D.S.
Application of nonlinear colour enhancement on transparencies for interpretation of glacier surface characteristics [1992, p.190-192, eng] 47-1110
Mingkov, S.M.
Geography of avalanches [1992, 331p., rus] 47-3505
Minkon'kii, G.B.
Methodology of airborne tests of anti-hail products in stratiform clouds [1991, p.68-74, rus] 47-754
Mino, L.N.
Constitutive relations of frozen soil in uniaxial compression [1992, p.210-217, chi] 47-1660
Michaud, Y.
Mechanics of bedrock frost heaving in permafrost regions [1991, 128p., eng] 47-4900
Michel, B.
On the reproduction of ice from a common seed [1993, p.153-156, eng] 47-4290
Michel, D.
Composite platform for petroleum workings in polar seas [1986, 6 col., eng] 47-4259
Michel, F.A.
Development of natural gas resources in northwest Siberia, Russia—field observations of permafrost and environmental concerns [1993, p.19-24, eng] 47-4269
Michida, Y.
Seasonal sea-level variation at Syowa Station [1992, p.165-169, eng] 47-135
Mickelson, D.M.
Deposition of the Late Wisconsin Johnston moraine, south-central Wisconsin [1993, p.53-59, eng] 47-4751
High porosity of basal till at Burroughs glacier, southeastern Alaska [1992, p.849-852, eng] 47-246
Middlebrook, A.M.
Fourier transform infrared studies of the interactions of HCl with model polar stratospheric cloud films [1993, p.10,563-10,571, eng] 47-4294
Spectroscopic studies of model polar stratospheric cloud films [1992, p.1303-1313, eng] 47-1172
Middlebrooks, E.J.
Sludges from cold regions lagoons [1993, p.146-155, eng] 47-3675
Mietus, M.
Statistical characteristics of soil temperature at the depth of 5 cm in thermal seasons, Hornsund, Spitsbergen [1992, p.103-112, eng] 47-4650
Mihoshi, H.
Estimation of ground snow depth based on topographic factors [1992, p.21-32, eng] 47-3185
Field measurement and characteristic analyses of snow load on flat roofs [1992, p.69-80, eng] 47-3189
Perspective: Ground snow [1992, p.467-468, eng] 47-3222
Mijangos, F.
Near-optimum heating profiles in freeze-drying in accordance to the transport parameters and product nature [1991, p.394-404, eng] 47-2304
Mikami, T.
Current status of road snow melting in Jozankei, Sapporo City [1986, p.330-339, jpn] 47-4798
Mikami, Y.
Development and improvement of snow removal equipment at the Hokkaido Development Bureau [1985, p.93-97, jpn] 47-5160
Mikhailov, N.V.
Gas field production in an area with permafrost development [1991, p.4-5, rus] 47-2480
Will northern piles last [1991, p.6-7, rus] 47-2478
Mikhailov, V.N.
Some regularities of spreading and evolution of glacial caves of the eastern Tien-Shan [1991, p.207-214, eng] 47-35
Mikhailova, E.IU.
Numerical modeling of the coagulation and aggregation of ice crystals and snowflakes [1992, p.71-79, rus] 47-4658
Mikhal'chuk, A.V.
Mathematical modeling of ice drift in the example of the Caspian Sea [1991, p.94-96, rus] 47-893
Mikheenko, V.V.
Bench testing of joints in machinery—the basis for competitive engineering [1990, p.27-29, rus] 47-1419
Bench tests and accelerated operating life tests of the EO-5124 excavator equipment under various above and below freezing temperatures [1992, p.2-5, rus] 47-2064
Mikkiituk, M.
Effectiveness of code provisions for snow accumulations on stepped roofs [1992, p.439-452, eng] 47-3220
Wind tunnel modeling of snow accumulations on large-area roofs [1992, p.181-193, eng] 47-3198
Mikkola, M.
Thermomechanical modelling of freezing soil [1993, p.48-60, eng] 47-4272
Mikola, J.
Provenance and individual variation in climatic hardiness of Scots pine in northern Finland [1993, p.333-342, eng] 47-4547
Mikuni, K.
Snowplow for removing snow from guard rails [1992, p.283-286, jpn] 47-2494
Miles, M.W.
Lead patterns in arctic sea ice from remote sensing data: characteristics, controls and atmospheric interactions [1988, p.40-43, eng] 47-4181
Miles, T.
Comparison of Nimbus 7 limb infrared monitor of the stratosphere and radiosonde temperature in the lower stratosphere poleward of 60N [1992, p.13,001-13,014, eng] 47-78
Millen, T.
Electromagnetic communications through the seawater-ice-air interface [1991, p.638-644, eng] 47-2182
Miller, B.B.
Ages of the Whitewater and Fairhaven tills in southwestern Ohio and southeastern Indiana [1992, p.89-98, eng] 47-2685
Miller-Cushon, J.D.
Adjoint sensitivity theory for a pack ice momentum model [1992, p.881-889, eng] 47-3353
Sensitivity analysis of ice motion near Adams Island [1992, p.890-901, eng] 47-3354
Miller, D.C.
Soil catena variation along an alpine climatic transect, northern Peruvian Andes [1992, p.211-223, eng] 47-2252
Miller, D.R.
Air flow across an alpine forest clearing in winter [1990, p.172-175, eng] 47-1491
Miller, G.H.
Late glacial ice margins and deglacial chronology for southeastern Baffin Island and Hudson Strait, eastern Canadian Arctic [1992, p.1000-1017, eng] 47-1797
Late Quaternary land-sea interactions: Fennoscandia and Svalbard—the Nordic seas [1991, p.151-159, eng] 47-3487
Paleoenvironments of the last interglacial in northwest North Atlantic region and adjacent mainland Canada [1991, p.95-106, eng] 47-3483
Timing and character of the last interglacial-glacial transition in the eastern Canadian Arctic and northwest Greenland [1992, p.223-231, eng] 47-2694
Miller, G.S.
Low-frequency water volume transport through the midsection of Green Bay, Lake Michigan, calculated from current and temperature observations [1993, p.361-367, eng] 47-4564
Miller, H.
Signatures of antarctic firn by means of ERS-1 AMI and by field measurements [1993, p.227-233, eng] 47-4417
Miller, J.D.
Iceberg movement prediction off the Canadian east coast [1988, p.435-462, eng] 47-3820
Miller, J.R.
Effects of climate change on monthly river runoff [1992, p.175-178, eng] 47-2726
Seasonal river runoff calculated from a global atmospheric model [1992, p.2029-2039, eng] 47-776
Miller, K.A.
Freeze risk to Florida citrus. Part 2: Temperature variability and circulation patterns [1993, p.364-372, eng] 47-2708
Miller, L.K.
Spatial and seasonal patterns of streambed water temperatures in an Alaskan subarctic stream [1989, p.381-390, eng] 47-2581
Miller, M.C.
Biogeochemistry and zoogeography of lakes and rivers in arctic Alaska [1992, p.1-14, eng] 47-1599
Flux of CO2 and CH4 from lakes and rivers in arctic Alaska [1992, p.23-36, eng] 47-1601
Short and long term coastal changes along the U.S. Beaufort Sea [1992, p.600-607, eng] 47-1847
Miller, R.F.
WLN and PolarPac [1992, p.130-133, eng] 47-1403
Miller, R.G.
Thermal properties of wood and wood products [1992, p.193-203, eng] 47-1155
Miller, R.H.
Village uses a multiple defense strategy for snow removal [1992, p.42-44, eng] 47-1919
Miller, R.J.
Polar low sensitivity to sea surface temperature and horizontal grid resolution in a numerical model [1988, p.83-86, eng] 47-4188
Miller, T.P.
Postulated new source for the White River Ash, Alaska [1992, p.212-218, eng] 47-618
Miller, W.L.
Ways to help bridges and deicers coexist [1993, p.18-19, eng] 47-3680
Miller, W.R.
Simulation of natural acid sulfate weathering in an alpine watershed [1992, p.2197-2209, eng] 47-1506
Mills, W.
Contrasts in coverage: an examination of the polar bibliographic data bases on the NISC Arctic and Antarctic Regions CD-ROM [1992, p.56-78, eng] 47-1396
Milne, G.D.
Microorganism survival in ice-covered marine environment [1992, p.58-72, eng] 47-2
Miloshevich, L.M.
Homogeneous ice nucleation and supercooled liquid water in orographic wave clouds [1993, p.2335-2353, eng] 47-4891
Minailov, G.P.
Improving the technology for building a roadbed in Southern Yakutia [1992, p.3-5, rus] 47-4086
Minervin, V.E.
Meteorological conditions for icing on a dirigible [1992, p.42-60, rus] 47-4657
Minion, R.
Building a Canadian Polar Information System [1992, p.88-94, eng] 47-1398
Minnis, P.
Effects of small ice crystals on cirrus infrared radiative properties [1992, p.1487-1493, eng] 47-411
Inference of cirrus cloud properties using satellite-observed visible and infrared radiances. Part 1: parameterization of radiance fields [1993, p.1279-1304, eng] 47-3731
Inference of cirrus cloud properties using satellite-observed visible and infrared radiances. Part 2: verification of theoretical cirrus radiative properties [1993, p.1305-1322, eng] 47-3732
Mino, M.
Tests on snow removal machinery [1984, p.15-42, jpn] 47-4947
Minsk, L.D.
Application of SHRP's snow removal and ice control research [1992, 6p., eng] 47-946
Current status and future trends for road snow and ice countermeasures in North America. Special lecture [1993, 4p., jpn] 47-4795
Minster, J.F.
Constraints on the repetitivity of the orbit of an altimetric satellite: estimation of the cross-track slope [1993, p.410-419, eng] 47-3774
Katabatic wind intensity and direction over Antarctica derived from scatterometer data [1992, p.1021-1024, eng] 47-2907
Mironenko, M.V.
Behavior of artificial radionuclides in seawater [1993, p.213-223, eng] 47-5032
Mironov, E.U.
Some characteristics of spatial irregularity in the thickness of stationary and drifting ice [1990, p.42-53, rus] 47-3588
Mirovitskaia, N.
Arctic: arena for international environmental security? [1993, p.277-289, eng] 47-4727
Mishchenko, M.I.
Angular width of the coherent back-scatter opposition effect: an application to icy outer planet satellites [1992, p.327-333, eng] 47-1191
Light scattering by nonspherical ice grains: an application to noctilucent cloud particles [1992, p.203-211, eng] 47-772
Mishra, D.K.
On some meteorological aspects of snowfall over the Himalayas as observed by satellite [1985, p.125-132, eng] 47-531
Misra, A.
Soil thermal conductivity: effects of saturation and dry density [1992, p.158-165, eng] 47-1154
Missouri Highway and Transportation Department
Evaluation of concrete and aggregate durability test [1993, 64p., eng] 47-4615
Mitchell, D.L.
Field instrument for examining in-cloud scavenging mechanisms by snow [1991, p.239-253, eng] 47-2212
Mitchell, J.C.
Scallop shell mineralogy and crystalline characteristics: proxy records for interpreting antarctic nearshore marine hydrochemical variability [1992, p.27-38, eng] 47-2870
Mitsui, K.
Properties of high-strength concrete with silica fume using high-range water reducer of slump retaining type [1989, p.79-97, eng] 47-62
Mitusova, T.N.
Principles of development of diesel fuel composition with pour-point depressants [1992, p.3-7, eng] 47-205
Mix, A.C.
Marine oxygen isotope record: constraints on timing and extent of ice-growth events (120-65 ka) [1992, p.19-30, eng] 47-2681
Miyamoto, S.
Application of chemicals for snowy and icy road surfaces in Hokkaido [1991, p.131-136, jpn] 47-2540

Law prohibiting use of studded tires in Japan, results of chemical deicing agents test and investigation on efficient operation of road heating facilities [1992, 12p., eng] 47-962

Simulation for planning road snow melting [1990, p.13-16, jpn] 47-4682

Study on road heating systems in Hokkaido [1992, p.143-148, jpn] 47-2514

Study on winter road maintenance with a snow melting system [1993, p.34-37, jpn] 47-4790

Miyano, A.

Snow removal from a pantiled roof using electrically heated roof tiles [1992, p.253-262, eng] 47-3204

Miyano, K.

Resistance to freezing and thawing and chloride diffusion of anti-washout underwater concrete containing blast-furnace slag [1993, p.1565-1582, eng] 47-3618

Miyares, P.H.

Comparison of analytical methods for determination of volatile organic compounds in soils [1992, p.1932-1938, eng] 47-862

Comparison of cartridge and membrane solid-phase extraction with salting-out solvent extraction for preconcentration of nitroaromatic and nitramine explosives from water [1992, 31p., eng] 47-2232

Comparison of solid phase extraction with salting-out solvent extraction for preconcentration of nitroaromatic and nitramine explosives from water [1993, p.316-321, eng] 47-3913

Supercritical fluid chromatography for the analysis of nitroaromatics, nitramines and nitrate esters [1992, 14p., eng] 47-708

Miyashita, H.

Double-diffusive convection during solidification of a binary system [1992, p.586-600, eng] 47-3514

Visualization of temperature and flow fields using liquid crystals in the fluid regime during various solidification processes [1992, p.456-460, eng] 47-4393

Miyauchi, M.

On the vertical profiles of long wave radiation at Syowa Station in Antarctica [1992, p.53-70, eng] 47-3005

Miyazaki, A.

Ice depolarizations on K(a) band (20 GHz) satellite-to-ground path and correlation with radar observations [1993, p.249-259, eng] 47-4062

Miyazaki, T.

New band of emission from high-energy-electron-irradiated ice at very low temperature [1992, p.9558-9561, eng] 47-1567

Mizoguchi, K.

Study on dynamical structure in water and heavy water by low-frequency Raman spectroscopy [1992, p.1961-1968, eng] 47-1056

Mizuno, E.

Snow drainage ditch project using sea water—surface maintenance for the snow drainage ditch in Iwanai [1992, p.23-28, jpn] 47-2490

Mizuno, H.

Collision between graupel particles: a field observation and theory [1992, p.1037-1043, eng] 47-4019

Ice crystal formation in cirrus cloud [1992, p.283-286, eng] 47-2268

Mizuno, I.

Re-application of traditional architectural schemes in the snow country [1992, p.365-371, eng] 47-3214

Mizuno, Y.

Estimate of sea ice freezing [1992, p.147-154, eng] 47-1025

Technical problems of floating type ice barriers [1991, p.265-270, jpn] 47-2498

Wave height observations in the Okhotsk Sea in winter [1992, p.331-336, jpn] 47-2503

Mizushima, T.

Improving laboratory freezing tests [1991, p.85-90, jpn] 47-2535

Study on sidewalk frost heave countermeasures (second report) [1992, p.149-154, jpn] 47-2515

Study on sidewalk frost heave countermeasures—studies under different environmental conditions [1991, p.79-84, jpn] 47-2534

Mkrtchian, G.M.

Environmental protection in the North [1990, p.17-27, rus] 47-2455

Mo, K.C.

Global climate of September-November 1990: ENSO-like warming in the western Pacific and strong ozone depletion over Antarctica [1993, p.1375-1391, eng] 47-5213

Moe, A.

Future of Russian oil [1992, p.20-24, rus] 47-4874

Future of Soviet oil supplies to the West [1991, p.137-167, eng] 47-4867

Petroleum policy in the north [1991, p.211-231, eng] 47-4860

Moggridge, S.

Analysis of freeze-thaw cycles and rainfall on frozen soil at seven Canadian locations [1992, p.135-142, eng] 47-2612

Mohamed, A.M.O.

Chemical interaction and cyclic freeze-thaw effects on the integrity of the soil cover for Waite Amulet tailings [1993, p.259-272, eng] 47-4468

Proceedings [1993, 2078p. (2 vols.), eng] 47-4465

Mohan, S.

PASCON: an expert system for passive snow control on highways [1991, p.193-201, eng] 47-1803

Moilanen, L.

Preferential use of organic nitrogen for growth by a non-mycorrhizal Arctic sedge [1993, p.150-153, eng] 47-1597

Mokhov, I.I.

Some recent results of Russian measurements of surface ozone in Antarctica. A meteorological interpretation [1993, p.99-105, eng] 47-3531

Mokiev, V.V.

Regulating the thermal regime of soils in the northern taiga subzone of the Komi ASSR [1991, p.41-55, rus] 47-4106

Mol, J.

Periglacial microjointing and faulting in Weichselian fluvioaeolian deposits [1993, p.15-30, eng] 47-5005

Molau, U.

Reproductive ecology of *Saxifraga oppositifolia*: phenology, mating system, and reproductive success [1992, p.337-343, eng] 47-1590

Moldavanov, O.I.

Development of the fuel and electric power complex in the Far East of Russia [1992, p.26-29, rus] 47-369

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Clouds over both polar regions from the ISCCP pilot data sets [1988, p.137-140, eng] 47-4202

Molenkamp, C.R.

Numerical model of aerosol scavenging, part 1: microphysics parameterization [1991, p.575-590, eng] 47-2216

Numerical model of aerosol scavenging, part 2: simulation of a large city fire [1991, p.591-601, eng] 47-2217

Molgaard, J.

Study of the friction of ice—phase II [1990, 4p. + append., eng] 47-1356

Molina, M.J.

Heterogeneous interactions of ClONO2 and HCl on nitric acid trihydrate at 202 K [1992, p.7674-7679, eng] 47-1768

Mollerup, J.

Calculation of phase diagrams of gas-hydrates [1992, p.141-149, eng] 47-589

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Faint young sun paradox: simulations using a two-dimensional, seasonal radiative-dynamical climate model with thermodynamic sea-ice [1991, p.135-138, eng] 47-4482

Molokov, V.A.

Soil formation in mountain boreal forests of Siberia [1991, 151p., rus] 47-2284

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Study of the ice-forming properties of copper acetylacetonate with admixtures of a copper complex of acetoacetic ester [1991, p.44-48, rus] 47-93

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Fire beneath the ice [1993, p.104-107, eng] 47-1940

Monin, A.S.

Climatic changes in the Barents Sea area [1991, p.46-50, eng] 47-4252

Monosov, L.M.

Ice investigations for the proof of tidal power plant designs [1992, p.714-717, eng] 47-1865

Monson, R.K.

Adaptive significance of nitrogen storage in *Bistorta bistortoides*, an alpine herb [1992, p.578-585, eng] 47-2711

Montgomery, M.T.

Polar low dynamics [1992, p.37, eng] 47-2373

Polar low dynamics [1992, p.2484-2505, eng] 47-3673

Montpetit, M.J.

Integrated multi-sensor mission concepts for the Canadian ice community [1992, p.334-336, eng] 47-647

Moon, C.F.

Engineering geology of Quaternary soils: I. Processes and properties [1991, p.3-38, eng] 47-3868

Moore, J.C.

Dielectric properties of frozen clay and silt soils [1993, p.265-273, eng] 47-3930

Radar absorption due to impurities in antarctic ice [1993, p.1071-1074, eng] 47-4562

Sea salt dependent electrical conduction in polar ice [1992, p.19,803-19,812, eng] 47-2187

Moore, J.M.

Investigations in Martian geology. Part 1: Nature of the mantling deposit in the heavily cratered terrain of northeastern Arabia, Mars. Part 2: Experimental studies of clean and dust-or-sand covered ice sublimation under Mars-like conditions [1991, 179p., eng] 47-301

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Wetland properties of permafrost soils in Alaska [1992, p.198-205, eng] 47-3898

Moore, J.S.

Continuous 770-year record of volcanic activity from East Antarctica [1991, p.17,353-17,359, eng] 47-348

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Turbulent transports over tundra [1992, p.16,717-16,729, eng] 47-1466

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Far-IR study of irradiated amorphous ice: an unreported oscillation between amorphous and crystalline phases [1992, p.6500-6504, eng] 47-251

Identification and yield of carbonic acid and formaldehyde in irradiated ices [1993, p.5505-5510, eng] 47-3650

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Effects of freeze-up and melt processes on microwave signatures [1992, p.329-341, eng] 47-3031

Microwave remote sensing of the southern ocean ice cover [1992, p.243-259, eng] 47-3026

Moore, T.R.

Episodic fluxes of methane from subarctic fens [1992, p.441-452, eng] 47-3717

Response of a subarctic lake chain to reduced sewage loading [1992, p.1236-1245, eng] 47-1267

Moorhead, D.L.

Extracellular acid phosphatase activities in *Eriophorum vaginatum* tussocks: a modeling synthesis [1993, p.50-55, eng] 47-3428

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Characterization of massive ground ice at Yaya Lake, Northwest Territories using radar stratigraphy techniques [1993, p.23-32, eng] 47-3703

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Permafrost methane content: 1. Experimental data from sites in northern Alaska [1993, p.591-594, eng] 47-3437

Permafrost methane content: 2. Modeling theory and results [1993, p.595-607, eng] 47-3438

Morassutti, M.P.

Climate model sensitivity to sea ice albedo parameterization [1991, p.25-36, eng] 47-4640

Moreno, F.

Shear-induced folding in Arsia Mons aureole: evidence for low-latitude Martian glaciations [1992, p.11-22, eng] 47-3722

Moretti, B.

Mountain rescue by the Customs Service [1992, p.16-23, eng] 47-1318

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Wet-mix silica fume shotcrete: effect of silica fume form [1993, p.1251-1271, eng] 47-3614

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Stress history and vertical displacement matching for the pipeline at Caen, France subjected to frost heave [1993, p.34-47, eng] 47-4271

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Results of ozonesonde observations at Syowa Station in 1990 [1992, p.46-52, eng] 47-3004

Morison, J.H.

Autonomous Conductivity Temperature Vehicle: recent developments [1991, p.633-637, eng] 47-2181

Hydrography and vertical fluxes of heat and salt northeast of Svalbard in autumn [1993, p.10,013-10,024, eng] 47-4373

Internal waves and mixing in the Arctic Ocean [1992, p.S459-S484, eng] 47-1274

Numerical study of haline convection beneath leads in sea ice [1993, p.10,069-10,083, eng] 47-4377

Obtaining smooth hydrographic profiles from a buoy deployed in sea ice [1992, p.812-826, eng] 47-1472

Polar Ocean Profiler: a new generation of oceanographic and meteorological sensory platform [1991, p.627-632, eng] 47-2180

Polar Ocean Profiler: new generation sensor platform [1992, p.73-81, eng] 47-1060

Spatial variability in mixed layer properties measured under refreezing leads [1992, p.J53-J55, eng] 47-2415

Moritz, R.E.

Modeling the interactions of sea ice and climate in the central Arctic [1992, p.105-108, eng] 47-2393

Sampling the temporal variability of sea ice draft distribution [1992, p.B29-B38, eng] 47-3247

Seasonal and regional variability of sea ice thickness distribution [1992, p.68-71, eng] 47-2383

Simulation of the arctic climatology with the NCAR CCM-2 [1992, p.133-136, eng] 47-2400

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Frost heave and creep in the Sör Rondane Mountains, Antarctica [1992, p.271-280, eng] 47-1584

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Melting heat transfer along a horizontal heated tube immersed in a fluidized liquid ice bed [1993, p.353-359, eng] 47-4064

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Formation of a closure channel upon rupture of a frozen dam [1992, p.72-75, rus] 47-2032

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Temperature measurements in radiometry [1992, p.37-39, eng] 47-2944

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Physics-based models of snow [1991, p.85-112, eng] 47-1379

Response of large ice sheets to climatic change [1992, p.235-242, eng] 47-3143

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Estimation of 30 year average annual precipitation for SNOTEL sites in Idaho [1992, p.133-136, eng] 47-504

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Thermal performance of a residential dynamic wall [1992, p.229-234, eng] 47-1158
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Emissions of biogenic sulfur gases from Alaskan tundra [1992, p.16,703-16,707, eng] 47-1464
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Methane emissions from Alaska arctic tundra: an assessment of local spatial variability [1992, p.16,661-16,670, eng] 47-1460
Significance of stomatal control on methane release from *Carex*-dominated wetlands [1993, p.339-355, eng] 47-3435
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Glacier geophysical studies for an ice core site at "Taylor Dome" [1991, p.71-73, eng] 47-2469
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Icing of turbine intake louvers [1993, 37p., eng] 47-4095
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Modelling for ice-structure interactions [1993, p.119-125, eng] 47-4239
Morton, A.W.
Clamp for arctic pipeline support [1988, 4 col., eng] 47-3414
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Gardermoen Project, 1992-94. Introductory report. Literature review and project catalogue [1992, Var. p., eng] 47-2822
Moser, H.
Investigations of accumulation on the Filchner/Ronne Ice Shelf (Antarctica) using isotopic stratigraphy [1990, p.57-71, ger] 47-875
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Unusual case: backpack moves through a glacier [1992, p.219-220, eng] 47-1904
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Slope runoff in the Transural steppe region of Bashkiria [1991, p.77-80, eng] 47-796
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CO2, CH4 and N2O flux through a Wyoming snowpack and implications for global budgets [1993, p.140-142, eng] 47-1595
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Possibilities for studying the structure and the regime of Svalbard *tide water glaciers* by remote sensing methods [1991, p.151-161, eng] 47-30
Studies of the tidewater Hansbreen Glacier on Spitsbergen [1991, p.143-149, rus] 47-2805
Mosley-Thompson, E.
Paleoenvironmental conditions in *Antarctica since* A.D. 1500: ice core evidence [1992, p.572-591, eng] 47-2101
Tropical ice core paleoclimatic records, Quelccaya Ice Cap, Peru, A.D. 470 to 1984 [1992, 106p. + 5.25" floppy disk, eng] 47-839
Mosolov, A.B.
Flows of fractal-broken ice [1992, p.576-581, rus] 47-2036
Mosolova, A.I.
Structure-forming ability of the cold-tolerant soil bacteria *Pseudomonas* [1987, p.29-33, eng] 47-597
Motohashi, Y.
Snow removal device for vehicle [1989, 12 col., eng] 47-3324
Motoya, H.
Tests on improving the efficiency of rotary snowplows [1980, p.80-85, jpn] 47-4934
Tests on improving the efficiency of rotary snowplows [1981, p.27-34, jpn] 47-4935
Mott, R.J.
Pre-late Wisconsinan chronology of Nova Scotia, Canada [1992, p.185-206, eng] 47-2692
Quaternary stratigraphy, paleoecology, and glacial geology, Iles de la Madeleine, Quebec [1992, p.1981-1996, eng] 47-4157
Motyka, R.J.
Fumarolic gas chemistry (1982) and thermal spring water chemistry, Crater Peak (1985), Mount Spurr, Alaska [1993, p.31-40, eng] 47-4776
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Estimated inventory of *radionuclides in former Soviet Union* naval reactors dumped in the Kara Sea and their associated health risk [1993, p.105-118, eng] 47-5024
Mourad, P.D.
Experimental examination of growing and newly submerged sea ice including acoustic probing of the skeletal layer [1992, p.2075-2092, eng] 47-1125
Mowse, E.A.
Seismic characteristics of an airgun fired over snow [1993, p.201-207, eng] 47-2651
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Characteristics of synoptic processes in homogeneous groups of macro-changes *in the Arctic* [1989, p.43-52, rus] 47-3656
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Effect of competitive adsorption on polar stratospheric cloud reactions [1993, p.355-358, eng] 47-4140
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Effects of surfaces on the melting/freezing behavior of fluids in derivatized- and nude-porous silica [1993, p.121-126, eng] 47-4709
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Microwave remote sensing of random media using multiple scattering theory [1991, 244p., eng] 47-285
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Arctic pipeline risk assessments [1992, p.15-20, eng] 47-1831
Mudroch, A.
Geochemistry and organic contaminants in the sediments of Great Slave Lake, Northwest Territories, Canada [1992, p.10-19, eng] 47-3349
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SICAR: a program for semi-automated digitizing of composite ice charts [1991, p.33-41, eng] 47-3396
Mueller, J.G.
Effect of inoculation on the biodegradation of weathered Prudhoe Bay crude oil [1992, p.95-102, eng] 47-864
Mueller, M.
Tunnel kiln adapted for firing frost-resistant bricks in a reducing atmosphere [1988, 6 col., eng] 47-3420
Muench, R.D.
Acoustic Doppler current profiler observations of currents adjacent to refreezing leads [1992, p.J56-J59, eng] 47-2416
Muggeridge, D.B.
Ice pressures on vertical and sloping structures through dimensional analysis and similarity theory [1993, p.231-245, eng] 47-3927
Model ice forces on an upward breaking multifaceted cone [1993, 52p. + appends., eng] 47-3709
Mugnai, A.
Foundations for statistical-physical precipitation retrieval from passive microwave satellite measurements. Part 2: emission-source and generalized weighting-function properties of a time-dependent cloud-radiation model [1993, p.17-39, eng] 47-1995
Simulation of lidar depolarization by polar stratospheric clouds [1992, p.359-365, eng] 47-2170
Muhleman, D.O.
Mercury radar imaging: evidence for polar ice [1992, p.635-640, eng] 47-737
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Ice load measurements on board the MS *Kemira*, winter 1991 [1992, 26p. + appends., eng] 47-2583
Laboratory indentation tests with thick freshwater ice. Volume II [1992, 397p., eng] 47-2591
Muhs, D.R.
Last interglacial-glacial transition in North America: evidence from uranium-series dating of coastal deposits [1992, p.31-51, eng] 47-2682
Muir, D.C.G.
Arctic marine ecosystem contamination [1992, p.75-134, eng] 47-262
Selective accumulation of polychlorocamphenes in aquatic biota from the Canadian Arctic [1993, p.701-709, eng] 47-4629
Mukherjee, B.P.
Chemical constituents of two snow falls around Manali District, Kulu, *Himachal Pradesh* [1985, p.151-156, eng] 47-534
Estimation of stored water in the seasonal snow cover by ground surveys in the upper reaches of Beas basin during 1980 [1985, p.152-162, eng] 47-568
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Evaluation of superplasticizers in concrete [1989, p.625-644, eng] 47-67
New method for assessing frost damage in non-air entrained hydraulic structures [1992, p.339-355, eng] 47-2575
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Improving the effectiveness of drying gas in northern regions [1990, p.42-43, rus] 47-2476
Mulders, N.
High-resolution He-4 melting-pressure thermometer for use near 2 K [1992, p.113-116, eng] 47-2955
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Development of a field technique for measuring fresh water ice density [1992, p.203-212, eng] 47-4049
Icing of turbine intake louvers [1993, 37p., eng] 47-4095
Mull, C.G.
Organic-rich shale and bentonite in the *Arctic Creek unit*, Arctic National Wildlife Refuge: implications for stratigraphic and structural interpretations [1993, p.41-49, eng] 47-4777
Mullen, P.C.
Absorption of solar radiation at the *antarctic snow surface* [1988, p.151-152, eng] 47-4206
Muller, B.M.
Alternative representation of the ice canopy for calculating microwave brightness temperatures over a thunderstorm [1993, p.1006-1013, eng] 47-3567
Müller, D.
Effects of impulse waves on storage reservoirs [1992, p.96-100, ger] 47-1214
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Waste water reuse by freeze concentration with a falling film reactor [1992, p.1475-1482, eng] 47-1552
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Transport concept at the antarctic stations and for field operations of the Alfred Wegener Institute [1993, p.267-273, eng] 47-5115
Muller, P.
Antarctic snow cruiser [1993, p.63-64, eng] 47-2197
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On the potential importance of the gas phase reaction CH3O2 + ClO—ClOO + CH3O and the heterogeneous reaction HOCl + HCl—H2O + Cl2 in "ozone hole" chemistry [1992, p.1113-1116, eng] 47-1566
Müller, U.
Bénard convection in binary mixtures with Soret effects and solidification [1992, p.657-682, eng] 47-820
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Advances in antarctic surveying and mapping [1991, p.314-315, eng] 47-4675
Mulvaney, R.
Evidence for winter/spring denitrification of the stratosphere in the nitrate record of antarctic firn cores [1993, p.5213-5220, eng] 47-3785
Fractionation of sea salt and acids during transport across an antarctic ice shelf [1993, p.179-187, eng] 47-3535
Ratio of MSA to non-sea-salt sulphate in Antarctic Peninsula ice cores [1992, p.295-303, eng] 47-833
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Mumm, N.
Distribution of dominant copepods in the Nansen Basin, Arctic Ocean, in summer [1992, p.S485-S505, eng] 47-1275
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Dynamics of seasonal heat, moisture, and salt transfer in frozen ground [1991, p.47-51, rus] 47-4808
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Effect of severe storms on the ice cover of the northern Tatarskiy Strait [1992, p.17,753-17,764, eng] 47-1064
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Analysis of seismic and gravity studies on *the Siple Coast* [1991, p.63-65, eng] 47-2465
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Recharge area evaluation for Moonlight Springs, Nome, Alaska [1992, 69p. + 2 sheets, eng] 47-1487
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Relation between atmospheric and ice conditions along the Okhotsk Sea coast of Hokkaido [1992, p.41-46, jpn] 47-113
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Development and improvement of snow removal equipment at the Hokkaido Development Bureau [1985, p.93-97, jpn] 47-5160
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Ice crystal formation in cirrus cloud [1992, p.283-286, eng] 47-2268
Murakuni, M.
Current status and problems of road heating facilities for expressways [1985, p.27-33, jpn] 47-5164
On-site tests for dealing with roadside snowbanks by water sprinkling [1984, p.90-95, jpn] 47-5074
Tests on the basic characteristics of road surface freezing *deicers* [1985, p.69-74, jpn] 47-5157
Muramatsu, T.
Improvement and development of snow removal equipment at the Hokuriku Regional Construction Bureau [1985, p.112-119, jpn] 47-5092
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Analysis of sea ice compactness by image processing [1992, p.126-131, eng] 47-3012
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Geochemical study of atmospheric aerosols in Yakutsk [1993, p.4-9, eng] 47-3969
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Redistribution of moisture and cryogenic structural formation in freezing sapropel [1991, p.67-74, rus] 47-4812
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Solution of inverse heat conduction problems with phase changes by the mollification method [1992, p.45-57, eng] 47-265

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Analysis of strong wind events simulated in a GCM near Casey in the Antarctic [1993, p.522-534, eng] 47-3677

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Response of antarctic climate in general circulation model experiments with transiently increasing carbon dioxide concentrations [1992, p.209-218, eng] 47-3140

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Thin profile snow, sleet and moisture sensing detector [1987, 10 col., eng] 47-4102

Murphy, K.
Concepts and procedures for evaluation/design of materials and flexible pavements [1992, p.270-288, eng] 47-1138

Murray, J.L.
Synopsis of research conducted under the 1991/1992 northern contaminants program [1992, 213p., eng] 47-1147

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Impact of constituent ions of acid mist on assimilation and stomatal conductance of Norway spruce prior and post midwinter freezing [1993, p.135-142, eng] 47-2017

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Relationship between creep and fracture of ice [1991, p.355-369, eng] 47-2309

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Novel differential scanning calorimetric studies of supercooled organic liquids [1993, p.509-514, eng] 47-2605

Murthy, T.K.S.
Advances in ice technology: proceedings of the 3rd international conference [1992, 365p., eng] 47-1013

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Edge waves and ice ride-up on shorelines [1988, p.429-434, eng] 47-3819

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Circulation and hydrography in the northwestern Gulf of Alaska [1992, p.1499-1519, eng] 47-3817

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Evaluation of recycled asphalt pavements in cold climates [1990, 123p., eng] 47-1316

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Narew Gorge near Łomża and its role as fragment of the Warsaw-Berlin ice-marginal valley (north-eastern Poland) [1987, p.97-109, eng] 47-2770

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CO2, CH4 and N2O flux through a Wyoming snowpack and implications for global budgets [1993, p.140-142, eng] 47-1595

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Large isotope effect due to quantum tunneling in the conversion reaction of electrons to H and D atoms in irradiated H2O/D2O ice [1992, p.5211-5213, eng] 47-1937

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Design method for frozen-soil retaining wall [1992, p.73-89, eng] 47-3

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Comparison of cartridge and membrane solid-phase extraction with salting-out solvent extraction for preconcentration of nitroaromatic and nitramine explosives from water [1992, 31p., eng] 47-2232

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Ice-pavement bond prevention: fundamental study [1992, 102p., eng] 47-881

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Case studies of the atmospheric boundary layer structure over sea ice for weakly unstable conditions [1992, p.93-99, eng] 47-266

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Boolean delay equation model of an interdecadal arctic climate cycle [1993, p.241-246, eng] 47-4354

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Sensitivity study of a dynamic thermodynamic sea-ice model [1992, p.91-93, eng] 47-2389

Sensitivity study of a dynamic thermodynamic sea ice model [1993, p.2561-2586, eng] 47-2626

Simple coupled steady-state arctic ice-ocean model [1988, p.87-88, eng] 47-4189

Nadolski, V.L.
ASOS sensor performance—an update [1993, p.358-362, eng] 47-3074

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Development of a reverse blade type, shear-pinless device for a snow removal grader [1992, p.1-21, jpn] 47-4973

Tests on developing a device to modify the blade cutting edge of road maintenance equipment [1991, p.51-56, jpn] 47-4969

Tests on developing snowplows with a variable curved surface [1991, p.25-50, jpn] 47-4968

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Grain-size distribution of the Edoma deposits on Cape Bykovskiy [1993, p.104-109, eng] 47-3981

Nagata, N.
Winter road traffic sensors [1993, p.9-12, jpn] 47-4785

Nagata, Y.
Seasonal sea-level variation at Syowa Station [1992, p.165-169, eng] 47-135

Snow and ice operations in the mountains and highways of Chugoku [1986, p.85-92, jpn] 47-5185

Nagel, P.A.
Results of the Third Joint US-USSR Bering & Chukchi Seas Expedition (BERPAC), Summer 1988 [1988, 415p., eng] 47-3864

Nagi, M.
Freeze-thaw durability of lightweight carbon fiber reinforced cement composites [1992, p.491-494, eng] 47-2548

Nagle, J.A.
Comparison of millimeter-wave radar observations of snow with energy and mass transfer simulation [1992, p.815-817, eng] 47-658

Nagler, T.
Development and intercomparisons of snow mapping algorithms based on SSM/I data [1992, p.812-814, eng] 47-657

Snow and glacier investigations by ERS-1 SAR—first results [1993, p.577-582, eng] 47-4445

Nagurnyi, A.P.
Recent tendencies in climatic changes in the Arctic [1992, p.865-868, rus] 47-237

Space and time variability of temperature inversion in the lower troposphere of the Arctic [1991, p.1110-1113, rus] 47-2034

Naida, A.S.
Sediment inventory of Cs-137 in the Eastern Chukchi Sea, Northwest Alaskan Arctic [1993, p.37-47, eng] 47-5019

Naito, G.
Turbulent structure of wind flow over ice-covered sea surface [1992, p.283-294, eng] 47-1192

Naito, Y.
Report on the 31st JARE wintering party at Syowa Station [1991, p.43-46, jpn] 47-3627

Nakagawa, K.
Estimation of surface albedo distribution in Lützow-Holm Bay and its neighborhood with NOAA/AVHRR data [1992, p.1-15, eng] 47-3001

Nakagawa, M.
Experiments on ice-sphere flows along an inclined chute [1992, p.123-129, eng] 47-2126

On the interannual variation in sea ice area of the Okhotsk Sea [1992, p.30-33, jpn] 47-110

Simulations of rapid bimodal granular flows [1992, p.131-140, eng] 47-2127

Variation in sea ice area of the Okhotsk Sea and its relationship to the global change in atmospheric circulation [1992, p.34-36, jpn] 47-111

Nakai, N.
Current status and development of snow removal equipment [1986, p.27-32, jpn] 47-5177

Nakai, S.
Radar echo morphology and airflow influenced by a mountain range in winter monsoon period—a case of cold frontal precipitation [1992, p.1-23, jpn] 47-3294

Nakajima, J.
Performance tests on the 10t class B-B-D snow removal truck [1991, p.74-91, jpn] 47-4972

Tests on improving the efficiency of snow removal equipment on snow removal trucks [1991, p.205-210, jpn] 47-2524

Tests on snow removal trucks [1987, p.35-56, jpn] 47-4957

Tests on snow removal trucks [1990, p.36-67, jpn] 47-4966

Nakajima, M.
Newly developed snow vehicle (SM100S) for Antarctica. 2. Design of the system [1992, p.376-392, jpn] 47-3364

Newly developed snow vehicle (SM100S) for Antarctica. 3. Low temperature toughness of the welded joints of the structural steel [1992, p.393-397, jpn] 47-3365

Nakajima, T.
Low-temperature characteristics of some industrial-grade platinum resistance thermometers [1992, p.443-448, eng] 47-2980

Nakamura, H.
Estimation of snowfall intensity on measurements of total snow weight using a pressure pillow [1992, p.115-122, jpn] 47-3296

Oceanographic data of the 32nd Japanese Antarctic Research Expedition from November 1990 to March 1991 [1993, 50p., eng] 47-3620

Sea ice observation in the Arctic Ocean (I) [1992, p.83-97, jpn] 47-3295

Turbulent structure of wind flow over ice-covered sea surface [1992, p.283-294, eng] 47-1192

Nakamura, M.
Recycling of scrap wood for cold region asphalt pavements—subgrade stabilization by the central plant method [1991, p.51-56, jpn] 47-2533

Nakamura, N.
Study on the improvement of the airport functions in cold regions (Part 1) [1992, p.145-149, jpn] 47-132

Tests on rotary snow removal machinery [1988, p.82-119, jpn] 47-4962

Nakamura, O.
Reliability of snow removal equipment [1986, p.39-45, jpn] 47-5179

Nakamura, T.
Outline of the network information systems on snow in Japan and the keys of the information system [1992, p.233-250, jpn] 47-3302

Roof snow observation and application to house construction [1992, p.81-92, eng] 47-3190

Sea ice observation in the Arctic Ocean (I) [1992, p.83-97, jpn] 47-3295

Shinjo Branch of the National Research Center for Disaster Prevention Science and Technology [1985, p.53-60, jpn] 47-5100

Nakanishi, I.
Near-real-time data distribution plan of ADEOS data [1992, p.249-253, jpn] 47-144

Nakanishi, J.
Mechanical snow removal operations on temporary two-lane sections [1985, p.67-71, jpn] 47-5171

Nakano, T.
Wind tunnel experiments for building the snow shelter at Nita in Teshikagacho on National Highway 243 [1985, p.53-62, jpn] 47-4951

Wind tunnel experiments on snow countermeasures for the Sarakitomanai district in Wakkanai on National Highway 40 [1986, p.55-64, jpn] 47-4952

Wind tunnel experiments on snow countermeasures for the stretch of National Highway 5 between the Hanaura section of Yakumocho and the Toyono section of Oshamanbecho [1987, p.17-28, jpn] 47-4955

Wind tunnel experiments on snow countermeasures in the Kaigen district of Toyotomicho on National Highway 40 [1988, p.56-71, jpn] 47-4960

Wind tunnel experiments on snow fences for the Sokotai district on National Highway 241 [1988, p.72-81, jpn] 47-4961

Wind tunnel experiments on the construction of the interchange in Ebetsu on National Highway 337 (Part 1) [1987, p.29-34, jpn] 47-4956

Nakano, Y.
Introduction of rainwater infiltration facilities in cold regions [1992, p.213-218, jpn] 47-2506

Snow removal equipment with an emergency water pump [1991, p.145-150, jpn] 47-2519

Nakashima, K.
Heat of transport of water [1991, p.1134-1135, eng] 47-916

Nakata, N.
Method of efficient ice cool energy storage using heat transfer of direct contact phase change between working medium and PCM in an enclosure [1989, p.469-475, eng] 47-914

Nakata, T.
Three-dimensional numerical simulation of snowdrift [1992, 13p., eng] 47-942

Nakato, T.
Unconventional energy sources for ice control at lock and dam installations [1992, 37p., eng] 47-697

Nakawo, M.
Studies of icing on road surface in snowy region [1992, p.169-191, jpn] 47-3300

Nakayama, E.
Atmospheric conditions reflected in chemical components in snow over east Queen Maud Land, Antarctica [1992, p.88-98, eng] 47-3009

Nakayama, M.
Study and design of countermeasures for blowing snow [1985, p.96-101, jpn] 47-5090

Nakayama, T.
Measurement of methane flux in Tiksi, Siberia [1993, p.110-112, eng] 47-3982

Nakazawa, Y.
Experimental study of melting of ice about horizontal cylinders [1991, p.269-274, eng] 47-2557

Naiponis, P.
Saltating particles over flat beds [1993 p.661-685. eng] 47-5195

Nam, J.C.
Study on the meteorological characteristics over King Sejong Station, Antarctica during 1990 [1991. p.63-70. kor] 47-1571

Nangraves, J.
Electromagnetic communications through the seawater-ice-air interface [1991. p.638-644. eng] 47-2182

Nardone, M.
Brillouin and Raman scattering from liquid water [1992. p.287-299. eng] 47-1377

Narita, H.
Continuous 770-year record of volcanic activity from East Antarctica [1991. p.17,353-17,359. eng] 47-348

Narita, S.
Friction coefficient between model ice and roughened model surface [1992. p.131-137. jpn] 47-130

Narozhnyi, Yu.K.
Mass balance of the Altay glaciers and its climatic causes [1991. p.107-116. rus] 47-328

Narumi, A.
Measurement and visualization of cooling and freezing processes of water between the horizontal concentric cylinders [1991. p.391-398. eng] 47-2563

Nasiund, J.O.
Deglaciation and shoreline displacement on Alexandra Land, Franz Josef Land [1992. p.283-293. eng] 47-4340

Nasser, K.W.
Resistance of fly ash concrete to freezing and thawing [1993. p.205-226. eng] 47-3607

Nassichuk, W.W.
Submarine cements and fabrics in Carboniferous to Lower Permian, reefal, shelf margin and slope carbonates, northwestern Ellesmere Island, Canadian Arctic Archipelago [1990. 77p.. eng] 47-4365

Nastaj, J.
Mathematical *modelling of heat transfer in freeze drying* [1991. p.405-413. eng] 47-2305

Natarajan, A.
Effects of surfaces on the melting/freezing behavior of fluids in derivatized- and nude-porous silica [1993. p.121-126. eng] 47-4709

Natarajan, T.K.
Construction techniques for expedient air strips in snowbound regions [1985. p.293-317. eng] 47-580

National Committee on Climate and Glaciers
How to measure a glacier [1991. p.6-7. eng] 47-179

National Snow and Ice Data Center. World Data Center-A for Glaciology
Annual report 1992 [1992. 45p. eng] 47-1494

National Symposium on Seasonal Snow Cover, New Delhi, India, Apr. 28-30, 1983
Proceedings [1985. 2 vols.. eng] 47-523

NATO Advanced Research Workshop on The Last Deglaciation: Absolute and Radioactive Chronologies, Erice, Sicily, Dec. 9-13, 1990
Proceedings [1992. 344p.. eng] 47-3555

Naumov, A.IA.
Investigation of cirrus microstructure on May 15, 1989 [1992. p.714-724. eng] 47-3157

Naumov, E.M.
Experience in compiling the soil-ecological and soil conservation maps of circumpolar regions of north-east Eurasia [1992. p.98-104. eng] 47-1711

Naumova, N.S.
Mass transfer in freezing saline soils [1992. p.115-122. eng] 47-1715

Navada, S.V.
Short review on the potentialities of isotope techniques in snow hydrology [1985. p.144-150. eng] 47-567

Nawrocki, W.
Signal filtering in SQUID noise thermometers [1992. p.989-991. eng] 47-2990

Nayak, G.
Novel differential scanning calorimetric studies of supercooled organic liquids [1993. p.509-514. eng] 47-2605

Nayak, S.K.
Novel differential scanning calorimetric studies of supercooled organic liquids [1993. p.509-514. eng] 47-2605

Nazarenko, D.M.
Operational utility of satellite passive microwave imagery in supporting Canadian regional sea ice monitoring [1991. p.47-52. eng] 47-3397
Synoptic scale ice-atmosphere interaction off the east coast of Canada [1990. 158p.. eng] 47-2105

Nazarov, I.I.
Evaluating the possible application of pneumohydraulic equipment to lower water temperature at the Krasnoyarsk hydroelectric power plant outlet in winter [1991. p.77-80. rus] 47-2029
Observations of large-size river water temperature and accuracy of hydrothermal calculations [1991. p.95-98. eng] 47-4924

Neale, P.J.
Variation of the fluorescence quantum yield in relation to photosynthesis by phytoplankton from perennially ice-covered Lake Bonney [1991. p.228-230. eng] 47-3053

Nechaev, V.P.
Estimating permafrost zone dynamics in northern Eurasia *under global climatic warming* [1992. p.667-671. rus] 47-2037
New reports theorizing on the periglacial zone and historical geocryology [1982. p.113-119. rus] 47-1246

Nedeljkovic, D.
Rotational Raman lidar to measure the atmospheric temperature from the ground to 30 km [1993. p.90-101. eng] 47-3357

Neelin, J.D.
Sea-ice interaction with the thermohaline circulation [1993. p.217-220. eng] 47-2859
Self-sustained interdecadal oscillation in the coupled sea ice-thermohaline circulation system [1992. p.80-82. eng] 47-2386

Neff, W.D.
On the influence of stratospheric stability on lower tropospheric circulations over the South Pole [1992. p.115-120. eng] 47-2396
Synoptic influence on inversion winds at the South Pole [1992. p.J24-J28. eng] 47-2409

Neidanov, G.
Cs-137 contamination of sea water surrounding the "Komsomoletz" nuclear submarine [1993. p.119-133. eng] 47-5025

Neklisdov, V.S.
Multifunctional combined foundations on permafrost soils [1993. p.164-167. eng] 47-3576

Nekrasov, V.A.
Study of naleds by skiers with a high level of athletic skill while traversing courses [1991. p.137-145. rus] 47-2439

Nekrasov, V.G.
Technological scheme for removing impurities from biogas [1990. p.30-31. rus] 47-2475

Nelson, C.M.
Reaction of chlorine nitrate with protonated water clusters: a model for heterogeneous reactions on polar stratospheric clouds [1992. p.6112-6115. eng] 47-248

Nelson, D.F.
Kinematic model of river ice motion during dynamic breakup [1993. p.111-134. eng] 47-4907

Nelson, D.M.
Silica cycle in the antarctic ocean: is the Weddell Sea atypical [1993. p.1-15. eng] 47-4574

Nelson, F.E.
Palsa-scale frost mounds [1992. p.305-325. eng] 47-857
Permafrost zonation in Russia under anthropogenic climatic *change* [1993. p.137-148. eng] 47-4149
Spectral signature of coupled flow in the refreezing active layer, northern Alaska [1992. p.273-284. eng] 47-709

Nelson, R.E.
Preliminary interpretation of vegetation and paleoclimate in northern Alaska during the late Pliocene Colvillian marine transgression [1992. p.219-222. eng] 47-619

Nelson, R.J.
Nevada takes close look at *CMA efficacy* [1992. p.32-34. eng] 47-1945

Nelson, W.O.
Geochemistry of Quebec North Shore salmon rivers during snowmelt: organic acid pulse and aluminum mobilization [1992. p.1938-1952. eng] 47-2659

Nemchinov, G.A.
EO-4124A and EO-4125A multipurpose backhoe excavators [1991. p.2-4. rus] 47-2065

Nenonen, K.
Till stratigraphy and glacial history of the Vestfold Hills area, East Antarctica [1993. p.81-95. eng] 47-4753

Nesje, A.
Modern and *Little Ice Age equilibrium-line altitudes on outlet* valley glaciers from Jostedalsbreen, western Norway: an evaluation of different approaches to their calculation [1993. p.106-116. eng] 47-4743
Topographical effects on the equilibrium-line altitude on glaciers [1992. p.383-391. eng] 47-447
What were the primary forcing mechanisms of high-frequency Holocene climate and glacier variations [1992. p.79-84. eng] 47-53

Neth, V.
First-year sea ice forces on a mobile arctic caisson in the Beaufort Sea [1991. 3p.. eng] 47-1365

Nettleton, D.H.
Absolute spectral radiation thermometry at the National Physical Laboratory [1992. p.41-45. eng] 47-2945

Neuvonen, S.
Seed bank composition in a subarctic pine-birch forest in Finnish Lapland: natural variation and the effect of simulated acid rain [1993. p.379-384. eng] 47-4583

Nevolainen, N.I.
Effective method of building foundations for structures on *permafrost* [1991. p.16-17. rus] 47-2487

Nevskii, S.D.
Effectiveness of anti-naled measures during road building [1991. p.214-218. rus] 47-2450
Mathematical model for qualitative analysis of naleds [1991. p.95-103. rus] 47-2433

Nevzorov, A.N.
Observations of the initial stage of ice phase evolution in supercooled clouds [1992. p.69-76. eng] 47-3458

New class of arctic supply ship for the Soviet Union
New class of arctic supply ship for the Soviet Union [1988. p.141. eng] 47-2933

New Kotoni snow removal channel
New Kotoni snow removal channel [1992. n.p. (brochure). jpn] 47-4797

New multipurpose icebreaker proves Finnish shipbuilding know-how
New multipurpose icebreaker proves Finnish shipbuilding know-how [1992. p.42,44. eng] 47-3138

New propulsion system for a multi-purpose icebreaker
New propulsion system for a multi-purpose icebreaker [1993. p.50-51. ger] 47-2150

Newbury, S.
Experimental and theoretical evaluation of hydrodynamic *pressure during non-contact propeller/ice interaction* [1993. 10p.. eng] 47-4864
Kinetic coefficient of friction measurements of EG/AD/S ice on filled Imron paint [1991. 33p. + append.. eng] 47-1340
Modelling techniques for icebreaking hull forms [1991. 18p. + append.. eng] 47-1343
Repeatability of resistance experiments in ice with a 1:20 scale *model of the Canadian* R-class icebreaker [1992. 7p.. eng] 47-1349

Newcomb, D.E.
Field testing of a model for water flow and heat transport in variably saturated, variably frozen soil [1991. p.300-308. eng] 47-1128

Newcomer, E.S.
TAPS reroute meets schedule, beats cost estimate [1992. p.49-57. eng] 47-823

Newell, J.P.
Coastal influences on winter precipitation events in southeast Labrador [1992. p.107-114. eng] 47-4039
Forecasting sea ice clearing in the Labrador Sea [1992. *p.313-323. eng*] 47-1038

Newman, P.
Stratospheric meteorological conditions in the Arctic polar vortex, 1991-1992 [1993. p.1143-1146. eng] 47-5137

Newton, G.
Accuracy of submarine ice draft measurements [1992. p.B22-B24. eng] 47-3245

Newton, J.
Accuracy of submarine ice draft measurements [1992. p.B22-B24. eng] 47-3245

Ng, H.Y.F.
Sensitivity of streamflow simulation to changes in climatic inputs [1992. p.257-272. eng] 47-3802

Nghiem, S.V.
Effective permittivity of saline ice under thermal variation [1992. p.1256-1258. eng] 47-674
Polarimetric emission from anisotropic media for passive remote sensing of sea ice [1992. p.966-968. eng] 47-666
Polarimetric remote sensing of sea ice in the Beaufort Sea [1992. p.972-974. eng] 47-668

Ngoh, M.A.
Temperature dependence of (nu)3 and (nu)4 bandwidths and *complex refractive indices for crystalline methane* [1993. p.5511-5515. eng] 47-3651

Nguyen, T.H.
Heat transfer from a heated cylinder buried in a frozen porous medium in an enclosure with a cooled top surface [1992. p.457-475. eng] 47-5264
Onset and evolution of penetrative convection during the melting process in a porous medium [1992. p.381-392. eng] 47-4708

Nichol, S.E.
1991 ozone hole [1992. p.303-309. eng] 47-2165
Total ozone measurements from Scott Base, Antarctica with a Dobson and a Brewer spectrophotometer [1992. p.469-475. eng] 47-2173

Nicholas, J.W.
Rock glaciers and the Holocene paleoclimatic record of the La Sal Mountains, Utah [1992. 208p.. eng] 47-278

Nicholls, K.W.
Extending the antarctic meteorological record using ice-sheet temperature profiles [1993. p.141-150. eng] 47-2462
Radar absorption due to impurities in antarctic ice [1993. p.1071-1074. eng] 47-4562

Nichols, A.B.
Global *warming: myth or reality* [1990. p.48-55. eng] 47-1698
Prince William Sound starts to recover [1990. p.48-55. eng] 47-1697

Nickless, R.C.
Predicting snow melt and streamflow volumes in the Arkansas River basin of Colorado [1992. p.137-140. eng] 47-505

Nickolayev, O.Y.
Failure envelopes and the ductile to brittle transition in columnar saline ice under biaxial compression [1993. p.61-69. eng] 47-3742

Nicol, M.F.
Ammonia-water mixtures at high pressures: melting curves of ammonia dihydrate and ammonia monohydrate and a revised high-pressure phase diagram for the water-rich region [1991. p.603-610. eng] 47-4635

Nicollin, F.
HF bi-phase shift keying radar: application to ice sounding in western Alps and Spitsbergen glaciers [1992, p.1025-1033, eng] 47-1260
Radar sounding of a temperate glacier: modelling and interpretation [1992, p.278-280, eng] 47-645
Nieber, J.L.
Field testing of a model for water flow and heat transport in variably saturated, variably frozen soil [1991, p.300-308, eng] 47-1128
Nield, D.A.
Some geophysical problems involving convection in porous media [1991, p.985-1006, eng] 47-2862
Nielsen, A.
Validation of mass transfer calculations [1992, p.37-47, eng] 47-3450
Nielsen, E.
Hudson Bay lowland Quaternary stratigraphy: evidence for early Wisconsinan glaciation centered in Quebec [1992, p.207-221, eng] 47-2693
Nielsen, N.
Boulder beach formed by waves from a calving glacier, Eqip Sermia, West Greenland [1992, p.159-168, eng] 47-226
Nielsen, P.
Cloud induced limitations to satellite based sea ice mapping. The Greenland Sea, August-September 1981-89 [1991, p.263-276, eng] 47-3390
Nieman, S.J.
Multiyear surface climatology of a regional atmospheric model over the western United States [1993, p.75-95, eng] 47-2460
Nieminen, J.
Low energy small house 50°c. Experimental house research [1992, 39p. + appends., fin] 47-2584
Transparent insulations. Cold-region application [1992, 32p., eng] 47-4619
Nies, H.
Temporal evolution of artificial radioactivity in the North and Baltic Sea after the reduction of the Sellafield discharges and the Chernobyl accident [1993, p.225-236, eng] 47-5033
Niessen, A.
Altitudinal zonation of selected geomorphological phenomena in an alpine periglacial area (Abisko, northern Sweden) [1992, p.183-196, eng] 47-4327
Niigata Prefecture Civil Engineering Department
Current status and countermeasures in isolated communities [1984, p.69-74, jpn] 47-5070
Wrestling with the problem of studded tires [1985, p.77-82, jpn] 47-5087
Niiler, P.P.
Ocean circulation [1992, p.117-148, eng] 47-4498
Niimi, M.
Method of efficient ice cool energy storage using heat transfer of direct contact phase change between working medium and PCM in an enclosure [1989, p.469-475, eng] 47-914
Nijampurkar, V.N.
Investigations of *Himalayan glaciers using radioactive and* stable isotopes: a review [1985, p.174-179, eng] 47-570
Nikitenko, N.I.
Numerical modeling of heat transfer in irregular solidification of a liquid [1993, p.519-528, eng] 47-3800
Nikitin, A.
Radioactive contamination of the Barents and Kara seas [1993, p.157-168, eng] 47-5028
Nikitin, V.A.
Electromagnetic emissions associated with dynamic processes in ice [1992, p.43-46, eng] 47-414
In-situ stress measurements in a fast ice and possible tidal loads on structures [1992, p.696-702, eng] 47-1862
Stresses and forces under ice compacting [1993, p.139-142, eng] 47-4299
Nikitina, L.G.
Selecting a current for melting glaze [1992, p.46-49, rus] 47-2360
Nikolaev, S.IU.
Experiment in formulating short term numerical ice forecasts for the southwestern Kara Sea [1990, p.98-104, rus] 47-3595
Nikolaev, V.I.
Discovery of ice massifs in Late Pleistocene sediments in the Ural coast of Baydaratskaya Guba [1991, p.227-228, rus] 47-345
Isotopic pleiad of oxygen in atmospheric precipitation in the *polar regions* [1991, p.109-112, rus] 47-2796
[Response of authors to commentary on their "Reconstruction of the Holocene climate from the results of ice core studies on the Vavilov Dome, Severnaya Zemlya"] [1991, p.233-236, rus] 47-2817
Nikolenko, A.V.
Studies of the relationship of thermophysical properties of ice to hydrostatic pressure and temperature [1991, p.22-27, rus] 47-2784
Nikonov, S.A.
Tropospheric aerosol and climate: results from numerical experiments employing a three-dimensional seasonal energy-balance model [1991, p.253-257, eng] 47-2896
Nikonov, V.
Arctic supply ship *Ivan Papanin* [1992, p.26-30, rus] 47-2915
Nilsen, J.
Growth and development of northern forest trees as affected by temperature and light [1993, p.43-57, eng] 47-4528
Nilson, R.H.
Freezing flow in a subcooled permeable medium [1992, p.1036-1041, eng] 47-1672
Nilsson, J.E.
Cold acclimation of *Pinus sylvestris* and *Pinus contorta* provenances as measured by freezing tolerance of detached needles [1992, p.309-315, eng] 47-2295
Selection and breeding of Scots pine for northern Sweden [1993, p.321-332, eng] 47-4546
Nimaeva, S.Sh.
Cryogenesis and functioning of microbial communities in soil of Zabaikalye areas [1992, p.199-203, eng] 47-1729
Ninomiya, H.
Estimating methods of anti-freezing effect on pavements *mixed with deicing agent by dielectric pavement freezing* detector [1992, 9p., eng] 47-957
Test characteristics of admixtures compounded with antifreezes—crack rate, various characteristics, and chloride solution content [1992, p.155-160, jpn] 47-2516
Test characteristics of asphalts with antifreeze admixtures [1991, p.91-96, jpn] 47-2536
NIPR Symposium on Polar Meteorology and Glaciology, 14th, Tokyo, July 9-10, 1991
Proceedings of the NIPR Symposium on Polar Meteorology and Glaciology, No.6 [1992, 167p., eng] 47-3000
Nishikata, M.
Road snow removal in Nagaoka in the snow belt [1985, p.29-32, jpn] 47-5096
Nishimura, K.
Experiments on ice-sphere flows along an inclined chute [1992, p.123-129, eng] 47-2126
Nishimura, T.
Double-diffusive convection during *solidification of a binary* system [1992, p.586-600, eng] 47-3514
Visualization of temperature and flow fields using liquid crystals in the fluid regime during various solidification processes [1992, p.456-460, eng] 47-4393
Nishio, F.
MOS-1 multi-sensor data set and sea ice study [1991, p.277-287, eng] 47-3391
Multi-sensor data set and sea ice study [1992, p.272-276, jpn] 47-148
Sketch on West Germany antarctic station [1991, p.14-21, jpn] 47-405
Nishio, S.
Mechanical properties of undisturbed Tone River gravel obtained by *in situ* freezing method [1992, p.15-25, eng] 47-1190
Nishiue, H.
Building snowproof cities (Aomori City) [1986, p.9-12, jpn] 47-5176
Study on providing pedestrian space in snowy regions [1985, p.58-62, jpn] 47-5155
Nishnevich, E.L.
Snow removing equipment for a multipurpose motor vehicle chassis [1991, p.14-15, rus] 47-2062
Nissen, J.A.
Low temperature system for advanced thermal control [1992, p.949-952, eng] 47-2987
Thermometry in the thermodynamic limit [1992, p.1213-1218, eng] 47-2996
Nitz, B.
Mountain structure and glaciation of the Caucasus Mountains [1990, p.242-251,270, ger] 47-3793
Niu, J.
Prediction of ice failure by micromechanics [1993, p.35-47, eng] 47-3740
Niu, Y.Q.
Small vertical supercooled cloud tunnel system for the study of ice (snow) crystal growth [1992, p.254-262, eng] 47-4074
Nixdorf, U.
Anomalous focal mechanisms: tension faults studied with seismological and geodetical means on the Ekström Ice Shelf north of the Georg-von-Neumayer Station, Antarctica [1992, 101p., ger] 47-1437
Nixon, C.J.
Forest trials at high elevations in Britain [1993, p.475-489, eng] 47-4557
Nixon, J.F.
Discrete ice lens theory for frost heave beneath pipelines [1992, p.487-497, eng] 47-416
New frost heave prediction method for design of northern *pipelines* [1992, p.32-39, eng] 47-1833
Nixon, W.A.
Elastic analysis of stresses in ice structure interactions [1993, p.83-88, eng] 47-4234
Fatigue crack propagation in freshwater ice Final report [1993, 42p., eng] 47-4898
Field testing of new cutting edges for ice removal from pavements [1992, 10p., eng] 47-953
Model study of cable-moored conical platform [1993, p.12-31, eng] 47-4284
Preliminary experiments on creep crack growth in freshwater ice [1993, p.273-280, eng] 47-3760
Proceedings. Vol.4. Arctic/polar technology [1993, 219p., eng] 47-4223
Nizamuddin, S.
Hail occurrences in India [1993, p.90-92, eng] 47-2709
Niziol, T.A.
Look at lake effect snow cloudbands with satellite imagery [1992, p.235-242, eng] 47-4053
Use of high resolution data from the Nested Grid Model for the prediction of lake-effect snows [1992, 11p., eng] 47-2138
Use of high resolution data from the nested grid model for the prediction of lake-effect snows [1992, p.89-99, eng] 47-4037
Noël, M.M.
Laboratory and field performance of high alumina cement based grout for piling in permafrost [1991, p.421-429, eng] 47-2228
Noguchi, K.
Oceanographic data of the 32nd Japanese Antarctic Research Expedition from November 1990 to March 1991 [1993, 50p., eng] 47-3620
Nohara, T.
Study on sidewalk frost heave countermeasures (second report) [1992, p.149-154, jpn] 47-2515
Study on sidewalk frost heave countermeasures—studies under different environmental conditions [1991, p.79-84, jpn] 47-2534
Study on snow fences [1984, p.96-100, jpn] 47-5075
Nohira, K.
Shock absorption for the KBR-80 compact snowplow [1980, p.23-30, jpn] 47-4929
Noland, J.
Apparatus and method for *low temperature thermal stripping* of volatile organic compounds from soil and waste materials with non-oxidative cross-sweep gases [1993, 12 col., eng] 47-3904
Nolin, A.W.
Estimating snow grain size using AVIRIS data [1993, p.231-238, eng] 47-3919
Noll, R.S.
Miscellaneous water quality and stream flow data from the Gold Creek drainage basin, Juneau, Alaska [1992, 32p., eng] 47-4767
Summary of water-use data in Alaska, 1991 [1992, 5p. + appends., eng] 47-4764
Nölle, H.
Nonsymmetric icing of guyed masts [1991, 10p., eng] 47-5012
Noon, C.G.
Simplified numerical solution of the Miller model of secondary frost heave [1993, p.327-336, eng] 47-5204
Noone, K.B.
In situ observations of cirrus cloud microphysical properties using the counterflow virtual impactor [1993, p.294-303, eng] 47-3773
Norbury, D.
Solifluction shears at Carsington, Derbyshire [1991, p.381-387, eng] 47-3890
NORDCO Limited
2-D simulation of rigid body motion in mush ice [1990, 32p. + appends., eng] 47-1374
Report on resistance tests of model *Polarstern* in the ice tank [1990, 8p. + appends., eng] 47-1373
Nordell, O.K.
Performance of mountain birch in different environments in *Sweden and Iceland: implications for afforestation* [1993, p.79-88, eng] 47-4531
Nordic Expert Meeting on River Ice, Espoo, Finland, Nov. 2-4, 1987
Proceedings [1988, 243p., eng] 47-716
Nordic Seminar on Evapotranspiration Models for Simulating Climate Change Impact on the Catchment Water Balance, Vettre Hotel, Asker, Norway, Mar. 16-17, 1992
Climate change and evapotranspiration modelling [1992, 160p., eng] 47-2122
Nordic Workshop, Linköping, Sweden, Nov. 9-10, 1992
Use of digital geographical databases in hydrological modelling [1993, 158p., eng] 47-2830
Nordisk hydrologisk konferanse, Alta, Norway, Aug. 4-6, 1992
Nordic Hydrological Conference 1992 [1992, 757p., nor] 47-1954
Nordli, P.Ø.
Effect of water course regulation on the local climate [1992, p.497-505, nor] 47-1974
Temperature and precipitation series at Norwegian arctic meteorological stations [1990, 14p., eng] 47-1917
Nordström, O.
Effects of studded tyres: *consequences of amended regulations* [1992, 53p. + appends., swe] 47-1217
Nordstrom, P.A.
Beaufort Sea Ice-1: selected SAR results [1992, p.131-133, eng] 47-641
Normant, E.
Constraints on the repetitivity of the orbit of an altimetric satellite: estimation of the cross-track slope [1993, p.410-419, eng] 47-3774

Norrman, B.
Effects of antarctic sea ice biota on seeding as studied in aquarium experiments [1992, p.333-339, eng] 47-1333

Norstrom, R.J.
Arctic terrestrial ecosystem contamination [1992, p.135-164, eng] 47-263

Nortala-Holkkanen, A.
First year ice ridge characteristics and loads on offshore structures [1992, p.681-687, eng] 47-1860

North, G.R.
New parameterizations and sensitivities for simple climate models [1993, p.5025-5036, eng] 47-3783

Northern Intercity Conference Committee. Winter Urban Environmental Research Subcommittee
Harmony between road management and environment in winter [1992, 44p., eng] 47-4780

Norton, D.C.
Great Lakes air temperature trends for land stations, 1901-1987 [1993, p.379-388, eng] 47-4565

Norwegian National Committee for Hydrology
Polar hydrology—Svalbard [1992, 49p., eng] 47-1889

Nosal, M.
Ice core climate signals from Mount Logan, Yukon, A.D. 1700-1897 [1992, p.483-504, eng] 47-2097

Nosenko, G.A.
Evaluating the distribution and regime of Karakorum glaciers using data from space images [1991, p.87-94, rus] 47-325

Nosov, N.A.
Organization and technical facilities of the radiation monitoring of sunken objects with radioactive components [1993, p.237-249, eng] 47-5034

Notake, T.
Differences in the growing conditions for disaster prevention forests depending on tree species and regions [1992, p.97-102, jpn] 47-2511

Nouhan, V.J.
Winter severity index for Pittsburgh, Pennsylvania [1992, 17p., eng] 47-2142

Novcaski, K.M.
Water resources data for Alaska, water year 1991 [1992, 415p., eng] 47-2776

Novick, A.N.
Analysis of radar studies on the Siple Coast [1991, p.62-63, eng] 47-2464

Now it's plowed, but is it safe
Now it's plowed, but is it safe [1992, p.62-63,91, eng] 47-1929

Nowaczyk, N.R.
Combined high-resolution magnetostratigraphy and nannofossil biostratigraphy for late Quaternary Arctic Ocean sediments [1992, p.S567-S601, eng] 47-1279

Noyel, G.A.
Dielectric properties of normal supercooled water obtained in alcohol/water mixtures [1992, p.1136-1143, eng] 47-2294

Nozawa, T.
Wind effects on snow accumulation on a flat roof [1992, p.105-116, eng] 47-3192

Noza, S.
Study of snow melting mechanism by solar radiative absorption material [1992, p.715-726, eng] 47-4363

Nüesch, D.
Monitoring of snowcover in high mountain terrain with ERS-1 SAR [1993, p.583-588, eng] 47-4446

Numano, N.
Estimation of snowfall intensity on measurements of total snow weight using a pressure pillow [1992, p.115-122, jpn] 47-3296

Nunner, B.
Influence of the freezing process on vapour transport during sublimation in vacuum-freeze-drying of macroscopic samples [1993, p.1727-1738, eng] 47-4413

Nunome, K.
Large isotope effect due to quantum tunneling in the conversion reaction of electrons to H and D atoms in irradiated H2O/D2O ice [1992, p.5211-5213, eng] 47-1937

Nürnberg, D.
Expedition to Novaja Zemlja and Franz Josef Land with RV "Dalnie Zelentsy" [1993, p.49-74, eng] 47-4221
Expedition to Novaja Zemlja and Franz Josef Land with RV *Dalnie Zelentsy* [1993, p.45-74, eng] 47-4878

Nyberg, L.
Sea level variations during ice-covered periods in the Baltic Sea [1991, p.41-61, eng] 47-1992

Nyberg, R.
Freeze-thaw activity and some of its geomorphic implications in the Abisko Mountains, Swedish Lappland [1993, p.37-47, eng] 47-3116
Geomorphic features as indicators of climatic fluctuations in a periglacial environment, northern Sweden [1990, p.203-210, eng] 47-4314
Periglacial features in the Söderasen canyons, south Sweden [1991, p.145-156, eng] 47-2853

Nye, C.J.
Fumarolic gas chemistry (1982) and thermal spring water chemistry, Crater Peak (1985), Mount Spurr, Alaska [1993, p.31-40, eng] 47-4776

Nye, J.F.
Topological approach to the strain-rate pattern of ice sheets [1993, p.10-14, eng] 47-3936

Nyfors, E.
On the dielectric properties of dry snow in the 800 MHz to 13 GHz range [1982, 17p., eng] 47-2772

Nyman, T.
Results from indentation tests in sea ice [1993, p.177-185, eng] 47-4245

Nyrose, D.
Palsa formation in floating peat and related vegetation cover as illustrated by a fen bog in the MacMillan Pass, Yukon Territory, Canada [1992, p.349-362, eng] 47-4344

Nysten, E.
Conclusions of the European project COST 309, road weather conditions [1992, 4p., eng] 47-947

Ober, S.
On processes determining the vertical stability of surface waters in the marginal ice zone of the northwestern Weddell Sea and their relationship with phytoplankton bloom development [1992, p.237-243, eng] 47-1329

Oberbauer, S.F.
Environmental effects on CO2 efflux from riparian tundra in the northern foothills of the Brooks Range, Alaska, USA [1992, p.568-577, eng] 47-2710

Öberg, G.
Extension of the regions in Sweden where salt is not used—MINSALT Project [1992, 7p., eng] 47-960
MINSALT. An experiment with unsalted road in Västerbottens county [1991, 69p. + appends., swe] 47-1216

Oberholzer, B.
Cloud chemistry at Mt. Rigi, Switzerland: dependence on drop size and relationship to precipitation chemistry [1993, p.33-42, eng] 47-2705

Oberhuber, J.M.
Investigation of the general circulation of the Arctic Ocean with an isopycnal model [1992, p.98-100, eng] 47-2391
Sensitivity study of a dynamic thermodynamic sea-ice model [1992, p.91-93, eng] 47-2389
Sensitivity study of a dynamic thermodynamic sea ice model [1993, p.2561-2586, eng] 47-2626
Simulation of the Atlantic circulation with a coupled sea ice-mixed layer-isopycnal general circulation model. Part 1: model description [1993, p.809-829, eng] 47-3568
Simulation of the Atlantic circulation with a coupled sea-ice *mixed layer-isopycnal general* circulation model. Part 2: model experiment [1993, p.830-845, eng] 47-3569
Snow cover model for global climate simulations [1993, p.10,451-10,464, eng] 47-4293

Obleitner, F.
Energy balance of dry tundra in West Greenland [1992, p.352-362, eng] 47-1592

Obremski, J.S.
Observation of recurrent temperature lapse near the surface at the South Pole [1988, p.145-147, eng] 47-4204

O'Brien, W.J.
Biogeochemistry and zoogeography of lakes and rivers in arctic Alaska [1992, p.1-14, eng] 47-1599

Ochiai, H.
Capability of sea ice monitoring by satellite remote sensing [1992, p.267-271, jpn] 47-147

Ochterbeck, J.M.
Freeze/thaw characteristics of a copper/water heat pipe: effects of noncondensible gas charge [1993, p.127-132, eng] 47-2549

Ocone, R.
Acoustic sounder experimentation in Victoria Land, Antarctica [1991, p.119-133, eng] 47-2006
Interaction of gravity driven flows at Nansen Ice Sheet [1992, p.159-166, eng] 47-1200

Odamaki, M.
Seasonal sea-level variation at Syowa Station [1992, p.165-169, eng] 47-135

Ödegard, R.S.
Glaciofluvial sediment transfer of a subpolar glacier, Erikbreen, Svalbard [1992, p.253-266, eng] 47-2121
Ground temperature measurements in mountain permafrost, Jotunheimen, southern Norway [1992, p.231-234, eng] 47-1776
Thermal regime of a valley glacier, Erikbreen, northern Spitsbergen [1992, p.69-79, eng] 47-2352

Oden—a new concept in icebreaker design
Oden—a new concept in icebreaker design [1989, p.E71-E74, eng] 47-4078

Odin, H.
Spring in the forest terrain at Svartberget, northern Sweden [1990, p.167-178, eng] 47-4311

Odishariia, G.E.
Controlled formation of the temperature field of the bearing ground for a gas pipeline in the southwestern part of Yamal [1991, p.30-31, rus] 47-2488

Odisharija, O.E.
Controlled formation of the temperature field of the bearing ground for a gas pipeline in the southwestern part of Yamal [1991, p.30-31, rus] 47-2488

Ödum, S.
Forest development in cold climates [1993, 566p., eng] 47-4525

Oechel, W.C.
Effect of soil moisture and thaw depth on CH4 flux from wet coastal tundra ecosystems on the North Slope of Alaska [1993, p.329-337, eng] 47-3434
Recent changes of Arctic tundra ecosystems from a net carbon dioxide sink to a source [1993, p.520-523, eng] 47-1942

Oelhaf, H.
Column amounts and vertical distribution of atmospheric trace gases in the Arctic in late winter 1990 [1992, p.210-211, ger] 47-213

Oerlemans, J.
Atmospheric model for simulating the mass balance and temperature on the antarctic ice sheet [1990, p.31-56, eng] 47-3572
Climate sensitivity of glaciers in southern Norway: application of an energy-balance model to Nigardsbreen, Hellstugubreen and Alfotbreen [1992, p.223-232, eng] 47-463
Evaluating the role of climate cooling in iceberg production and the Heinrich events [1993, p.783-786, eng] 47-5127
Sensitivity of glaciers and small ice caps to greenhouse warming [1992, p.115-117, eng] 47-351
Study of ablation variations on the tongue of Hintereisferner, Austrian Alps [1992, p.319-324, eng] 47-1384

Oerter, H.
Dynamics of ice shelves and their sensitivity to changing mass-balance quantities: model results for Filchner-Ronne Ice Shelf, Antarctica [1990, p.57-68, eng] 47-3573
Origin of green icebergs in Antarctica [1992, p.20,319-20,-324, eng] 47-2343
Sea salt dependent electrical conduction in polar ice [1992, p.19,803-19,812, eng] 47-2187

Oeschger, H.
Working hypotheses for glaciation/deglaciation mechanisms [1992, p.273-289, eng] 47-2840

Ogarkov, A.A.
Intensification of freezing earth hydraulic structures by natural cold [1991, p.691-694, rus] 47-2908

Ogawa, M.
Transmission system for Q/L image of earth observation satellite data (2) [1992, p.244-248, jpn] 47-143

Ogilvie, A.E.J.
Documentary evidence for changes in the climate of Iceland, A.D. 1500 to 1800 [1992, p.92-117, eng] 47-2083

Ogino, H.
Study on skid resistance of winter tires [1985, p.50-53, jpn] 47-5168
Traffic flow on local two lane roads in Hokkaido [1985, p.49-52, jpn] 47-5099

Oglesby, R.J.
Application of equilibrium climate models to questions of glaciation at high latitudes [1990, 243p., eng] 47-2894

Oh-Oka, H.
Mechanical properties of undisturbed Tone River gravel obtained by *in situ* freezing method [1992, p.15-25, eng] 47-1190

Ohata, T.
Evaluation of scale-dependent effects of atmosphere-glacier interactions on heat supply to glaciers [1992, p.115-122, eng] 47-1095
Influence of humidity on the ablation of continental-type glaciers [1992, p.107-114, eng] 47-1094
Variation of perennial snow patch "Hamaguri-yuki" from 1967 to 1991 [1993, 43p., eng] 47-3906

Ohkawara, N.
On the vertical profiles of long wave radiation at Syowa Station in Antarctica [1992, p.53-70, eng] 47-3005

Öhman, P.
Rare earth elements in the Arctic Ocean [1992, p.1613-1626, eng] 47-3537

Ohmura, A.
Climate at the equilibrium line of glaciers [1992, p.397-411, eng] 47-1391

Ohno, H.
Influence of humidity on the ablation of continental-type glaciers [1992, p.107-114, eng] 47-1094

Ohta, I.
Melting process of packed beds of ice particles by water flow [1991, p.327-333, eng] 47-2561

Ohta, S.
Geochemical study of atmospheric aerosols in Yakutsk [1993, p.4-9, eng] 47-3969
Measurements of methane flux in Yakutsk [1993, p.10-17, eng] 47-3970
Soil characteristics and C and N storage in soil [1993, p.59-65, eng] 47-3976

Ohtake, T.
Freezing points of H2SO4 *aqueous solutions and formation of* polar stratospheric clouds [1992, p.233-236, eng] 47-2256
Freezing points of H2SO4 aqueous solutions and formation of stratospheric ice clouds [1993, p.138-144, eng] 47-3534

Oie, T.
Selection of tree species and patterns of planting for snowy regions [1985, p.75-81, jpn] 47-5158

Ojanen, T.
Air exfiltration and moisture accumulation in residential wall cavities [1992, p.491-500, eng] 47-1162
Transparent insulations. Cold-region application [1992, 32p., eng] 47-4619

Ojiya City Construction Department
Control of the flow terminus of snow removal drains by water pipes [1986, p.96-97, jpn] 47-5188

Oka, K.
Study on predicting snow avalanches [1990, p.1-4, jpn] 47-4679

Okada, M.
Melting process of packed beds of ice particles by water flow [1991, p.327-333, eng] 47-2561

Okawa, S.
Fundamental research on supercooling phenomenon on heat transfer surface: investigation of freezing phenomenon of supercooled water droplet and its relationship with the effect of heat transfer surface [1991, p.319-326, eng] 47-2560

Okishev, V.V.
Floating nuclear power stations for the Far North [1992, p.3-6, rus] 47-2916

Oksanen, J.
Effects of deicing salt on visible symptoms, element concentrations and membrane damage in first-year needles of roadside Scots pine *(Pinus sylvestris)* [1992, p.179-185, eng] 47-3995

Okuda, M.
Results of installing traffic advisory signs with automatic display for winter [1992, p.79-84, jpn] 47-2509

Okuma, T.
Snow removal drains and snow melting drains [1985, p.21-26, jpn] 47-5163

Okumura, M.
Reaction of chlorine nitrate with protonated water clusters: a model for heterogeneous reactions on polar stratospheric clouds [1992, p.6112-6115, eng] 47-248

Okuyama, K.
Observations of heterogeneous nucleation of water vapor on a cold substrate [1992, p.448-450, eng] 47-1054

Okwuegbu, A.
Freeze-thaw durability of lightweight carbon fiber reinforced cement composites [1992, p.491-494, eng] 47-2548

Ólafsson, H.
Durability of concrete in Iceland [1992, p.381-392, eng] 47-2576

Olander, H.
On the world's ice ages and changing environments [1990, 72p., eng] 47-3701

Olaussen, E.
KOFOT—a practical tool for comparative analysis and extension of runoff series [1992, p.622-631, eng] 47-1978

Oldale, R.N.
On the age of the penultimate full glaciation of New England [1992, p.163-170, eng] 47-2690

Oleksowicz, A.S.
Occurrence of algae on tundra soils in Oscar II Land, Spitsbergen [1992, p.131-147, eng] 47-4652

Olesen, O.B.
Calculated variations of annual ice ablation at the margin of *the Greenland ice sheet*, West Greenland, 1961-90 [1992, p.266-272, eng] 47-467
Evaluation of hydropower potential for possible future industrial use, Nuuk area, West Greenland [1993, p.59-62, eng] 47-4917

Olf, J.
Geostrophic wind and sea ice motion in the Weddell Sea [1992, p.228-229, ger] 47-214
Wind forcing and ice motion in the Weddell Sea region [1992, p.20,373-20,383, eng] 47-2051

Ollen, R.
Protective modification of freeze stress in plant tissue [1992, p.255-260, eng] 47-2885

Oliphant, J.
Suitability and acceptability for earthworking with reference to glacial tills in Scotland [1991, p.239-249, eng] 47-3881

Olofsson, J.A.
Solving sanitation problems in the Alaskan bush [1993, p.347-355, eng] 47-4476

Olonova, M.V.
Study of the morphological variability of *Poa argunensis (Poaceae)* in the territory of Southern Siberia [1992, p.76-85, rus] 47-2572

Olsen, L.
Late Quaternary land-sea interactions: Fennoscandia and Svalbard—the Nordic seas [1991, p.151-159, eng] 47-3487

Olsen, R.B.
Some results from the Labrador Ice Margin Experiment [1992, p.732-739, eng] 47-1868

Olson, W.W.
Bearing capacity tests on ice reinforced with Geogrid [1992, 12p., eng] 47-2925

Olsson, L.U.
Method for thawing out road culverts choked with ice [1988, 8 col., eng] 47-3501

Olvmo, M.
Small scale glacial erosion forms and their possible relation to post-glacial weathering [1991, p.1-7, eng] 47-4315

Oman, J.
Extinction of visible and infrared beams by falling snow [1992, p.5121-5132, eng] 47-449

Omori, Y.
Development of on-site ice thickness gages during initial freezing [1991, p.283-286, jpn] 47-2501

Omstedt, A.
On the melt rate of drifting ice heated from below [1992, p.91-100, eng] 47-806
Sea level variations during ice-covered periods in the Baltic Sea [1991, p.41-61, eng] 47-1992

O'Neill, K.
Application of infinite elements to phase change situations on deforming meshes [1992, p.1861-1874, eng] 47-1915

Onipchenko, V.G.
Assessment of respiration rate and nitrogen-fixing and denitrifying activity in high-meadow alpine soils of northwestern Caucasus [1989, p.55-57, eng] 47-745

Ono, N.
Do glaciers tell a true atmospheric CO2 story [1992, p.227-284, eng] 47-235
Theoretical approach of thermal regime of snow-covered sea ice [1992, p.62-64, eng] 47-116

Onoda, M.
Skid resistance of studded tires [1985, p.35-41, jpn] 47-5081

Onoders, O.
Countermeasures to studded tires in *Miyagi Prefecture* [1985, p.69-72, jpn] 47-5085

Onopa, I.A.
Investigation of the effect of the freezing of a foundation on the bearing capacity of a rigid airfield pavement [1990, p.96-101, rus] 47-2759

Onstott, R.G.
Arctic coastal polynya observations with ERS-1 SAR and DMSP SSM/I [1993, p.295-299, eng] 47-4428
Arctic sea ice microwave signature and geophysical processes study [1993, p.329-332, eng] 47-4434
Characterization of intrinsic optical properties for sea ice and snow [1992, p.125-127, eng] 47-639
Examination of the physical, electrical, and microwave evolution of sea water into young ice [1992, p.1259-1261, eng] 47-675
Laboratory investigations of the electromagnetic properties of artificial sea ice [1992, p.177-200, eng] 47-3023
Potential applications of polarimetry to the classification of sea ice [1992, p.419-430, eng] 47-3038
SAR and scatterometer signatures of sea ice [1992, p.73-104, eng] 47-3019
Sea ice altimetry [1992, p.111-135, eng] 47-3021

Oosthuizen, P.H.
Heat transfer from a heated cylinder buried in a frozen porous medium in an enclosure [1992, p.315-326, eng] 47-4707
Heat transfer from a heated cylinder buried in a frozen porous medium in an enclosure with a cooled top surface [1992, p.457-475, eng] 47-5264

Opaliński, K.W.
Primary production and organic matter destruction in Spitsbergen tundra [1991, p.419-432, eng] 47-2198

Opsahl, O.A.
Effect of condensed silica fume on the frost resistance of concrete [1989, p.149-160, eng] 47-14

Oraltay, R.G.
Growth, evaporation and melting of ice crystals: implications for radiation, atmospheric dynamics and particle scavenging [1991, 126p., eng] 47-307
Scavenging of aerosol particles by growing and evaporating ice crystals: assessing the role of competitive processes [1991, p.75-86, eng] 47-2209
Spot tests for the detection of nitrate and sulfate particles in ice crystals [1992, p.395-398, eng] 47-2279

Organisation für Wirtschaftlichen Zusammenarbeit und Entwicklung
Maintenance techniques for road surfacings—investigations, route decisions, planning, implementation [1978, 221p., ger] 47-4986

Örlander, G.
Shading reduces both visible and invisible frost damage to *Norway spruce seedlings in the field* [1993, p.27-36, eng] 47-4296

Orlov, A.V.
Debris in tills and moraines as a source of glaciological and paleoenvironmental information: methodology and applications in the Caucasus [1993, p.63-69, eng] 47-4145
Erosive-accumulative activity of glaciers of northern Tien Shan during the Little Ice Age [1991, p.59-65, rus] 47-2789
Preliminary report on the Sino-USSR joint glaciological expedition to Mt. Xixabangma region, 1991 [1992, p.184-186, chi] 47-1657

Orlov, V.O.
Frost-susceptible soils as foundations of structures [1992, 166p., rus] 47-4977

Orlova, N.E.
Effect of soil freezing on the composition and properties of humus [1992, p.203-208, eng] 47-1730

Ormsby, J.P.
Preliminary evaluation of thermal infrared aircraft data for mapping snow cover in the Sierra Nevada Mountains [1992, p.39-46, eng] 47-4031

Orombelli, G.
Geomorphological and glaciological research during the 2nd P.N.R.A. expedition to Terra Nova Bay, 1986-1987 [1991, p.83-90, ita] 47-1792

O'Rourke, M.J.
Laboratory studies of snow drifts on multilevel roofs [1992, p.195-206, eng] 47-3199
Perspective: Structured case histories [1992, p.469-470, eng] 47-3223
Roof-snow load for seismic-design calculations [1992, *p.2338-2350, eng*] 47-4

Orsini, S.
Correlating the auroral activity with the southern high- latitude O3-content [1992, p.477-490, eng] 47-2174

Osawa, A.
Dendroclimatological analysis of tree growth patterns [1993, p.55-58, eng] 47-3975

Osborn, G.D.
Neoglacial glacier fluctuations in the Canadian Rockies [1993, p.144-153, eng] 47-5122

Osborne, G.J.
Performance of portland and blast furnace slag cement concretes in marine environments [1993, p.1303-1323, eng] 47-3616

Osborne, M.D.
Abrasive air blast system for disbonding ice and snow from *pavement [1992, 12p., eng]* 47-948

Osborne, S.
Lake-Effect Snow Observation Network (LESON) report for *the 1991-1992 snow season* [1992, p.227-234, eng] 47-4052

Osetinskii, IU.V.
Optimizing the composition of frost resistant concrete with a mixed filler [1991, p.44-46, rus] 47-2030

Osipenko, N.M.
Deformation of ice cover: some results of plane numerical modelling [1992, p.367-371, eng] 47-167
Ship in compressive ice. Analysis of the ice failure process. Report from the joint Finnish-Russian project [1993, 70p. + appends., eng] 47-3539

Osipov, A.D.
Roller compacted concrete with high values of strength, frost *resistance, and impermeability [1993, p.400-404, eng]* 47-4013

Osterkamp, T.E.
Field investigation of water and salt movement in permafrost and the active layer. Final report [1993, Var. p., eng] 47-2619

Ostigey, P.
Integration of high and low resolution microwave observations [1991, p.131-142, eng] 47-3404

Ostmo, S.R.
Hydrogeology at Romerike [1992, p.3/1-3/10, eng] 47-2823
Importance of multidisciplinary geoscience investigations for engineering projects *in the Oseberg, Brage and Troll fields* [1991, p.195-202, eng] 47-3876

Ostrander, W.J.
Method of attenuating sea ice flexure noise during seismic surveys of permafrost regions [1986, 14 col., eng] 47-4260

Östrem, G.
Nordic Hydrological Conference 1992 [1992, 757p., nor] 47-1954

Östreng, W.
Geopolitics of the Northern Sea Route [1992, p.21-25, eng] 47-4873
Northern Sea Route: a new era in Soviet policy? [1991, p.259-287, eng] 47-4217

Ostro, S.J.
Europa, Ganymede, and Callisto: new radar results from Arecibo and Goldstone [1992, p.18,227-18,244, eng] 47-1556

Ostroumov, V.E.
Transfer of ions within the system soil-snow and the role of ice surface in their migration in frozen soils [1992, p.127-135, eng] 47-1717

Oswood, M.W.
Seasonal temperature patterns in an arctic and two subarctic Alaskan (USA) headwater streams [1992, p.147-157, eng] 47-780
Spatial and seasonal patterns of streambed water temperatures in an Alaskan subarctic stream [1989, p.381-390, eng] 47-2581

Otake, H.
Study of snow melting mechanism by solar radiative absorption material [1992, p.715-726, eng] 47-4363

Otaki, H.
Snow damage in an urban area with heavy snow fall: definition of the amount of snow damage and appraisal [1991, p.1-11, eng] 47-1935

Othman, M.A.
Effect of freeze-thaw on the hydraulic conductivity and morphology of compacted clay [1993, p.236-246, eng] 47-4512

Othman, M.A. *(cont.)*
Hydraulic conductivity of compacted clay frozen and thawed *in situ* [1993, p.276-294, eng] 47-2545
Otsuka, K.
Removal of snow from membrane structures [1992, p.263-274, eng] 47-3205
Otsuka, T.
Study on skid resistance of winter tires [1985, p.50-53, jpn] 47-5168
Ottavainen, P.
Flood control on the middle reaches of the River Iijoki [1992, p.431-442, eng] 47-1970
Ottawa. Carleton University. Geotechnical Science Laboratories
Microstructural genesis of a frost susceptible soil adjacent to a buried chilled pipeline [1993, p.73-91, eng] 47-4274
Ou, S.C.
Effects of infrared cooling and ice microphysics on large-scale cloud simulations [1991, p.295-298, eng] 47-4484
Remote sensing of cirrus cloud parameters using advanced very-high-resolution radiometer 3.7- and 10.9-micron channels [1993, p.2171-2180, eng] 47-4713
Outcalt, S.I.
Detection of nonconductive heat transport in soils using spectral analysis [1993, p.1017-1023, eng] 47-3579
Fractal geometry of thermal and chemical time series from the active layer, Alaska [1992, p.315-322, eng] 47-2239
Palsa-scale frost mounds [1992, p.305-325, eng] 47-857
Spectral signature of coupled flow in the refreezing active layer, northern Alaska [1992, p.273-284, eng] 47-709
Ovanesiants, A.M.
State of pollution of terrestrial surface waters on the USSR territory in 1990 [1991, p.101-106, eng] 47-5199
Ovarlez, J.
TOVS observations of a stratospheric cooling during the CHEOPS 3 campaign: February 4-6, 1990, over Scandinavia [1993, p.7229-7243, eng] 47-3829
Ovcharenko, V.G.
Methods for improving instruments for contact determination of physical-mechanical properties of snow [1991, p.97-102, rus] 47-388
Overland, J.E.
Aircraft measurements of regional air-ice drag coefficients during high wind conditions over the Beaufort Sea [1992, p.48-49, eng] 47-2377
Method for extracting tidal and inertial motion from ARGOS ice buoys applied to the Barents Sea during CEAREX [1993, 63p., eng] 47-4908
Sea ice deformation in the Beaufort Sea [1992, p.64-67, eng] 47-2382
Oviatt, C.G.
Early Wisconsin lakes and glaciers in the Great Basin, U.S.A. [1992, p.279-287, eng] 47-2698
Owen, T.C.
Surface ices and the atmospheric composition of Pluto [1993, p.745-748, eng] 47-5129
Owens, F.
Using heaters safely during cold weather concreting [1990, p.878-881, eng] 47-2717
Owens, I.F.
Heat balance characteristics during fine periods on the lower parts of the Franz Josef Glacier, South Westland, New Zealand [1992, p.397-410, eng] 47-793
Report on the Franz Josef Glacier [1992, p.35-49, eng] 47-1004
Oxtoby, D.W.
Nucleation [1992, p.407-442, eng] 47-4368
Oyama, S.
Sapporo Road Office [1984, p.107-110, jpn] 47-5077
Ozeki, S.
Oscillation of the freezing potential of aqueous lithium chloride solutions containing ethanol [1992, p.2511-2516, eng] 47-461
Ozouf, J.C.
Dilatometric variations of calcareous rock cylinders during freeze thaw cycles [1993, p.1-15, fre] 47-3114
Padilha, A.
Complete model for the laminar flow of supercooled liquid water [1992, p.335-349, eng] 47-5265
Numerical and experimental study on supercooled laminar flow of water [1991, p.899-903, eng] 47-5108
Padilla, F.
Experimental study and numerical solution of frost heaving in specific materials [1993, p.116-136, fre] 47-4277
Finite-element analysis of the transport of water, heat and solutes in frozen saturated-unsaturated soils with self-imposed boundary conditions [1988, p.121-126, eng] 47-1580
Paige, D.A.
Thermal stability of water ice at the poles of Mercury [1992, p.643-646, eng] 47-738
Paine, J.C.
Design review for snow country [1992, p.373-379, eng] 47-3215
Pakanen, J.
Prediction and fault detection of building energy consumption using multi-input, single-output dynamic model [1992, 32p. + appends., eng] 47-3134
Palacky, G.J.
Detection of subbottom ice-bonded permafrost on the Canadian Beaufort Shelf by ground electromagnetic measurements [1992, p.1419-1427, eng] 47-1509
Palais, J.M.
1000 years of explosive volcanism recorded at the South Pole [1992, p.335-350, eng] 47-834
Changing sources of impurities to the Greenland ice sheet over the last 250 years [1992, p.2627-2640, eng] 47-901
Modified HNO3 seasonality in volcanic layers of a polar ice core: snow-pack effect or photochemical perturbation? [1993, p.219-230, eng] 47-3463
Palberg, T.
Dynamical criterion for freezing of colloidal liquids [1993, p.1557-1560, eng] 47-4347
Paleg, L.G.
Protection of membrane integrity in *Medicago sativa* L. by glycinebetaine against the effects of freezing [1992, p.541-543, eng] 47-1264
Palermi, S.
Stratospheric GCM for polar ozone studies: a progress report [1992, p.285-316, eng] 47-1208
Palmer, A.J.
Combined infrared emission spectra and radar reflectivity studies of cirrus clouds [1993, p.64-69, eng] 47-3356
Palmer, D.A.
Galloping instability of ice coated poles [1992, p.675-686, eng] 47-1193
Palmisano, A.C.
Microorganisms in antarctic sea ice [1993, p.167-218, eng] 47-4595
Paloiahti, A.
Determination of the elastic stiffness of thawing subgrade soil [1993, p.65-68, eng] 47-4122
Palosuo, E.
Classification of the maximum annual Baltic Sea ice cover *extent*—1720-1992 [1993, p.5-20, fin] 47-4995
Pálsson, F.
Volume of Graenalón and changes in the size and frequency of jökulhlaups [1989, p.90-95, ice] 47-712
Pálsson, J.
Uses of lignoses in horticulture in Iceland [1993, p.293-297, eng] 47-4544
Palutikof, J.P.
Nature and causes of climate change: assessing the long-term future [1992, 248p., eng] 47-2223
Panagoulia, D.
Hydrological modelling of a medium-size mountainous catchment from incomplete meteorological data [1992, p.279-310, eng] 47-176
Pancza, A.
Frost action of rock faces within a glacier of the Juran Neuchâtel [1992, p.49-54, fre] 47-3126
Panfilov, D.F.
Improved formulas for concrete mix temperature, required for winter concreting [1992, p.115-118, rus] 47-3916
Panfilov, V.P.
Winter water migration through deep-frozen soils of West Siberia [1992, P.111-115, eng] 47-1714
Pang, A.
Performance of the ice motion tracker at the Alaska SAR Facility [1992, p.588-590, eng] 47-655
Pangburn, T.
Characterization of hillslope thermal and hydrologic processes at the Sleepers River Research Watershed [1992, p.161-167, eng] 47-4045
Proceedings of the 49th annual Eastern Snow Conference, Oswego, NY, June 3-4, 1992 [1992, 273p., eng] 47-4026
Panikov, N.S.
Emission of CO2 and CH4 from northern wetlands to atmosphere: dynamics, controlling factors and tentative mechanisms [1992, p.208-216, eng] 47-1731
Methane and carbon dioxide production and uptake in some boreal ecosystems of Russia [1993, p.125-138, eng] 47-5234
Paniushkin, A.V.
Current tendencies of anthropogenic changes in physical-mechanical properties of natural ice [1991, p.126-129, rus] 47-2801
Pankratov, V.A.
Economic effectiveness of the production and use of lignovermiculite as thermal insulation products [1991, p.85-95, rus] 47-2937
Panteleev, V.G.
Intensification of freezing earth hydraulic structures by natural cold [1991, p.691-694, rus] 47-2908
Papakyriakou, T.N.
Surface albedo of snow covered first year and multi-year sea ice [1991, p.133-140, eng] 47-3382
Papendick, R.I.
Radiation balance of ridge-tillage with modeling strategies for slope and aspect in the subarctic [1992, p.1379-1384, eng] 47-1182
Seed-zone temperature and moisture conditions under conventional and no-tillage in Alaska [1992, p.1904-1910, eng] 47-2299
Papin, V.A.
Method of carrying out profiling observations of currents with the aid of moored, heated buoy stations (PPBS) [1991, p.107-116, rus] 47-3697
Parekh, A.
Power demand and energy savings through air leakage control in high-rise residential buildings in cold climates [1992, p.632-642, eng] 47-1164
Paren, J.G.
Extending the antarctic meteorological record using ice-sheet temperature profiles [1993, p.141-150, eng] 47-2462
Sea salt dependent electrical conduction in polar ice [1992, p.19,803-19,812, eng] 47-2187
Parent, M.
Sangamonian and early Wisconsinan events in the St. Lawrence lowland and Appalachians of southern Quebec, Canada [1992, p.171-184, eng] 47-2691
Parenteau, L.
Quenching of the dissociative electron attachment resonances of O2 physisorbed on amorphous ice [1993, p.340-346, eng] 47-5191
Parinkina, O.M.
Microflora of soils in the Arctic and its activity [1991, p.87-91, rus] 47-4815
Soil microbial communities under cryptogamic plants in tundra and arctic deserts [1992, p.185-189, eng] 47-1727
Parish, T.R.
Interaction of katabatic flow with local thermal effects in a coastal region of Adélie Land, East Antarctica [1993, p.10,429-10,440, eng] 47-4292
NCAR CCM1 simulation of the modern arctic climate [1992, p.129-132, eng] 47-2399
Numerical simulation of antarctic drainage flows [1988, p.97-99, eng] 47-4192
Numerical simulation of katabatic winds crossing the Siple Coast area of West Antarctica [1992, p.J137-J140, eng] 47-2420
On the interaction between the katabatic wind regime and large-scale tropospheric forcing near Adelie Land, Antarctica [1992, p.J141-J144, eng] 47-2421
Present-day antarctic climatology of the NCAR Community Climate Model Version 1 [1993, p.205-226, eng] 47-2707
Park, I.
Flow regulation for controlled river-ice formation [1993, 50p., eng] 47-4662
Parker, L.V.
Effect of concentration on sorption of dissolved organics by well casings [1993, 17p., eng] 47-4868
Review of recent findings in well-casing studies [1992, p.83-91, eng] 47-1892
Softening of rigid polyvinyl chloride by high concentrations of aqueous solutions of methylene chloride [1992, 40p., eng] 47-696
Parker, P.J.
Freezing rate of sludge layers [1993, p.405-412, eng] 47-4478
Parker, R.S.
Potential climate-change effects on bed-material entrainment, the Gunnison Gorge, Colorado [1992, p.751-759, eng] 47-2750
Transfer of watershed-model-parameter values to noncalibrated basins in the Gunnison River basin, Colorado [1992, p.741-750, eng] 47-2749
Parker, T.J.
Coastal geomorphology of the Martian northern plains [1993, p.11,061-11,078, eng] 47-4410
Parkinson, C.
Report [1992, 41p. + appends., eng] 47-3235
Parkinson, C.L.
Arctic sea ice 1973-1986: interregional comparisons [1988, p.8-10, eng] 47-4175
Arctic sea ice 1973-1986: seasonal and interannual variability [1988, p.4-7, eng] 47-4174
Southern ocean sea-ice distributions and extents [1992, p.243-250, eng] 47-3144
Parks, C.D.
Review of the mechanisms of cambering and valley bulging [1991, p.373-380, eng] 47-3889
Parks, J.E.
Performance of a kinetic model for intracellular ice formation based on the extent of supercooling [1992, p.359-373, eng] 47-2297
Parmiggiani, F.
Use of ERS-1 SAR to measure ice flux in the East Greenland current [1993, p.283-287, eng] 47-4426
Parnell, G.Q.
Ship operations in ice: practical speed considerations [1992, p.307-312, eng] 47-1037
Parpura, V.A.
Non-linear model of the structural transformations of a snow *sequence* [1991, p.112-115, rus] 47-2797
Parrot, J.F.
SPOT multispectral data and digital terrain model for the analysis of ice-snow fields on arctic glaciers [1992, p.425-440, eng] 47-2661
Parrott, D.R.
Submersible observations of an iceberg pit and scour on the Grand Banks of Newfoundland [1992, p.1-6, eng] 47-446

Parshutkina, I.P.
Study of the spatial distribution of ice nuclei in a mountainous region [1992, p.143-159, rus] 47-2527
Parsons, B.L.
Application of fractal/chaos concepts to ice mechanics: a review [1993, p.71-84, eng] 47-3743
Estimate of the size of the damage zone beneath an indenter on ice [1993, p.371-380, eng] 47-5207
Influence of beam size on the flexural strength of sea ice, freshwater ice and iceberg ice [1992, p.1017-1036, eng] 47-1626
Notch sensitivity of first-year sea ice [1993, p.1303-1313, eng] 47-4848
Risk analysis for ice failure in ice-structure interaction [1990, 15p., eng] 47-1344
Pasetskii, V.
Last "Terra incognita" [1992, p.49-50, rus] 47-2904
Pasquali, S.
Meteorological trends in the Italian Alps during the 1991-92 winter season [1992, p.8-19, ita] 47-2615
Pasquier, A.
Pneumatic process and device for conveying snow [1989, 10 col., eng] 47-3331
Pastor, J.
Influence of beaver and bogs on greenhouse gases at Voyageurs National Park [1992, p.471-479, eng] 47-2732
Pastukh, P.I.
Gas homologues of methane and olefins near the earth surface in connection with hydrocarbon accumulations [1993, p.1-4, eng] 47-5194
Patel, K.P.
Subaru-Isuzu assembly plant floors [1989, P.23-27, eng] 47-2751
Paterson, R.B.
Thrust deduction and propulsive coefficients of icebreaking vessels [1992, 20p. + appends., eng] 47-1359
Pathak, R.C.
Approach to slope and subsurface studies in avalanche prone area by air photos [1985, p.204-211, eng] 47-539
Patterson, M.M.
Pipeline insulation system [1987, 4 col., eng] 47-4004
Paul, J.T.
Heat transfer from a heated cylinder buried in a frozen porous *medium in an enclosure* [1992, p.315-326, eng] 47-4707
Paull, C.K.
Is the extent of glaciation limited by marine gas-hydrates [1991, p.432-434, eng] 47-1241
Paulson, C.A.
Acoustic Doppler current profiler observations of currents adjacent to refreezing leads [1992, p.J56-J59, eng] 47-2416
Optical techniques for the measurement of frazil ice [1992, p.498-507, eng] 47-3734
Pavese, F.
Computational and statistical analysis of the thermodynamic data which form the basis of the ITS-90 between 13.8 K and 273.16 K. I. Computational basis [1992, p.75-78, eng] 47-2948
Computational and statistical analysis of the thermodynamic data which form the basis of the ITS-90 between 13.8 K and 273.16 K. II. Results [1992, p.79-83, eng] 47-2949
He-3 gas thermometry at IMGC [1992, p.121-125, eng] 47-2957
Long-term stability of permanent realizations of the triple *point of gases in metal sealed cells* [1992, p.251-256, eng] 47-2970
Triple point of pure equilibrium deuterium using Gd2O3 spin catalyst [1992, p.247-249, eng] 47-2969
Pavese, M.P.
Three historical data series on floods and anomalous climatic events in Italy [1992, p.155-170, eng] 47-2086
Pavliuchenko, IU.N.
Estimating icing in the design of seagoing ships [1992, p.9-11, rus] 47-2922
Pavlov, A.V.
Changes in microstructure of fine-grained soils due to freezing [1992, p.1-10, eng] 47-3121
Heat circulation in soil under North conditions [1992, p.168-173, eng] 47-1723
Studying engineering-geocryological and hydrogeological conditions of the upper zones of rocks in oil- and gas-bearing regions of the cryolithozone. Manual [1992, 288p., rus] 47-3866
Pavlov, V.K.
Analysis of factors determining the circulation of waters in the Chukchi Sea, based on data from a test area with heated *buoy stations* [1991, p.59-64, rus] 47-3691
Estimates of parameters of vertical turbulent exchange in the Chukchi Sea based on observational data [1991, p.101-106, rus] 47-3696
Formation features of the structure and variability of the hydrological processes of the Kara Sea area [1993, p.251-265, eng] 47-5035
Method of carrying out profiling observations of currents with the aid of moored, heated buoy stations (PPBS) [1991, p.107-116, rus] 47-3697
Parametrization of the coefficient of vertical turbulent viscosity in modeling of water circulation in arctic seas [1991, p.22-33, rus] 47-3687
Problem of the baroclinic instability of integral circulation of waters in the Norwegian Sea [1991, p.50-58, rus] 47-3690
Some results of the arctic expedition of the scientific research vessel *Akademik Shokal'skii* [1991, p.117-121, rus] 47-3698
Payan, C.
Interaction of katabatic flow with local thermal effects in a coastal region of *Adélie Land, East Antarctica* [1993, p.10,429-10,440, eng] 47-4292
Payette, S.
Holocene water-level fluctuations of a subarctic lake at the tree line in northern Quebec [1993, p.7-14, eng] 47-4072
Postfire shift from lichen-spruce to lichen-tundra vegetation at tree line [1992, p.1067-1081, eng] 47-773
Recent dynamics of jack pine at its northern distribution limit in northern Quebec [1992, p.1157-1167, eng] 47-1482
Payne, J.R.
*Interactions of frazil and anchor ice with sedimentary parti*cles in a flume [1993, p.137-149, eng] 47-2646
Payton, R.W.
Fragipan formation in argillic brown earths (Fragiudalfs) of the Milfield Plain, north-east England. 1. Evidence for a *periglacial stage of development* [1992, p.621-644, eng] 47-2190
Peabody, A.W.
Special challenge: cathodic protection on trans-Alaska pipeline [1976, p.40,42,43, eng] 47-4866
Pearce, R.S.
Cell shape and localisation of ice in leaves of overwintering wheat during frost stress in the field [1992, p.324-331, eng] 47-795
Pearman, G.I.
Changes in tropospheric methane between 1841 and 1978 from a high accumulation-rate antarctic ice core [1992, p.282-294, eng] 47-832
Pearson, C.R.
Treatments of incoherent scattering for the parabolic equation and astral propagation models [1991, p.265-281, eng] 47-1075
Pearson, M.
Expedition huts in Antarctica: 1899-1917 [1992, p.261-276, eng] 47-703
Peart, D.R.
Winter injury to Subalpine red spruce: influence of prior vigor *and effects on subsequent growth* [1992, p.888-892, eng] 47-1481
Pease, C.H.
Method for extracting tidal and inertial motion from ARGOS ice buoys applied to the Barents Sea during CEAREX [1993, 63p., eng] 47-4908
Peck, E.L.
Biases in precipitation measurements: an American experience [1993, p.329-334, eng] 47-3071
Peck, L.
Effects of seasonal variation in the thermal background scene on the detection capability of passive infrared intrusion detection systems [1992, p.141-144, eng] 47-1168
Long-term study of microwave propagation over changing ground and snow cover [1992, p.1144-1146, eng] 47-671
Peddle, D.R.
Classification of permafrost active layer depth from remotely sensed and topographic evidence [1993, p.67-80, eng] 47-3918
Empirical comparison of evidential reasoning, linear discriminant analysis, and maximum likelihood algorithms for alpine land cover classification [1993, p.31-44, eng] 47-3723
Multisource evidential classification of surface cover and frozen ground [1992, p.3375-3380, eng] 47-1443
Peden, M.E.
Dew and frost chemistry at a midcontinent site, United States [1992, p.20,591-20,597, eng] 47-2052
Peel, D.A.
Cold answers to hot issues [1993, p.403-404, eng] 47-3855
Decadal timescale links between *Antarctic Peninsula ice-core* oxygen-18, deuterium and temperature [1993, p.14-26, eng] 47-4143
Ice core evidence from the Antarctic Peninsula region [1992, p.549-571, eng] 47-2100
Merely the tip of the ice core [1992, p.274-275, eng] 47-483
Time-trends in the pattern of ocean-atmosphere exchange in an ice core from the Weddell Sea sector of Antarctica [1992, p.430-442, eng] 47-837
Pegau, W.S.
Optical techniques for the measurement of frazil ice [1992, p.498-507, eng] 47-3734
Peil, U.
Nonsymmetric icing of guyed masts [1991, 10p., eng] 47-5012
Peirce, T.H.
Arctic marine R&D program [1992, p.119-133, eng] 47-1023
Pelfini, M.
Recent fluctuations of glaciers in Valtellina (Italian Alps) and climatic variations [1992, p.309-313, eng] 47-472
Pelkey, J.E.
Chemical undercutting of ice on highway pavement materials [1991, p.230-242, eng] 47-1807
Pell, K.M.
Goal-oriented design of an improved displacement snowplow [1991, p.188-192, eng] 47-1802
Pellerano, D.
The sorption and reactions of SO2, H2O2, and O3 on ice [1993, p.131-134, eng] 47-3102
Pelletier, E.
Fate and effects of dispersed crude oil under icy conditions simulated in mesocosms [1993, p.273-302, eng] 47-2657
Pelletier, R.G.
Analysis of freeze-thaw cycles and rainfall on frozen soil at seven Canadian locations [1992, p.135-142, eng] 47-2612
Pellicori, S.F.
Influence of water ice absorption on transmission for a 10.5- to 12.5-micron filter/window [1992, p.1952-1954, eng] 47-2234
Peltier, W.R.
*Late Pleistocene ice age scenarios based on observational evi*dence [1993, p.709-727, eng] 47-3475
Relaxation oscillator model of the ice age cycle [1987, p.399-416, eng] 47-4455
Simulations of continental ice sheet growth over the last glacial-interglacial cycle: experiments with a one level seasonal energy balance model including seasonal ice albedo feedback [1992, p.37-55, eng] 47-1885
Pelto, M.S.
Changes in glacier runoff due to climate change in the North Cascades, Washington [1992, p.489-496, eng] 47-2734
Equilibrium line altitude variations with latitude, today and during the late Wisconsin [1992, p.41-46, eng] 47-198
Mass balance, terminus behavior and runoff of North Cascade, Washington glaciers [1990, 135p., eng] 47-83
Penc, R.S.
Observations of lake-induced convection during the Lake Ontario Winter Storms Project (LOWS) [1992, p.149-159, eng] 47-4044
Peng, C.Y.
Wave attenuation in the marginal ice zone during LIMEX [1992, p.192-206, eng] 47-2347
Wave effects on ocean-ice interaction in the marginal ice zone *[1993, p.10,025-10,036, eng]* 47-4374
Waves and mesoscale features in the marginal ice zone [1993, p.343-348, eng] 47-4437
Peng, W.W.
Constitutive relations of frozen soil in uniaxial compression [1992, p.210-217, chi] 47-1660
Penn, L.S.
Ice-pavement bond prevention: fundamental study [1992, 102p., eng] 47-881
Penney, D.N.
Late Pliocene to Early Pleistocene ostracod stratigraphy and palaeoclimate of the Lodin Elv and Kap Kobenhavn formations, East Greenland [1993, p.49-66, eng] 47-3460
Penney, G.
Ice forces on light piers in the St. Lawrence Seaway [1992, p.67-72, eng] 47-4280
Peppas, N.A.
Poly(vinyl alcohol) hydrogels prepared by freezing-thawing cyclic processing [1992, p.3932-3936, eng] 47-744
Perby, H.
Effects of studded tyres: consequences of amended regulations [1992, 53p. + appends., swe] 47-1217
Perchanok, M.S.
Approach to the design of treatments to prevent snow drifting on highways [1992, 18p., eng] 47-943
Snow hedge design guidelines: preliminary results and implications [1992, p.25-30, eng] 47-4029
Trials of calcium magnesium acetate (CMA) deicer on highways in the Province of Ontario [1992, 18p., eng] 47-937
Percival, P.W.
Diffusion of atomic hydrogen in ice-Ih [1993, p.129-134, eng] 47-4855
Pereira, O.
Hydrology of Lake Glubokoye, King George I., winter 1987 [1991, p.27-32, rus] 47-1575
Perelet, R.
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Forecasters handbook for the Bering Sea, Aleutian Islands, and Gulf of Alaska [1993, Var. p., eng] 47-4886
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Airborne measurement of absolute sea-surface heights [1993, p.875-878, eng] 47-4632
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Monthly temperature and precipitation in central Europe 1525-1979: quantifying documentary evidence on weather and its effects [1992, p.118-142, eng] 47-2084
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Role of sulfate aerosols in the stratospheric ozone climatology [1992, p.331-347, eng] 47-1210
Stratospheric GCM for polar ozone studies: a progress report [1992, p.285-316, eng] 47-1208

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Geotechnical properties of siliceous sediments from the Voring Plateau, Norwegian Sea and the Kerguelen Plateau, southern ocean [1992, 163p., eng] 47-2893

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Modification of aerosol chemistry by reactions in atmospheric ice crystals [1992, p.399-402, eng] 47-2280

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Influence of soluble alkalies on the production and stability of the air-void system in superplasticized and nonsuperplasticized concrete [1992, p.24-31, eng] 47-82

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[illegible]nko, S.A.
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[illegible]uries Colloquy, 14th, Columbus, OH, May 3-7,

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Use of snow survey data in determination of ground snow loads [1992, p.45-56, eng] 47-3187
Powell, J.J.M.
Field and laboratory investigations of the clay tills at the test bed site at the Building Research Establishment, Garston, Hertfordshire [1991, p.229-238, eng] 47-3880
Powell, K.
Use of trees and shrubs for control of blowing snow in select locations along Wyoming highways [1992, 30p., eng] 47-4214
Powell, R.D.
Marine geologic investigations of Disenchantment Bay, Alaska, after breakup of 1986 Hubbard Glacier ice dam [1992, 41p., eng] 47-3708
Power, S.B.
On the interannual variability of arctic sea-level pressure and sea ice [1992, p.551-577, eng] 47-2878
Powers, K.B.
Analytical model for two stage rotary snowplows [1992, 12p., eng] 47-950
Poy, R.L.
Aspects to be considered in planning logistic operations in the Weddell and Bellingshausen seas [1993, p.274-299, eng] 47-5116
Pozdniakov, A.M.
Developing the productive energies of Northern USSR [1991, 229p., rus] 47-2457
Pozdnyshev, S.P.
Accounting for atmospheric stratification in the calculation of tangential wind pressure in questions of the dynamics of ice cover [1990, p.117-125, rus] 47-3598
Prabhakara, C.
Rainfall estimation over oceans from SMMR and SSM/I microwave data [1992, p.532-552, eng] 47-355
Praeg, D.
Seismostratigraphy of the middle St. Lawrence estuary: a late Quaternary glacial marine to estuarine depositional/erosional record [1992, p.133-150, eng] 47-3787
Prangsma, G.J.
Retrieval of mesoscale meteorological parameters from NOAA9 over Greenland and Barents seas for three consecutive days of June 1986 [1988, p.122-125, eng] 47-4198
Prashar, B.L.
Construction and maintenance of roads and runways in snowbound region [1985, p.345-365, eng] 47-582
Prashar, D.K.
Forecasting snow versus rain in Kulu Valley [1985, p.304-309, eng] 47-547
Prater, E.T.
Doppler radar wind and reflectivity signatures with overrunning and freezing-rain episodes: preliminary results [1992, p.1350-1358, eng] 47-1123
Preller, R.H.
Existing and planned uses of remotely sensed data in the U.S. Navy's sea ice forecast models [1991, p.235-255, eng] 47-3389
Monthly mean sea ice data from the Polar Ice Prediction System (PIPS), the Regional Polar Ice Prediction System-Barents Sea (RPIPS-B), the Regional Polar Ice Prediction System-Greenland Sea (RPIPS-G), and the Polar Ice Prediction System 2.0 (PIPS2.0) [1993, 6p. + appends., eng] 47-4620
Sensitivity studies of an ice-ocean coupled model for the Northern Hemisphere [1992, p.94-97, eng] 47-2390
Use of satellite observations in ice cover simulations [1992, p.385-404, eng] 47-3036
Prendez, M.
Aerosol role in the ozone hole [1992, p.10-12, spa] 47-2300
Presa Santos, J.
Plans for the construction of a dam in a fossil lagoon near the Juan Carlos I Station [1989, p.89-101, spa] 47-816
Press, M.J.
Study of the North Water polynya using passive microwave and infrared imagery [1993, p.92-101, eng] 47-3726
Preston-Thomas, H.
International temperature scale of 1990: Part I [1992, p.63-67, eng] 47-2946
International temperature scale of 1990: Part II [1992, p.69-74, eng] 47-2947
Pretes, M.
Arctic Centre news [1993, 12p., eng] 47-4613
Prévost, D.
Characteristics of rhizobia isolated from three legumes indigenous to the Canadian high arctic: *Astragalus alpinus, Oxytropis maydelliana,* and *Oxytropis arctobia* [1987, p.313-324, eng] 47-253
Price, D.T.
Estimating carbon budgets of Canadian forest ecosystems using a national scale model [1993, p.243-252, eng] 47-5240
Price, P.B.
Mechanisms of attenuation of acoustic waves in antarctic ice [1993, p.346-356, eng] 47-3097
Prichonnet, G.
Reconstruction of glacial events in southeastern New Brunswick [1991, p.1594-1612, eng] 47-4159
Prick, A.
Dilatometric variations of calcareous rock cylinders during freeze thaw cycles [1993, p.1-15, fre] 47-3114
Prinsenberg, S.J.
Ocean circulation revealed by ice floe tracking [1993, p.351-353, eng] 47-4438
Operational airborne sea ice thickness measurement system [1991, p.167-177, eng] 47-3384
Sea-ice properties off Labrador and Newfoundland during LIMEX '89 [1992, p.207-222, eng] 47-2348
Verification of remotely sensed ice thickness data [1991, p.201-212, eng] 47-3408
Priscu, J.C.
Natural fluorescence and photosynthetic quantum yields in vertically stable phytoplankton from perennially ice-covered lakes (dry valleys) [1991, p.226-228, eng] 47-2192
Spectral irradiance and bio-optical properties in perennially ice-covered lakes of the dry valleys (McMurdo Sound, Antarctica) [1992, p.1-14, eng] 47-2868
Variation in light attenuation by the permanent ice cap of Lake Bonney during spring and summer [1991, p.223-224, eng] 47-2191
Variation of the fluorescence quantum yield in relation to photosynthesis by phytoplankton from perennially ice-covered Lake Bonney [1991, p.228-230, eng] 47-3053
Pritchard, P.H.
Effect of inoculation on the biodegradation of weathered Prudhoe Bay crude oil [1992, p.95-102, eng] 47-864
Pritchard, R.S.
Method for extracting tidal and inertial motion from ARGOS ice buoys applied to the Barents Sea during CEAREX [1993, 63p., eng] 47-4908
Sea ice constitutive behavior and under-ice noise [1993, p.591-610, eng] 47-4839
Pritzl, W.
Detection of weather induced road condition [1992, 10p., eng] 47-955
Privett, K.D.
Report on Session 2a. {Periglacial and slope processes: processes and materials properties} [1991, p.335-337, eng] 47-3886
Prodanovic, A.
Boundary element analysis of macrocracking of ice in a large test basin [1992, p.91-104, eng] 47-1021
Prodi, F.
Comments on "The density of natural ice accretions related to non-dimensional icing parameters" by K.F. Jones [1993, p.599-609, eng] 47-3646
Scavenging of aerosol particles by growing and evaporating ice crystals: assessing the role of competitive processes [1991, p.75-86, eng] 47-2209
Spot tests for the detection of nitrate and sulfate particles in ice crystals [1992, p.395-398, eng] 47-2279
Proffitt, M.H.
Ozone loss inside the northern polar vortex during the 1991-1992 winter [1993, p.1150-1154, eng] 47-5139
Prokhorenko, V.M.
Recommendations for forecasting moderate and heavy icing in Ukraine [1991, p.48-55, rus] 47-364
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Forecasting the bearing strength of a thawing railroad embankment [1991, p.76-83, rus] 47-190
Pronin, A.P.
Assessment of the technogenic migration of chemical elements through terrain of a large urbanized territory [1991, p.42-49, rus] 47-3278
Proshutinskii, A.IU.
Calculating tidal movements in the Kara Sea [1991, p.14-21, rus] 47-3686
Problem of water circulation in the Kara Sea [1991, p.34-41, rus] 47-3688
Propagation of M2 waves in the Arctic Ocean [1991, p.6-13, rus] 47-3685
Thermohaline water circulation in the Norwegian energy-active zone during spring 1987 [1991, p.42-49, rus] 47-3689
Prosperetti, A.
Underwater sounds of precipitation [1992, p.2-12, eng] 47-513
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Eocene-Oligocene climatic and biotic evolution [1992, 568p., eng] 47-3165
Protsenko, A.N.
Problems of evaluation and management of risk of radioactive contamination of oceans [1993, p.425-438, eng] 47-5046
Protz, R.
Scale and remotely sensed data for change detection in the James Bay, Ontario, coastal wetlands [1993, p.45-49, eng] 47-3724
Provencal, G.
System for measuring glaze-ice by microprocessor with new release mechanism incorporated [1988, 8 col., eng] 47-4008
Prowse, T.D.
Borehole jack indentor test: recent advances at NHRI [1992, p.247-253, eng] 47-4055
Snow and floating ice [1993, p.7/1-7/58, eng] 47-4637
Suspended sediment concentration during river ice break-up [1992, p.263-267, eng] 47-4057
Prusenko, E.D.
Optimization of deicer application zone based on industrial wastes [1992, p.96-100, rus] 47-2780
Prutovykh, V.P.
Current state and prospects for the development of new technology for cold climate regions [1990, p.2-3, rus] 47-1411
Przybylak, R.
Spatial differentiation of air temperature and humidity on western coast of Spitsbergen in 1979-1983 [1992, p.113-129, eng] 47-4651
Ptitsyn, A.B.
Geochemical basis for the geotechnology of metals in frozen ground conditions [1991, 118p., rus] 47-1500
Pu, Y.B.
Application of nonlinear colour enhancement on transparencies for interpretation of glacier surface characteristics [1992, p.190-192, eng] 47-1110
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Finite element analysis of cold embedments in fresh concrete [1992, p.41-57, eng] 47-1
Pueschel, R.F.
Spot tests for the detection of nitrate and sulfate particles in ice crystals [1992, p.395-398, eng] 47-2279
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*Temperature and suction profiles beneath highway pave*ments: computed and measured [1991, p.268-276, eng] 47-1126
Pugach, V.B.
Using geophysical methods to study an ice-rich intermediate layer in permafrost [1991, p.87-91, rus] 47-402
Pugin, A.
Acquisition of land based high resolution seismic profiles in glacial basins, two case studies in the alpine foreland of Switzerland [1992, p.491-502, eng] 47-1912
Pulina, M.
Glacial caves in Spitsbergen [1991, p.93-117, eng] 47-26
Thermokarstic and glaciokarstic hydrology in Spitsbergen glaciers [1991, p.185-198, eng] 47-33
Pulvertaft, T.C.R.
Petroleum-geological activities in 1991: reassessment of areas of earlier exploration and improvement of information service to industry [1992, p.28-30, eng] 47-1636
Punning, IU.-M.K.
Distribution of chemical elements in the glacier cores obtained at Nordaustlandet [1991, p.170-176, rus] 47-338
Puri, S.R.
On some physical properties of snowpack [1985, p.133-143, eng] 47-532
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Solid wastes from the drilling of boreholes in the Far North: means of reduction [1991, p.26, rus] 47-2489
Pushkarev, O.E.
Fluid film and heat flows on its boundaries at sliding of solid body on melting surface [1992, p.25-30, eng] 47-5004
Pushkin, A.V.
Dynamical problems of ice cover fracture [1991, p.212-219, eng] 47-4282
Puskov, V.I.
Calculating the mutual effect of piles on the magnitude of frost heave forces [1991, p.83-92, rus] 47-191
Characteristics of frost heave properties of freezing ground during engineering geological investigations for construction purposes [1991, p.21-28, rus] 47-187
Pustovoit, G.P.
Dynamics of the thickness of permafrost rocks carrying a filtering horizon. Mathematical simulation based on the conditions of the Bestyakhskaia terrace on the Lena River [1992, p.63-67, eng] 47-4384
Pustovoitov, K.E.
Opal cutans in the profile of mountain tundra sod soil in the extreme north-east of the USSR [1990, p.12-17, eng] 47-474
Puswewala, U.G.A.
Creep response of laterally loaded piles in ice and permafrost [1993, p.223-240, eng] 47-4285

Finite element modelling of pressuremeter tests and footings on frozen soils [1992, p.351-375, eng] 47-196

Putov, V.F.
On estimation of extreme sea level on the eastern shelf of Sakhalin as superposition of various components [1992, p.329-333, eng] 47-160

Putt, J.C.
Method and apparatus for deicing a leading edge [1987, 14 col., eng] 47-3849

Putt, M.
Changes in the sea-ice brine community during the spring-summer transition, McMurdo Sound, Antarctica. I. Photosynthetic protists [1992, p.265-278, eng] 47-520
Changes in the sea-ice brine community during the spring-summer transition, McMurdo Sound, Antarctica. II. Phagotrophic protists [1993, p.103-113, eng] 47-4725
Photosynthetic dinoflagellates and their cysts characteristic of the land-fast ice [1991, p.143-144, eng] 47-1439

Puzachenko, IU.G.
Dynamics of plant communities related to global changes of climate [1992, p.481-487, eng] 47-2733

Pylaev, A.A.
Calculating corrections for low frequency radio-navigation systems for sea routes covered with ice [1991, p.106-111, rus] 47-192

Pyle, J.A.
Ozone loss in Antarctica: the implications for global change [1992, p.219-226, eng] 47-3141

Qamar, A.
Investigation of icequakes on the Greenland icesheet near Jakobshavn Icestream, June-July 1980 [1983, 38p., eng] 47-1688

Qin, D.H.
Achievement and its standing of researches of international antarctic glaciology—report on SCAR International Conference on Antarctic Science [1992, p.178-183, chi] 47-1656
Anions and cations in a snow pit on the top of Nelson ice cap, the South Shetland Islands, Antarctica [1993, p.312-316, eng] 47-3096
Distribution of *delta*D in 25-cm surface snow along trans-antarctic route II: The "1990 International Trans- Antarctic Expedition" glaciological research [1993, p.375-384, eng] 47-4600
Thermal properties and temperature distribution of snow/firn on the Law Dome ice cap, Antarctica [1991, p.38-46, eng] 47-39

Qin, K.M.
Identification of sea ice using NOAA satellite data [1991, p.81-86, eng] 47-3400

Quadfasel, D.
Ship of opportunity section to the North Pole: upper ocean temperature observations [1993, p.777-789, eng] 47-4854

Quéguiner, B.
Silica cycle in the antarctic ocean: is the Weddell Sea atypical [1993, p.1-15, eng] 47-4574

Quenzi, P.J.
Snowplow and implement attachment means for a vehicle [1987, 14 col., eng] 47-4001

Quetin, L.B.
Long-term ecological research strategy for polar environmental research [1992, p.233-238, eng] 47-4506

Quickenden, T.I.
UV-excited luminescences from amorphous and polycrystalline H2O ices [1993, p.120-126, eng] 47-3513

Quigley, T.M.
Validation and sensitivity analysis of the stream network temperature model on small watersheds in northeast Oregon [1989, p.391-400, eng] 47-2582

Quilty, P.
Till stratigraphy and glacial history of the Vestfold Hills area, East Antarctica [1993, p.81-95, eng] 47-4753

Quinn, T.J.
International temperature scale of 1990: Part I [1992, p.63-67, eng] 47-2946
International temperature scale of 1990: Part II [1992, p.69-74, eng] 47-2947
NPL total radiation thermometer: extension of its range to 450 C [1992, p.31-35, eng] 47-2943

Quintanar, A.I.
Generation mechanisms of quasi-stationary waves in the Southern Hemisphere [1992, p.J8-J11, eng] 47-2405

R.P. Browne Marine Consultants Limited
JRPA No.6 propeller/ice interaction: development of model test program [1992, 17p. + append., eng] 47-1352

Rabbe, A.
Ozone 'minihole' over northern Scandinavia [1992, p.1447-1451, eng] 47-739

Rabcheniuk, G.P.
Economic effectiveness of the production and use of lignovermiculite as thermal insulation products [1991, p.85-95, rus] 47-2937

Rabin, Y.
Efficient numerical solution for the multidimensional solidification (or melting) problem using a microcomputer [1993, p.673-683, eng] 47-2653

Rachele, H.
Assessment of the one-dimensional icing forecast model applied to stratiform clouds [1990, p.57-64, eng] 47-909

Rachor, E.
Scientific cruise report of the 1991 Arctic Expedition ARK VIII/2 of RV *Polarstern* (EPOS II: Study of the European Arctic Shelf, "SEAS," of the European Science Foundation) [1992, 150p., eng] 47-1218

Racicot, G.
Snowplow mounted on longitudinal frame attachable to chassis [1986, 14 col., eng] 47-4264

Racine, C.H.
Response of an Alaska, U.S.A., shrub-tussock community to selected all-terrain vehicle use [1993, p.142-149, eng] 47-4746
White phosphorus poisoning of waterfowl in an Alaskan salt marsh [1992, p.669-673, eng] 47-1235

Radebaugh, R.
Resistance thermometers with fast response for use in rapidly oscillating gas flows [1992, p.471-474, eng] 47-2986

Radhakrishnan, K.R.
Ice nucleation studies on AgI-NaCl *system* [1992, p.267-270, eng] 47-2264

Radhakrishnan, T.
Ice nucleation studies on AgI-NaCl system [1992, p.267-270, eng] 47-2264

Radian, T.A.
Effect of corrosion, freeze-thaw cycles, and their combined *effects on the fatigue behavior of reinforced concrete* [1990, 220p., eng] 47-84

Radioactivity and Environmental Security in the Oceans: New Research and Policy Priorities in the Arctic and North Atlantic, Woods Hole, MA, June 7-9, 1993
Proceedings [1993, 647p., eng] 47-5013

Radionov, V.F.
Long-term variations in the turbidity of the arctic atmosphere in Russia [1992, p.531-549, eng] 47-2877

Radke, L.F.
Cloud clearing with a CO2 laser in a cirrus cloud simulation facility [1992, p.5871-5877, eng] 47-2664

Radok, U.
Climatology of the East Antarctic ice sheet (100E to 140E) *derived from automatic weather stations* [1993, p.8815-8823, eng] 47-4380

Radtke, U.
Pre-late Wisconsinan chronology of Nova Scotia, Canada [1992, p.185-206, eng] 47-2692

Rahardjo, H.
Measuring negative pore water pressures in a freezing *environment [1991, p.291-299, eng]* 47-1127

Raheim, E.
Registration of vehicular tracks on the Svalbard archipelago [1992, 51p., eng] 47-1890
System for monitoring ice in polar regions by SAR [1992, p.128-130, eng] 47-640

Rahja, J.
Determining maintenance truck station network and snow plow routes in Finland [1992, 17p., eng] 47-930

Raimkulov, K.I.
Bulldozer equipment with a controlled blade for maintaining mountain roads [1992, p.17-18, rus] 47-2063

Rains, B.
Late Wisconsin subglacial megaflood paths in Alberta [1993, p.323-326, eng] 47-4594

Raisbeck, G.M.
Be-10 deposition at Vostok, Antarctica during the last 50,000 years and its relationship to possible cosmogenic production variations during this period [1993, p.127-139, eng] 47-2864
I-129 as a tracer of European reprocessing emissions in the *North Atlantic and Arctic oceans* [1993, p.145-156, eng] 47-5027

Rajakorpi, A.
Microclimate and soils of the central part of the Hämeenkangas interlobate complex in western Finland [1984, p.237-337, eng] 47-10

Rajan, S.D.
Determination of compressional wave and shear wave speed profiles in sea ice by crosshole tomography—theory and experiment [1993, p.721-738, eng] 47-3431

Rajani, B.
Stress history and vertical displacement matching for the pipeline at Caen, France subjected to frost heave [1993, p.34-47, eng] 47-4271

Rajapakse, R.K.N.D.
Creep response of laterally loaded piles in ice and permafrost [1993, p.223-240, eng] 47-4285
Finite element modelling of pressuremeter tests and footings on frozen soils [1992, p.351-375, eng] 47-196

Rajapakse, Y.D.S.
Ice mechanics—1993 [1993, 281p., eng] 47-3737

Rajaram, T.
Avalanche control in formation zone—a case study [1985, p.354-368, eng] 47-553
Avalanche control project: what does it involve [1985, p.384-391, eng] 47-555

Raju, S.P.
Frost formation and heat transfer on circular cylinders in cross flow [1992, p.109-122, eng] 47-4704

Rakhecha, P.R.
Winter and spring precipitation over the northwestern Himalayas—a brief appraisal [1985, p.175-185, eng] 47-537

Rakhmanov, A.E.
Characteristics of the spatial structure of subsurface ice in the *vicinity of Vostok Station, Antarctica* [1991, p.121-125, rus] 47-2800

Rakusa-Suszczewski, S.
Report on the antarctic expedition of the r.v *Professor Siedlecki* to the sea-ice zone, 1988-1989 [1991, p.485-494, eng] 47-3086

Ram, T.
Density of snow and its variations in central and western Himalaya [1985, p.84-97, eng] 47-527
Forecasting snow versus rain in Kulu Valley [1985, p.304-309, eng] 47-547
Objective guidelines to avalanche forecasting in Western Himalayas [1985, p.310-317, eng] 47-548

Ramamoorthi, A.S.
Runoff modelling and forecasting of river basins, and Himalayan Snowcover Information System (HIMSIS) [1991, p.347-355, eng] 47-431

Ramamurthy, S.
Numerical modeling of an advanced pneumatic impulse ice protection system for aircraft [1992, p.1057-1063, eng] 47-1564

Ramasamy, P.
Ice nucleation studies on AgI-NaCl system [1992, p.267-270, eng] 47-2264

Ramaswamy, R.
Radiative forcing of climate from halocarbon-induced global stratospheric ozone loss [1992, p.810-812, eng] 47-1593

Ramert, P.C.
Case study of arctic in situ bioremediation [1993, p.339-346, eng] 47-4475

Ramplee-Smith, C.
AES Dash-7 ice reconnaissance aircraft [1991, p.289-293, eng] 47-3392

Ramsay, B.R.
Preliminary evaluation of ERS-1 SAR data for operational use in the Canadian sea ice monitoring program [1993, p.355-360, eng] 47-4439
Real-time ice monitoring using synthetic aperture radar [1991, p.295-306, eng] 47-3393

Ramseier, R.O.
Barents Sea ice conditions as observed by passive microwave and other techniques [1991, p.101-115, eng] 47-3379
Comparison of several sea ice data sets [1991, p.41-47, eng] 47-3374
Maxim Gorky accident: how good are ice charts [1991, p.65-73, eng] 47-3376

Ran, E.T.H.
Interglacial to glacial climatic change: observations from selected Colombian pollen records [1992, p.71-84, eng] 47-2833

Randall, D.A.
Coupling of the CSU GCM to a simple ocean and sea ice model [1991, p.321-322, eng] 47-4485

Rangachary, N.
Density of snow and its variations in central and western Himalaya [1985, p.84-97, eng] 47-527
Forecasting snow versus rain in Kulu Valley [1985, p.304-309, eng] 47-547
Objective guidelines to avalanche forecasting in Western Himalayas [1985, p.310-317, eng] 47-548
Snow avalanches of Himalaya—an analysis [1985, p.327-340, eng] 47-550

Rango, A.
Indirect evaluation of snow reserves in mountain basins [1991, p.111-119, eng] 47-1298
Monitoring snow grain size for passive microwave studies [1992, p.46-55, eng] 47-493
Rainfall-snowmelt peaks in a warmer climate [1992, p.195-202, eng] 47-2728
Use of microwave radiometry for characterizing snow storage in large river basins [1991, p.73-80, eng] 47-1294

Ranisch, E.H.
Salt-scaling resistance of concrete with air-entraining and superplasticizing admixtures [1989, p.170-178, eng] 47-16

Ranney, T.A.
Effect of concentration on sorption of dissolved organics by well casings [1993, 17p., eng] 47-4868
Softening of rigid polyvinyl chloride by high concentrations of aqueous solutions of methylene chloride [1992, 40p., eng] 47-696

Ranzi, R.
Physically based approach to modelling distributed snowmelt in a small alpine catchment [1991, p.141-150, eng] 47-1301

Rao, K.S.
Interpretation of *Bhaskara-II satellite microwave radiometer* data in terms of land features [1993, p.451-465, eng] 47-2662

Rao, M.V.N.
Some studies in gamma attenuation for application in snow gauging [1985, p.144-148, eng] 47-533

Rao, N.M.
Avalanche dating and avalanche accident feed-back [1985, p.212-225, eng] 47-540
Snow avalanches of Himalaya—an analysis [1985, p.327-340, eng] 47-550

Rao, N.M. *(cont.)*
Some observations on the seasonal snow cover [1985, p.65-78, eng] 47-525
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Construction techniques for expedient air strips in snowbound regions [1985, p.293-317, eng] 47-580
Rapley, C.G.
Analysis of ERS-1 altimeter data over polar ice sheets [1993, p.235-240, eng] 47-4418
Antarctic ice sheet topography mapped with the ERS-1 radar altimeter [1993, p.1649-1650, eng] 47-5119
Raps, V.
Analysis of the record-breaking northern plains snowstorm of October 27-29 1991 [1992, 22p., eng] 47-2136
Raschke, E.
Clouds over both polar regions from the ISCCP pilot data sets [1988, p.137-140, eng] 47-4202
Evolution of *stratiform cirrus* simulated in a lifting layer [1992, p.23-33, eng] 47-6
Rasmussen, E.A.
Two polar lows affecting Denmark [1992, p.326-338, eng] 47-1173
Rasmussen, R.
Winter Icing and Storms Project (WISP) [1992, p.951-974, eng] 47-1263
Rasmussen, R.A.
Arctic haze: patterns and relationships to regional signatures of *trace gases* [1993, p.27-36, eng] 47-3461
Constraints imposed by the ice core data on the budgets of nitrous oxide and methane [1989, p.403-410, eng] 47-4639
Permafrost methane content: 1. Experimental data from sites in northern Alaska [1993, p.591-594, eng] 47-3437
Rasmussen, R.M.
Hail growth hysteresis [1992, p.2525-2532, eng] 47-3674
Ratke, L.
Particle emission from artificial cometary surfaces: material science aspects [1990, p.401-411, eng] 47-4569
Ratnam, S.V.
Systems approach to management of roads and airfields in *snowbound areas* [1985, p.366-380, eng] 47-583
Rau, G.
Numerical calculation of the course of solidification in aqueous salt solutions, with reference to cryobiology [1993, p.63-66, ger] 47-4063
Raukas, A.
Applied quaternary geology in Estonia [1992, p.89-96, eng] 47-3550
Raukola, T.J.
Anti-icing activities in Finland: field tests with liquid and prewetted chemicals [1992, 11p., eng] 47-934
Methods and reasons for cutting usage of salt in Finland [1992, 7p., eng] 47-940
New ideas and equipment for winter maintenance in Finland [1992, 8p., eng] 47-949
Rautiainen, L.
Transparent insulations. Cold-region application [1992, 32p., eng] 47-4619
Ravaska, O.
Dielectric properties of road aggregates and their effect on *GPR surveys* [1993, p.17-22, eng] 47-4116
Ravi-Chandar, K.
Stress-optic effects in ice [1993, p.113-117, eng] 47-3746
Rawlins, W.
Resistance thermometers with fast response for use in rapidly oscillating gas flows [1992, p.471-474, eng] 47-2986
Ray, S.R.
Hydrologic and water quality investigations related to placer mining in interior Alaska; summer 1991 [1992, 73p., eng] 47-4770
Hydrologic and water quality investigations related to placer mining in interior Alaska: summer 1992 [1993, 83p., eng] 47-4763
Preliminary water-quality sampling for the Fairbanks International Airport Bioremediation Project: November 1990 through October 1991 [1992, 15p., eng] 47-4772
Spatial and seasonal patterns of streambed water temperatures in an Alaskan subarctic stream [1989, p.381-390, eng] 47-2581
Streamflow, sediment load, and water quality study of Hoseanna Creek basin near Healy, Alaska: 1991 progress report [1992, 51p., eng] 47-4766
Raymo, M.E.
Global climate change: a three million year perspective [1992, p.207-223, eng] 47-2837
Tectonic forcing of late Cenozoic climate [1992, p.117-122, eng] 47-373
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Determination of glacier speed by time-lapse photography under unfavorable conditions [1992, p.257-265, eng] 47-466
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Unusual *antifreeze in the fishes of northern Japan* [1992, p.221-224, eng] 47-142
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*Delta*N-15 of N2 in air trapped in polar ice: a tracer of gas transport in the firn and a possible constraint on ice age-gas age differences [1992, p.15,683-15,697, eng] 47-996
Glacial-interglacial evolution of greenhouse gases as inferred from ice core analysis: a review of recent results [1992, p.381-386, eng] 47-1282
Glacials-interglacials in Vostok: climate and greenhouse gases [1993, p.131-143, eng] 47-4587
Ice core record: past archive of the climate and signpost to the future [1992, p.227-234, eng] 47-3142
Ice record of greenhouse gases [1993, p.926-934, eng] 47-2028
Reagan, J.E.
Test record for the retest of the Heavy Equipment Transport System (HETS) M1000 trailer [1993, 3p. + appends., eng] 47-3446
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Non-chloride accelerating admixtures for early compressive strength [1990, p.55-58, eng] 47-2720
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Hydrology and hydrochemistry of the surface water layer near the ice-edge in the Scotia Sea (December 1989-January 1989) [1991, p.495-505, eng] 47-3087
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On the new and rare in the West Siberian arctic species of the *genus Carex (Cyperaceae)* [1991, p.1772-1775, rus] 47-2571
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Some studies in gamma attenuation for application in snow gauging [1985, p.144-148, eng] 47-533
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Radio-echo-sounding on Browning Pass, Terra Nova Bay area, Antarctica [1992, p.135-137, eng] 47-2185
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Geochemistry of Haines-Klukwan-Porcupine area, southeastern Alaska [1991, 75p. + 2 sheets, eng] 47-1488
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Ecology of sea ice biota. 1. Habitat, terminology, and methodology [1992, p.417-427, eng] 47-1334
Ecology of sea ice biota. 2. Global significance [1992, p.429-444, eng] 47-1335
Interannual variations in tundra methane emission: a 4-year time series at fixed sites [1992, p.139-159, eng] 47-1053
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Accumulation and melt characteristics of northeastern Sierra Nevada snowpacks [1992, p.631-640, eng] 47-2739
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Use of trees and shrubs for control of blowing snow in select locations along Wyoming highways [1992, 30p., eng] 47-4214
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Late Pleistocene vertebrates and other fossils from Epiguruk, northwestern Alaska [1993, p.381-389, eng] 47-3899
Pleistocene vertebrates and other fossils from Epiguruk, northwestern Alaska [1993, p.381-389, eng] 47-5143
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Comments on "An arctic hurricane over the Bering Sea" [1992, p.2713-2715, eng] 47-1994
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Sludges from cold regions lagoons [1993, p.146-155, eng] 47-3675
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Greenland glaciers and the "greenhouse effect," status 1991 [1992, p.9-13, eng] 47-1631
Last interglacial as recorded in the Greenland ice sheet and *Canadian arctic ice caps* [1991, p.123-142, eng] 47-3485
Palaeo-environmental studies on the Greenland ice sheet margin [1993, p.66-68, eng] 47-4919
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Angular variation of the infrared emissivity of ice and water surfaces [1992, p.2873-2886, eng] 47-821
Infrared emissivities of arctic land cover types [1993, p.1013-1017, eng] 47-4070
Investigations of arctic ice-sheets and glaciers using ERS-1 SAR [1993, p.263-268, eng] 47-4423
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Silt-enriched horizons due to vertical mesosorting in cryogenic soils [1992, p.154-167, eng] 47-1722
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Dating Holocene moraines of Black Rapids Glacier, Delta River valley, central Alaska Range [1993, p.51-59, eng] 47-4778
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Minerals Management Service regulation of floating drilling unit operations in the Beaufort and Chukchi Outer Continental Shelf [1992, p.227-241, eng] 47-1031
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Polar engineering [1990, p.84-87, fre] 47-3164
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Regulations for navigation on the seaways of the Northern Sea Route [1991, 23p., eng] 47-4892
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Glacial caves in Spitsbergen [1991, p.93-117, eng] 47-26
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Evidence for a grounded ice sheet on the Ross Sea continental shelf during the Late Pleistocene and preliminary paleodrainage reconstruction [1992, p.39-62, eng] 47-2871
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Bank recession—causes, measurement techniques, rates, and predictions, Lake Sakakawea, North Dakota [1992, 67p., eng] 47-1324
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Occurrence of ozone laminae near the boundary of the stratospheric polar vortex [1993, p.8883-8890, eng] 47-4381
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State of the arctic environment: updated draft proposal for AMAP [1992, p.391-403, eng] 47-3721
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Determinations of methyl iodide in the antarctic atmosphere and the south polar sea [1992, p.2905-2912, eng] 47-1948
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Hydrometeorologic forecasting at Salt River Project [1992, p.137-142, eng] 47-2723
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Gas dependence of the effective area of the piston gage to be used for the NIST realization of the ITS-90 [1992, p.133-138, eng] 47-2959
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Interaction of rising frazil with suspended particles: tank experiments with applications to nature [1993, p.117-135, eng] 47-2645
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Photoelectric ice accumulation monitor using dual detectors [1989, 16 col., eng] 47-3328
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Detailed weather prediction system for snow and ice control [1992, 12p., eng] 47-972
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White phosphorus poisoning of waterfowl in an Alaskan salt marsh [1992, p.669-673, eng] 47-1235
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Comparison of Nimbus 7 limb infrared monitor of the stratosphere and radiosonde temperature in the lower stratosphere poleward of 60N [1992, p.13,001-13,014, eng] 47-78
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Constraints on the repetitivity of the orbit of an altimetric satellite: *estimation of the cross-track slope* [1993, p.410-419, eng] 47-3774
Katabatic wind intensity and direction over Antarctica derived from scatterometer data [1992, p.1021-1024, eng] 47-2907
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Thermal properties and temperature distribution of snow/firn on the Law Dome ice cap, Antarctica [1991, p.38-46, eng] 47-39
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Application of mini-refrigerator in temperature measurement [1992, p.1071-1072, eng] 47-2994

Realization and intercomparison of cryogenic triple points by means of sealed cells [1992, p.261-263, eng] 47-2972

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Statistical approach to prediction of restricted visibility at McMurdo and Williams Field, Antarctica [1988, p.148-150, eng] 47-4205

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Seasonal changes in the radiation balance of subarctic forest and tundra [1993, p.32-36, eng] 47-3425

Report of the Working Group on Routes, Rates, Reactions and Fates
Report of the Working Group on Routes, Rates, Reactions and Fates [1993, p.9-11, eng] 47-5015

Research and development in building physics during the last 25 years
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Effect of inoculation on the biodegradation of weathered Prudhoe Bay crude oil [1992, p.95-102, eng] 47-864

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Role of multiple lake interaction in the western New York lake-effect snowstorm of 24-26 November 1991 [1992, p.125-134, eng] 47-4041

Results of the Fifth All-Union Conference on the Theoretical Principles of Soil Cryogenesis
Results of the Fifth All-Union Conference on the Theoretical Principles of Soil Cryogenesis [1991, p.121-128, rus] 47-4821

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Analysis of radar studies on the Siple Coast [1991, p.62-63, eng] 47-2464
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Squires' penetrative downdraft model [1993, p.794-798, eng] 47-3511

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Increasing of the solubility of the AgI nuclei seeded for hail suppression in rain drops under the complex formation with dominant ions [1992, p.317-320, eng] 47-2276

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10 year surficial velocities on a rock glacier (Laurichard, French Alps) [1992, p.209-213, eng] 47-1772

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Propagation of coastal-trapped waves under an ice cover in *Hudson Bay* [1992, *p.593-620, eng*] 47-2880

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Effectiveness and variability of digestion procedures for zinc determination in aged, contaminated soils [1992, 13p., eng] 47-1897

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Field measurements of northern Baltic pressure ridges [1992, 21p. + append., eng] 47-2587

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Extracellular acid phosphatase activities in *Eriophorum vaginatum* tussocks: a modeling synthesis [1993, p.50-55, eng] 47-3428
Long-term response of an arctic sedge to climate change: a simulation study [1992, p.323-340, eng] 47-2288

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Identification and mitigation of glacier-related hazards: examples from the Cordillera Blanca, Peru [1992, p.143-157, *eng*] 47-2077

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Improved real-time global sea surface temperature analysis [1993, p.114-119, eng] 47-2461

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Tracer gas for meteorological analysis in the Fairbanks basin [1981, 33p. + append., eng] 47-5246

Rezkallah, K.S.
Mathematical model for predicting the densification and growth of frost on a flat plate [1993, p.353-363, eng] 47-2608

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Inconsistencies in modern notions about the greenhouse effect and future environmental conditions [1992, p.165-170, rus] 47-3268

Rheem, C.K.
Numerical simulation of pack ice movement using the *momentum* conservation method [1992, 7p., eng] 47-2117

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Brillouin and Raman scattering from liquid water [1992, p.287-299, eng] 47-1377

Rice, S.A.
Molecular dynamics study of the structure of a long chain amphiphile monolayer adsorbed on ice Ih [1993, p.4160-4167, eng] 47-5272

Richard, P.J.H.
Postglacial paleophytogeography and paleoclimates in the western St. Lawrence River region, Quebec [1992, p.151-172, fre] 47-3788

Richard, S. M.
Glacial flow reorientation in the southwestern Fosdick Mountains, Ford Ranges, Marie Byrd Land [1991, p.67-69, eng] 47-2467

Richardson, F.
Abstracts and papers [1991, 2 vols., eng] 47-3369

Richardson, R.C.
Experimental techniques in condensed matter physics at low *temperatures* [1988, 338p., *eng*] 47-1618

Richeva, T.A.
Modeling the temperature regime of an arctic soil [1993, p.1-11, eng] 47-4011

Richmond, P.W.
Cold weather countermobility analysis: mine, explosive, constructed and expedient obstacles [1992, 7p., eng] 47-603
Design and analysis of a low speed drag plow for use in deep snow [1992, 51p., eng] 47-1894
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Postulated new source for the White River Ash, Alaska [1992, p.212-218, eng] 47-618

Richter-Menge, J.A.
Overview of sea ice physical properties and their variability [1992, p.486-497, eng] 47-1808

Riddle, L.
Atmospheric circulation and precipitation in the Sierra Nevada [1992, p.711-720, eng] 47-2747
Snow water content as a predictor of streamflow in the Sierra Nevada and Coast Ranges of California [1992, p.641-650, eng] 47-2740

Ridgway, W.
Oceanic boundary layer in the tropics during the last ice age [1991, p.480-483, eng] 47-4494

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Antarctic ice sheet topography mapped with the ERS-1 radar altimeter [1993, p.1649-1650, eng] 47-5119
Validating the UK-PAF land ice product surface elevation [1993, p.483-488, eng] 47-4444

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Late Neogene antarctic glacio-eustatic record, Victoria Land Basin margin, Antarctica [1992, p.327-347, eng] 47-2047
Paleoclimate record for Northwind Ridge, western Arctic Ocean [1993, p.149-159, eng] 47-4152

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Topography of the upper and lower surfaces of 10 hectares of deformed sea ice [1993, p.349-369, eng] 47-5206

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Thermomechanical analysis and viscometric properties of motor oils at low temperature [1992, p.227-242, eng] 47-2884

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Unsupervised segmentation of polarimetric SAR data using the covariance matrix [1992, p.697-705, eng] 47-356

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Arctic Ocean Buoy Program data report for 1 January 1987-31 December 1987 [1990, 152p., eng] 47-4670
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Arctic Ocean Buoy Program data report for 1 January 1989-31 December 1989 [1991, 158p., eng] 47-4672
Arctic Ocean Buoy Program data report for 1 January 1990-31 December 1990 [1991, 142p., eng] 47-4673

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Phytomass and primary productivity in several communities of a central Himalayan alpine meadow, India [1992, p.344-351, eng] 47-1591

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Sensitivity of Asian and African climate to variations in seasonal insolation, glacial ice cover, sea surface temperature, and Asian orography [1993, p.7265-7287, eng] 47-3831
Wisconsinan ice-sheet initiation: Milankovitch forcing, paleoclimatic data, and global climate modeling [1992, p.53-69, *eng*] 47-2683

Ringberg, B.
Landforms in Skane, south Sweden: preglacial and glacial landforms analyzed from two relief maps [1991, p.61-91, eng] 47-4308

Ripley, E.A.
Study of the arctic heat sink [1990, 95p. + append., eng] 47-4910

Rise, L.
Composition and properties of glacigenic sediments in the *southwestern Barents Sea* [1991, p.229-255, *eng*] 47-3175

Riseborough, D.W.
Current work, 1992. The Canada-France Pipeline-Frostheave Frozen Transition Experiment [1993, p.162-170, *eng*] 47-4279
France-Canada joint study of deformation of an experimental pipe line by differential frost heave [1993, p.56-60, eng] 47-4301
France-Canada joint study of deformation of an experimental pipeline by differential frost heave [1992, p.40-45, eng] 47-1834

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Relationship between creep and fracture of ice [1991, p.355-369, eng] 47-2309

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Airborne flux measurements of trace species in an arctic boundary layer [1992, p.16,601-16,625, eng] 47-1457

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Lithologic mapping in the southwestern Greenland and Nubian shields using field, laboratory, and Landsat thematic *mapper data* [1991, *238p., eng*] 47-292

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Methane in permafrost sediments on the Kolyma-Indigirka lowland [1992, p.559-562, rus] 47-1497

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Formation and growth of PSCs in a 2D model: effects on the secular ozone trend [1992, p.375-396, eng] 47-2172

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Sublimation and reformation of icy grains in the primitive solar nebula [1991, p.333-344, eng] 47-990

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Two-dimensional freezing of water filled between vertical concentric tubes involving density anomaly and volume expansion [1993, p.2647-2656, eng] 47-4414

Road heating in Sapporo
Road heating in Sapporo [1990, 18p., eng] 47-4781

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Snow hydrology [1991, p.149-154, eng] 47-1504

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Modeled variations of precipitation over the *Greenland ice* sheet [1993, p.1253-1268, eng] 47-5210
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Robberecht, R.
Influence of season and phenology on freezing tolerance in *Silene acaulis* L., a subarctic and arctic cushion plant of circumpolar distribution [1993, p.423-426, eng] 47-4911

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Nitrogen dynamics and sub-ice meltwater patterns in a small boreal lake during snowmelt [1992, p.169-180, eng] 47-4046

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High-latitude processes in a coupled ocean-atmosphere general circulation model [1988, p.89-91, eng] 47-4190

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Post-glacial loess deposition in a montane environment: South Thompson River valley, British Columbia, Canada [1992, p.291-301, *eng*] 47-4023

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Rainfall-snowmelt peaks in a warmer climate [1992, p.195-202, eng] 47-2728

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Reevaluation of coal resources in the Late Cretaceous-Tertiary Sagavanirktok Formation, North Slope, Alaska [1992, p.196-203, eng] 47-616

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Effects of wind on boreal forests [1993, p.203-225, eng] 47-4538
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Groundwater issues relating to an Alaskan *methanol spill* [1992, p.936-940, eng] 47-234

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Last interglacial in northernmost Sweden [1991, p.173-181, eng] 47-3489

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Summer cryospheric and atmospheric variability in the Arctic *Basin* [1988, *p.44-47, eng*] 47-4182

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High resolution study of the platelet ice ecosystem in McMurdo Sound, Antarctica: photosynthetic and bio-optical characteristics of a dense microalgal bloom [1993, p.173-185, *eng*] 47-5200

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My old friends—avalanches (part 3) [1993, p.2-3, eng] 47-2819
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Physiological and spectral analysis of the effects of sodium chloride on *Syringa vulgaris* [1992, p.236-238, eng] 47-644
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Ice crystal nucleation scheme applying by 3-D simulation of cirrus clouds [1992, p.237-240, eng] 47-2257
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Microwave ice accretion measuring instruments [1987, 20 col., eng] 47-3854
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Late Quaternary glaciation and climatic change in the northern Peruvian Andes [1992, 233p., eng] 47-282
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Relative dispersion of ice crystals in seeded cumuli [1993, p.1055-1073, eng] 47-4080
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Interpretation of results of the *fracture toughness tests on ice* [1993, p.49-59, eng] 47-3741
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Nuclear lighter "Sevmorput" [1990, p.22-23, rus] 47-4089
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Model comet made from mineral dust and H2O-CO2 ice: sample preparation development [1990, p.379-388, eng] 47-4567
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Mechanistic studies of heterogeneous ice nucleation by AgI-AgCl and AgI-AgCl-4NaCl aerosols [1992, p.263-266, eng] 47-2263
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Arctic: arena for international environmental security? [1993, p.277-289, eng] 47-4727
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Pneumatically de-iced ice detector [1985, 32p., eng] 47-4896
Rognerud, S.
Plankton primary productivity in an arctic lake: 71.2 deg N—diurnal variations of productivity under the midnight sun [1988, 85p., nor] 47-2247
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Passive microwave remote sensing applied for snow monitoring in a Norwegian test site [1992, 60p., eng] 47-1811
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Investigations of cryogenic weathering in Europe and northern Asia [1993, p.49-64, eng] 47-3117
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Modelling of snowdrift around prismatic buildings for antarctic environment [1992, p.73-79, eng] 47-4281
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Energy cost of level cross-country skiing and the effect of the *friction of the ski* [1989, p.791-795, eng] 47-2320
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Contact assembly for high-voltage switch [1989, 6 col., eng] 47-3412
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Glacigenic deposits of the Central Deep: a key to the Late Quaternary evolution of the eastern Barents Sea [1993, p.47-58, eng] 47-4017
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Dynamics of seasonal heat, moisture, and salt transfer in frozen ground [1991, p.47-51, rus] 47-4808
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Snow-compacting equipment for constructing *winter roads* and airfields [1990, p.22-23, rus] 47-1414
Roonert, L.
High porosity of basal till at Burroughs glacier, southeastern Alaska [1992, p.849-852, eng] 47-246
Roos, M.
Possible climate change and its impact on snowmelt and water supply in California [1990, p.135-144, eng] 47-5218
Roper, B.G.
Freeze safe valve [1988, 8 col., eng] 47-3633
Roppongi, K.
Interaction between sea ice floes and protective coastal structure [1992, p.86-90, jpn] 47-121
Rosbjerg, D.
On the choice of threshold levels in partial duration series [1992, p.604-615, eng] 47-1977
Roscoe, H.K.
Equilibrium constant of NO2 with N2O4 and the temperature *dependence of the visible spectrum* of NO2: a critical review and implications for measurements of NO2 in the polar stratosphere [1993, p.257-276, eng] 47-3464
Rose, G.
Improved carrying case for snow tubes [1992, p.146-149, eng] 47-507
Rose, P.A.
Environmental impacts of three runway de-icers [1993, *p.323-330, eng*] 47-4473
Rosen, D.I.
Investigations of active infrared detection of pavement icing [1989, 30p., eng] 47-4902
Rosen, R.D.
Interannual variability of wintertime snow cover across the Northern Hemisphere [1992, p.1441-1447, eng] 47-2178
Rosenbaum, M.S.
Origins and engineering hazards of Swedish glaciomarine and marine clays [1991, p.257-264, eng] 47-3882
Rosengren, L.
Modelling of rock mass responses to glaciation at Finnsjön, central Sweden [1993, p.75-82, eng] 47-3920
Rosenthal, H.A.
Swirl anti-ice system [1987, 6 col., eng] 47-3853
Rosman, K.J.R.
Isotopic evidence for the source of lead in Greenland snows since the late 1960s [1993, p.333-335, eng] 47-2891
Ross, B.
Long-range forecasts of arctic sea level pressure [1988, p.48-51, eng] 47-4183
North Atlantic sea ice sensitivities of monthly dynamical forecasts [1988, p.32-35, eng] 47-4179
Ross, J.F.
Contrasting requirements for Type II de anti-icing fluids [1993, p.10-13, eng] 47-3311
Ross, M.I.
Evidence from the antarctic continental margin of Late Paleogene ice sheets: a manifestation of plate reorganization and *synchronous* changes in atmospheric circulation over the emerging southern ocean? [1992, p.131-159, eng] 47-3166
Ross, R.M.
Long-term ecological research strategy for polar environmental research [1992, p.233-238, eng] 47-4506
Rossetti, S.
Acquisition of land based high *resolution seismic profiles in* glacial basins, two case studies in the alpine foreland of Switzerland [1992, p.491-502, eng] 47-1912
Rossi, A.
Bore-hole survey at dome GRIP 1991 [1993, p.399-402, eng] 47-5209
Rossiter, J.R.
Operational airborne sea ice thickness measurement system [1991, p.167-177, eng] 47-3384
Rosso, R.
Physically based approach to modelling distributed snowmelt in a small alpine catchment [1991, p.141-150, eng] 47-1301
Rossow, W.B.
Polar cloudiness: some results from ISCCP and other cloud climatologies [1992, p.1-3, eng] 47-2363
Rostásy, F.S.
Salt-scaling resistance of concrete with air-entraining and superplasticizing admixtures [1989, p.170-178, eng] 47-16
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Seed collections from North American trees for marginal sites in the Nordic countries [1993, p.277-291, eng] 47-4543
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Traffic safety of porous asphalt surface layers during winter—results of a study on highways [1992, p.359-362, ger] 47-50
Roth, R.
Sensible heat flux over open water and sea ice in the Weddell Sea [1992, p.317-318, ger] 47-217
Wind forcing and ice motion in the *Weddell Sea region* [1992, p.20,373-20,383, eng] 47-2051
Rothrock, D.A.
Arctic Ocean ice balance: a Kalman smoother estimate [1993, p.10,053-10,067, eng] 47-4376
Controls on ice thickness [1992, p.A4-A9, eng] 47-3237
Determination of sea ice motion from satellite images [1992, p.343-354, eng] 47-3032
Ice modeling and data assimilation with the Kalman smoother [1992, p.405-418, eng] 47-3037
Ice thickness observations from satellites [1992, p.B60-B65, eng] 47-3252
Report [1992, *41p. + appends., eng*] 47-3235
Sea ice deformation observed with ERS-1 SAR [1993, p.301-306, eng] 47-4429
Spatial structure of the surface temperature field of arctic pack ice determined with AVHRR [1992, p.76-79, eng] 47-2385
Status and future directions for sea ice remote sensing [1992, p.443-446, eng] 47-3040
Rothwell, R.L.
Effects of summer frosts and subsequent shade on foliage gas exchange in peatland tamarack and black spruce [1992, p.973-979, eng] 47-1188
Snow ablation in small forest openings in southwest Alberta [1992, p.1326-1331, eng] 47-3842
Rototaeva, O.V.
Calculating and mapping the fields of components in the water-ice balance of *glaciers* [1991, *p.94-102, rus*] 47-326
Current state of the regime of glacier systems in the world [1991, p.55-66, rus] 47-322
Rott, H.
Development and intercomparisons of snow mapping algorithms based on SSM/I data [1992, p.812-814, eng] 47-657
Energy balance of dry tundra in West *Greenland* [1992, p.352-362, eng] 47-1592
Polarimetric and multifrequency SAR signatures of wet snow [1992, p.1658-1660, eng] 47-687
Signatures of antarctic firn by means of ERS-1 AMI and by field measurements [1993, p.227-233, eng] 47-4417
Snow and glacier investigations by ERS-1 SAR—first results [1993, p.577-582, eng] 47-4445
Rottler, P.
Wave induced noise generation in the marginal ice zone [1993, p.611-624, eng] 47-4840
Roulet, N.T.
Episodic fluxes of methane from subarctic fens [1992, p.441-452, *eng*] 47-3717
Rouse, W.R.
Impacts of summer warming on the energy and water balance of wetland tundra [1992, p.305-326, eng] 47-1375
Response of the Canadian permafrost environment to climatic change [1992, p.287-317, eng] 47-2018
Rousseau, J.
Creating effective air barriers: materials and techniques [1992, p.646-651, eng] 47-1165
Roussel, J.C.
Winter behavioural patterns of self draining roadways [1992, 23p., eng] 47-1621
Rousselet, J.
Simulation of ice-shedding on electrical transmission lines using ADINA [1993, p.523-536, eng] 47-4857
Rowland, B.
Surface-defect vibrational modes of large ice clusters [1993, p.2485-2487, eng] 47-3177
Rowntree, P.R.
Boreal forests and climate [1992, p.469-497, eng] 47-375
Rowsell, R.D.
Hydrology of a prairie slough [1993, p.175-207, eng] 47-4170
Roy, N.A.
Effects of freezing on the measurement of solids in wastewater *sludges* [1990, p.191-197, fre] 47-1784
Roy, R.A.
Underwater sounds of precipitation [1992, p.2-12, eng] 47-513
Roy, S.
Fate and effects of dispersed crude oil under icy conditions simulated in mesocosms [1993, p.273-302, eng] 47-2657

Royer, T.C.
Circulation and hydrography in the northwestern Gulf of Alaska [1992, p.1499-1519, eng] 47-3817
Rozhdestvenskii, A.V.
Application of data of short-term hydrometeorological studies to computations of river runoff [1991, p.70-76, eng] 47-5196
Rozhdestvenskii, I.U.F.
Ecology of cryogenic anthropogenically disturbed soils of the Yamal and peculiarities of their recultivation [1992, p.108-111, eng] 47-1713
Rubanov, A.N.
Movement of icebreakers in complicated ice conditions [1991, p.153-156, rus] 47-3966
Rubinchik, S.B.
Cryogenic deformations of Suluk BAM station building [1993, p.167-169, eng] 47-3577
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Experimental observations and theoretical studies on solidification processes in saline solutions [1993, p.157-167, eng] 47-3288
Ice crystal growth and lectins [1992, p.113-114, eng] 47-906
Thermal modeling of freezing in biological tissue [1991, p.291-298, eng] 47-2559
Rubinstein, I.G.
Integration of high and low resolution microwave observations [1991, p.131-142, eng] 47-3404
Maxim Gorky accident: how good are ice charts [1991, p.65-73, eng] 47-3376
Operational utility of satellite passive microwave imagery in supporting Canadian regional sea ice monitoring [1991, p.47-52, eng] 47-3397
Rudakova, R.M.
Selecting a current for melting glaze [1992, p.46-49, rus] 47-2360
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Multiple glaciation in Scandinavia—seen in gross morphology or not? [1992, p.231-243, eng] 47-4332
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Tectonic forcing of late Cenozoic climate [1992, p.117-122, eng] 47-373
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High latitude ocean convection [1993, p.323-356, eng] 47-4843
Ship of opportunity section to the North Pole: upper ocean *temperature observations* [1993, p.777-789, eng] 47-4854
Rudelstorfer, K.
Snow loads on road-side structures during plowing [1987, 88p., ger] 47-4989
Rudetskii, V.A.
Vibrations of offshore ice-resistant structures [1992, p.300-301, eng] 47-154
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Numerical experiment in hydrodynamic forecasting of pressure fields 5 days in advance in the Arctic, based on an atmospheric processes analogy [1989, p.53-65, rus] 47-3657
Rudkin, P.
Iceberg trajectory model—real-time verification [1992, 47p. + appends., eng] 47-2335
Rudoff, R.C.
Development of advanced instrumentation for drop size and liquid water content measurements in clouds [1988, 66p., eng] 47-4903
Rudra, R.P.
Seasonal variability of hydraulic conductivity [1993, p.451-457, eng] 47-5146
Ruffell, J.P.
Some aspects of the behavior of Beaufort Sea clays [1985, p.487-514, eng] 47-1617
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Characteristics of the lower troposphere during LEADEX 92 [1992, p.50-53, eng] 47-2378
Surface energy measurements on the arctic ice pack [1992, p.72-75, eng] 47-2384
Ruffino, G.
Platinum resistance thermometer for exploration of the Titan atmosphere [1992, p.409-413, eng] 47-2978
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Experimental studies of clouds and aerosols along the antarctic coast [1988, p.108-111, eng] 47-4194
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Bacterial ice nucleation proteins: kinetics of assembly and membrane locations of functional ice nuclei [1992, 140p., eng] 47-276
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Sidewalk snow removal at the foot of the Rockies [1992, p.49-50, eng] 47-1926
Rumiantsev, E.A.
Mechanism of the development of the naled process [1991, p.55-66, rus] 47-2429
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Cold air outbreak near Spitsbergen in springtime—boundary-layer modification and cloud development [1992, p.13-46, eng] 47-900
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Modeling the interactions of sea ice and climate in the central Arctic [1992, p.105-108, eng] 47-2393
Ruocco, G.
Low-frequency light scattering from disordered hydrogen-bonded solids [1992, p.2845-2852, eng] 47-1511
Rupp, K.H.
Ice breaker [1989, 8 col., eng] 47-3325
Rusby, R.L.
Implementation of the ITS-90 below 0 C at NPL [1992, p.161-163, eng] 47-2964
Some ancillary equations for the ITS-90 [1992, p.151-154, eng] 47-2962
Triple point of pure equilibrium deuterium using Gd2O3 spin catalyst [1992, p.247-249, eng] 47-2969
Russell, G.L.
Effects of climate change on monthly river runoff [1992, p.175-178, eng] 47-2726
Russia pins energy hopes on western Siberia gas
Russia pins energy hopes on western Siberia gas [1992, p.17-20, eng] 47-3528
Russia's Rosshelf sets timetable for arctic offshore field development
Russia's Rosshelf sets timetable for arctic offshore field development [1993, p.31-34, eng] 47-3527
Rutford, R.H.
Glacial history of the Ellsworth Mountains, West Antarctica [1992, p.403-432, eng] 47-2700
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Concepts and procedures for evaluation/design of materials and flexible pavements [1992, p.270-288, eng] 47-1138
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Relationship between frost tolerance and sugar concentration of various bryophytes in summer and winter [1992, p.260-265, eng] 47-774
Ryan, J.P.
Coastal zone color scanner pigment concentrations in the southern ocean and relationships to geophysical surface features [1993, p.2419-2451, eng] 47-2625
Ryan, K.R.
Laboratory measurements of the loss of ClO on Pyrex, ice and NAT at 183 K [1993, p.193-196, eng] 47-2857
Ryan, R.J.
Year-round accelerating admixture [1989, p.535-555, eng] 47-66
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Anomalies of the shock compressibility of water [1992, p.162-165, eng] 47-2458
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Effects of forests near the timberline on avalanche formation [1991, p.19-38, eng] 47-1290
Rycheva, T.A.
Modeling the temperature regime of an arctic soil [1992, p.1-11, eng] 47-4875
Rychnovsky, R.E.
Deep ice penetrator/instrumented test results [1988, 25p., eng] 47-4641
Ice penetration tests of a water/ice penetrator [1987, 50p., eng] 47-4642
Rycroft, M.J.
Quo vadimus re the springtime antarctic ozone depletion? [1990, p.(10)275-(10)277, eng] 47-1284
Rye, N.
Modern and Little Ice Age equilibrium-line altitudes on outlet valley glaciers from Jostedalsbreen, western Norway: an evaluation of different approaches to their calculation [1993, p.106-116, eng] 47-4743
Ryerson, C.C.
Regional CONUS snowfall intensity and inferred global patterns [1990, p.111-122, eng] 47-911
Ship superstructure icing: data collection and instrument performance on USCGC *Midgett* research cruise [1992, 133p., eng] 47-2924
Ryter, D.W.
Boulder streams, debris fans, and Pleistocene climate change in the Blue Ridge Mountains of central Virginia [1992, p.487-494, eng] 47-2704
Rzentkowski, G.
Dependence of post-stable fluidelastic behavior on the degrees-of-freedom of a tube bundle [1992, p.167-187, eng] 47-1913
Hydroelastic stability of marine risers [1991, p.31-41, eng] 47-1141
Rzhechitskii, I.U.P.
Specific hydrogeological conditions of the North-Muya Ridge [1991, p.76-80, eng] 47-1674
Saar, V.A.
Optimizing the composition of frost resistant concrete with a mixed filler [1991, p.44-46, rus] 47-2030
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Determination of the elastic stiffness of thawing subgrade soil [1993, p.65-68, eng] 47-4122
Use of frost insulation in the repair of frost heave damages [1993, p.113-116, eng] 47-4129
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Dielectric properties of road aggregates and their effect on GPR surveys [1993, p.17-22, eng] 47-4116
GPR applications in geotechnical investigations of peat for road survey purposes [1992, p.293-305, eng] 47-636
Ground-penetrating radar applications in road design and construction in Finnish Lapland [1992, p.161-167, eng] 47-3554
Saarinen, H.
Cold climate related studies in Finland and in the Kola area in Russia: a new product- bibliography and database [1992, p.102-107, eng] 47-1400
Saarnisto, M.
Postglacial history of Kemijoki [1992, p.151-159, eng] 47-3553
Saatchi, S.S.
Mean wave propagation in a slab of one-dimensional discrete random medium [1992, p.301-314, eng] 47-441
Sabir, B.B.
Freeze-thaw durability of air-entrained CSF concrete [1991, p.203-208, eng] 47-863
Sack, R.L.
ASCE Standard 7 snow loads [1992, p.381-391, eng] 47-3216
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Quality, quantity and availability of West Virginia oil and gas well brines for highway deicing purposes [1992, 16p., eng] 47-933
Sackinger, W.M.
Advances in ice technology: proceedings of the 3rd international conference [1992, 365p., eng] 47-1013
Effect of naturally-occurring ice thickness variations in reducing global loads on offshore structures [1992, p.253-265, eng] 47-1033
Sacks, J.
Multivariate sensitivities of a dynamic-thermodynamic sea ice model [1992, p.87-90, eng] 47-2388
Sadikov, M.A.
Theoretical and methodological aspects of an eco-geochemical evaluation of large industrial regions in the arctic zone [1990, p.81-93, rus] 47-980
Sadovskii, A.V.
Seasonal deformations of underground utilidors on permafrost in Norilsk [1993, p.151-155, eng] 47-4133
Sadovskii, M.A.
Why is Antarctica aseismic [1992, p.54-58, eng] 47-415
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Rifting, ozone layer and the level of the world ocean [1992, p.731-733, rus] 47-3335
Saeki, H.
Interaction between sea ice floes and protective coastal structure [1992, p.86-90, jpn] 47-121
Saelthun, N.R.
Climate change and energy production: status and plans [1992, p.37-46, nor] 47-1955
Modelling hydrological effects of climate change [1992, p.73-80, eng] 47-2123
Saettem, J.
Composition and properties of glacigenic sediments in the southwestern Barents Sea [1991, p.229-255, eng] 47-3175
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Characteristics of the structure and dynamics of the development of hail clouds in the central part of Transcaucasia [1991, p.74-93, rus] 47-755
Evaluating the effectiveness of hail modification products [1991, p.122-136, rus] 47-760
Safatov, A.S.
Laboratory studies of the ice-forming characteristics of natural aerosol models [1992, p.245-247, eng] 47-2259
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Atactic polypropylene as a viscosity index improver for low-temperature oils [1993, p.509-512, eng] 47-4385
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Experiment in organizing the automated gathering and processing of hydrometeorological information for scientific-research ships, equipped with ES computers [1991, p.145-152, rus] 47-3965
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Collapse of peroxide-scavenging systems in apple flower-buds associated with freezing injury [1992, p.743-750, eng] 47-1000
Sai, T.
Improvement and development of sidewalk snow removal equipment at the Tohoku Regional Construction Bureau [1985, p.77-81, jpn] 47-5103
Snow management from door to door (application of a pipe transport system for snow water mixture) [1986, p.93-94, jpn] 47-5186
Saibene, F.
Energy cost of level cross-country skiing and the effect of the friction of the ski [1989, p.791-795, eng] 47-2320
Saint-Laurent, D.
Paleoecological interpretation of sand dunes at the tree line, northeast sector of Hudson Bay, Quebec [1992, p.209-220, fre] 47-3790
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Fundamental research on external factors affecting the freezing of supercooled water [1992, p.2527-2536, eng] 47-2147
Fundamental research on supercooling phenomenon on heat transfer surface: investigation of freezing phenomenon of supercooled water droplet and its relationship with the effect of heat transfer surface [1991, p.319-326, eng] 47-2560

Saito, A. *(cont.)*
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Results of installing traffic advisory signs with automatic display for winter [1992, p.79-84, jpn] 47-2509
Seasonal cycle of plankton biomass distributed above the thermocline in the Oyashio region, western subarctic Pacific [1992, p.182-187, eng] 47-138
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Newly developed snow vehicle (SM100S) for Antarctica. 5. Result of general performance tests [1992, p.410-440, jpn] 47-3367
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Sakaguchi, K.
Tests on the surface layout of snow removal drains [1986, p.65-82, jpn] 47-4953
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Properties of granulated blast-furnace slag cement concrete [1993, p.1367-1383, eng] 47-3617
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Performance tests on the KBR-81 compact snowplow [1983, p.33-48, jpn] 47-4944
Tests on developing an ice groove cutting device [1982, p.37-46, jpn] 47-4938
Tests on sideways skidding of compact snowplows [1982, p.57-66, jpn] 47-4941
Sakai, Y.
Basic experiments on snow avalanche abatement [1990, p.5-8, jpn] 47-4680
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Doppler radar analysis of the structure of mesoscale snow bands developed between the winter monsoon and the land breeze [1989, p.503-520, eng] 47-3466
Sakamoto, Y.
Comfortable towns with enhanced safety in snow [1991, p.13-21, eng] 47-4786
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Comparison of 3 micron features of trapped H2O and H2O frost in SiO condensate with observed dust features [1991, p.429-432, eng] 47-2114
Sakata Construction Office
Basic plan for a snowdrift information system [1990, p.26-29, jpn] 47-4685
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Identification of clear and cloudy pixels at high latitudes from AVHRR radiances [1993, p.2005-2024, eng] 47-5106
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Ecological studies on the timberline of Mt. Fuji—3. Seasonal changes in nitrogen content in leaves of woody plants [1992, p.47-52, eng] 47-794
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Sea ice and wind: effects on primary productivity in the Barents Sea [1992, p.579-591, eng] 47-2879
Sakui, S.
Newly developed snow vehicle (SM100S) for Antarctica. 3. Low temperature toughness of the welded joints of the structural steel [1992, p.393-397, jpn] 47-3365
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Dielectric dispersion of supercooled trimethyleneglycol-water mixtures [1992, p.4204-4211, eng] 47-3580
Scaling observed in glycerol-water and propylene glycol-water mixtures [1991, p.2835-2838, eng] 47-918
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Aerosol optical characteristics of the arctic atmosphere [1989, p.53-58, eng] 47-1223
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Algorithm for remote sensing of vertical salt density distributions *in the sea ice* [1992, p.277-280, eng] 47-149
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Fabrication and practical use of two types of rhodium-iron resistance thermometers [1992, p.457-460, eng] 47-2983
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Chemical loss of ozone in the Arctic polar vortex in the winter of 1991-1992 [1993, p.1146-1149, eng] 47-5138
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Emissivity of terrestrial materials in the 8-14 micron atmospheric window [1992, p.83-106, eng] 47-1555
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Use of steel meshes against longitudinal frost cracks in flexible pavements [1993, p.79-82, eng] 47-4124
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Salminen, R.
Regolith exploration geochemistry in arctic and temperate terrains [1992, 443p., eng] 47-1643
Sal'nikov, P.I.
Performance of piles in thawing ground [1990, 96p., rus] 47-98
Salonvaara, M.
Transparent insulations. Cold-region application [1992, 32p., eng] 47-4619
Saltanova, T.V.
Variability of area of ice cover in Far East seas [1989, p.77-81, eng] 47-1226
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Asthenospheric ice-load effects in a global dynamical-system model of the Pleistocene climate [1992, p.1-11, eng] 47-1791
Modeling the *delta*O-18-derived record of Quaternary climatic change with low dynamical systems [1987, p.355-380, eng] 47-4453
Possible effects of anthropogenically-increased CO2 on the dynamics of climate: implications for ice age cycles [1993, p.1051-1054, eng] 47-4630
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Methanesulfonic acid and non-seasalt sulfate in the Vostok ice core: a glacial/interglacial record of biogenic sulfur *emissions from the southern ocean* [1991, p.88-89, eng] 47-2473
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Regions of catastrophic avalanches in Georgian territory [1990, p.100-109, rus] 47-419
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Methane in permafrost sediments on the Kolyma-Indigirka *lowland* [1992, p.559-562, rus] 47-1497
Samata, T.
Oscillation of the freezing potential of aqueous lithium chloride solutions containing ethanol [1992, p.2511-2516, eng] 47-461
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Simple method for specifying snowpack water equivalent in *the northeastern United States* [1993, p.965-974, eng] 47-3565
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Non-linear model of the structural transformations of a snow sequence [1991, p.112-115, rus] 47-2797
Samoilov, O.IU.
Air inclusions as an index of ice formation conditions on polar *glaciers* [1991, p.118-121, rus] 47-2799
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Methods for improving instruments for contact determination of physical-mechanical properties of snow [1991, p.97-102, rus] 47-388
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Samoilov, V.
Expedition to the nuclear submarine *Komsomolets* site [1993, p.439-442, eng] 47-5047
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Multipurpose underground structures in the extreme north [1993, p.461-465, eng] 47-4578
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Observation of recurrent temperature lapse near the surface at the South Pole [1988, p.145-147, eng] 47-4204
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Moisture control in a ventilated attic [1992, p.512-516, eng] 47-1163
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Cryogenic structure and properties of technogenic soils of placer mines in Northern Yakutia [1991, p.76-87, rus] 47-401
Sanada, M.
Soil characteristics and C and N storage in soil [1993, p.59-65, eng] 47-3976
Sanche, L.
Quenching of the dissociative electron attachment resonances of O2 physisorbed on amorphous ice [1993, p.340-346, eng] 47-5191
Sánchez de Toro Larios, A.
Plans for the construction of a dam in a fossil lagoon near the *Juan Carlos I Station* [1989, p.89-101, spa] 47-816
Sand, K.
Comparison of snowmelt intensities in urban and rural areas of Norway [1990, 13p., eng] 47-1684
Polar hydrology -data bases [1989, 13p. + appends., nor] 47-1683
Polar hydrology: Norwegian hydrological research activities in Svalbard [1992, p.693-702, nor] 47-1981
Snowmelt runoff modelling with short time steps [1990, 15p., eng] 47-1686
Urban snowmelt research in Norway: measurements and modelling approach [1991, 8p., eng] 47-1685
Sandén, P.
Simple soil temperature model [1992, p.296-301, eng] 47-1966
Vertically distributed soil moisture simulations [1992, p.251-264, eng] 47-1965
Sanders, R.W.
Mixotrophic algae *in three ice-covered lakes of the Pocono* Mountains, U.S.A. [1992, p.263-272, eng] 47-4517
Sandford, S.A.
Laboratory observational and theoretical studies of interstellar ices [1991, p.29-58, eng] 47-2311
Mid- and far-infrared spectroscopy of ices: optical constants and integrated absorbances [1993, p.713-870, eng] 47-4736
Sandholm, S.T.
Summertime tropospheric observations related to NxOy distributions and partitioning over Alaska: Arctic Boundary Layer Expedition 3A [1992, p.16,481-16,509, eng] 47-1450
Sandven, S.
Ice studies *in the Barents Sea by ERS-1 SAR during* SIZEX 92 [1993, p.277-282, eng] 47-4425
Sandvik, R.
Snow load variation with altitude in Norway [1992, p.15-20, eng] 47-3184
Sangewar, C.V.
Chemical constituents of two snow falls around Manali District, Kulu, Himachal Pradesh [1985, p.151-156, eng] 47-534
Diurnal depletion characteristics of seasonal snow cover at different altitudes in Rohtang pass area, District Kulu, Himachal Pradesh [1985, p.157-163, eng] 47-535
Estimation of stored water in the seasonal snow cover by ground surveys in the upper reaches of Beas basin during 1980 [1985, p.152-162, eng] 47-568
Sanjo, K.
Freeze retardants admixed to asphalt pavements [1992, p.161-166, jpn] 47-2517
Sankina, L.V.
Volumetric hydrothermal state and regime of Spitsbergen glaciers based on data from airborne radio echo sounding [1991, p.40-53, rus] 47-2787
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Dimensional variations, capillary absorption and freeze-thaw resistance of repair mortars admixed with polymers [1993, p.301-308, eng] 47-3421
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Development of pneumatic snow conveyance equipment [1992, 10p., eng] 47-954
Santarius, K.A.
Relationship between frost tolerance and sugar concentration of various bryophytes in summer and winter [1992, p.260-265, eng] 47-774
Santschi, P.H.
Mobility of radioisotopes in marine surface sediments [1993, p.311-323, eng] 47-5038
Sapritskii, V.I.
Temperature measurements in radiometry [1992, p.37-39, eng] 47-2944
Sapunov, V.N.
Water-snow flows in the Khibiny Mountains [1991, p.94-99, rus] 47-2794
Sarma, T.C.S.R.
Objective guidelines to avalanche forecasting in Western Himalayas [1985, p.310-317, eng] 47-548
Sarnthein, M.
(delta) O-18 *time-slice reconstruction* of meltwater anomalies at termination I in the North Atlantic between 50 and 80 deg N [1992, p.183-200, eng] 47-3558
Sarraf, S.
Hydrometeorological analysis of ice breakup on the Nashwaak River, New Brunswick [1992, p.349-354, fre] 47-201
Sasajima, T.
Experimental study on overtopping of ice floes at breakwater [1992, p.91-95, jpn] 47-122
Sasaki, C.
Performance tests on a rotary snowplow (with a single loading operation) [1991, p.199-204, jpn] 47-2523
Sasaki, M.
Availability of MSR data for snow water estimation [1990, p.189-196, jpn] 47-885
Flow characteristics of snow-water mixtures in horizontal pipes [1992, p.301-312, eng] 47-3208
Tests on windbreaks, snowbreaks, and obstacles to visibility —wind tunnel experiments on snow countermeasures in the Shiomicho district of Rumoi City on National Highway 232 [1992, p.109-114, jpn] 47-2513
Sasaki, S.
Development of methods to evaluate mechanical snow removal [1990, p.17-19, jpn] 47-4683

Development of shock absorbers for snow removal graders (1993, p.30-33, jpn) 47-4789

Sasaki, T.
Performance tests on rotary snow plows in single file (1990, p.1-9, jpn) 47-4963
Wind tunnel experiments on innovations at the Toyono bypass on National Highway 40 (1992, p.70-91, jpn) 47-4975
Wind tunnel experiments on snow countermeasures in the *Shiomi district of Rumoishi on* National Highway 232 (1992, p.92-101, jpn) 47-4976

Sasaki, Y.
JAMSTEC's ice sea study program--from the Okhotsk Sea to the Arctic Ocean (1992, p.69-74, eng) 47-118
Sea ice observation in the Arctic Ocean (I) (1992, p.83-97, jpn) 47-3295
Turbulent structure of wind flow over ice-covered sea surface (1992, p.283-294, eng) 47-1192

Sashida, N.
Oscillation of the freezing potential of aqueous lithium chloride solutions containing ethanol (1992, p.2511-2516, eng) 47-461

Sass, B.H.
Numerical model for prediction of road temperature and ice (1992, p.1499-1506, eng) 47-1582

Sassen, K.
Ice nuclei availability in the higher troposphere: implications of a remote sensing cloud phase climatology (1992, p.287-290, eng) 47-2269
Subvisual-thin cirrus lidar dataset for satellite verification and climatological research (1992, p.1275-1285, eng) 47-1120

Sato, A.
Numerical simulation of snowdrift on a road (1992, p.123-135, jpn) 47-3297

Sato, H.
Singularity of liquid water--data analysis and modeling (1992, p.89-101, eng) 47-3730
Study on winter traffic volume (1984, p.101-106, jpn) 47-3076
Tests of grooving on the taxiways of the New Chitose Airport (1991, p.235-240, jpn) 47-2497

Sato, J.A.
New method for assessing frost damage in non-air entrained hydraulic structures (1992, p.339-355, eng) 47-2575

Sato, K.
Avalanche countermeasures (1985, p.27-31, jpn) 47-5150
New sea ice normals (1961-90) and the latest sea ice condition in the Sea of Okhotsk (1992, p.27-29, jpn) 47-109

Sato, M.
Current status of road snow melting in Jozankei, Sapporo City (1986, p.330-339, jpn) 47-4798

Sato, N.
Crystal structure of typical snow crystals of low temperature types (1989, p.521-528, eng) 47-3467

Sato, T.
Experimental and theoretical study on heat mechanism of groundwater flow (first report) (1991, p.69-88, jpn) 47-3293

Satoh, M.
Characteristics of a water sprinkler system with variable flow *rates to melt snow on railway tracks* (1992, p.727-738, eng) 47-4364

Satoh, T.
Report on the water shortage of 1990 (1991, p.55-60, jpn) 47-2518

Sattlegger, H.
Use of silicone masses to prevent the formation of ice on substrates (1988, 8 col., eng) 47-3494

Sauer, E.K.
Compression characteristics and index properties of tills and intertill clays in southern Saskatchewan, Canada (1993, p.257-275, eng) 47-4513
Preconsolidation pressures in the Battleford Formation, southern Saskatchewan, Canada (1991, p.1613-1623, eng) 47-4257

Saunders, C.P.R.
Effects of high liquid water content on thunderstorm charging (1992, p.14,671-14,676, eng) 47-252
Review of thunderstorm electrification processes (1993, p.642-655, eng) 47-3507

Sause, R.
Evaluation of wind-induced vibration of arctic pipelines (1992, p.21-31, eng) 47-1832

Sauter, K.A.
Minimizing measurement errors in automated snowpack profile temperature measurements (1992, p.36-45, eng) 47-492
Prediction of snowmelt rates at a forested alpine site in northern Utah (1992, p.95-102, eng) 47-498

Sauvageot, H.
Dual-wavelength radar method for ice-water characterization *in mixed-phase clouds* (1992, p.538-547, eng) 47-412

Savage, M.
Relationship of temperature and light ring formation at subarctic treeline and implications for *climate reconstruction* (1993, p.256-262, eng) 47-5123

Savage, M.L.
Southern Oscillation signal in Antarctica (1988, p.141-144, eng) 47-4203

Savage, S.B.
Two-dimensional extrusion of crushed ice. Part 2: analysis (1992, p.37-47, eng) 47-802

Savard, M.
Cretaceous chemosynthetic carbonate mounds in the Canadian Arctic (1992, p.434-450, eng) 47-3987

Savchenko, N.V.
Nature of lakes in the West Siberian subarctic (1992, p.85-92, rus) 47-3274

Savchenko, V.G.
Effect of a meridional profile of surfaces on the characteristics of large-scale atmospheric waves (1992, p.75-86, rus) 47-3807

Savel'ev, A.G.
Structural analysis of the suspension of a rotary snow blower (1991, p.22-24, rus) 47-2068

Savel'eva, E.M.
Effect of freeze-thaw processes on calcium ion mobility in the example of brown forest soil (1991, p.57-60, rus) 47-4810

Savel'eva, T.S.
Geographic laws of spatial soil cover organization in the Yamal Peninsula (1992, p.88-94, eng) 47-1709

Savenko, V.S.
Chemical composition of precipitation in Uzbekistan (1993, p.413-419, eng) 47-4068

Savin, S.S.
Additional resistance of ice-navigating ships to regular head waves (1992, p.9-12, rus) 47-2918

Savitskii, V.A.
Free meandering in the conditions of a cryolithic zone of the Yamal Peninsula (1992, p.27-33, eng) 47-3990

Sawada, S.
Field and laboratory tests on adfreeze strength of ground to model concrete piles (1993, p.103-109, eng) 47-4128
Test characteristics of admixtures compounded with antifreezes--crack rate, various characteristics, and chloride solution content (1992, p.155-160, jpn) 47-2516
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Tests on snow removal equipment (1993, p.22-25, jpn) 47-4787
Tests on urban snow removal (1991, p.1-24, jpn) 47-4967

Sawaoka, M.
Characteristics of the freezing heat transfer of layered air-water flow in a circular tube (1989, p.91-97, eng) 47-915

Sawase, K.
Characteristics of a water sprinkler system with variable flow rates to melt snow on railway tracks (1992, p.727-738, eng) 47-4364

Saxena, V.K.
Experimental studies of clouds and aerosols along the antarctic coast (1988, p.108-111, eng) 47-4194

Sayed, M.
Ice forces on lig[illegible]ers in the St. Lawrence Seaway (1992, p.67-72, eng) 47-4280
Landfast ice pressure measurements in the Beaufort Sea (1992, p.656-661, eng) 47-1854
Two-dimensional extrusion of crushed ice. Part 1: experimental (1992, p.25-36, eng) 47-801
Two-dimensional extrusion of crushed ice. Part 2: analysis (1992, p.37-47, eng) 47-802

Sayles, F.H.
Stress-strain behaviour of frozen soil in tension (1993, p.61-72, eng) 47-4273

Saylor, J.H.
Low-frequency water volume transport through the midsection of Green Bay, Lake Michigan, calculated from current and temperature observations (1993, p.361-367, eng) 47-4564

Sazonov, A.V.
Using structural-petrographic analysis for studying glacier movement (1991, p.139-143 rus), 47-2804

Sazonov, B.I.
Severe winters and droughts (1991, 239p., rus) 47-363

Scambos, T.A.
Application of image cross-correlation to the measurement of glacier velocity using satellite image data (1992, p.177-186, eng) 47-2555
Feature maps of ice streams C. D. and E. West Antarctica (1991, p.312-314, eng) 47-4674

Schaefer, D.A.
Comment on "The episodic acidification of Adirondack Lakes during snowmelt" by Douglas A. Schaefer et al (1992, p.2869-2878, eng) 47-1788
Identifying sources of snowmelt acidification with a watershed mixing model (1993, p.345-365, eng) 47-4758

Schaefer, G.L.
Expanding SCS's remote sensing program (1992, p.28-35, eng) 47-491

Schaerer, P.
Suggestions for snow research (1992, p.32-41, eng) 47-481

Schaffar, G.
Using physical methods to predict slippery road conditions (1988, 72p., ger) 47-4990

Schaffhauser, H.
Three-dimensional simulation of powder avalanches (1992, p.119-133, eng) 47-3193

Schapery, R.A.
Viscoelastic deformation behavior of ice based on micromechanical models (1993, p.15-33, eng) 47-3739

Scharfen, G.
Summer cryospheric and atmospheric variability in the Arctic Basin (1988, p.44-47, eng) 47-4182

Scharsching, H.
Results of a field test of six different commercial ice warning systems (1992, 16p., eng) 47-967

Schaub, W.R., Jr.
Misawa snow accumulation study (1991, 20p., eng) 47-3818

Schell, D.M.
Bomb radiocarbon in arctic Alaskan aquatic and terrestrial biota (1993, p.135-144, eng) 47-5026

Schellekens, F.J.
Depth of frost penetration (1993, p.807-814, eng) 47-5253

Schend, R.C.
Ice melters and concrete damage: are they related (1992, p.50-51, eng) 47-1922

Schenk, P.M.
Central pit and dome craters: exposing the interiors of Ganymede and Callisto (1993, p.7475-7498, eng) 47-3839
Diapirism on Triton: a record of crustal layering and instability (1993, p.299-302, eng) 47-4593

Schiehe, H.
Ice preparation machine for ice tracks (1987, 4 col., eng) 47-4005

Schiesser, H.H.
Kinetic energy of hailfalls. Part 4: patterns of hailpad and radar data (1992, p.1165-117[illegible] eng) 47-460

Schild, D.
ARVA 90--Comparison of different avalanche victim locators (1991, p.524-526, ger) 47-1489

Schirmer, U.
Some results of the derivation of ice sheet elevations in Antarctica from ERS-1 altimeter data (1993, p.241-245, eng) 47-4419

Schistad, A.H.
System for monitoring ice in polar regions by SAR (1992, p.128-130, eng) 47-640

Schlatter, T.
High-altitude and polar humidity (1992, p.39-40, eng) 47-3457

Schlentner, S.F.
Fertilizer placement for conventional and no-tillage barley in *the subarctic* (1992, p.1973-1978, eng) 47-4356

Schlosser, P.
Halocarbon ratio and tritium/He-3 dating of water masses in the Nansen Basin, Arctic Ocean (1992, p.S435-S458, eng) 47-1273
Large-scale circulation of the Arctic Ocean: implications for pollutant transport (1993, p.285-309, eng) 47-5037

Schlup, U.
Snow removal and ice control technology on Swiss highways (1992, 8p., eng) 47-927

Schlyter, P.
Large sorted stone polygons, and ventifact distribution, in the Syrkadal area, Scania, S. Sweden (1992, p.219-226, eng) 47-4330

Schmaltz, J.
Dynamics of subcritical double-diffusive convection in the southern ocean: an application to polynyas (1993, p.371-383, eng) 47-4844

Schmid, W.
Kinetic energy of hailfalls. Part 4: patterns of hailpad and radar data (1992, p.1165-1178, eng) 47-460

Schmidlin, T.W.
Alpine periglacial landforms of eastern North America: a review (1992, p.225-230, eng) 47-1775
Does lake-effect snow extend to the mountains of West Vir*ginia* (1992, p.145-148, eng) 47-4043
Impacts of severe weather during December 1989 in the Lake Erie snowbelt (1993, p.759-767, eng) 47-3476

Schmidt-Gröttrup, M.
Air-sea-ice interactions in the Weddell Sea (1993, p.325-327, eng) 47-4433

Schmidt, H.
Experimental and theoretical analysis of spatial coherence on a horizontal array under the arctic ice (1992, p.3-16, eng) 47-4714

Schmidt, I.H.
Hydrogen and oxygen isotopes and the origin of the ice in peat plateaus (1992, p.19-27, eng) 47-3123

Schmidt, R.A.
Harvesting snow when water levels are low [1992, p.121-124, eng] 47-501
Sublimation of intercepted snow as a global source of water vapor [1992, p.1-9, eng] 47-488
Schmiedl, G.
Character of clasts in glaciomarine sediments as an indicator of transport and depositional processes, Weddell and Lazarev Seas, Antarctica [1993, p.477-487, eng] 47-3644
Schmitt, J.
Model for deicer scaling resistance of field concretes containing high-range water reducers [1989, p.343-359, eng] 47-64
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Time- and temperature-dependent solute loading of isolated thylakoids during freezing [1992, p.607-615, eng] 47-4370
Schneider, H.
Constitutive equation for temperate firn derived from strain rates of two firn pits (Kesselwandferner, Oetztal Alps, 1967-1989) [1993, p.295-303, eng] 47-3932
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1991 annual report on Alaska's mineral resources [1991, 69p., eng] 47-626
1992 annual report on Alaska's mineral resources [1992, 65p., eng] 47-4215
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Polymer-modified asphalts—international research results on possible modifications and properties [1992, p.14-20, ger] 47-2003
Schneiter, R.W.
Sludges from cold regions lagoons [1993, p.146-155, eng] 47-3675
Schnell, R.C.
"Major" arctic haze event north of Point Barrow, Alaska, April 1986 [1988, p.112-115, eng] 47-4195
Lower tropospheric temperature trends over the Arctic Ocean: 1950-1990 [1992, p.141-144, eng] 47-2402
Predicted heights of buoyant convection above open leads in the winter arctic pack ice cover [1992, p.J3/45-J3/48, eng] 47-880
Summary of atmospheric transport to Barrow, Alaska during the Arctic Gas and Aerosol Sampling Program (March 1983 and April 1986) [1988, p.116-118, eng] 47-4196
Trend analyses of tropospheric temperatures in the Arctic—is there evidence of greenhouse warming [1992, p.137-140, eng] 47-2401
Tropospheric low-level temperature inversions in the Canadian Arctic [1992, p.511-529, eng] 47-2876
Schoch, S.A.
Water freezing enhancement for thermal storage brine tube [1988, 6 col., eng] 47-3641
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Support standard for implement [1988, 4 col., eng] 47-3416
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Snow cover variation in the Alps using NOAA-AVHRR data [1991, p.41-50, eng] 47-1291
Schöwandt, H.K.
Geological setting of Precambrian supracrustal belts: a fundamental part of *mineral resource evaluation in Greenland* [1992, p.19-23, eng] 47-1634
GGU's mineral resource activities and their role for the mineral industry [1992, p.17-19, eng] 47-1633
Schooley, J.F.
Temperature: its measurement and control in science and industry. *Volume 6* [1992, 1269p. (2 parts), eng] 47-2939
Schröder, H.
Active rock glaciers in central northern Tian Shan [1992, p.109-119, ger] 47-2666
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Cavities in Hansbreen hollowed out by meltwater, Svalbard, 77 Lat. N [1991, p.21-33, fre] 47-23
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Does detailed areal distribution of snow cover improve the utility of a hydrological model for watershed management [1992, p.181-192, eng] 47-4047
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Note on ground thermal regimes and global solar radiation at 4720 m a.s.l., High Andes of Argentina [1992, p.241-245, eng] 47-1778
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Ice detector for protecting boats [1991, 4 col., eng] 47-4915
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Action of electric fields on the plastic deformation of pure and doped ice single crystals [1993, p.173-185, eng] 47-3174
Brittle compressive failure of fresh-water columnar ice under biaxial loading [1993, p.153-163, eng] 47-3776
Compressive strength of ice cubes of different sizes [1993, p.142-148, eng] 47-4060
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Ductile-to-brittle transition in ice under compression: grain size effect [1993, p.229-234, eng] 47-3756
Effect of confining stress on brittle indentation failure of columnar ice [1992, p.724-731, eng] 47-1867
Effect of confining stress on brittle indentation failure of columnar ice [1992 p.212-221, eng] 47-4305
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Toward the improvement of aircraft-icing forecasts for the *continental United States* [1992, p.491-500, eng] 47-1058
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Extrapolation of ITS-90 to lower temperatures [1992, p.97-100, eng] 47-2952
Parasitic temperature-dependence in platinum NMR thermometry [1992, p.107-111, eng] 47-2954
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Self-tuning temperature controller for a dilution refrigerator [1992, p.953-954, eng] 47-2988
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Melting of ice in pure and saline water inside a square cavity [1992, p.311-319, eng] 47-2638
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Age of the air in the firn and the ice at Summit, Greenland [1993, p.2831-2838, eng] 47-2703
New ice mill allows precise concentration determination of methane and most probably also other trace gases in the bubble air of very small ice samples [1993, p.199-203, eng] 47-3952
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Identification of deep groundwater discharge areas in the Boggy Creek catchment, southeastern Manitoba, using excess aqueous helium [1992, p.2640-2652, eng] 47-2714
Schwarz, J.
Icebreaking trials with the polar research vessel *Polarstern* [1985, p.131-133, eng] 47-2913
Schwarzer, M.J.
Radiation balance of ridge-tillage with modeling strategies for slope and aspect in the subarctic [1992, p.1379-1384, eng] 47-1182
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Radiative forcing of climate from halocarbon-induced global stratospheric ozone loss [1992, p.810-812, eng] 47-1593
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Last (Koy-Yukon) interglaciation in the Yukon: comparisons with Holocene and interstadial pollen records [1991, p.85-94, eng] 47-3482
Late Pleistocene vertebrates and other fossils from Epiguruk, northwestern Alaska [1993, p.381-389, eng] 47-3899
Pleistocene vertebrates and other fossils from Epiguruk, northwestern Alaska [1993, p.381-389, eng] 47-5143
Schweiger, A.J.
Arctic cloudiness: comparison of ISCCP-C2 and Nimbus-7 satellite-derived cloud products with a surface-based cloud climatology [1992, p.1514-1527, eng] 47-2179
Arctic radiation forcing fields for dynamic-thermodynamic sea ice models [1992, p.C9-C13, eng] 47-3257
Arctic radiative fluxes and cloud forcing estimated from the ISCCP C2 cloud data set [1992, p.13-16, eng] 47-2367
Arctic sea ice albedo: a comparison of two satellite-derived data sets [1993, p.41-44, eng] 47-2844
SSM/I NASA algorithm sea ice retrieval comparison with Landsat satellite and aerial photography for the Bering Sea [1991, p.121-129, eng] 47-3403
Schwikowski, M.
Scavenging of atmospheric constituents by alpine snow [1991, p.483-493, eng] 47-2215
Sciortino, F.
Liquid and solid phases of water: an extensive molecular dynamics simulation with an *ab initio* polarizable potential [1993, p.205-213, eng] 47-4755
Raman and infrared spectra of hexagonal ice between 0 and 400/cm —a molecular dynamics simulation [1993, p.547-558, eng] 47-4760
Structure and dynamics in hexagonal ice: a molecular dynamics simulation with an *ab initio* polarizable and flexible potential [1993, p.5694-5700, eng] 47-3155
Scorza, R.
Cold acclimation in genetically related (sibling) deciduous and evergreen peach *(Prunus persica* (L.) Batsch). 1. Seasonal changes in cold hardiness and polypeptides of bark and xylem tissues [1992, p.1562-1568, eng] 47-231
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Operational use of an orographic snow model [1992, 7p., eng] 47-2134
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Retrieval of mesoscale meteorological parameters from NOAA9 over Greenland and Barents seas for three consecutive days of June 1986 [1988, p.122-125, eng] 47-4198
TOVS observations of a stratospheric cooling during the CHEOPS 3 campaign: February 4-6, 1990, over Scandinavia [1993, p.7229-7243, eng] 47-3829
Scott, R.W.
Simple objective method used to forecast convective activity during the 1989 PACE cloud-seeding experiment [1993, p.996-1005, eng] 47-3566
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Bryophytes of the Melville Hills region, Northwest Territories [1992, p.100-104, eng] 47-1880
Lichens of the Cape Parry and Melville Hills regions, Northwest Territories [1992, p.105-111, eng] 47-1881
Scourfield, M.W.J.
Natural ozone depletion *over Antarctica* [1991, p.222, eng] 47-4980
Ozone depletion over the polar caps *caused by solar protons* [1992, p.2425-2428, eng] 47-2771
SANAE total column ozone: 1980 to 1990 [1991, p.220-221, eng] 47-4979
Scriven, L.E.
Adaptive finite element analysis of axisymmetric freezing [1992, p.3301-3312, eng] 47-2609
Scully, J.
Detection of frost-prone highway beds from response-type surface roughness measurements [1992, 15p. + appends., eng] 47-4616
Sea ice off the Icelandic coasts—October 1990-September 1991
Sea ice off the Icelandic coasts—October 1990-September 1991 [1992, 39p., ice] 47-4909
Sea Ice Thickness Werkshop, New Carrollton, MD, Nov. 19-21, 1991
Report [1992, 41p. + appends., eng] 47-3235
Searle, M.P.
Rapid advance of Pumarikish Glacier, Hispar Glacier basin, Karakoram Himalaya [1993, p.204-207, eng] 47-3953
Seckmeyer, G.
Increased ultraviolet radiation in New Zealand (45 deg S) relative to Germany (48 deg N) [1992, p.135-137, eng] 47-374
Seetharamu, K.N.
Finite element modelling of natural-convection-controlled change of phase [1992, p.1019-1036, eng] 47-193
Segalstad, T.V.
Atmospheric CO2 and global warming: a critical review [1992, 76p., eng] 47-2289
Do glaciers tell a true atmospheric CO2 story [1992, p.227-284, eng] 47-235
Segawa, A.
Report on improving the accuracy of radar precipitation gages (*3rd report*) [1992, p.165-170, jpn] 47-2492
Segawa, T.
Snow removal in Sapporo City [1984, p.80-84, jpn] 47-5072
Sego, D.C.
Field load testing of various pile configurations in saline permafrost and seasonally frozen rock [1989, p.304-312, eng] 47-2229
Field pile load tests in saline permafrost. 1. Test procedures and results [1993, p.34-45, eng] 47-4162
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Potential leachate production due to cold weather effects [1992, p.660-667, eng] 47-3345
Strength and deformation behaviour of model adfreeze and grouted piles in saline frozen soils [1993, p.319-337, eng] 47-4514
Sei, T.
Growth rate of polyhedral ice crystals growing from the vapor phase and their habit change [1989, p.495-502, eng] 47-3465
Seidel, K.
Areal modelling of snow water equivalent based on remote sensing techniques [1991, p.121-129, eng] 47-1299
Satellite snow cover mapping and snowmelt runoff modelling in Beas basin [1991, p.101-109, eng] 47-1297
Seidlitz, A.
Innoko National Wildlife Refuge oil and gas resource assessment [1993, 20p., eng] 47-4895
Kodiak National Wildlife Refuge oil and gas resource assessment [1993, 21p., eng] 47-4894
Seifer, G.B.
Electro-optical parameters of hydrogen-bonded water molecules [1992, p.211-234, eng] 47-924
Seinä, A.
Classification of the maximum annual Baltic Sea ice cover extent—1720-1992 [1993, p.5-20, fin] 47-4995
Sejrup, H.P.
Eemian-Early Weichselian N-S temperature gradients: North Atlantic-NW Europe [1991, p.161-166, eng] 47-3488
Late Quaternary land-sea interactions: Fennoscandia and Svalbard—the Nordic seas [1991, p.151-159, eng] 47-3487
Seki, H.
Introduction of rainwater infiltration facilities in cold regions [1992, p.213-218, jpn] 47-2506

Seki, N.
Study on winter traffic volume [1984, p.101-106, jpn] 47-5076

Seki, T.
Newly developed snow vehicle (SM100S) for Antarctica. 5. Result of general performance tests [1992, p.410-440, jpn] 47-3367

Sekine, Y.
On the interannual variation in sea ice area of the Okhotsk Sea [1992, p.30-33, jpn] 47-110
Variation in sea ice area of the Okhotsk Sea and its relationship to the global change in atmospheric circulation [1992, p.34-36, jpn] 47-111

Sekoulov, I.
Waste water reuse by freeze concentration with a falling film reactor [1992, p.1475-1482, eng] 47-1552

Selin, E.
Removal of atmospheric aerosols in the sub-arctic region [1992, p.S965-S968, eng] 47-2074

Sellers, C.J.
Determination of compressional wave and shear wave speed profiles in sea ice by crosshole tomography—theory and experiment [1993, p.721-738, eng] 47-3431

Sellevold, E.J.
Frost-salt scaling tests on concrete-effects of test parameters and condensed silica fume [1989, p.215-217, eng] 47-17

Sellmann, P.V.
Sub-bottom profiling: a comparison of short-pulse radar and acoustic data [1992, p.149-157, eng] 47-634

Sel'tser, P.A.
Manifestation of intensive latitudinal and meridional air exchange in the northern hemisphere in the nature of atmospheric processes in the Arctic [1989, p.104-112, rus] 47-3662
Objectivization of the analysis and diagnosis of near surface and high altitude mean ESP fields [1989, p.26-42, rus] 47-3655
Quantitative characteristics of mid-latitude air exchange during basic types of transformations [1989, p.76-87, rus] 47-3659

Seltzer, G.O.
Glacial and climatic history of the central Peruvian Andes [1989, p.439-445, eng] 47-5256
Late-Quaternary glaciation as a proxy for climate change in the central Andes [1993, p.129-138, eng] 47-4711

Semenenok, S.N.
Roller compacted concrete with high values of strength, frost resistance, and impermeability [1993, p.400-404, eng] 47-4013

Semenov, G.A.
Effect of bottom relief on the circulation of water in the northern European basin [1991, p.133-144, rus] 47-3964

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Evolution of atmospheric circulation over the North Atlantic in the period of hydrological front displacement [1991, p.85-89, eng] 47-1180

Semerikov, A.V.
Mathematical modelling of the thawing of permafrost beneath a pipeline [1992, p.23-24, rus] 47-2903

Semiletov, I.P.
Arctic atmospheric CO2 bimodal distribution [1993, p.35-42, eng] 47-5226

Senbetta, E.
Controlled cement hydration: its effect on durability of concrete [1992, p.179-194, eng] 47-2574

Senilov, N.B.
Concentrations of metals in soil and snow as a function of distance from pollutant emission sites [1993, p.111-115, eng] 47-5003

Senior, C.A.
Response of antarctic climate in general circulation model experiments with transiently increasing carbon dioxide concentrations [1992, p.209-218, eng] 47-3140

Senior, S.A.
Laboratory tests for predicting coarse aggregate performance in Ontario [1991, p.97-106, eng] 47-1132

Sen'ko, N.P.
Estimates of parameters of vertical turbulent exchange in the Chukchi Sea based on observational data [1991, p.101-106, rus] 47-3696
Meso-scale characteristics of the distribution of water masses in the Chukchi Sea [1990, p.126-132, rus] 47-3599
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Senkuro, K.
Development of a method for predicting road surface temperature and icing on roads [1992, p.193-231, jpn] 47-3301

Senouci, A.B.
Engineering properties of rubberized concrete [1992, p.912-923, eng] 47-3307

Seppälä, M.
Depth of snow and frost on a palsa mire, Finnish Lapland [1990, p.191-201, eng] 47-4313
Stabilization of snow temperature in Dronning Maud Land, Antarctica, January 1989 [1992, p.227-230, eng] 47-4331

Serebriannyi, L.R.
Debris in tills and moraines as a source of glaciological and paleoenvironmental information: methodology and applications in the Caucasus [1993, p.63-69, eng] 47-4145
Reconstruction of the development of vegetation in the high-latitude Arctic [1984, p.75-84, rus] 47-1249

Seregina, N.V.
Mathematic modeling of conductive and convective heat transfer in the taliks of a cryolite zone [1991, p.55-64, eng] 47-420

Sergacheva, N.A.
Current tendencies of anthropogenic changes in physical-mechanical properties of natural ice [1991, p.126-129, rus] 47-2801

Sergeev, B.M.
Radical polymerization of N,N-dimethyl-N-decylacetylmethacryloylethylammonium bromide in frozen aqueous solutions [1992, p.95-97, eng] 47-1118

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Calculating the processes of condensation and coagulation growth of droplets and ice crystal aggregates in clouds and precipitation [1991, p.85-96, rus] 47-890
Numerical modeling of the coagulation and aggregation of ice crystals and snowflakes [1992, p.71-79, rus] 47-4658

Sergeev, I.P.
Hydrotechnical construction in the Far North and problems with the surrounding environment [1990, p.130-138, rus] 47-97

Sergeeva, E.I.
Behavior of artificial radionuclides in seawater [1993, p.213-223, eng] 47-5032

Sergeeva, E.S.
Effect of temperature and time on stresses in frozen concrete under thermal cycling [1991, p.7-9, rus] 47-2157

Sergy, G.
AMOP—the Arctic and Marine Oilspill Program [1992, 9p., eng] 47-2330

Seriakov, E.I.
Large-scale changes in the temperature field of the surface layer of water in the North Atlantic and the Norwegian Sea [1991, p.98-109, rus] 47-3961
Variability of the heat balance component in the northern Norwegian Sea [1991, p.66-74, rus] 47-3959

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Mixed Markov model for multi-year fluctuations in minimal runoff from periodically freezing on drying-up rivers [1991, p.72-76, rus] 47-896
Problems in calculating the minimal runoff from periodically freezing on drying-up rivers [1991, p.61-71, rus] 47-895

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Arctic sea ice albedo: a comparison of two satellite-derived data sets [1993, p.41-44, eng] 47-2844
Atmospheric circulation anomalies in the arctic basin and their relationships to the great salinity anomaly in the northern north Atlantic [1991, p.350-353, eng] 47-4488
Atmospheric forcings on large scale patterns of parameterized albedo over arctic sea ice: case studies for June 1975 and 1988 [1991, p.396-399, eng] 47-4493
Predicted heights of buoyant convection above open leads in the winter arctic pack ice cover [1992, p.J3/45-J3/48, eng] 47-880
Seasonal variations of atmospheric circulation and sea ice motion in the Arctic [1988, p.20-23, eng] 47-4177
Synoptic activity in the Arctic Basin in summer, 1979-1985 [1988, p.52-55, eng] 47-4184
Trend analyses of tropospheric temperatures in the Arctic—is there evidence of greenhouse warming [1992, p.137-140, eng] 47-2401
Tropospheric low-level temperature inversions in the Canadian Arctic [1992, p.511-529, eng] 47-2876

Seth, S.M.
Modelling of daily snowmelt runoff during pre-monsoon months for Beas basin up to Manali [1985, p.104-115, eng] 47-564

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Integrated approach to environmentally acceptable disposal of Athabasca oilsand fine tailings [1993, p.221-228, eng] 47-4467

Sethi, D.N.
Estimation of runout distances of flowing avalanches [1985, p.271-275, eng] 47-545
Study of creep in a mountain snow pack [1985, p.257-270, eng] 47-544
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Sethian, J.A.
Crystal growth and dendritic solidification [1992, p.231-253, eng] 47-1785

Severskii, I.V.
Evaluating the cost of anti-avalanche measures [1991, p.179-186, rus] 47-2810
Influence of local factors on the distribution of snow resources in northern Tien Shan [1992, p.220-224, eng] 47-1116

Severskii, S.I.
Influence of local factors on the distribution of snow resources in northern Tien Shan [1992, p.220-224, eng] 47-1116

Seyfried, M.S.
Chaotic characteristics of snowmelt runoff: a preliminary study [1990, p.125-134, eng] 47-5217

Sgaoula, J.
Erratum: sharp cone testing of creep properties of frozen sand [1992, p.1008, eng] 47-3355
Sharp cone testing of creep properties of frozen sand [1992, p.757-764, eng] 47-1440

Shabinin, L.L.
Specific hydrogeological conditions of the North-Muya Ridge [1991, p.76-80, eng] 47-1674

Shabunia, E.D.
Multilayered insulation ensuring human activity in extreme climatic conditions [1991, p.33, rus] 47-2477

Shah, A.
ASCE Standard 7 snow loads [1992, p.381-391, eng] 47-3216

Shah, S.K.
Constraints on ice-sheet thickness over Tibet during the last 40,000 years [1992, p.283-290, eng] 47-4022

Shakesby, R.A.
Loch Lomond Stadial glacier at Fan Hir, Mynydd Du (Brecon Beacons), South Wales: critical evidence and paleoclimatic implications [1993, p.69-79, eng] 47-3471

Shalaev, E.IU.
Study of the phase diagram water fraction of the system water-glycine-sucrose by DTA and X-ray diffraction methods [1992, p.213-220, eng] 47-1933

Shalginova, L.T.
New technology for insulating the bottom of an alluvial reservoir on a frozen base [1992, p.84-91, rus] 47-2033

Shamakhov, A.F.
Characteristics of the relict cryolithozone of the West Siberian Plain [1992, p.103-107, rus] 47-3267

Shamraev, IU.I.
Supplying the national economy with oceanographic information [1989, 189p., rus] 47-3504

Shamsundar, N.
Concurrent freezing and sublimation of a liquid-saturated porous slab [1991, p.251-259, eng] 47-2565

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Radar backscatter measurements from arctic sea ice during the fall freeze-up [1993, 66p., eng] 47-4621

Shanley, J.B.
Characterization of hillslope thermal and hydrologic processes at the Sleepers River Research Watershed [1992, p.161-167, eng] 47-4045

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Estimating changes in dates for the initial phases of icing in relation to climatic changes [1991, p.69-74, rus] 47-1051
Space-time variability in ice jams on the Amur and Lena rivers [1991, p.17-23, rus] 47-1044

Shao, J.M.
Description and verification of a road ice prediction model [1992, 11p., eng] 47-971

Shao, X.M.
Mapping climate using tree-rings from western North America [1992, p.269-295, eng] 47-2089

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Influence of crystallographic and structural properties on the flexural strength of small sea ice beams [1993, p.177-188, eng] 47-3752

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Use of ALARA in decision making on costly international cleanup effort of radioactive contamination [1993, p.573-584, eng] 47-5055

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Model for managing the formation of the microstructure of hail clouds [1991, p.3-8, rus] 47-746

Sharkov, A.F.
Conditions and effectiveness of feed production in tundra [1988, 102p., rus] 47-4655

Sharkunov, S.V.
Roller compacted concrete with high values of strength, frost resistance, and impermeability [1993, p.400-404, eng] 47-4013

Sharma, A.K.
On the estimation of snow depth from microwave radiometric measurements [1992, p.785-792, eng] 47-357
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Sharma, H.D.
Use of radiation absorbing materials for clearing snow in mountainous areas [1985, p.240-247, eng] 47-575

Sharma, K.P.
Snowmelt runoff using Landsat imageries [1985, p.11-21, eng] 47-558

Sharma, P.
Constraints on ice-sheet thickness over Tibet during the last 40,000 years [1992, p.283-290, eng] 47-4022

Sharma, S.K.
Structure of ice layers on electrical transmission cables with Raman microprobe spectroscopy [1992, p.1869-1873, eng] 47-2639

Sharma, S.S.
Assessment of stresses and strains on an avalanche slope by indirect evidence [1985, p.276-295, eng] 47-546

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New approach for design of diversion and retarding dams [1985, p.369-383, eng] 47-554
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Erosion of bedrock by subglacial meltwater, Georgian Bay, Ontario: a regional view [1991, p.623-642, eng] 47-4155
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Growing season trends in the Alaskan climate record [1992, p.124-127, eng] 47-518
Radiation balance of ridge-tillage with modeling strategies for slope and aspect in the subarctic [1992, p.1379-1384, eng] 47-1182
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Characteristics of synoptic processes in homogeneous groups of macro-changes in the Arctic [1989, p.43-52, rus] 47-3656
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Snow removing equipment for a multipurpose motor vehicle chassis [1991, p.14-15, rus] 47-2062
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Erecting seismically stable dams under the conditions of the northern construction-climatic zone [1992, p.90-94, rus] 47-3915
Shaver, A.L.
Apparatus for converting a road vehicle into a snowmobile [1988, 8 col., eng] 47-3771
Shaw, G.E.
Thermodynamics of pollutant removal as an indicator of possible source areas for arctic haze [1992, p.2953-2961, eng] 47-1949
Shaw, J.
Depositional model for Rogen moraine, with examples from the Avalon Peninsula, Newfoundland [1992, p.669-686, eng] 47-378
Erosion of bedrock by subglacial meltwater, Georgian Bay, Ontario: a regional view [1991, p.623-642, eng] 47-4155
Ice scours in the sediments of glacial Lake Iroquois, Prince Edward County, eastern Ontario [1992, p.189-194, eng] 47-3789
Shaw, R.A.
Greenland observed at high resolution by the Seasat scatterometer [1992, p.327-329, eng] 47-646
Sheard, J.D.
Analytical technique for solving an arctic acoustic model [1992, p.39-42, eng] 47-4718
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Synopsis of research conducted under the 1991/1992 northern contaminants program [1992, 213p., eng] 47-1147
Shearwood, C.
Novel processes of dislocation multiplication observed in ice [1993, p.205-210, eng] 47-3777
Sheehan, D.D.
Comparison of altimetry profiles over East Antarctica from Seasat and Geosat: an interim report [1990, p.1-9, eng] 47-3570
Sheen, S.
Parametric analysis for thawing frozen spheroidal (prolate and oblate) or finitely cylindrical food [1992, p.236-240, eng] 47-2606
Sheeran, D.
Integrated approach to environmentally acceptable disposal of Athabasca oilsand fine tailings [1993, p.221-228, eng] 47-4467
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In-situ stress measurements in a fast ice and possible tidal loads on structures [1992, p.696-702, eng] 47-1862
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Electro-optical parameters of hydrogen-bonded water molecules [1992, p.211-234, eng] 47-924
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Shelton, M.E.
Effect of inoculation on the biodegradation of weathered Prudhoe Bay crude oil [1992, p.95-102, eng] 47-864
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Hydroclimate response to climate change in the Lake Tahoe basin [1992, p.557-566, eng] 47-2737
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Statistical studies of wear on the hull plating of ice-navigating ships [1992, p.28-31, rus] 47-2920
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Methods of building in the arctic zone of the country [1991, p.6-7, rus] 47-2481
Shen, H.H.
Advances in micromechanics of granular materials [1992, 461p., eng] 47-2125
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Mathematical model for river ice processes [1993, 80p., eng] 47-4871
Numerical simulation of river ice dynamics [1992, p.25-36, eng] 47-1016
Simulation of oil slick transport in Great Lakes connecting channels: user's manual for the lake-river oil spill simulation model [1991, 69p., eng] 47-693
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Freezing pressure development on a buried chilled pipeline [1993, p.23-33, eng] 47-4117
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Paleoclimate change and heat flow density inferred from temperature data in the Superior Province of the Canadian Shield [1992, p.143-165, eng] 47-2021
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Giant avalanche on K2 Mount, Karakorum [1991, p.249-254, eng] 47-1611
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Constitutive relations of frozen soil in uniaxial compression [1992, p.210-217, chi] 47-1660
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Sensitivity analysis of frost heave—a theoretical study [1993, p.3-16, eng] 47-4115
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Hydrochemical characteristics in Binggou basin of Heihe River in Qilian Mountain [1992, p.111-120, chi] 47-1545
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Estimating glacier-derived runoff from mountain rivers in model predictions [1991, p.32-40, rus] 47-2786
Model evaluations of the Aksay and At-Bashi river runoff with regard to the role of snow cover and glaciers [1991, p.136-142, rus] 47-331
Sher, A.V.
Problems of the last interglacial in arctic Siberia [1991, p.215-222, eng] 47-3491
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Frost formation and heat transfer on circular cylinders in cross flow [1992, p.109-122, eng] 47-4704
Shesterkina, N.M.
Electron-microscopic studies of naled salts [1991, p.128-131, rus] 47-2437
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Infrared emittance of water clouds [1992, p.1459-1472, eng] 47-410
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Large-scale variations in the thermal regime of the Norwegian Sea during 1959-1984 [1991, p.56-65, rus] 47-3958
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Shi, A.P.
Recent fluctuations of glaciers in the Gongga mountains [1992, p.163-167, eng] 47-1105
Shi, G.Y.
Antarctic total ozone change correlated to the stratosphere wind and temperature during the polar night [1992, p.45-50, chi] 47-1256
Shi, J.C.
Radar backscattering response to wet snow [1992, p.927-929, eng] 47-662
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Glacial and lake fluctuations in the area of the west Kunlun mountains during the last 45,000 years [1992, p.79-84, eng] 47-1090
Glaciers and glacial geomorphology in China [1992, p.51-63, eng] 47-1005
Last glaciation and maximum glaciation in the Qinghai-Xizang (Tibet) Plateau: a controversy to M. Kuhle's ice sheet hypothesis [1992, p.19-35, eng] 47-777
Shibagaki, H.
Snow removal channeling operations in Iwamizawa City [1992, p.205-208, jpn] 47-2505
Snow removal equipment with an emergency water pump [1991, p.145-150, jpn] 47-2519
Shibata, M.
Developing comprehensive technology to make cities snow-proof [1984, p.85-89, jpn] 47-5073
Skid resistance of studded tires [1985, p.35-41, jpn] 47-5081
Shibata, S.
Results of ozonesonde observations at Syowa Station in 1990 [1992, p.46-52, eng] 47-3004
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Statistical analysis of annual extreme ground snow weights for structural design [1992, p.3-14, eng] 47-3183
Survey of roof snow depths by aerial photogrammetry [1992, p.93-103, eng] 47-3191
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Compressibility of spray ice [1992, p.651-655, eng] 47-1853
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Deformation properties of warm permafrost [1985, p.473-486, eng] 47-1616
Shih, L.Y.
Air containing propeller stream and its application in ice clearance [1993, p.53-58, eng] 47-4230
Application of 3-D BEM to time-dependent potential flow over a propeller with ice blockage at proximity condition [1993, 12p., eng] 47-4865
Constricted hydrodynamic flow due to proximate ice blockage over a blade profile in two dimensions [1992, 6p., eng] 47-1350
Investigation of air containing propeller stream. Part I: physical modelling. Part II: mathematical modelling [1993, 4p., eng] 47-4863
Shiiatov, S.G.
Dendroclimatic evidence from the northern Soviet Union [1992, p.393-414, eng] 47-2093
Shilin, A.G.
Ice forming capability of various aerosols under haloid influence [1992, p.313-315, eng] 47-2275
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Designing technology for cloud modification [1991, p.106-112, rus] 47-758
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Hudson Bay lowland Quaternary stratigraphy: evidence for early Wisconsinan glaciation centered in Quebec [1992, p.207-221, eng] 47-2693
Sangamonian and early Wisconsinan events in the St. Lawrence lowland and Appalachians of southern Quebec, Canada [1992, p.171-184, eng] 47-2691
Shimada, W.
Three-dimensional pattern formation during growth of ice dendrites—its relation to universal law of dendritic growth [1993, p.234-239, eng] 47-3469
Shimaguchi, Y.
Tests on the surface layout of snow removal drains [1986, p.65-82, jpn] 47-4953
Tests on the surface layout of snow removal drains [1987, p.1-16, jpn] 47-4954
Tests on the surface layout of snow removal drains [1988, p.1-55, jpn] 47-4959
Shimamiya, M.
Report on the water shortage of 1990 [1991, p.55-60, jpn] 47-2518
Shimizu, M.
Studies of icing on road surface in snowy region [1992, p.169-191, jpn] 47-3300
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Basic experiments on snow avalanche abatement [1990, p.5-8, jpn] 47-4680
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Snow pressure on avalanche prevention structures built on the periphery of small sections of cut slopes [1985, p.63-68, jpn] 47-5156
Shin, J.G.
Contact force and damage evolution in a moving uniaxial ice bar [1992, p.129-134, eng] 47-4287
Continuum damage propagation in a wedge-shape ice bar [1992, p.662-665, eng] 47-1855
Shin, R.T.
Effective permittivity of saline ice under thermal variation [1992, p.1256-1258, eng] 47-674
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Observations of heterogeneous nucleation of water vapor on a cold substrate [1992, p.448-450, eng] 47-1054
Shine, K.P.
Possibility of an Arctic ozone hole in a doubled-CO2 climate [1992, p.221-225, eng] 47-907
Radiative forcing of climate from halocarbon-induced global stratospheric ozone loss [1992, p.810-812, eng] 47-1593
Shinme, R.
Report on improving the accuracy of radar precipitation gages (Part 2)—study on using radar for runoff forecasting [1991, p.109-114, jpn] 47-2520
Shinoda, K.
Characteristic property in aqueous solutions: effect of iceberg formation of water surrounding solute on the solubility (or cmc) and its peculiar temperature dependence [1992, p.81-100, eng] 47-1550
Shipham, M.C.
Meteorological overview of the Arctic Boundary Layer Expedition (ABLE 3A) flight series [1992, p.16,395-16,419, eng] 47-1445
Shipko, IU.E.
Novaya Zemlya: analyzing radiation safety and ecological consequences of nuclear tests [1992, p.65-74, rus] 47-3862

Shipp, S.S.
Evidence for a grounded ice sheet on the Ross Sea continental shelf during the Late Pleistocene and preliminary paleodrainage reconstruction [1992, p.39-62, eng] 47-2871
Shiraishi, M.
Measurement on the dielectric properties of acid-doped ice at 9.7 GHz [1992, p.799-803, eng] 47-359
Shirasawa, K.
Momentum and heat fluxes over open water, sea ice and snow cover on an arctic lagoon [1992, p.75-80, eng] 47-119
Shiriaev, IU.N.
Freezing earth with seasonal cooling plants [1992, p.258-264, eng] 47-2292
Shirshova, L.T.
Effect of prolonged freezing on chemical properties of soils and clays [1992, p.140-145, eng] 47-1719
Shirtcliffe, T.G.L.
On the use of electrical resistance and temperature as measures of the solid fraction in a mushy layer [1992, p.495-501, eng] 47-2607
Shirvaikar, V.V.
Nomograms for estimating rate of snow-melting from routine meteorological data [1985, p.22-31, eng] 47-559
Shishorina, Z.
Glacial landforms and the age of deglaciation in the Tiksi area, East Siberia [1992, p.295-304, eng] 47-4341
Shishorina, Zh.G.
Effect of glaciation on the paleoecological situation in northeastern USSR [1991, p.190-195, rus] 47-342
Impact of glaciation on paleoecological conditions in northeastern Russia [1992, p.160-166, eng] 47-1766
Scientific Workshop on Glaciology in the Institute of Geography, USSR Academy of Sciences: June 1990-March 1991 [1991, p.160, rus] 47-335
Shkhinek, K.N.
Computer-based simulation of the ice fracture near a vertical pile [1992, p.123-128, eng] 47-4286
Ice action onto multilegged structures due to change of water level [1992, p.703-708, eng] 47-1863
Ice action onto multilegged structures due to change of water level [1992, p.222-227, eng] 47-4306
Shkodkin, A.V.
Common features of ice nuclei concentration—temperature dependencies [1992, p.279-281, eng] 47-2267
Ice forming capability of various aerosols under haloid influence [1992, p.313-315, eng] 47-2275
Shlezinger, A.E.
Geological map of the Arctic [1991, p.52-53, rus] 47-1252
Shmeter, S.M.
Perturbations in the fields of meteorological parameters caused by artificial crystallization of clouds [1991, p.29-33, eng] 47-2636
Perturbations in the fields of meteorological parameters caused by artificial crystallization of clouds [1991, p.29-33, eng] 47-4926
Shmideberg, N.A.
Hydrology and hydrochemistry of natural waters of East Antarctica [1992, p.65-76, rus] 47-4923
Shoba, S.A.
Micromorphological features of the USSR zonal soils [1992, 214p. (Pertinent p.66-107), rus] 47-4661
Shoji, K.
Developing a device to record snowplow operation [1985, p.43-52, jpn] 47-4950
Tests on improving the efficiency of road surface maintenance [1984, p.43-68, jpn] 47-4948
Shokr, M.E.
Integration of high and low resolution microwave observations [1991, p.131-142, eng] 47-3404
Preliminary evaluation of ERS-1 SAR data for operational use in the Canadian sea ice monitoring program [1993, p.355-360, eng] 47-4439
Sholin, V.V.
Basic principles for the design of a roadbed and small manmade structures on permafrost on the Tommot-Yakutsk railroad line [1993, p.11-13, rus] 47-4085
Shoop, S.A.
Comparison of thawing soil strength measurements for predicting vehicle performance [1992, 11p., eng] 47-1895
Effect of a geotextile on water migration and frost heave in a large-scale test basin [1991, p.309-318, eng] 47-1129
Geology and geohydrology at CRREL, Hanover, New Hampshire: relationship to subsurface contamination [1992, 83p., eng] 47-2568
Shoromov, R.A.
Algorithm for calculating the components and spatial orientation of air flow and water drops in a hail cloud [1991, p.8-14, rus] 47-747
Short, S.K.
Paleoecology of an interglacial peat deposit, Nuyakuk, southwestern Alaska, U.S.A. [1992, p.85-96, eng] 47-830
Paleoecology of late-glacial peats from the Bering land bridge, Chukchi Sea shelf region, northwestern Alaska [1992, p.371-378, eng] 47-4408
Shoya, M.
Evaluation of pozzolanic activity of rice husk ash [1993, p.495-512, eng] 47-3610
Shpolianskaia, N.A.
Structure and genesis of layered ground ice in Western Siberia [1991, p.73-83, rus] 47-1988
Submarine cryolithogenesis in the Arctic [1991, p.65-70, rus] 47-2790
Shreiber, I.R.
Determining the mean parameters of heat transfer through snow cover [1991, p.1085-1088, rus] 47-2009
Shtain, A.I.
Evaluating the technical level of snowplows [1990, p.23-24, rus] 47-1415
Shtivel'man, D.K.
Automated dual polarization complex for studying the characteristics of cumulonimbus [1992, p.79-95, rus] 47-4659
Shu, L.C.
DC flashover performance of iced insulators under pressure and pollution conditions [1991, p.957-960, eng] 47-2177
Shuchman, R.A.
Arctic sea ice microwave signature and geophysical processes study [1993, p.329-332, eng] 47-4434
Characterization of intrinsic optical properties for sea ice and snow [1992, p.125-127, eng] 47-639
Shuchmann, R.
Ice studies in the Barents Sea by ERS-1 SAR during SIZEX 92 [1993, p.277-282, eng] 47-4425
Shugaev, V.F.
Observations of the initial stage of ice phase evolution in supercooled clouds [1992, p.69-76, eng] 47-3458
Shugurov, V.F.
Gas homologues of methane and olefins near the earth surface in connection with hydrocarbon accumulations [1993, p.1-4, eng] 47-5194
Shukla, R.S.
Construction and maintenance of roads and runways in snowbound region [1985, p 345-365, eng] 47-582
Shul'gin, M.V.
Cryogenic phenomena on the banks of the Angara water reservoirs [1992, p.99-102, rus] 47-3270
Shulman, M.D.
Distribution of icicles [1990, p.34, eng] 47-5258
Shul'man, S.G.
Ice spillways; construction and analytical-experimental bases [1992, 47p., rus] 47-2935
Shumilov, O.I.
Decrease in total ozone concentration in the polar cap following solar proton flares [1991, p.17-21, eng] 47-4251
Shupiatskii, A.B.
Automated dual polarization complex for studying the characteristics of cumulonimbus [1992, p.79-95, rus] 47-4659
Shur, IU.L.
Upper surface layer of permafrost; collected scientific papers [1991, 100p., rus] 47-392
Shurinova, M.K.
Thermal and moisture dust control treatment of a perennially frozen disturbed coal mine [1991, 135p., rus] 47-101
Shurkhno, A.A.
Effects of a straw mulch on the thermal conditions in soil after snow-cover loss [1993, p.12-23, eng] 47-4012
Shurko, I.I.
Geoacoustic model of bottom sediments in the Baltic and Barents Seas [1992, p.953-956, rus] 47-1498
Shushlebin, A.I.
In-situ stress measurements in a fast ice and possible tidal loads on structures [1992, p.696-702, eng] 47-1862
Shuster, J.A.
Ground freezing to control ground water and support deep storm sewer structural excavations [1989, p.149-155, eng] 47-994
Shutov, V.A.
Calculating the evaporation from snow in fields with snow fences [1991, p.35-45, rus] 47-382
Evaluating the effect of snow cover pollution on its melting rate [1991, p.75-86, rus] 47-386
Formation and calculation of snow reserves on agricultural fields with a snow fence and an evaluation of the effectiveness of these measures [1991, p.22-34, rus] 47-381
Method of determining the heat balance components of snow cover during a melting period [1991, p.87-96, rus] 47-387
Modeling the spatial distribution of the snow cover based on informative cartographic analysis [1989, p.88-94, eng] 47-1228
Shved, G.M.
Influence of latitudinal and longitudinal variations of ozone and water vapour on the solar semidiurnal tide [1993, p.815-826, eng] 47-2929
Shvetsova, V.M.
Effect of manure-lignin compost on soil and agricultural crop yields [1991, p.107-113, rus] 47-4112
Shyam Sunder, S.
Ice mechanics—1993 [1993, 281p., eng] 47-3737
Micromechanical damage descriptor for polycrystalline ice [1993, p.1-14, eng] 47-3738
Structure of ice layers on electrical transmission cables with Raman microprobe spectroscopy [1992, p.1869-1873, eng] 47-2639
Sibley, H.W.
Water freezing enhancement for thermal storage brine tube [1988, 6 col., eng] 47-3641
Siciński, J.
Macrozooplankton near the pack ice between Elephant Island and the South Orkney Islands (December 1988-January 1989) [1991, p.565-582, eng] 47-3092
Sidorkin, V.V.
Studying naleds to estimate fresh ground water reserves [1991, p.131-137, rus] 47-2438
Siebel, E.
Air-void characteristics and freezing and thawing resistance of superplasticized air-entrained concrete with high workability [1989, p.297-319, eng] 47-63
Sievering, H.
Atmospheric loading of nitrogen to alpine tundra in the Colorado Front Range [1992, p.339-346, eng] 47-2236
Sievers, J.
Radio-echo-sounding on Browning Pass, Terra Nova Bay area, Antarctica [1992, p.135-137, eng] 47-2185
Site survey for future heat flow measurements, Prince Albert Mountains, Antarctica [1992, p.138-139, eng] 47-2186
Utilisation of ERS-1 data for mapping of Antarctica [1993, p.247-251, eng] 47-4420
Sigmundsson, F.
Glacio-isostatic crustal movements caused by historical volume change of the Vatnajökull Ice Cap, Iceland [1992, p.2123-2126, eng] 47-2927
Sigunov, IU.A.
Investigation of evolution of the Arctic shelf cryolithozone by mathematical simulation [1992, p.13-19, eng] 47-244
Sigurdsson, H.
Changing sources of impurities to the Greenland ice sheet over the last 250 years [1992, p.2627-2640, eng] 47-901
Modified HNO3 seasonality in volcanic layers of a polar ice core: snow-pack effect or photochemical perturbation? [1993, p.219-230, eng] 47-3463
Sulfur mass loading of the atmosphere from volcanic eruptions: calibration of the ice core record on the basis of sulfate aerosol deposition in polar regions from the 1982 El Chichon eruption [1990, 7p. + appends., eng] 47-4618
Sigurdsson, O.
Degree-day glacier mass balance modelling with applications to glaciers in Iceland and Norway [1993, 40p., eng] 47-3707
Glacier hydrology in a changing climate [1992, p.683-692, eng] 47-1980
Glacier variations: 1930-1960, 1960-1980, 1980-1987 and 1987-1988 [1989, p.108-113, ice] 47-714
Rockslides on the terminus of "Jökulsárgilsjökull," southern Iceland [1991, p.129-140, eng] 47-4336
Sigurgeirsson, A.
Chloroplast DNA diversity, phylogenetics, and hybridization in Picea [1993, p.369-382, eng] 47-4550
Sikka, D.R.
Impact of winter and spring time snow cover over Eurasia on the short-term climatic fluctuations of the summer monsoon over India [1985, p.47-60, eng] 47-524
Silva, S.C.
Rotational spectrum of a quantum rotor adsorbed on a rough and disordered surface: para-H2 and ortho-H2 on amorphous ice [1993, p.2265-2268, eng] 47-4464
Silvente, E.
Ammonium to sulphate ratio in aerosol and snow of Greenland and antarctic regions [1993, p.687-690, eng] 47-4167
Silver, J.A.
Diode laser humidity sensor for cold environments. Phase I. Final technical report [1988, 35p., eng] 47-4861
Simila, M.
Evaluation of two classification algorithms to discriminate open water and sea ice from SAR image [1991, p.89-106, eng] 47-3401
Relation between SAR imagery and regional sea ice ridging characteristics from BEPERS-88 [1992, p.2415-2432, eng] 47-256
Simmonds, I.
Analysis of strong wind events simulated in a GCM near Casey in the Antarctic [1993, p.522-534, eng] 47-3677
Improvements in general circulation model performance in simulating antarctic climate [1990, p.287-300, eng] 47-3149
Simmons, G.M., Jr.
Environmental regulators of microbial activity in continental antarctic lakes [1993, p.165-195, eng] 47-4400
Environmental regulators of microbial activity in continental antarctic lakes [1993, p.491-541, eng] 47-4598
Simmons, V.M.
Cleats for snowmobile track [1989, 8 col., eng] 47-3413
Simon, M.J.
Influence of immersion vibration on the void system of air entrained concrete [1992, p.99-126, eng] 47-2573
Simon, R.
Dynamical criterion for freezing of colloidal liquids [1993, p.1557-1560, eng] 47-4347

Simonarson, L.A.
Review of the Late Pleistocene stratigraphy of Reykjavik, Iceland [1991, p.143-150, eng] 47-3486

Simonenko, L.I.
Superplasticizer based on poly-electrolytic compounds [1991, p.18-20, rus] 47-2159

Simonov, I.V.
Thermal processes caused by the formation of defects in *materials at cryogenic temperatures* [1992, p.541-545, rus] 47-2035

Simonov, IU.A.
Effect of the bow form of ships on ice-navigability [1992, p.6-8, rus] 47-2917

Simonsen, H.
Chronology of the International Northern Sea Route Project [1992, p.26-33, eng] 47-4211

Simpkin, P.G.
Experiment to monitor four iceberg scours on the Grand Banks of Newfoundland [1991, 110p., eng] 47-2115

Singh, B.
Systems approach to management of roads and airfields in snowbound areas [1985, p.366-380, eng] 47-583

Singh, H.B.
Atmospheric measurements of peroxyacetyl nitrate and other organic nitrates at high latitudes: possible sources and sinks [1992, p.16,511-16,522, eng] 47-1451

Relationship of peroxyacetyl nitrate to active and total odd nitrogen at northern high latitudes: influence of reservoir species NOx and O3 [1992, p.16,523-16,530, eng] 47-1452

Singh, L.D.
Factors affecting snow hydrology [1985, p.180-182, eng] 47-571

Singh, R.P.
Afforestation for avalanche prevention and control [1985, p.392-395, eng] 47-556

Use of microwave radiometry for monitoring the alpine environment [1991, p.81-89, eng] 47-1295

Singh, S.K.
Flow properties of crushed ice [1993, p.11-19, eng] 47-4225

Sinha, N.K.
Cracking kinetics and failure on repeated loadings of ice [1992, p.137-150, eng] 47-2301

Effect of boundary conditions on borehole indentor test results [1993, p.65-72, eng] 47-4232

Experimental study of the behaviour of columnar grained ice subjected to cyclic loading [1993, p.21-28, eng] 47-4226

Proceedings. Vol.4. Arctic/polar technology [1993, 219p., eng] 47-4223

Sinitsyn, S.A.
Chemical composition of snow near a mining and concentration plant: analysis of variability by multivariate statistical analysis methods [1993, p.79-86, eng] 47-5193

Sinitsyn, A.IA.
Characteristics of radiogeochemical anomalies in landscapes with water-saturated glacial formations [1991, p.26-34, rus] 47-169

Sinitsin, IU.N.
Hydrometeorological and ice conditions in the arctic seas of the USSR during 1990-1991 [1992, p.93-96, eng] 47-3459

Sin'kevich, S.A.
Reflection of 20th-century climatic warming in the glacier cores of Nordaustlandet [1991, p.53-59, rus] 47-2788

Reflection of twentieth-century climatic warming in glacier cores from Nordaustlandet [1992, p.114-122, eng] 47-1763

Sinnar, A.M.
Compositional state detection system and method [1989, 12 col., eng] 47-3113

Sirois, R.
Fate and effects of dispersed crude oil under icy conditions simulated in mesocosms [1993, p.273-302, eng] 47-2657

Sirotenko, O.D.
Global warming and future agroclimatic resources of the Russian Plain [1991, p.83-88, rus] 47-1253

Sitnov, S.A.
Anomalies in the intra-annual ozone variability in polar regions from ozone sounding area: Resolute and Amundsen-Scott stations [1991, p.272-279, eng] 47-2897

Tropospheric ozone annual variation and possible troposphere-stratosphere coupling in the Arctic and Antarctic as derived from ozone soundings at Resolute and Amundsen-Scott stations [1993, p.89-98, eng] 47-3530

Sittler, F.C.
Integrated semiconductor resistance temperature sensor and resistive heater [1989, 10 col., eng] 47-3327

Sivardière, F.
Local protection from snowdrifts defence structures [1993, p.6-17, ita] 47-4700

Works of the wind [1992, p.16-23, fre] 47-2332

Sivkov, A.M.
Influence of latitudinal and longitudinal variations of ozone and water vapour on the solar semidiurnal tide [1993, p.815-826, eng] 47-2929

Sizov, V.P.
Predicting the frost resistance of concrete [1992, p.25-27, rus] 47-2153

Sjoeblom, K.-L.
International Arctic Seas Assessment Project IASAP (1993-1996) [1993, p.443-447, eng] 47-5048

Skaret, G.
Afforestation of Lutz spruce, Sitka spruce, and Norway spruce in the Vesteraalen Islands, Norway [1993, p.427-436, eng] 47-4553

Seed collections from North American trees for marginal sites in the Nordic countries [1993, p.277-291, eng] 47-4543

Skarra, N.
Driver behavior during winter conditions [1988, 54p. + appends., nor] 47-4992

Skau, C.M.
Soil denitrification rates in a subalpine watershed of the eastern Sierra Nevada [1992, p.217-231, eng] 47-510

Skelton, P.L.I.
Rime- and glaze-ice accretion due to freezing rain falling vertically on a horizontal thermally insulated overhead line conductor [1992, p.390-398, eng] 47-4069

Rime-ice accretion on fixed stranded conductors [1993, p.45-52, eng] 47-3529

Skempton, A.W.
Solifluction shears at Carsington, Derbyshire [1991, p.381-387, eng] 47-3890

Skindlov, J.
Hydrometeorologic forecasting at Salt River Project [1992, p.137-142, eng] 47-2723

Skipp, G.L.
Clay mineral depositional facies and uranium resource potential in part of the Tertiary Kenai Group, Kenai Peninsula, Alaska [1992, p.81-99, eng] 47-612

Skobeleva, O.V.
Effect of freeze-thaw processes on calcium ion mobility in the example of brown forest soil [1991, p.57-60, rus] 47-4810

Skóra, K.E.
Ichthyoplankton near ice edge between King George Island and the South Orkney Islands [1991, p.605-611, eng] 47-3095

Skre, O.
Growth of mountain birch *(Betula pubescens* Ehrh.) in response to changing temperature [1993, p.65-78, eng] *47-4530*

Skretteberg, R.
Establishment of gauging stations under arctic conditions—the Svalbard experience [1992, p.711-717, eng] 47-1983

Skripachev, V.V.
Oscillations of an ice sheet under a periodically varying load [1993, p.746-750, eng] 47-3169

Skripal'shchikova, L.N.
Dust-accumulative capacity of pine and birch phytocenosis in forest-steppe regions in Siberia [1992, p.39-43, rus] 47-3272

Skurikhin, V.A.
Selection of the subsea pipeline route for the offshore Chaivo field [1992, p.801-806, eng] 47-1879

Skvortsova, I.N.
Structure-forming ability of the cold-tolerant soil bacteria *Pseudomonas* [1987, p.29-33, eng] 47-597

Slade, M.A.
Mercury radar imaging: evidence for polar ice [1992, p.635-640, eng] 47-737

Slade, T.
Notch sensitivity of first-year sea ice [1993, p.1303-1313, eng] 47-4848

Slagoda, E.A.
Characteristics of the microstructure of deposits from the ice complexes in northern Yakutia (in the example of the Bykovskiy Peninsula) [1991, p.38-47, rus] 47-4807

Slagstad, D.
Sea ice and wind: effects on primary productivity in the Barents Sea [1992, p.579-591, eng] 47-2879

Slepian, L.I.
Dynamical problems of ice cover fracture [1991, p.212-219, eng] 47-4282

Slepyan, L.I.
Crack dynamics in a plate under bending [1993, p.119-129, eng] 47-3747

Slesarev, I.V.
Winter water migration through deep-frozen soils of West Siberia [1992, P.111-115, eng] 47-1714

Sletten, R.S.
Sludges from cold regions lagoons [1993, p.146-155, eng] 47-3675

Slettjord, S.
Development of an environmental forest and arboretum on the outer coast of Finnmark County, Norway [1993, p.437-451, eng] 47-4554

Slinchenkova, E.IU.
Analysis of the composition of cryophyte steppe communities in the middle course of the Amguyema River (Chukotskiy Peninsula) in connection with their classification [1991, p.52-67, rus] 47-2358

Sliuta, E.N.
Small and planetary bodies of the solar system, the critical mass of icy bodies [1992, p.692-696, rus] 47-2040

Sloan, E.D.
Hydrate dissociation enthalpy and guest size [1992, p.123-140, eng] 47-588

Sloan, L.C.
Evidence from the antarctic continental margin of Late Paleogene ice sheets: a manifestation of plate reorganization and synchronous changes in atmospheric circulation over the emerging southern ocean? [1992, p.131-159, eng] 47-3166

Slunga, E.
Determination of the elastic stiffness of thawing subgrade soil [1993, p.65-68, eng] 47-4122

Work report of ISSMFE T-C8 1990-1993 [1993, p.159-170, eng] 47-4134

Smallbeck, D.R.
Case study of arctic in situ bioremediation [1993, p.339-346, eng] 47-4475

Smedley, D.J.
Modelling of snowdrift around prismatic buildings for antarctic environment [1992, p.73-79, eng] 47-4281

Snowdrift around antarctic building--effects of corner geometry and wind incidence [1992, p.587-591, eng] 47-1845

Snowdrift around antarctic buildings—effects of corner geometry and wind incidence [1993, p.61-65, eng] 47-4302

Snowdrift around buildings for antarctic environment [1992, p.2797-2808, eng] 47-2643

Smedman, A.S.
Turbulence structure in stably stratified flow in the wake behind high mountains [1992, p.J145-J148, eng] *47-2422*

Smiraglia, C.
Mass balance of a cirque glacier in the Italian Alps (Ghiacciaio dell Sforzellina, Ortles-Cevedale Group) [1993, p.87-90, eng] 47-3942

Observations on the rock glaciers of Monte Emilius (Valle d'Aosta, Italy) [1992, p.163-168, eng] 47-1757

Recent fluctuations of glaciers in Valtellina (Italian Alps) and climatic variations [1992, p.309-313, eng] 47-472

Reports on the Glaciological Survey of 1990 [1991, p.263-310, ita] 47-3171

Smirnov, K.D.
First ice-navigating ships for the Far East [1992, p.49-51, rus] 47-2921

Smirnov, V.
Nuclear lighter "Sevmorput" [1990, p.22-23, rus] 47-4089

Smirnov, V.I.
Rate of vapor condensation in a cloud layer at a slow updraft [1991, p.78-82, eng] 47-4925

Smit, B.A.
Root cold hardiness and native distribution of subalpine conifers [1992, p.932-938, eng] 47-1187

Smith, A.
Enclosures keep workers warm and more productive in cold weather [1990, p.857-862, eng] *47-2716*

In-slab hydronic heating systems warm rooms indoors, melt snow and ice outdoors [1990, p.851-856, eng] 47-2715

Smith, C.A.S.
Formation and properties of soils in the permafrost regions of Canada [1992, p.21-42, eng] 47-1702

Smith, D.C., IV
Numerical study of haline convection beneath leads in sea ice [1993, p.10,069-10,083, eng] 47 4377

Smith, D.J.
Long-term rates of contemporary solifluction in the Canadian Rocky Mountains [1992, p.203-221, eng] 47-853

Smith, D.W.
Microorganism survival in ice-covered marine environment [1992, p.58-72, eng] 47-2

Potential leachate production due to cold weather effects [1992, p.660-667, eng] 47-3345

Smith, E.A.
Alternative representation of the ice canopy for calculating microwave brightness temperatures over a thunderstorm [1993, p.1006-1013, eng] 47-3567

Foundations for statistical-physical precipitation retrieval from passive microwave satellite measurements. Part 1: brightness-temperature properties of a time-dependent cloud-radiation model [1992, p.506-531, eng] 47-354

Foundations for statistical-physical precipitation retrieval from passive microwave satellite measurements. Part 2: emission-source and generalized weighting-function properties of a time-dependent cloud-radiation model [1993, p.17-39, eng] 47-1995

Smith, E.L.
Frost plug heater [1989, 6 col., eng] 47-3109

Smith, E.N.
Experimental techniques in condensed matter physics at low temperatures [1988, 338p., eng] 47-1618

Smith, G.I.
Lithology and paleoclimatic implications of lacustrine deposits around Lake Vanda and Don Juan Pond, Antarctica [1993, p.83-94, eng] 47-4398

Smith, J.
Doppler acoustic studies of fine scale variability in the Arctic Ocean [1992. p.17-23. eng] 47-4715
Smith, J.D.
Approach to the design of treatments to prevent snow drifting on highways [1992. 18p.. eng] 47-943
Smith, J.N.
Development of advanced instrumentation for drop size and liquid water content measurements in clouds [1988. 66p.. eng] 47-4903
Report of Inventories/Sources Group [1993. p.5-7. eng] 47-5014
Smith, J.P.
Atmospheric NO3. 4. Vertical profiles at middle and polar latitudes at sunrise [1993. p.8983-8989. eng] 47-4383
Smith, L.K.
Seasonality of methane emissions from five lakes and associated wetlands of the Colorado Rockies [1992. p.323-338. eng] 47-2235
Smith, M.F.
Quantitative energy-filtered electron microscopy of biological molecules in ice [1992. p.349-373. eng] 47-1677
Smith, M.W.
France-Canada joint study of deformation of an experimental pipe line by differential frost heave [1993. p.56-60. eng] 47-4301
France-Canada joint study of deformation of an experimental pipeline by differential frost heave [1992. p.40-45. eng] 47-1834
Smith, N.R.
Reassessment of Crete (Greenland) ice core acidity/volcanism link to climate change [1993. p.209-212. eng] 47-2856
Smith, P.
Integrated approach to environmentally acceptable disposal of Athabasca oilsand fine tailings [1993. p.221-228. eng] 47-4467
Smith, P.L.
Ice-producing processes in North Dakota clouds [1992. p.305-308. eng] 47-2273
Smith, R.E.H.
In situ patterns of intracellular photosynthate allocation by sea ice algae in the Canadian High Arctic [1992. p.545-551. eng] 47-1789
Smith, R.L.
Field performance of a spinning-reflector microwave radiometer [1993. p.420-427. eng] 47-3775
Smith, S.D.
GIS-based method of modeling water input from rain-on-snow storms, for management and regulation of clearcut forest harvest [1992. p.125-128. eng] 47-502
Smith, S.R.
Antarctic pressure and temperature anomalies surrounding the minimum in the southern oscillation index [1992. p.121-124. eng] 47-2397
Smith, T.R.
Brittle compressive failure of fresh-water columnar ice under biaxial loading [1993. p.153-163. eng] 47-3776
Effect of stress state on the brittle compressive failure of columnar ice [1992. 223p.. eng] 47-280
Smith, W.O., Jr.
Nitrogen uptake and new production in the Greenland Sea: the spring *Phaeocystis* bloom [1993. p.4681-4688. eng] 47-4390
Smorodin, V.E.
Solubility effects on mixed aerosol ice nuclei in the supercooled clouds [1992. p.295-299. eng] 47-2271
Smith, H.
Review of GEOSAT data over Canadian east coast waters [1993. p.117-130. eng] 47-4590
Snekkerbakken, A.M.
Contaminants in the Gardermoen areal [1992. p.6/1-6/5. eng] 47-2825
Snelling, H.J.
Air Force snowfall statistics for engineering applications [1992. p.61-69. eng] 47-4034
Sneyd, A.R.
Extending the shipping season in the Canadian Arctic and prospects for the future [1992. p.351-365. eng] 47-1041
Snow and avalanches in the Swiss Alps, winter 1990/91
Snow and avalanches in the Swiss Alps, winter 1990/91 [1992. 199p.. ger] 47-2206
Snow and ice control
Snow and ice control [1991. p.B/88-B/103. eng] 47-2108
Snow and Road Research Meeting, 2nd, Feb. 29, 1990
Published research papers [1990. 37p. + panel discussion. jpn] 47-4678
Research summaries [1990. 78p.. jpn] 47-4688
Snow and Road Research Meeting, 5th, Jan. 29, 1993
Published research papers [1993. 54p.. jpn] 47-4782
Research summaries [1993. 107p.. jpn] 47-4794
Snow fence guide
Snow fence guide [1992. p.57-59. eng] 47-1924
Snow-Sapporo-21 Project
Snow-Sapporo-21 Project [1991. 50p.. eng] 47-4800
Snow survey of Great Britain, 1991/92
Snow survey of Great Britain, 1991/92 [1992. 24p.. eng] 47-2336
Snowy torrents '92-'93
Snowy torrents '92-'93 [1993. p.3. eng] 47-3261
Snyder, E.F.
Activities of the Alaska District, Water Resources Division, U.S. Geological Survey, 1992 [1992. 21p.. eng] 47-1325
Snyder, W.R.
Case study of a mesoscale snow event in New York's Capital District [1992. 13p.. eng] 47-2140
Lake effect snow events in eastern New York [1992. 10p.. eng] 47-2139
Sobol', S.V.
Intensification of freezing earth hydraulic structures by natural cold [1991. p.691-694. rus] 47-2908
Thermal regime of filtrating taliks in the foundation of a hydraulic power system and reservoir banks [1992. p.106-110. rus] 47-366
Sobolev, V.D.
Dependence of the thickness of non-freezing water interlayers on the external pressure [1992. p.160-166. eng] 47-3733
Sochnev, O.IA.
Investigation of a mushroom-like flow in the shelf edge area of northern seas [1992. p.317-322. eng] 47-782
Society of Automotive Engineers
Ice, rain, fog, and frost protection [1990. 62p.. eng] 47-3137
Sodhi, D.S.
Analysis of data from indentation tests on freshwater ice [1993. p.73-81. eng] 47-4233
Clues to causes of deformation features in coastal sea ice [1992. p.385.388-389. eng] 47-2597
Indentation and splitting of freshwater ice floes [1993. p.165-175. eng] 47-3751
Preliminary results of the U.S. Navy localized ice impact test program [1992. p.750-763. eng] 47-1870
Proceedings. Vol.4. Arctic/polar technology [1993. 219p.. eng] 47-4223
Soina, V.S.
Cryoprotective properties of water in the earth cryolithosphere and its role in exobiology [1993. p.65-75. eng] 47-2658
Nitrifying bacteria from frozen deposits in the Kolyma lowlands [1991. p.92-97. rus] 47-4816
Soininen, H.
Detecting organic chemical contaminants by spectral-induced polarization method in glacial till environment [1992. p.1014-1017. eng] 47-779
Sokal'skaia, A.M.
Impact of summer snowfalls on glacier regimes in the Akshiyrak Massif [1991. p.176-181. rus] 47-339
Sokol, P.E.
Freezing in confined geometries [1992. p.777-779. eng] 47-180
Sokolov, B.L.
Hydrology of naleds: basic results and research tasks [1991. p.24-40. rus] 47-2426
Sokolov, L.K.
Working tools and special equipment for trenching excavators designed for frozen ground [1990. p.17-19. rus] 47-1413
Sokratov, S.A.
Evaporation of snow under isothermal conditions [1991. p.27-32. rus] 47-2785
Solantie, R.
Climate of Finland in relation to its hydrology, ecology and culture [1990. 130p.. eng] 47-3540
Solberg, R.
System for monitoring ice in polar regions by SAR [1992. p.128-130. eng] 47-640
Soldatova, I.I.
Causes of variability of ice appearance dates in the lower reaches of the Volga [1992. p.62-66. eng] 47-2714
Solie, D.J.
Effects of temperature on an ISL-PVDF shock sensor between +20 C and -40 C [1992. p.891-892. eng] 47-1142
Shock response of snow [1993. p.4852-4861. eng] 47-3794
Shock response of snow: analysis of experimental methods and constitutive model development [1992. 19p.. eng] 47-705
Solie, D.N.
Short notes on Alaskan geology 1993 [1993. 99p.. eng] 47-4773
Soller, D.R.
Text and references to accompany "Map showing the thickness and character of Quaternary sediments in the glaciated United States east of the Rocky Mountains" [1992. 54p.. eng] 47-2593
Sollid, J.L.
Excursion guide for northern Finland-Norway-Sweden. Revised edition [1989. 105p.. eng] 47-2116
Glaciofluvial sediment transfer of a subpolar glacier, Erikbreen, Svalbard [1992. p.253-266. eng] 47-2121
Ground temperature measurements in mountain permafrost, Jotunheimen, southern Norway [1992. p.231-234. eng] 47-1776
Rock glaciers in Svalbard and Norway [1992. p.215-220. eng] 47-1773
Solomakha, T.A.
Influence of snow viscosity on forced flexural-gravity waves in a basin with a density jump [1992. p.259-266. eng] 47-781
Solomatin, V.I.
Basic problems in the geoecology of the cryolithozone [1992. p.10-14. rus] 47-367
Geoecology of the North (an introduction to geocryoecology) [1992. 270p.. rus] 47-4653
Solomennik, S.F.
Characteristics of the operation of seepage tanks during winter [1988. p.136-143. rus] 47-978
Solomina, O.N.
Oscillations of mountain glaciers in post-glacial time [1992. p.56-65. rus] 47-1251
Reconstruction of humidification conditions of eastern Issyk-Kul' areas for the last 390 years from dendrochronological data [1991. p.80-86. rus] 47-2792
Solomon, A.D.
Mathematical modeling of melting and freezing processes [1993. 323p.. eng] 47-3541
Solomon, A.M.
Predicting afforestation success during climatic warming at the northern limit of forests [1993. p.167-188. eng] 47-4536
Solomon, S.
DSIR's stratospheric trace gas programme in Antarctica [1992. p.311-321. eng] 47-2166
Measurements and model calculations of HCl column amounts and related parameters over McMurdo during the austral spring in 1989 [1992. p.20,795-20,804. eng] 47-2055
Solov'ev, IU.I.
Settlement of lumpy frozen soil during thawing under conditions of compression [1991. p.72-76. rus] 47-189
Solov'eva, L.V.
Ecological analysis of pigment content in the leaves of mountain-tundra dwarf shrubs [1992. p.55-77. rus] 47-4093
Somitsch, W.
Clearing and spreading tests with minimal salt scattering as observed during abrasion of worn sections [1983. p.21-78. ger] 47-5001
Sommerfeld, R.A.
CO2, CH4 and N2O flux through a Wyoming snowpack and implications for global budgets [1993. p.140-142. eng] 47-1595
NO adsorption on ice at low concentrations [1992. p.569-574. eng] 47-202
Performance of a simple degree-day estimate of snow accumulation to an alpine watershed [1991. p.221-228. eng] 47-1309
Sone, I.
Roads of Hida in snow [1985. p.72-76. jpn] 47-5102
Sone, T.
Permafrost environment of the Daisetsu Mountains, Hokkaido, Japan [1992. p.235-240. eng] 47-1777
Some characteristics of alpine permafrost, Mt. Daisetsu, central Hokkaido, northern Japan [1992. p.159-167. eng] 47-4325
Sonesson, M.
Performance of mountain birch in different environments in Sweden and Iceland: implications for afforestation [1993. p.79-88. eng] 47-4531
Sonett, C.P.
Supernova shock ensemble model using Vostok Be-10 radioactivity [1992. p.239-245. eng] 47-1480
Song, C.C.S.
Semi-discrete element approach to the river ice breakup and jamming process [1993. p.65-69. eng] 47-4450
Song, C.Q.
Holocene periglacial processes and environmental changes in Daqingshan Mountains, Inner Mongolia, China [1992. p.55-62. eng] 47-3127
Song, G.P.
Recent change and trend prediction of glaciers in Qilian Mountain [1992. p.1-9. chi] 47-1533
Surface movement velocity of the Qiyi Glacier in Qilian Mountain [1992. p.40-44. chi] 47-1537
Song, N.H.
Aerosol scavenging by ice in supercooled clouds [1991. p.63-74. eng] 47-2208
Sonnichsen, G.
ROV and submersible video interpretation of iceberg scour features and glory holes on the northeastern Grand Banks off Newfoundland [1992. 44p.. eng] 47-2340
Sonninskii, A.V.
New technical solution for the reliable anchoring of an underground pipeline in frost-heaving ground [1992. p.20-22. rus] 47-2900
Sonoi, Y.
Dual polarization radar observations of anomalous wintertime thunderclouds in Japan [1992. p.838-844. eng] 47-361
Sonu, C.J.
Coastal jet and ice flow movement [1992. p.772-776. eng] 47-1872

Sonwalkar, N.
Structure of ice layers on electrical transmission cables with Raman microprobe spectroscopy [1992, p.1869-1873, eng] 47-2639

Soo, S.
Design method for frozen-soil retaining wall [1992, p.73-89, eng] 47-3

Soons, J.M.
Report on the Franz Josef Glacier [1992, p.35-49, eng] 47-1004

Sopko, J.A., Jr.
Ground freezing to control ground water and support deep storm sewer structural excavations [1989, p.149-155, eng] 47-994
Ground freezing to provide support for tunneling using vertical refrigeration pipes [1991, p.267-272, eng] 47-992

Sörbel, L.
Rock glaciers in Svalbard and Norway [1992, p.215-220, eng] 47-1773

Sorokin, A.A.
Accelerated heating of a hydraulic system in subzero ambient temperatures [1990, p.6, rus] 47-1420

Sorokin, A.L.
Hydrobiological studies in the Arctic: the structure of bottom communities in the Spitsbergen Archipelago (western part) [1992, p.1332-1335, rus] 47-2039

Sorokina, E.P.
Assessment of the technogenic migration of chemical elements through terrain of a large urbanized territory [1991, p.42-49, rus] 47-3278

Soroushian, P.
Freeze-thaw durability of lightweight carbon fiber reinforced cement composites [1992, p.491-494, eng] 47-2548

Sosnikova, E.V.
Study of the ice nucleating properties of various polymers [1992, p.168-172, rus] 47-2529

Souchez, R.
Ice composition evidence of marine ice transfer along the bottom of a small antarctic ice shelf [1991, p.503-506, eng] 47-1793

Soulen, R.J., Jr
Decade of absolute noise thermometry at NIST using a resistive SQUID [1992, p.983-988, eng] 47-2989
He-3 melting curve thermometer as a universal temperature transfer standard [1992, p.101-106, eng] 47-2953
ITS-90 below 1 K: how accurate is it [1992, p.85-90, eng] 47-2950
New cryogenic temperature scale from 6.3 to 650 mK [1992, p.91-96, eng] 47-2951

Soulis, E.D.
Thin-ice statistics for strength calculations without sub-category classification [1991, p.213-226, eng] 47-3409

Sousounis, P.J.
Numerical investigation of wind speed effects on lake-effect storms [1993, p.261-290, eng] 47-4511

Southon, T.E.
NMR *imaging of roots:* effects after root freezing of containerised conifer seedlings [1992, p.329-334, eng] 47-1627

Sowers, T.
*Delta*N-15 of N2 in air trapped in polar ice: a tracer of gas transport in the firn and a possible constraint on ice age-gas age differences [1992, p.15,683-15,697 eng] 47-996

Spahr, N.E.
Use of chemistry and stable sulfur isotopes to determine sources of trends in sulfate of Colorado lakes [1993, p.415-431, eng] 47-4759

Spaid, J.R., Jr.
Experiments with corrosion inhibited deicers in Washington State [1992, 11p., eng] 47-935

Spain. Proyecto Español de Glaciología Antártica
Contribution to the Antarctic Expedition 1988-1989. First results [1989, 101p., spa] 47-807

Spalding, A.V.
Method and apparatus for piled foundation improvement with freezing using down-hole refrigeration units [1988, 6 col., eng] 47-3769

Spermacher, H.
Below-cloud scavenging of aerosol particles: particle-bound radionuclides—experimental [1993, p.605-618, eng] 47-4349

Spetsev, I.O.
Alkali-silicate concrete for salt-and-frost resistant structures [1990, p.4-6, rus] 47-2161

Spetz, T.L.
Two-wavelength holographic interferometry study on the solidification of a binary alloy around a horizontal pipe [1992, p.998-1010, eng] 47-1671

Speck, R.S., Jr.
Analysis of snow loads due to drifting on multilevel roofs [1984, 92p., eng] 47-3700
Roof-snow load for seismic-design calculations [1992, p.2338-2350, eng] 47-4

Spencer, D.S.
CD model ice—preliminary observations on the effect of density on tank testing [1992, 7p., eng] 47-1348
Full scale deflection of ice by an icebreaker [1991, 4p. + appends., eng] 47-1363
Proposed standard method for conduct and analysis of ice resistance model tests [1992, 10p., eng] 47-1341

Spencer, P.A.
Description of multi-year ice indentation tests at Hobson's Choice Ice Island 1990 [1993, p.145-155, eng] 47-4242
Dynamic analysis of the medium scale hydraulic ice indentation apparatus [1993, p.105-111, eng] 47-4237
Flow properties of crushed ice [1993, p.11-19, eng] 47-4225
Flow properties of crushed ice: crushing plus extrusion tests [1993, p.45-51, eng] 47-4229
Geometrical model for pressure aspect-ratio effects in ice-structure interaction [1993, p.113-117, eng] 47-4238

Spencer, W.E.
Acclimation of photosynthesis and dark respiration of a submersed angiosperm beneath ice in a temperate lake [1993, p.985-991, eng] 47-4169

Speranskii, D.A.
Experiment in formulating short term numerical ice forecasts *for the southwestern Kara Sea* [1990, p.98-104, rus] 47-3595

Sperry, J.S.
Xylem embolism in response to freeze-thaw cycles and water stress in ring-porous, diffuse-porous, and conifer species [1992, p.605-613, eng] 47-903

Spichkin, V.A.
Analysis of the characteristics of decrease in areas of ice massifs in the Novosibirsk region during summer [1990, p.15-24, rus] 47-3585
Homogeneous ice regions in the northeastern Kara Sea [1990, p.6-14, rus] 47-3584
Problem of calculating and forecasting *significant anomalies* in ice phenomena [1990, p.54-65, rus] 47-3589
Using short series of estimated values and a large number of predictors to improve ice forecasting methods [1990, p.66-76, rus] 47-3590

Spindler, M.
Ecology of sea ice biota. 1. Habitat, terminology, and methodology [1992, p.417-427, eng] 47-1334
Ecology of sea ice biota. 2. Global significance [1992, p.429-444, eng] 47-1335
Expedition ANTARKTIS X3 of RV *Polarstern* in 1992 [1993, p.1-122, eng] 47-4879

Spink, T.W.
Periglacial discontinuities in Eocene clays near Denham, Buckinghamshire [1991, p.389-396, eng] 47-3891
Solifluction shears at Carsington, Derbyshire [1991, p.381-387, eng] 47-3890

Spirina, V.S.
Economic effectiveness of the production and use of lignovermiculite as thermal insulation products [1991, p.85-95, rus] 47-2937

Splettstoesser, B.D.
First transit of the Northwest Passage by Russian icebreaker [1993, p.148, eng] 47-3443

Splettstoesser, J.
First transit of the Northwest Passage by Russian icebreaker [1993, p.148, eng] 47-3443

Squeo, F.A.
Spatial *heterogeneity of high mountain vegetation in the And*:an desert zone of Chile [1993, p.203-209, eng] 47-4712

Squire, V.A.
Breakup of shore fast sea ice [1993, p.211-218, eng] 47-3925
Comparison of the mass-loading and elastic plate models of an ice field [1993, p.219-229, eng] 47-3926
Finite-floe wave reflection and transmission coefficients from a semi-infinite model [1993, p.12,537-12,542, eng] 47-4524
On ice-coupled waves: a comparison of data and theory [1992, p.269-280, eng] 47-1034

Squyres, S.W.
Effects of material mixing on planetary gamma ray spectroscopy [1992, p.14,701-14,715, eng] 47-377
Terrigenous clastic sedimentation in antarctic dry valley lakes [1993, p.71-81, eng] 47-4397

Srivastava, R.C.
New explicit equations for the accurate calculation of the growth and evaporation of hydrometeors by the diffusion of water vapor [1992, p.1643-1651, eng] 47-7

St. Germain, D.
Extinction of visible and infrared beams by falling snow [1992, p.5121-5132, eng] 47-449

St. Germain, K.M.
Determination of dielectric constant of young sea ice using microwave spectral radiometry [1993, p.4675-4679, eng] 47-4389
Laboratory investigations of the electromagnetic properties of *artificial sea ice* [1992, p.177-200, eng] 47-3023
Remote sensing of sea-ice thickness in the Weddell Sea [1991, p.92-93, eng] 47-3515

St. John, J.
Performance of the *Nathaniel B. Palmer* in ice [1993, p.300-309, eng] 47-5117

St. Lawrence, W
Investigation of icequakes on the Greenland icesheet near Jakobshavn Icestream, June-July 1980 [1983, 38p., eng] 47-1688

Stachelin, J.
Cloud chemistry at Mt. Rigi, Switzerland: dependence on drop size and relationship to precipitation chemistry [1993, p.33-42, eng] 47-2705

Stahle, D.W.
Dendroclimatic evidence from eastern North America [1992, p.331-348, eng] 47-2092

Stakhov, L.F.
Influence of cryoconservation on amino acids composition of archeoseeds Arctofila fulva in permafrost conditions [1992, p.259-262, eng] 47-1741

Stakhova, L.N.
Influence of cryoconservation on amino acids composition of archeoseeds Arctofila fulva in permafrost conditions [1992, p.259-262, eng] 47-1741

Stalder, U.
Snow cover variation *in the Alps using* NOAA-AVHRR data [1991, p.41-50, eng] 47-1291

Stalevich, D.D.
Optimal amounts of organic ice-forming reagents in clouds in order to produce precipitation [1991, p.34-43, rus] 47-92

Stambulko, V.I.
Superplasticizer based on poly-electrolytic compounds [1991, p.18-20, rus] 47-2159

Stamm, A.
Preliminary numerical simulations of the 31 January 1991 lake-effect snowstorm [1992, p.115-123, eng] 47-4040
Some experiences in assessing aircraft anti-icing fluid under various snow conditions [1992, p.31-37, eng] 47-4030

Stamnes, K.
Estimates of cloud optical thickness from ground-based measurements of incoming solar radiation in the Arctic [1992, p.4-6, eng] 47-2364

Stander, E.
On the reproduction of ice from a common seed [1993, p.153-156, eng] 47-4290

Stanley, D.W.
Influence of polysaccharides on the glass transition in frozen sucrose solutions and ice cream [1993, p.1268-1277, eng] 47-4849
Low-temperature scanning electron microscopy study of ice cream. 1. Techniques and general microstructure [1992, p.1-9, eng] 47-2014
Low-temperature scanning electron microscopy study of ice cream. 2. Influence of selected ingredients and processes [1992, p.11-23, eng] 47-2015

Stanley, J.M.
Indentation and splitting of freshwater ice floes [1993, p.165-175, eng] 47-3751

Stanley, R.G.
Fluvial facies architecture in the Tertiary Usibelli Group of Suntrana, central Alaska [1992, p.204-211, eng] 47-617

Stanley, S.J.
Ice jam flood forecasting: Hay River, N.W.T. [1992, p.212-223, eng] 47-200
Microorganism survival in ice-covered marine environment [1992, p.58-72, eng] 47-2
Probability analysis of historical *ice jam flood data for a complex* reach: a case study [1992, p.875-885, eng] 47-3306

Stanton, A.C.
Diode laser humidity sensor for cold environments. Phase I. *Final technical report* [1988, 35p., eng] 47-4861

Starchenko, O.V.
Moisture deformation of concrete with admixtures under cyclic freeze-thaw [1991, p.29-30, rus] 47-2160

Starke, U.
Low-energy electron diffraction study of oxygen, water and ice adsorption on Pt(111) [1993, p.432-437, eng] 47-4732

Starkel, L.
Late Quaternary continental paleohydrology as related to *future environmental change* [1993, p.95-108, eng] 47-4586

Starkov, G.B.
Energy criterion for low temperature failure of asphalt *concrete* [1992, p.50-52, rus] 47-2031

Starmer, W.T.
Microorganisms entrapped in glacial ice [1991, p.234-236, eng] 47-3054

Starodubtseva, O.A.
Influence of aqueous solution of anti-icing additives on corrosion of materials of construction [1993, p.563-566, eng] 47-4386

Starovoitova, E.R.
Algorithm for a numerical solution to the problem of heat transfer during borehole drilling in zones of stable frozen ground [1988, p.120-126, rus] 47-2233

Starshinov, V.A.
Floating nuclear power stations for the Far North [1992, p.3-6, rus] 47-2916

Statham, I.
Influence of frost heave on houses under construction in Merthyr Tydfil [1989, p.31-33, eng] 47-1001

Stauffer, B.
Greenland Ice Core Project [1993, p.1766-1767, eng] 47-4503

New ice mill allows precise concentration determination of methane and most probably also other trace gases in the bubble air of very small ice samples [1993, p.199-203, eng] 47-3952

Stauffer, S.R.
Poly(vinyl alcohol) hydrogels prepared by freezing-thawing cyclic processing [1992, p.3932-3936, eng] 47-744

Stea, R.R.
Pre-late Wisconsinan chronology of Nova Scotia, Canada [1992, p.185-206, eng] 47-2692

Stearns, C.R.
Antarctic pressure and temperature anomalies surrounding the minimum in the southern oscillation index [1992, p.121-124, eng] 47-2397
Climatic differences in Antarctica from automatic weather stations [1992, p.111-114, eng] 47-2395
Meteorological surveys in support of ice airfields in Antarctica [1992, p.42-43, eng] 47-2375
Satellite observation of katabatic-wind propagation for great distances across the Ross Ice Shelf [1992, p.1940-1949, eng] 47-876
Southern Oscillation signal in Antarctica [1988, p.141-144, eng] 47-4203

Steele, K.F.
Dew and frost chemistry at a midcontinent site, United States [1992, p.20,591-20,597, eng] 47-2052

Steele, M.
Hydrography and vertical fluxes of heat and salt northeast of Svalbard in autumn [1993, p.10,013-10,024, eng] 47-4373
Obtaining smooth hydrographic profiles from a buoy deployed in sea ice [1992, p.812-826, eng] 47-1472
Sea ice melting and floe geometry in a simple ice-ocean model [1992, p.17,729-17,738, eng] 47-1062

Steen, J.W.
Optimal radar ice surveillance [1991, p.143-164, eng] 47-3383

Steeves, G.
Electromagnetic communications through the seawater-ice-air interface [1991, p.638-644, eng] 47-2182

Stefan, H.G.
Submerged warm water jet discharge in an ice-covered reservoir or lake [1993, p.151-168, eng] 47-2647

Stefanutti, L.
Antarctic ozone lidar system [1992, p.3-12, eng] 47-4720
Four-wavelength depolarization backscattering lidar for polar stratospheric cloud monitoring [1992, p.13-17, eng] 47-4721
Lidar in Antarctica [1991, p.623-629, eng] 47-1827
Lidar measurements of antarctic atmospheric parameters [1991, p.27-41, ita] 47-1822
Ozone hole [1991, p.159-164, ita] 47-1825
Pinatubo in the Antarctic? [1992, p.327-343, eng] 47-2168
Preliminary ozone measurements by means of DIAL in Dumont d'Urville [1992, p.345-358, eng] 47-2169
Simulation of lidar depolarization by polar stratospheric clouds [1992, p.359-365, eng] 47-2170

Steffen, K.
Estimation of geophysical parameters using passive microwave algorithms [1992, p.201-231, eng] 47-3024
Microwave remote sensing of polynyas [1992, p.303-311, eng] 47-3029
Sea ice feature and type identification in merged ERS-1 SAR and Landsat Thematic Mapper imagery [1993, p.361-365, eng] 47-4440
SSM/I NASA algorithm sea ice retrieval comparison with Landsat satellite and aerial photography for the Bering Sea [1991, p.121-129, eng] 47-3403

Steffensen, E.L.
Climate of Spitsbergen [1990, 40p., eng] 47-1918

Steffler, P.M.
Finite element modeling of surge propagation and an application to the Hay River, N.W.T. [1992, p.454-462, eng] 47-3308

Stehno, G.
Test methods for the renovation of road coverings [1985, 48p., ger] 47-4987

Steig, E.J.
"Taylor Ice-Dome" study: reconnaissance 1990-1991 [1991, p.69-71, eng] 47-2468

Stein, A.B.
Growth of the Müller Ice Shelf during the later half of the Little Ice Age as documented by glacial marine sediments and radiogeochemistry [1992, 56p., eng] 47-71

Stein, D.L.
Assessment of deep-sea nekton and their role in radionuclide transfer [1993, p.449-461, eng] 47-5049

Stein, P.J.
Aspects of the mechanics and modeling of thermally-induced stresses in arctic pack ice as related to under- ice ambient noise [1993, p.573-590, eng] 47-4838
Predictions and measurements of the directivity of a monopole source in a floating ice plate [1993, p.625-639, eng] 47-4841

Steiner, G.
Evolution of a porous H2O-CO2-ice sample in response to irradiation [1993, p.9065-9073, eng] 47-4508
Temperature evolution of porous ice samples covered by a dust mantle [1992, p.204-212, eng] 47-1953

Steiner, M.
Investigations of the relationship between cloudwater and precipitation chemistry using Doppler radar [1991, p.381-392, eng] 47-2213

Steinhauer, M.S.
Composition and distribution of saturated and aromatic hydrocarbons in nearshore sediments, river sediments, and coastal peat of the Alaskan Beaufort Sea: implications for detecting anthropogenic hydrocarbon inputs [1992, p.223-253, eng] 47-1170

Steinhoff, K.
Snow plow attachment [1987, 4 col., eng] 47-3848

Stel, H.
Periglacial microjointing and faulting in Weichselian fluvio-aeolian deposits [1993, p.15-30, eng] 47-5005

Stenina, T.A.
Effectiveness of applying meliorative agents on tundra soils [1991, p.76-88, rus] 47-4109

Stenström, M.
Reproductive ecology of *Saxifraga oppositifolia*: phenology, mating system, and reproductive success [1992, p.337-343, eng] 47-1590

Stepanov, A.L.
Assessment of respiration rate and nitrogen-fixing and denitrifying activity in high-meadow alpine soils of northwestern Caucasus [1989, p.55-57, eng] 47-745

Stepanov, A.V.
Effect of freezing-thawing cycles on the heat-mass-exchangeable properties of cryogenic soils [1992, p.136-139, eng] 47-1718

Stepanov, G.V.
Laboratory investigations of ice-forming properties transformation of crystallizing agent aerosol [1992, p.255-257, eng] 47-2261

Stephansson, O.
Modelling of rock mass responses to glaciation at Finnsjön, central Sweden [1993, p.75-82, eng] 47-3920

Stephanychev, E.I.
Low-temperature shaping of thick-walled composite rings [1992, p.478-481, eng] 47-245

Stephens, G.L.
Method for determining cirrus cloud particle sizes using lidar and radar backscatter technique [1993, p.1074-1082, eng] 47-4081

Stephens, L.E.
Detection of subbottom ice-bonded permafrost on the Canadian Beaufort Shelf by ground electromagnetic measurements [1992, p.1419-1427, eng] 47-1509

Stephenson, J.A.E.
Natural ozone depletion over Antarctica [1991, p.222, eng] 47-4980
Ozone depletion over the polar caps caused by solar protons [1992, p.2425-2428, eng] 47-2771

Stephenson, M.
Identification of deep groundwater discharge areas in the Boggy Creek catchment, southeastern Manitoba, using excess aqueous helium [1992, p.2640-2652, eng] 47-3714

Steppuhn, H.
Snow management in the reclamation of sodic soils [1992, p.150-153, eng] 47-508

Sterliadkina, E.A.
Cirrus identification from multichannel satellite data [1992, p.729-733, eng] 47-3158

Sterling, R.L.
Assessment of apparent soil thermal conductivity [1992, p.147-157, eng] 47-1153

Stern, G.A.
Selective accumulation of polychlorocamphenes in aquatic biota from the Canadian Arctic [1993, p.701-709, eng] 47-4629

Stern, H.L.
Sea ice deformation observed with ERS-1 SAR [1993, p.301-306, eng] 47-4429

Stern, L.A.
Effects of dispersed particulates on the rheology of water ice at planetary conditions [1992, p.20,883-20,897, eng] 47-2293

Stern, T.A.
Characteristics and processing of seismic data collected on thick, floating ice: results from the Ross Ice Shelf, Antarctica [1992, p.1359-1372, eng] 47-984

Steur, P.P.M.
He-3 gas thermometry at IMGC [1992, p.121-125, eng] 47-2957
Long-term stability of permanent realizations of the triple point of gases in metal sealed cells [1992, p.251-256, eng] 47-2970

Stevens, D.J.
Analytical model for two stage rotary snowplows [1992, 12p., eng] 47-950

Stevens, R.L.
Origins and engineering hazards of Swedish glaciomarine and marine clays [1991, p.257-264, eng] 47-3882

Stewart, F.S.
Evaluation of seismic and borehole data available from onshore and offshore site investigations of relict glaciated areas [1991, p.573-578, eng] 47-3897

Stewart, R.E.
Aircraft observations of the origin and growth of very large snowflakes [1993, p.53-56, eng] 47-2846
Strongly temperature dependent microphysical processes and the atmosphere [1992, p.309-315, eng] 47-3996
Structure of a winter storm producing heavy precipitation over Nova Scotia [1990, p.411-426, eng] 47-627

Stewart, W.E., Jr.
Soil thermal conductivity: effects of saturation and dry density [1992, p.158-165, eng] 47-1154

Stichler, W.
Investigations of accumulation on the Filchner/Ronne Ice Shelf (Antarctica) using isotopic stratigraphy [1990, p.57-71, ger] 47-875

Still, J.C.
Geochemistry of Haines-Klukwan-Porcupine area, southeastern Alaska [1991, 75p. + 2 sheets, eng] 47-1488

Stith, J.L.
Ice-producing processes in North Dakota clouds [1992, p.305-308, eng] 47-2273

Stoecker, D.K.
Changes in the sea-ice brine community during the spring-summer transition, McMurdo Sound, Antarctica. I. Photosynthetic protists [1992, p.265-278, eng] 47-520
Changes in the sea-ice brine community during the spring-summer transition, McMurdo Sound, Antarctica. II. Phagotrophic protists [1993, p.103-113, eng] 47-4725
Photosynthetic dinoflagellates and their cysts characteristic of the land-fast ice [1991, p.143-144, eng] 47-1439

Stoker, M.S.
Influence of stratigraphy on the variation in geotechnical properties of the offshore Quaternary succession, Scotland [1991, p.119-126, eng] 47-3871

Stokke, O.S.
Arctic environmental cooperation after Rovaniemi—what now [1992, p.221-234, eng] 47-4901

Stolar Research
Study into electromagnetic effects of a dielectric layer overlying a microstrip patch antenna and the design of an instrument for measuring ice depth on low temperature fuel tanks. Final report [1991, 36p., eng] 47-4404

Stone, R.S.
Detectability of arctic leads using thermal imagery under varying atmospheric conditions [1993, p.12,469-12,482, eng] 47-4523
Predicted heights of buoyant convection above open leads in the winter arctic pack ice cover [1992, p.33145-33148, eng] 47-880
Trend analyses of tropospheric temperatures in the Arctic—is there evidence of greenhouse warming [1992, p.137-140, eng] 47-2401

Storini, M.
Correlating the auroral activity with the southern high- latitude O3-content [1992, p.477-490, eng] 47-2174

Stössel, A.
Interactive atmospheric surface-layer modifications for a large-scale sea-ice model [1992, p.109-110, eng] 47-2394
Sensitivity of southern ocean sea-ice simulations to different atmospheric forcing algorithms [1992, p.395-413, eng] 47-1900

Stottersd, R.
Deicing of roads in Norway with brine [1992, 9p., eng] 47-931

Stottlemyer, R.
Effect of climate change on C:N pools in a boreal watershed ecosystem [1992, p.451-460, eng] 47-2731
Nitrogen mineralization and streamwater chemistry, Rock Creek watershed, Denali National Park, U.S.A. [1992, p.291-303, eng] 47-1586

Stouffer, R.J.
Century-scale effects of increased atmospheric CO2 on the ocean-atmosphere system [1993, p.215-218, eng] 47-4571

Stow, D.A.
Reflectance characteristics of arctic tundra vegetation from airborne radiometry [1993, p.1239-1244, eng] 47-4403

Strain, J.
Crystal growth and dendritic solidification [1992, p.231-253, eng] 47-1785

Straka, J.M.
Numerical simulations of the 2 August 1981 CCOPE supercell storm with and without ice microphysics [1993, p.745-759, eng] 47-3510

Strapp, J.W.
Airborne instrumentation and computing facilities for the Canadian Atlantic Storms Program (CASP II) [1993, p.181-185, eng] 47-3069
Aircraft observations of the origin and growth of very large snowflakes [1993, p.53-56, eng] 47-2846

Straszewska, K.
Narew Gorge near Łomża and its role as fragment of the Warsaw-Berlin ice-marginal valley (north-eastern Poland) [1987, p.97-109, eng] 47-2770

Stravers, J.A.
Late glacial ice margins and deglacial chronology for southeastern Baffin Island and Hudson Strait, eastern Canadian Arctic [1992, p.1000-1017, eng] 47-1797

Strehlow, P.
Low temperature glass capacitance thermometry [1992, p.1219-1224, eng] 47-2997
Streicher, J.
Multiple-scattering lidar experiments [1992, p.1731-1745, eng] 47-3160
Strelin, J.
Geomorphology of James Ross Island [1992, p.7-36, spa] 47-866
Stricker, G.D.
Reevaluation of coal resources in the Late Cretaceous-Tertiary Sagavanirktok Formation, North Slope, Alaska [1992, p.196-203, eng] 47-616
Stringer, W.J.
Unusual cloud forms in the arctic winter boundary layer [1992, p.7-10, eng] 47-2365
Strizek, P.
Effects of banning salt for roadway de-icing [1992, p.54,82, eng] 47-1927
Strizhkov, S.N.
Use of geotextiles in earth structures for oil—gas pipelines under West Siberia conditions [1992, p.81-84, eng] 47-1579
Strizhov, V.P.
Isotopic pleiad of oxygen in atmospheric precipitation in the polar regions [1991, p.109-112, rus] 47-2796
Ström, J.
Pre-EUCREX in-flight humidity intercomparison [1993, p.479-483, eng] 47-3078
Strömberg, B.
Clay-varve based Swedish time scale and its relation to the Late Weichselian radiocarbon chronology [1992, p.25-44, eng] 47-3556
Strong, A.B.
Comparison of cartridge and membrane solid-phase extraction with salting-out solvent extraction for preconcentration of nitroaromatic and nitramine explosives from water [1992, 31p., eng] 47-2232
Strong-Gunderson, J.M.
Effect of ice nucleating active bacteria on insect cold-hardiness [1991, 83p., eng] 47-287
Strübing, K.
Maxim Gorky accident: how good are ice charts [1991, p.65-73, eng] 47-3376
Real-time ice monitoring within the International Space Year [1991, p.7-18, eng] 47-3394
Struckman, P.
Acoustic Doppler current profiler observations of currents adjacent to refreezing leads [1992, p.J56-J59, eng] 47-2416
Stuart, R.A.
Temperature-precipitation relationships for Canadian stations [1992, p.822-830, eng] 47-1268
Study finds 88.3% crash reduction after deicing
Study finds 88.3% crash reduction after deicing [1993, p.22, eng] 47-3682
Stuiver, M.
Oxygen isotope data from the McMurdo Ice Shelf, Antarctica: implications for debris band formation and glacial history [1991, p.73-76, eng] 47-2470
Radiocarbon dates from the McMurdo Ice Shelf, Antarctica: implications for debris band formation and glacial history [1991, p.77-79, eng] 47-2471
Sturges, W.T.
Bromoalkane production by antarctic ice algae [1993, p.120-126, eng] 47-3533
Spring measurements of tropospheric bromine at Barrow, Alaska [1993, p.201-204, eng] 47-2858
Sturm, K.
Signatures of antarctic firn by means of ERS-1 AMI and by field measurements [1993, p.227-233, eng] 47-4417
Sturm, M.
Shock wave studies of snow [1992, p.107-110, eng] 47-1143
Sturman, A.P.
Heat balance characteristics during fine periods on the lower parts of the Franz Josef Glacier, South Westland, New Zealand [1992, p.397-410, eng] 47-793
Report on the Franz Josef Glacier [1992, p.35-49, eng] 47-1004
Sturmann, A.G.
Dating Holocene moraines of Black Rapids Glacier, Delta River valley, central Alaska Range [1993, p.51-59, eng] 47-4778
Stushnoff, C.
Analysis of freezing buds of Douglas-fir seedlings by simultaneous detection of ultrasonic emissions and differential thermal analysis [1992, p.1305-1309, eng] 47-3841
State of water in acclimating vegetative buds from *Malus* and *Amelanchier* and its relationship to winter hardiness [1992, p.503-511, eng] 47-1950
Stüven, R.
Role of organic matter on nitric and nitrous oxide formation of Nitrosomonas and Nitrobacter [1992, p.251-259, eng] 47-1740
Su, Z.
Preliminary report on the Sino-USSR joint glaciological expedition to Mt. Xixabangma region, 1991 [1992, p.184-186, chi] 47-1657
Recent fluctuations of glaciers in the Gongga mountains [1992, p.163-167, eng] 47-1105
Thickness measurement of "July 1st" Glacier in Qilian Mountains and some problems in glacier measurement by gravimetric method [1985, p.16-21, chi] 47-1515
Suda, M.
Development of shock absorbers for snow removal graders [1993, p.30-33, jpn] 47-4789
Suga, N.
Apparatus for changing artificial snow to wet snow [1988, 6 col., eng] 47-3634
Apparatus for measuring the moisture content of snow particles [1989, 6 col., eng] 47-3330
Sugai, K.
Earthquake response characteristics of offshore structures in the presence of ice floes (Part 5: properties of urea ice) [1992, p.101-105, jpn] 47-124
Sugai, S.F.
Influence of light and nutrient addition upon the sediment chemistry of iron in an arctic lake [1992, p.91-101, eng] 47-1606
Sugawara, T.
Snowplow for removing snow from guard rails [1992, p.283-286, jpn] 47-2494
Sugden, D.E.
Antarctic ice sheets at risk? [1992, p.775-776, eng] 47-872
Evolution of large roches moutonnées [1992, p.253-264, eng] 47-4334
Subglacial meltwater channel systems and ice sheet overriding, Asgard Range, Antarctica [1991, p.109-121, eng] 47-4310
Sugimoto, Y.
Control of sea ice by the air bubble method—effect of installing air bubbling pipes and setting out seawalls [1991, p.277-282, jpn] 47-2500
Technical problems of floating type ice barriers [1991, p.265-270, jpn] 47-2498
Wave height observations in the Okhotsk Sea in winter [1992, p.331-336, jpn] 47-2503
Sugita, S.
Evaluation of pozzolanic activity of rice husk ash [1993, p.495-512, eng] 47-3610
Sugiyama, A.
Improvement and development of snow removal equipment at the Hokuriku Regional Construction Bureau [1985, p.112-119, jpn] 47-5092
Maintenance and inspection of snow removal equipment [1986, p.33-38, jpn] 47-5178
Sugiyama, Y.
2.5-kVA arctic ground fault detector, final report [1993, 18p. + appends., eng] 47-2610
Sukegawa, Y.
Meteorological data at Asuka Station, Antarctica in 1991 [1993, 101p., eng] 47-3905
Sukhorukova, S.S.
Problem of paleoglacioclimatic reconstruction of Pleistocene glaciations in Western Siberia [1991, p.78-84, rus] 47-170
Sukhova, T.G.
Chemical analysis of snow cover as an indicator of contamination in the Kola Peninsula [1991, p.60-64, rus] 47-1987
Sullivan, C.W.
Coastal zone color scanner pigment concentrations in the southern ocean and relationships to geophysical surface features [1993, p.2419-2451, eng] 47-2625
Ecology of sea ice biota. 1. Habitat, terminology, and methodology [1992, p.417-427, eng] 47-1334
Ecology of sea ice biota. 2. Global significance [1992, p.429-444, eng] 47-1335
High resolution study of the platelet ice ecosyst m in McMurdo Sound, Antarctica: photosynthetic and bio-optical characteristics of a dense microalgal bloom [1993, p.173-185, eng] 47-5200
Influence of particulate matter on spectral irradiance fields and energy transfer in the eastern Arctic Ocean [1992, p.527-541, eng] 47-3736
Influence of salinity and temperature covariation on the photophysical characteristics of antarctic sea ice microalgae [1992, p.746-756, eng] 47-2594
Photosynthetic capacity in microalgae associated with antarctic pack ice [1992, p.497-502, eng] 47-1337
Simulated antarctic fast ice ecosystem [1993, p.6929-6946, eng] 47-4139
Sullivan, J.E.M.
Xylem embolism in response to freeze-thaw cycles and water stress in ring-porous, diffuse-porous, and conifer species [1992, p.605-613, eng] 47-903
Sullivan, J.M., Jr.
Application of infinite elements to phase change situations on deforming meshes [1992, p.1861-1874, eng] 47-1915
Sullivan, N.S.
Nuclear quadrupole resonance spectroscopy for ultra-low-temperature thermometry [1992, p.1013-1015, eng] 47-2992
Sullivan, P.A.
Canadian experience with air cushion vehicle skirts [1993, p.23-34, eng] 47-3797
Sully, J.P.
Lateral stress measurements in a glaciomarine silty clay [1991, p.265-270, eng] 47-3883
Sumita, N.
Development of pneumatic snow conveyance equipment [1992, 10p., eng] 47-954
Tests on urban snow removal [1991, p.1-24, jpn] 47-4967
Sun, C.X.
DC flashover performance of iced insulators under pressure and pollution conditions [1991, p.957-960, eng] 47-2177
Sun, S.
Preliminary study of the surficial geology of Virden area, southwestern Manitoba [1993, p.57-61, eng] 47-3705
Sun, Y.
SAR image classification of ice in the Gulf of Bothnia [1992, p.2489-2514, eng] 47-260
Sun, Z.Z.
General features of glacier motion in Qilian Mountains [1985, p.61-72, chi] 47-1520
Sundquist, E.T.
Global carbon dioxide budget [1993, p.934-941, eng] 47-2045
Sundriyal, R.C.
Annual nutrient budget for an alpine grassland in the Garhwal Himalaya [1992, p.21-26, eng] 47-512
Structure, productivity and energy flow in an alpine grassland in the Garhwal Himalaya [1992, p.15-20, eng] 47-511
Suprenant, B.A.
Designing cold weather concrete mixes [1990, p.882-884, eng] 47-2718
Suprunenko, IU.P.
Evaluating the nival-glacial climate of mountains to be used for recreation [1982, p.34-41, rus] 47-1247
Surkov, G.A.
Probability estimation of moving pressure ridge contacts with pipelines [1992, p.797-800, eng] 47-1878
Problems of choice of sea ice cover parameters design criteria [1992, p.21-26, eng] 47-108
Selection of the subsea pipeline route for the offshor Chaivo field [1992, p.801-806, eng] 7-1879
Surova, T.G.
Pollen and spores from glaciers and from the proglacial zone in the Arctic and Antarctica [1992, p.167-173, eng] 47-1767
Spores and pollen from the glaciers and periglacial zone of the Arctic and Antarctica [1991, p.181-185, rus] 47-340
Sustavov, IU.V.
Forecasting the temperature of water in the Norwegian Sea [1991, p.110-120, rus] 47-3962
Sutanto, E.
Adaptive finite element analysis of axisymmetric freezing [1992, p.3301-3312, eng] 47-2609
Sutherland, A.L.
Performance of the *Nathaniel B. Palmer* in ice [1993, p.300-309, eng] 47-5117
Sutinen, R.
GPR and dielectric classification of glacial materials [1992, p.133-138, eng] 47-633
Sutovskii, V.M.
Cirrus identification from multichannel satellite data [1992, p.729-733, eng] 47-3158
Suttie, E.D.
Seasonal input of heavy metals to antarctic snow [1992, p.351-357, eng] 47-835
Sutton, R.L.
Critical cooling rates for aqueous cryoprotectants in the presence of sugars and polysaccharides [1992, p.585-598, eng] 47-2875
Suzanne, J.
Premelting of ice in exfoliated graphite: a neutron diffraction study [1992, p.33-41, eng] 47-1383
Suzuki, H.
Roads of Hida in snow [1985, p.72-76, jpn] 47-5102
Study on countermeasures (louvers) against blow-in for tunnels at the New Chitose Airport [1992, p.215-220, jpn] 47-2502
Suzuki, K.
Snow removal channeling operations—battle against snow and ice bars [1992, p.201-204, jpn] 47-2504
Suzuki, M.
Availability of MSR data for snow water estimation [1990, p.189-196, jpn] 47-885
Measures against coagulation of sodium chloride deicers for roads [1986, p.70-74, jpn] 47-5183
Mechanical opening and shutting device for snow removal storm drain openings [1992, p.29-34, jpn] 47-2491
Properties of granulated blast-furnace slag cement concrete [1993, p.1367-1383, eng] 47-3617
Suzuki, N.
Tension and compression tests of 13-3/8" lbs/ft L-80 HF-ERW casings with buttress connections [1992, p.169-173, eng] 47-1838
Suzuki, S.
Near-real-time data distribution plan of ADEOS data [1992, p.249-253, jpn] 47-144
Study on the characteristics of icy road surfaces [1990, p.34-37, jpn] 47-4687

Suzuki, T.
Experiments with frost-heave prevention in concrete troughs [1993, p.89-96, eng] 47-4126
Field and laboratory tests on adfreeze strength of ground to model concrete piles [1993, p.103-109, eng] 47-4128
Method of preparing and molding mortar or like [1988, 8 col., eng] 47-3495
Study on methods for predicting road surface freezing [1993, p.38-42, jpn] 47-4791
Use of a cold energy element in a low-temperature storage system [1992, p.333-339, eng] 47-3211
Vertical profile of Pb-210 in an ice core from the Höghetta ice dome in Spitsbergen [1992, p.84-87, eng] 47-3008

Suzuki, Y.
Mechanical properties of undisturbed Tone River gravel obtained by *in situ* freezing method [1992, p.15-25, eng] 47-1190
Variation in sea ice area of the Okhotsk Sea and its relationship to the global change in atmospheric circulation [1992, p.34-36, jpn] 47-111

Suzuya, J.
Wind effects on snow accumulation on a flat roof [1992, p.105-116, eng] 47-3192

Sveinbjörnsson, B.
Performance of mountain birch in different environments in Sweden and Iceland: implications for afforestation [1993, p.79-88, eng] 47-4531

Svensson, H.
Frost-fissure patterns in the Nordic countries [1992, p.207-218, eng] 47-4329

Svensson, U.
On the melt rate of drifting ice heated from below [1992, p.91-100, eng] 47-806

Sveshnikov, A.M.
Total atmospheric ozone measurements in Antarctica, 1988-1989 [1991, p.66-69, rus] 47-1577

Svetlitskaia, T.V.
Pliocene climates of the Northern Hemisphere [1991, 45p., eng] 47-629

Sveum, T.
BIBSYS as a polar literature database [1992, p.95-101, eng] 47-1399

Svisshchennikov, P.N.
Cause-effect relationships in the interactive processes of the ocean and atmosphere in the North Atlantic [1992, p.105-115, rus] 47-3810

Svoboda, S.J.
Swing wheel snowthrower [1988, 10 col., eng] 47-3636

Swainbank, R.C.
Alaska's mineral industry, 1991 [1992, 89p., eng] 47-1485

Swanberg, N.R.
Radiolarian fauna at the ice edge in the Greenland Sea during summer, 1988 [1992, p.297-320, eng] 47-199

Swanson, D.R.
Low temperature system for advanced thermal control [1992, p.949-952, eng] 47-2987
Thermometry in the thermodynamic limit [1992, p.1213-1218, eng] 47-2996

Swanson, E.V.
Snow removal method [1988, 8 col., eng] 47-3419

Swanson, J.L.
Snowblower [1986, 4 col., eng] 47-4099

Swanson, R.H.
Influence of opening size on snow evaporation in the forests of the Alberta Foothills [1993, p.239-244, eng] 47-4585

Swantesson, J.O.H.
Recent microweathering phenomena in southern and central Sweden [1992, p.275-292, eng] 47-2237

Sweeting, M.M.
Problem of palaeokarst in Tibet [1991, p.316-325, eng] 47-3780

Swenson, C.A.
From the IPTS-68 to the ITS-90 [1992, p.1-7, eng] 47-2940

Swietlicki, E.
PIXE analysis as a tool for dating of ice cores from the Greenland ice sheet [1993, p.428-434, eng] 47-4592

Swift, C.T.
Determination of dielectric constant of young sea ice using microwave spectral radiometry [1993, p.4675-4679, eng] 47-4389
Laboratory investigations of the electromagnetic properties of *artificial sea ice* [1992, p.177-200, eng] 47-3023
Remote sensing of sea-ice thickness in the Weddell Sea [1991, p.92-93, eng] 47-3515

Swift, D.P.
Finite element analysis of cold embedments in fresh concrete [1992, p.41-57, eng] 47-1

Swift, J.H.
Large-scale circulation of the Arctic Ocean: implications for pollutant transport [1993, p.285-309, eng] 47-5037

Swift, L.B.
Winter storm mapping: a Geographic Information Systems Transportation application [1992, p.60-71, eng] 47-4359

Swift, R.N.
Relationship between sea ice freeboard and draft in the Arctic Basin, and implications for ice thickness monitoring [1992, p.20,325-20,334, eng] 47-2344

Swinehart, P.R.
Neutron and gamma radiation effects on cryogenic temperature sensors [1992, p.1237-1242, eng] 47-2999

Switsur, V.R.
Mid-Holocene glacial activity in the Pyrenees [1992, p.266-270, eng] 47-2000

Sy, A.
Ship of opportunity section to the North Pole: upper ocean temperature observations [1993, p.777-789, eng] 47-4854

Sykes, J.F.
Adjoint sensitivity theory for a pack ice momentum model [1992, p.881-889, eng] 47-3353
Sensitivity analysis of ice motion near Adams Island [1992, p.890-901, eng] 47-3354
Sensitivity method for ice floe trajectory calculations [1992, p.573-585, eng] 47-3344
Thin-ice statistics for strength calculations without sub-category classification [1991, p.213-226, eng] 47-3409

Sykes, R.B., Jr.
February 1972 Eastern Snow Conference weather experience at Oswego, New York [1992, p.135-144, eng] 47-4042
Lake-Effect Snow Observation Network (LESON) report for the 1991-1992 snow season [1992, p.227-234, eng] 47-4052

Symons, M.C.R.
Detection of radical pairs in glassy systems [1993, p.59-61, eng] 47-2110

Symposium on Global Change Studies, 4th, Anaheim, CA, Jan. 17-22, 1993
Preprints [1993, 438p., eng] 47-3042

Symposium on Joint Siberian Permafrost Studies between Japan and Russia, 1st, Sapporo, Japan, 1992
Proceedings [1993, 112p., eng] 47-3968

Symposium on Meteorological Observations and Instrumentation, 8th, Anaheim, CA, Jan. 17-22, 1993
Preprints [1993, 501p. + joint papers, eng] 47-3059

Symposium on Mountain Glaciology Relating to Human Activity, Lanzhou, China, Aug. 26-30, 1991
Proceedings [1992, 239p., eng] 47-1076

Syvertsen, E.E.
Ice algae during EPOS, leg 1: assemblages, biomass, origin and nutrients [1993, p.61-65, eng] 47-3440
Nitrogen uptake in the Weddell Sea during late winter and spring [1992, p.245-251, eng] 47-1330

Syvitski, J.P.M.
Seismostratigraphy of the middle St. Lawrence estuary: a late Quaternary glacial marine to estuarine depositional/erosional record [1992, p.133-150, eng] 47-3787
Suspended sediment character and distribution in McBeth Fiord, Baffin Island [1992, p.25-35, eng] 47-3351

Syvorotkin, V.L.
Rifting, ozone layer and the level of the world ocean [1992, p.731-733, rus] 47-3335

Szabo, J.P.
Reevaluation of early Wisconsinan stratigraphy of northern Ohio [1992, p.99-107, eng] 47-2686

Szczesny, R.
Quaternary landforms, sediments and morphogenetic evolution of Hansbreen-Sofiekammen region, Wedel Jarlsberg Land, Spitsbergen [1992, p.91-101, eng] 47-4649

Szilder, K.
Stochastic modelling of icicle formation [1993, p.59-64, eng] 47-4231

Szmidt, A.E.
Chloroplast DNA diversity, phylogenetics, and hybridization in *Picea* [1993, p.369-382, eng] 47-4550

Szymczak, C.
Design of piles in permafrost under combined lateral and axial load—discussion and reply [1992, p.162-166, eng] 47-2642

Taalas, P.
Vertical distribution of tropospheric ozone in Antarctica and in the European Arctic [1993, p.106-119, eng] 47-3532

Tabler, R.D.
Trapping efficiency of snow fences and implications for system design [1992, 11p., eng] 47-944

Tabuchi, R.
Trial of the measurement of CO2 concentration in a forest and photosynthesis of woody species native to eastern Siberia [1993, p.69-74, eng] 47-3977

Tagaino, S.
Tests on preventing pavement cracks in agricultural roads [1991, p.107-112, jpn] 47-2496

Tago, M.
Freezing characteristics along a horizontal cooled tube immersed in aqueous binary solution with main flow [1993, p.54-62, eng] 47-3792
Freezing characteristics of aqueous solution on a horizontal *downward facing cooled plate* [1991, p.285-290, eng] 47-2558

Taguchi, S.
Ice algae in Lake Saroma: review [1992, p.211-220, eng] 47-141
Seasonal cycle of plankton biomass distributed above the thermocline in the Oyashio region, western subarctic Pacific [1992, p.182-187, eng] 47-138

Taisaev, T.T.
Biogeochemical inductions of gold-dispersion trains of gold-quartz deposits in the permafrost zone [1993, p.215-220, *eng*] 47-4059
Cryogenic (frost-related) systems of some gold-quartz deposits [1991, p.178-182, eng] 47-3799
Cryogenic systems of some gold-quartz deposits [1992, p.440-443, rus] 47-2008

Takabe, N.
Tests on snowbreaks, windbreaks and obstacles to visibility wind tunnel experiments on snow countermeasures between Numanoue and Old Mombetsu in the city of Mombetsu on National Highway 238 [1991, p.211-214, jpn] 47-2525
Tests on windbreaks, snowbreaks, and obstacles to visibility —wind tunnel experiments on snow countermeasures in the Shiomicho district of Rumoi City on National Highway 232 [1992, p.109-114, jpn] 47-2513
Wind tunnel experiments on innovations at the Toyono bypass on National Highway 40 [1992, p.70-91, jpn] 47-4975
Wind tunnel experiments on road improvement at Mineoka on National Highway 238 [1991, p.57-68, jpn] 47-4970
Wind tunnel experiments on road improvement at Shanai in Hamatonbetcho on National Highway 238 [1990, p.31-35, jpn] 47-4965
Wind tunnel experiments on snow countermeasures for the stretch of National Highway 238 between Numanoue in Monbetsushi and Old Monbetsu [1991, p.69-73, jpn] 47-4971
Wind tunnel experiments on snow countermeasures for the stretch of National Highway 5 between the Hanaura section of Yakumocho and the Toyono section of Oshamanbecho [1987, p.17-28, jpn] 47-4955
Wind tunnel experiments on snow countermeasures in the Kaigen district of Toyotomicho on National Highway 40 [1988, p.56-71, jpn] 47-4960
Wind tunnel experiments on snow countermeasures in the Shiomi district of Rumoishi on National Highway 232 [1992, p.92-101, jpn] 47-4976
Wind tunnel experiments on snow fences for the Sokotai district on National Highway 241 [1988, p.72-81, jpn] 47-4961
Wind tunnel experiments on the construction of the interchange in Ebetsu on National Highway 337 (Part 1) [1987, p.29-34, jpn] 47-4956

Takada, S.
Roof snow observation and application to house construction [1992, p.81-92, eng] 47-3190

Takada, Y.
Earthquake response characteristics of offshore structures in the presence of ice floes (Part 6: indentation test) [1992, p.106-110, jpn] 47-125

Takagi, S.
Chemical potential of a layer of water adsorbed on a solid surface [1992, p.521-528, eng] 47-1236

Takahara, A.
Recycling of scrap wood for cold region asphalt pavements—subgrade stabilization by the central plant method [1991, p.51-56, jpn] 47-2533

Takahashi, H.
Analysis of spermatophytes flora of Sakha SSR (Yakutskaya), eastern Siberia [1993, p.82-86, eng] 47-3978
Flow characteristics of snow-water mixtures in horizontal pipes [1992, p.301-312, eng] 47-3208

Takahashi, K.
Feedback of global warming in Siberian permafrost regions. Carbon storage and carbon dioxide budget in forest ecosystems [1993, p.47-50, jpn] 47-3974
Improvement and development of sidewalk snow removal equipment at the Tohoku Regional Construction Bureau [1985, p.77-81, jpn] 47-5103

Takahashi, M.
Characteristics of the freezing heat transfer of layered air-water flow in a circular tube [1989, p.91-97, eng] 47-915

Takahashi, N.
Environmental-geomorphological study on the Holocene mire development in the Daisetsuzan Mountains, central Hokkaido, Northern Japan [1990, p.93-156, eng] 47-2603

Takahashi, S.
Radiative temperature of ice surface in Svalbard, 1991 [1992, p.286-289, jpn] 47-151
Satellite observations of the area of sea ice in the Sea of Okhotsk [1992, p.281-284, eng] 47-150
Studies of icing on road surface in snowy region [1992, p.169-191, jpn] 47-3300

Takahashi, T.
Cool rain in a three-dimensional shallow-cloud model [1992, p.739-748, eng] 47-826
Estimation of ground snow depth based on topographic factors [1992, p.21-32, eng] 47-3185
Field measurement and characteristic analyses of snow load on flat roofs [1992, p.69-80, eng] 47-3189
High ice crystal production in winter cumuli over the Japan Sea [1993, p.451-454, eng] 47-3729

Takahashi, T. *(cont.)*
Road heating control using snowfall forecast data [1993, p.43-50, jpn] 47-4792
Study on icing of marine structures [1991, p.271-276, jpn] 47-2499
Summary of damages and countermeasures in the snowstorms of 1984 [1984, p.30-34, jpn] 47-5063

Takahashi, Y.
Determination of compressive strength, flexural strength and static elastic modulus of sea ice by sonic method [1992, p.155-168, eng] 47-1026
Study on the abrasion of the structure surface due to a movement of ice sheet [1992, p.121-125, jpn] 47-128

Takami, K.
Recycling of scrap wood for cold region asphalt pavements--subgrade stabilization by the central plant method [1991, p.51-56, jpn] 47-2533

Takano, Y.
Effects of small ice crystals on cirrus infrared radiative properties [1992, p.1487-1493, eng] 47-411
Inference of cirrus cloud properties using satellite-observed visible and infrared radiances. Part I: parameterization of radiance fields [1993, p.1279-1304, eng] 47-3731
Remote sensing of cirrus cloud parameters using advanced very-high-resolution radiometer 3.7- and 10.9-micron channels [1993, p.2171-2180, eng] 47-4713
Transfer of polarized infrared radiation in optically anisotropic media: application to horizontally oriented ice crystals [1993, p.1243-1256, eng] 47-4737

Takase, N.
Simulation of time variation in seasonal snowcover based on routinely avsilable data [1991, p.57-68, eng] 47-1934

Takashima, H.
Algorithm for remote sensing of vertical salt density distributions in the sea ice [1992, p.277-280, eng] 47-149

Takashima, K.
Development of on-site ice thickness gages during initial freezing [1991, p.283-286, jpn] 47-2501

Takatsuka, T.
Momentum and heat fluxes over open water, sea ice and snow cover on an arctic lagoon [1992, p.75-80, eng] 47-119

Takeda, A.
Sensitivity experiment of ocean general circulation model--responses for wind stress (first report) [1991, p.39-68, jpn] 47-3292

Takeda, K.
MOS-1 multi-sensor data set and sea ice study [1991, p.277-287, eng] 47-3391

Takeda, Y.
Tests on safety of snow removal trucks [1981, p.35-44, jpn] 47-4936

Takegoshi, E.
Study on phase changes of heterogeneous composite materials: effects of parameters on solidification process [1991, p.225-230, eng] 47-2556

Takeichi, K.
Estimating methods of anti-freezing effect on pavements mixed with deicing agent by dielectric pavement freezing detector [1992, 9p., eng] 47-957

Takeshita, K.
Tests on preventing pavement cracks in agricultural roads [1991, p.107-112, jpn] 47-2496

Takeuchi, M.
Avalanche countermeasures in Hokkaido [1985, p.22-26, jpn] 47-5149
Study on snow fences [1984, p.96-100, jpn] 47-5075
Using blowing snow observations in traffic management [1990, p.30-33, jpn] 47-4686
Visibility reduced by snow in the wake of vehicles on highways [1992, 15p., eng] 47-963

Takeuchi, S.
Newly developed snow vehicle (SM100S) for Antarctica. 1. Necessity and process of the development [1992, p.363-375, jpn] 47-3363

Takeuchi, T.
Development of on-site ice thickness gages during initial freezing [1991, p.283-286, jpn] 47-2501
Measures to prevent freezing of water intakes for snow drainage ditches in severe cold regions--experimental results of the Kasen snow drainage ditch as an example [1991, p.97-102, jpn] 47-2537
Nonsimultaneous failure and local pressure of ice in ice/vertical structure interaction [1992, p.135-145, eng] 47-1024
On double-barriered ice-resistant structure [1992, p.96-100, jpn] 47-123

Takeyama, N.
Heat of transport of water [1991, p.1134-1135, eng] 47-916

Takino, A.
Performance tests on a 400 PS-class rotary snowplow with an automatic control device [1985, p.21-26, jpn] 47-4949
Tests on improving a (shear pin) safety mechanism for snow removal graders [1982, p.51-56, jpn] 47-4940
Tests on sideways skidding of compact snowplows [1982, p.57-66, jpn] 47-4941
Tests on snow removal machinery [1984, p.15-42, jpn] 47-4947

Takizawa, T.
Oceanographic data in Lutzow-Holm Bay of Antarctic Climate Research Programme from March 1990 to January 1991 (JARE-31) [1993, 34p., eng] 47-3619
Oceanographic observation of Lützow-Holm Bay, Antarctica in 1990 [1992, p.22-30, jpn] 47-3621
Preliminary results of hydrography under fast ice in Lützow-Holm Bay, Antarctica in 1990 [1992, p.106-125, eng] 47-3011

Talalai, P.G.
Core drilling by electromechanical drill [1993, p.235-237, eng] 47-4576
Drilling boreholes in glacial and subglacial rocks, with core selection by an electromechanical drill on a load- bearing cable [1991, p.165-170, rus] 47-2808

Talbot, R.W.
Beryllium 7 and Lead 210 in the western hemisphere arctic atmosphere: observations from three recent aircraft-based sampling programs [1992, p.16,709-16,715, eng] 47-1465
Soluble species in the arctic summer troposphere: acidic gases, aerosols, and precipitation [1992, p.16,531-16,543, eng] 47-1453

Tallaksen, L.
Climate change and evapotranspiration modelling [1992, 160p., eng] 47-2122

Talley, L.D.
Okhotsk Sea water anomaly: implications for ventilation in the North Pacific [1991, p.S171-S190, eng] 47-2909

Talling, B.
Chemical resistance of alkali-activated concrete [1989, p.252-257, eng] 47-18

Tamada, A.
Electrochemical characteristics of aluminum galvanic anodes in an arctic seawater [1993, p.261-277, eng] 47-3176

Tamai, M.
Properties of no-fines concrete containing silica fume [1989, p.799-814, eng] 47-56

Tambovskii, V.S.
Determination of design values for sea ice physico-mechanical properties [1992, p.641-650, eng] 47-1852

Tammes, E.
National and international standardization in the field of thermal insulation [1992, p.127-131, eng] 47-3454

Tammirinne, M.
Foundation works in winter [1992, p.119-124, eng] 47-3552

Tamura, M.
Continuous measurement of snowfall intensity per short time interval [1992, p.33-43, eng] 47-3186

Tamura, O.
Fabrication and practical use of two types of rhodium-iron resistance thermometers [1992, p.457-460, eng] 47-2983
Low-temperature characteristics of some industrial-grade platinum resistance thermometers [1992, p.443-448, eng] 47-2980

Tamura, Y.
Electrochemical characteristics of aluminum galvanic anodes in an arctic seawater [1993, p.261-277, eng] 47-3176

Tan, M.
Mechanical properties of high water content snow [1992, p.313-321, eng] 47-3209

Tan, Y.C.
Diagnostic study of the evolution of an intense North American anticyclone during winter 1989 [1992, p.38-41, eng] 47-2374

Tanaka, H.
On the thermodynamic stability of clathrate hydrate. I [1993, p.4098-4109, eng] 47-2673
Structure and thermodynamic properties of water-methanol mixtures: role of the water-water interaction [1992, p.2626-2634, eng] 47-208
Thermodynamic stability of clathrate hydrate. 2. Simultaneous occupation of larger and smaller cages [1993, p.8110-8118, eng] 47-3582

Tanaka, K.
Freeze retardants admixed to asphalt pavements [1992, p.161-166, jpn] 47-2517

Tanasienko, A.A.
Eroded chernozems in southern Western Siberia [1992, 150p., rus] 47-2938

Tang, C.L.
Detection of the Labrador current using ice-floe movement in synthetic aperture radar imagery and ice beacon trajectories [1992, p.223-245, eng] 47-2349
Oceanographic features in the Newfoundland marginal ice zone, March-April 1990 [1992, p.151-172, eng] 47-2345
Simulation of sea-ice motion and distribution off Newfoundland during LIMEX, March 1987 [1992, p.270-296, eng] 47-2351

Tang, J.
Analysis of the Beaufort-Mackenzie Basin, Canada: burial, thermal and hydrocarbon histories [1992, p.510-525, eng] 47-1171

Taniguchi, H.
Resistance to freezing and thawing and chloride diffusion of anti-washout underwater concrete containing blast-furnace slag [1993, p.1565-1582, eng] 47-3618

Tanikawa, S.
Exposure test for protective effect of surface coatings on frost damage and salt injury of concrete [1992, p.150-154, jpn] 47-133

Tanimura, A.
Postembryonic development of *Paralabidocera antarctica* (I.C. Thompson) (Copepoda, Calanoida) from the fast ice near Syowa Station, Antarctica [1992, p.109-128, eng] 47-1219

Tanis, F.J.
Characterization of intrinsic optical properties for sea ice and snow [1992, p.125-127, eng] 47-639

Tanjore, S.
Low-temperature performance of biological wastewater treatment systems [1993, p.297-302, eng] 47-4470

Tanner, B.D.
Minimizing measurement errors in automated snowpack profile temperature measurements [1992, p.36-45, eng] 47-492

Tannian, F.
Short notes on Alaskan geology 1993 [1993, 99p., eng] 47-4773

Tanno, K.
Experimental and theoretical study on heat mechanism of groundwater flow (first report) [1991, p.69-88, jpn] 47-3293

Tao, S.W.
Small vertical supercooled cloud tunnel system for the study of ice (snow) crystal growth [1992, p.254-262, eng] 47-4074

Tao, Y.X.
Mathematical model for predicting the densification and growth of frost on a flat plate [1993, p.353-363, eng] 47-2608
Prediction of spatial and temporal distributions of frost growth on a flat plate under forced convection [1993, p.278-281, eng] 47-2551
Prediction of spatial and temporal distributions of frost growth on a flat plate under forced convection [1992, p.131-139, eng] 47-4705
Validation of local thermal equilibrium in unsaturated porous media with simultaneous flow and freezing [1993, p.323-332, eng] 47-4065

Tarakanov, A.G.
Hummocks and hummocky landscapes as indicators of the natural conditions of Tien Shan [1991, p.112-118, rus] 47-2042

Taran, B.M.
Modeling ice dynamics with regard to thermal conditions [1991, p.137-146, rus] 47-365

Tarannikova, T.N.
Low-temperature viscosity characteristics of synthetic aviation oils [1993, p.337-341, eng] 47-1997

Tarashkevich
Study of ou[illegible]influence on physical properties of sea ice [1992, [illegible] eng] 47-1856

Tarasov, V.K.
Floating nuclear power stations for the Far North [1992, p.3-6, rus] 47-2916

Tarasova, T.A.
Cirrus optical properties determination from actinometric observations [1992, p.690-696, eng] 47-3156

Targulian, IU.O.
Multifunctional combined foundations on permafrost soils [1993, p.164-167, eng] 47-3576

Tarnawski, V.R.
New computerized approach to estimating the thermal properties of unfrozen soils [1992, p.714-720, eng] 47-1186

Tarnocai, C.
Effect of site disturbance on the soil thermal regime near Fort Simpson, Northwest Territories, Canada [1993, p.37-44, eng] 47-3426
Formation and properties of soils in the permafrost regions of Canada [1992, p.21-42, eng] 47-1702
Sampling frozen soils [1993, p.755-765, eng] 47-5249

Tarnovetskii, L.L.
Theoretical and methodological aspects of an eco-geochemical evaluation of large industrial regions in the arctic zone [1990, p.81-93, rus] 47-980

Tartaro, L.
Hydrology of Lake Glubokoye, King George I., winter 1987 [1991, p.27-32, rus] 47-1575

Tarussov, A.V.
Arctic from Svalbard to Severnaya Zemlya: climatic reconstructions from ice cores [1992, p.505-516, eng] 47-2098

Tassou, S.A.
Energy conservation in commercial air conditioning through ice storage and cold air distribution design [1992, p.419-425, eng] 47-3798

Tatinclaux, J.C.
Ice impacts on flow along the Missouri River [1992, 10p., eng] 47-1237

Tatsumi, I.
On double-barriered ice-resistant structure [1992, p.96-100, jpn] 47-123

Tsubenheim, J.
Seasonal variations of ozone trends [1990, p.(10)265-(10)-268, eng] 47-1283

Tavano, S.
Behaviour of high erosion-resistant silica fume-mortars for repair of hydraulic structures (1989, p.827-847, eng) 47-57

Tavrizov, V.M.
Power ice borers (1991, p.18-20, rus) 47-2067

Taylor, C.H.
Environmental isotope hydrograph separation during snowmelt in a suburban catchment (1992, p.1-12, eng) 47-4027

Taylor, D.A.
Effects of roof size and heat transfer on snow loads on flat roofs (1992, p.59-68, eng) 47-3188

Taylor de Lima, M.
Structural analysis of the Cazadora Glacier ice, directional anisotropy quantification and subglacial drainage prediction (1989, p.71-79, spa) 47-814

Taylor, J.H.
Monte Carlo simulations of water-ice layers on a model silver iodide substrate: a comparison with bulk ice systems (1993, p.9732-9741, eng) 47-3984

Taylor, K.
Ice-core dating and chemistry by direct-current electrical conductivity (1992, p.325-332, eng) 47-1385

Taylor, K.C.
'Flickering switch' of Late Pleistocene climate change (1993, p.432-436, eng) 47-1938

Taylor, M.A.
Passive acoustic emission for quantitative evaluation of freeze thaw and alkali aggregate reaction in concretes (1992, p.1-12, eng) 47-1376

Taylor, P.
Mesoscale blocking ahead of mountain ridges and cold fronts (1992, p.J149-J152, eng) 47-2423

Taylor, S.
Optimization of an analytical method for determining white phosphorus in contaminated sediments (1992, 13p., eng) 47-2755
Softening of rigid polyvinyl chloride by high concentrations of aqueous solutions of methylene chloride (1992, 40p., eng) 47-696

Tedesco, K.
Detrital carbonate-rich sediments, northwestern Labrador Sea: implications for ice-sheet dynamics and iceberg rafting (Heinrich) events in the North Atlantic (1992, p.1087-1090, eng) 47-2631

Teixeira, J.
Liquid water: theory & experiment (1990, p.167-187, eng) 47-2193

Teixeira, L.
Detailed weather prediction system for snow and ice control (1992, 12p., eng) 47-972
Intelligent and localized weather prediction (1992, 144p., eng) 47-1619

Telitsyn, V.L.
Removal of water soluble compounds with surface runoff on drained bogs of the Transural region (1993, p.72-78, eng) 47-5192

Temple, P.R.
Artificial radioactivity, and mixing in the Arctic (1993, p.191-200, eng) 47-5030

Templeton, W.L.
Radiological assessment for the dumping of radioactive wastes in the oceans (1993, p.480-496, eng) 47-5050

Ten Brink, U.S.
Characteristics and processing of seismic data collected on thick, floating ice: results from the Ross Ice Shelf, Antarctica (1992, p.1359-1372, eng) 47-984

Tenthorey, G.
Perennial névés and the hydrology of rock glaciers (1992, p.247-252, eng) 47-1779

Teppo, M.P.K.
Determining maintenance truck station network and snow plow routes in Finland (1992, 17p., eng) 47-930
Highway winter maintenance and cost efficiency (1992, 8p., eng) 47-926

Therriault, J.C.
Chlorophyll *a* biomass and growth of sea-ice microalgae along a salinity gradient (southeastern Hudson Bay, Canadian Arctic) (1992, p.206-210, eng) 47-140
Chlorophyll *a* biomass and growth of sea-ice microalgae along a salinity gradient (southeastern Hudson Bay, Canadian Arctic) (1992, p.445-453, eng) 47-1469

Thiede, J.
Nansen Arctic Ocean Drilling Program (1992, p.553-556, eng) 47-1840

Thiel, D.V.
Electromagnetic emission (EME) from ice crack formation, preliminary observations (1992, p.49-60, eng) 47-803

Thiel, K.
Crustal evolution and dust emission of artificial cometary nuclei (1990, p.389-399, eng) 47-4568
New results of the dust investigation in the comet simulation project KOSI (1991, p.579-589, eng) 47-4634
Particle emission from artificial cometary surfaces: material science aspects (1990, p.401-411, eng) 47-4569

Thimus, J.F.
Contribution of sonic propagation to the study of frost process and thermal degradation of frozen soils (1993, p.51-57, eng) 47-4120

Thomas, D.
Expedition ANTARKTIS X3 of RV *Polarstern* in 1992 (1993, p.1-122, eng) 47-4879

Thomas, D.J.
Arctic terrestrial ecosystem contamination (1992, p.135-164, eng) 47-263
Considerations in the design of effects monitoring strategies: *Beaufort Sea case study* (1992, 54p. + *append.*, eng) 47-2621

Thomas, D.N.
Physiological responses of a small antarctic diatom (*Chaetoceros* sp.) to simulated environmental constraints associated with sea-ice formation (1992, p.271-278, eng) 47-1943

Thomas, D.R.
Arctic Ocean ice balance: a Kalman smoother estimate (1993, p.10.053-10.067, eng) 47-4376
Arctic sea ice signatures for passive microwave algorithms (1993, p.10.037-10.052, eng) 47-4375
Ice modeling and data assimilation with the Kalman smoother (1992, p.405-418, eng) 47-3037

Thomas, D.S.
Water resources data for Alaska, water year 1991 (1992, 415p., eng) 47-2776

Thomas, G.
Boreal forests and climate (1992, p.469-497, eng) 47-375

Thomas, M.
Preliminary numerical simulations of the 31 January 1991 lake-effect snowstorm (1992, p.115-123, eng) 47-4040
Some experiences in assessing aircraft anti-icing fluid under various snow conditions (1992, p.31-37, eng) 47-4030

Thomas, W.C.
Analysis of moisture accumulation in a wood-frame wall subjected to winter climate (1992, p.467-479, eng) 47-1161

Thomas, W.L., III
Topside icing probabilities for naval combatants in the Bering Sea (1992, p.51-63, eng) 47-1018

Thomassen, B.
Gold and base metal potential of the Lower Proterozoic Karrat Group, west Greenland (1992, p.57-66, eng) 47-1639

Thompson, D.
Big savings at the ice margin (1992, p.22-26, eng) 47-445

Thompson, E.
Proceedings of the 37th Annual Conference (1992, 307p. + appends., eng) 47-1133

Thompson, L.G.
"Recent warming": ice core evidence from tropical ice cores with emphasis on Central Asia (1993, p.145-156, eng) 47-4588
Glaciologic studies on Guliya Ice [illegible]

Thompson, W.T.
Mesoscale meteorological modeling support for FIREX (1992, p.58-61, eng) 47-2380

Thomsen, H.H.
Calculated variations of annual ice ablation at the margin of the Greenland ice sheet, West Greenland, 1961-90 (1992, p.266-272, eng) 47-467
Evaluation of hydropower potential for possible future industrial use, Nuuk area, West Greenland (1993, p.59-62, eng) 47-4917
Ice conditions offshore West Greenland (1993, p.43-47, eng) 47-4916
Palaeo-environmental studies on the Greenland ice sheet margin (1993, p.66-68, eng) 47-4919

Thomsen, T.
Discharge and runoff in rivers influenced by ice (1988, p.33-51, eng) 47-718

Thomson, J.W.
American arctic lichens. 1. The macrolichens (1984, 504p., eng) 47-3671
Lichens of the Cape Parry and Melville Hills regions, Northwest Territories (1992, p.105-111, eng) 47-1881

Thomson, N.R.
Sensitivity method for ice floe trajectory calculations (1992, p.573-585, eng) 47-3344

Thorgeirsson, H.
Long-term biometeorological monitoring at two forest sites in Iceland and Newfoundland: initial results (1993, p.227-239, eng) 47-4539

Thorleifson, L.H.
Hudson Bay lowland Quaternary stratigraphy: evidence for early Wisconsinan glaciation centered in Quebec (1992, p.207-221, eng) 47-2693

Thorn, C.E.
Periglacial geomorphology: what, where, when (1992, p.1-30, eng) 47-845

Thorndike, A.S.
Definitions relating to ice thickness (1992, p.A10-A13, eng) 47-3238
Meteorological prerequisites for sea ice (1992, p.62-63, eng) 47-2381
Report (1992, 41p. + *appends.*, eng) 47-3235
Sampling requirements (1992, p.A14-A16, eng) 47-3239
Sea ice thickness: an overview (1992, p.A1-A3, eng) 47-3236

Thornes, J.E.
Cost effective snow and ice control for the nineties (1992, 16p., eng) 47-945
Description and verification of a road ice prediction model (1992, 11p., eng) 47-971

Thornton, D.E.
AMOP: the Arctic and Marine Oilspill Program (1992, 9p., eng) 47-2330

Thorolfsson, S.T.
Design events in urban and suburban areas in coastal Norway: Basis for model modification (1992, p.154-161, nor) 47-1960
Measurement and simulation of runoff from long-term rains and snowmelt. *Study site, Risvollan in Trondheim* (1992, p.127-135, nor) 47-1959
Urban snowmelt research in Norway: measurements and modelling approach (1991, 8p., eng) 47-1685

Tian, C.X.
Experimental investigations on the artificial augmentation of the ice and snow melting of glaciers in Qilian Mountains (1985, p.150-162, chi) 47-1530
Formation and utilization of "stream icing" in the mountainous regions (1985, p.172-185, chi) 47-1532

Tian, S.F.
Interannual fluctuations of sea ice extent in the Antarctic and associated atmospheric conditions (1992, p.132-142, eng) 47-3013

Tian, X.F.
Measurement of cleavage strength in freshwater ice crystals by a laser spallation technique (1993, p.35-44, eng) 47-4228

Timco, G.W.
First-year sea ice forces on a mobile arctic caisson in the Beaufort Sea [1991, 3p., eng] 47-1365
Load transmission through ice rubble on the Gulf Molikpaq [1993, p.135-143, eng] 47-4241
Model tests of dynamic ice loading on the Chinese JZ-20-2 jacket platform [1992, p.819-832, eng] 47-3304
Timerev, A.A.
Aerosol optical characteristics of the arctic atmosphere [1989, p.53-58, eng] 47-1223
Space and time variability of temperature inversion in the lower troposphere of the Arctic [1991, p.1110-1113, rus] 47-2034
Spatial-temporal variability of surface inversions in the Arctic [1991, p.39-44, eng] 47-267
Spatial-temporal variability of surface inversions in the Arctic [1991, p.39-44, eng] 47-5197
Timmerhaus, K.D.
Resistance thermometers with fast response for use in rapidly oscillating gas flows [1992, p.471-474, eng] 47-2986
Timmermann, R.
Plasma emission from high velocity impacts of microparticles onto water ice [1991, p.375-378, eng] 47-2113
Timofeev, A.M.
Effect of freezing-thawing cycles on the heat-mass-exchangeable properties of cryogenic soils [1992, p.136-139, eng] 47-1718
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Using geophysical methods to study an ice-rich intermediate layer in permafrost [1991, p.87-91, rus] 47-402
Timoney, K.P.
High subarctic forest-tundra of northwestern Canada: position, width, and vegetation gradients in relation to climate [1992, p.1-9, eng] 47-3348
Tinsley, B.A.
Correlations of atmospheric dynamics with solar activity evidence for a connection via the solar wind, atmospheric electricity, and cloud microphysics [1993, p.10,375-10,384, eng] 47-4391
Tinus, R.W.
Analysis of freezing buds of Douglas-fir seedlings by simultaneous detection of ultrasonic emissions and differential thermal analysis [1992, p.1305-1309, eng] 47-3841
Tipenko, G.S.
Mathematic modeling of conductive and convective heat transfer in the taliks of a cryolite zone [1991, p.55-64, eng] 47-420
Titkov, S.N.
Dynamics of rock glaciers of the northern Tien Shan and the Djungar Ala Tau, Kazakhstan [1992, p.29-39, eng] 47-3124
Titov, I.A.
Effect of the bow form of ships on ice-navigability [1992, p.6-8, rus] 47-2917
Tiulina, T[redacted]
Effect of the morphology of Alpine glaciers on the interrelations between their termini displacement and annual mass balance [1991, p.142-147, rus] 47-332
Tiuriakov, A.B.
Studying the possibility of a long range forecast of summer ice conditions in the southwestern Kara Sea [1990, p.105-111, rus] 47-3596
Tiwari, K.M.
Afforestation for avalanche prevention and control [1985, p.392-395, eng] 47-556
Tiwari, R.S.
Snowmelt runoff using Landsat imageries [1985, p.11-21, eng] 47-558
Tjustja, S.
Analysis of scattering from a thin saline ice layer [1992, p.1262-1264, eng] 47-676
Scattering model for snow-covered sea ice [1992, p.804-810, eng] 47-360
T-matrix approach to scattering from a snow layer [1992, p.828-829, eng] 47-661
Tkhamokov, B.Kh.
Possibility of using the third central moment of doppler spectra to indicate ice particles with a diameter of less than 0.5 cm [1991, p.14-18, rus] 47-748
Third central moment of falling velocity of water drops and its relationship to variabilities in the microstructure of hailstorm clouds [1991, p.19-31, rus] 47-749
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Active and passive radar technique used to study microstructure of hail clouds during weather modification [1992, p.87-92, eng] 47-4346
Moisture research in North America [1992, p.57-93, eng] 47-3451
Overview of snow loads for Fairbanks, Alaska [1992, p.393-404, eng] 47-3217
Perspective: Mechanical properties and behavior [1992, p.479-480, eng] 47-3227
Proceedings [1992, 485p., eng] 47-3182
Retarders keep moisture the enemy within, at bay [1990, p.34-35,38,40, eng] 47-451
Standing seam metal roofing systems in cold regions [1993, p.34-44, eng] 47-3542
Toda, K.
Unconventional energy sources for ice control at lock and dam installations [1992, 37p., eng] 47-697
Todd, W.E.
Final test report for the Production Qualification Test (PQT) of the Mobile Oversnow Transport (MOST) (snowmobile). TECOM Project No.8-VS-150-MST-003 and Production Qualification Test (PQT) of the Mobile Oversnow Transport (MOST) (sled) [1992, 44p. + appends., eng] 47-604
Todoeschuck, J.P.
Analysis of ground-probing radar data: predictive deconvolution [1991, p.134-139, eng] 47-3309
Tohoku Regional Construction Bureau
Study on regional activities and roads in winter [1993, p.5-8, jpn] 47-4784
Toikka, M.
Radar backscatter signatures of Baltic Sea ice [1992, p.1527-1529, eng] 47-680
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Road weather service system in Finland and savings in driving costs [1992, 12p., eng] 47-966
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Hydrology and hydrochemistry of the surface water layer near the ice-edge in the Scotia Sea (December 1989-January 1989) [1991, p.495-505, eng] 47-3087
Tokikawa, K.
Estimate of sea ice freezing [1992, p.147-154, eng] 47-1025
Study on the *improvement of the airport functions in cold* regions (Part 1) [1992, p.145-149, jpn] 47-132
Tokioka, T.
Local and remote responses to excessive snow mass over Eurasia appearing in the northern spring and summer climate—a study with MRI-GCM [1991, p.473-487, eng] 47-819
Tokmakian, R.
Review of GEOSAT data over Canadian east coast waters [1993, p.117-130, eng] 47-4590
Tokuda, H.
Evaluation of pozzolanic activity of rice husk ash [1993, p.495-512, eng] 47-3610
Tokunaga, A.T.
Comparison of 3 micron features of trapped H2O and H2O frost in SiO condensate with observed dust features [1991, p.429-432, eng] 47-2114
Tokyo, National Institute of Polar Research
Overview of the National Institute of Polar Research '92 [1992, 32p., jpn] 47-3520
Tolbert, M.A.
Fourier transform *infrared studies of the interactions of HCl* with model polar stratospheric cloud films [1993, p.10,563-10,571, eng] 47-4294
Spectroscopic studies of model polar stratospheric cloud films [1992, p.1303-1313, eng] 47-1172
Tomabechi, T.
Development of a wind tunnel for the study of snowdrifting [1992, p.207-214, eng] 47-3200
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Ozone absorption and Rayleigh scattering features in sunphotometric measurements taken at ultraviolet wavelengths [1992, p.227-245, eng] 47-1205
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Temporal variability of suspended sediment flux from a subarctic glacial river, southern Iceland [1992, p.233-243, eng] 47-1815
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Acid deposition and global change research in Sequoia National Park *a case study of interagency cooperation* [1992, p.497-507, eng] 47-2735
Sources and spatial variation of the chemical composition of snow in the Tien Shan, China [1992, p.25-32, eng] 47-1082
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Mechanical snow removal operations on temporary two-lane sections [1985, p.67-71, jpn] 47-5171
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Seasonal evolution of reactive chlorine in the Northern Hemisphere stratosphere [1993, p.1134-1136, eng] 47-5134
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Physical and terrain-indicating bases for satellite monitoring of naled- in ground water [1991, p.40-45, rus] 47-2427
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Topography of the upper and lower surfaces of 10 hectares of deformed sea ice [1993, p.349-369, eng] 47-5206
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Review of GEOSAT data over Canadian east coast waters [1993, p.117-130, eng] 47-4590
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Quantitative evaluation of deterioration in cryogenic erosion [1991, p.14-20, rus] 47-395
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Performance of piles in thawing ground [1990, 96p., rus] 47-98
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Experimental study of melting of ice about horizontal cylinders [1991, p.269-274, eng] 47-2557
Torn, M.S.
Environmental and biotic controls over methane flux from arctic tundra [1993, p.357-368, eng] 47-3436
Torres, J.J.
Community structure and trophic ecology of zooplankton in the Scotia Sea marginal ice zone in winter (1988) [1993, p.81-105, eng] 47-3604
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Optical effects of polar stratospheric clouds on the retrieval of TOMS total ozone [1992, p.13,015-13,024, eng] 47-79
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Modern and Little Ice Age equilibrium-line altitudes on outlet valley glaciers from Jostedalsbreen, western Norway: an evaluation of different approaches to their calculation [1993, p.106-116, eng] 47-4743
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Codification of European snow loading [1992, p.453-464, eng] 47-3221
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Case *study of heavy snowfall in Oklahoma* [1993, p.648-660, eng] 47-4256
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Tests of grooving on the taxiways of the New Chitose Airport [1991, p.235-240, jpn] 47-2497
Toyoda, H.
Numerical simulation to estimate the wind- and snowbreak efficiency of snowbreak forests [1991, p.125-130, jpn] 47-2539
Toyoda, K.
Development of a wind tunnel for the study of snowdrifting [1992, p.207-214, eng] 47-3200
Traaen, T.
Plankton primary productivity in an arctic lake: 71.2 deg N —diurnal variations of productivity under the midnight sun [1988, 85p., nor] 47-2247
Trabant, D.C.
Flood generation and destruction of "Drift" Glacier by the 1989-90 eruption of Redoubt Volcano, Alaska [1992, p.33-

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Character and causes of a pronounced snowmelt-induced "acidic episode" in a stream in a Scottish subarctic catchment (1993, p.267-300, eng) 47-4171
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Durability of MSW fly-ash concrete (1992, p.369-384, eng) 47-1057
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Proceedings. Vol.2 (1992, 806p., eng) 47-1828
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Trofimov, M.IU.
Variability of area of ice cover in Far East seas (1989, p.77-81, eng) 47-1226
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SSM/I and other cryospheric products from the snow and ice DAAC (1991, p.87-100, eng) 47-3378
Troitskii, L.S.
Mass balance of Spitsbergen glaciers in 1988/89 and 1989/90 balance years (1991, p.167-170, rus) 47-337
Pollen and spores from glaciers and from the proglacial zone in the Arctic and Antarctica (1992, p.167-173, eng) 47-1767
Spores and pollen from the glaciers and periglacial zone of the Arctic and Antarctica (1991, p.181-185, rus) 47-340
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Classification of snow cover in avalanche-prone regions of the USSR, based on their stratigraphy and stability properties (1991, p.196-200, rus) 47-343
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Laboratory investigation of the leaching of solute from snowpack by rainfall (1992, p.169-178, eng) 47-376
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Methodology of the determination of the parameters of large ships designed for the independent navigation in ice-covered waters and of those supported by icebreakers (1992, p.777-779, eng) 47-1873
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Tsoi, O.IU.
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Mass balances of the Gergeti Glacier and fluctuations in the regimes of glaciers in the Caucasus (1990, p.72-88, rus) 47-418
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Climate processes of lake evaporation and snowmelt runoff: Part I. Evaporation rates from temperature-stratified saline lakes—Mono Lake as a case study. Part II. Snowmelt runoff and climate change—Emerald Lake basin as a case study (1991, 380p., eng) 47-311
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Near-real-time data distribution plan of ADEOS data (1992, p.249-253, jpn) 47-144
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Avalanche countermeasures in the Tsuchidaru stretch of the Kanetsu Highway (1985, p.32-36, jpn) 47-5151
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Apparatus for production of compression-solidified snow (1988, 6 col., eng) 47-3500
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Tsumura, R.
2.5-kVA arctic ground fault detector, final report (1993, 18p. + appends., eng) 47-2610
Tsunaki, R.
Study on blowing snow and snowdrift countermeasures (1993, p.1-4, jpn) 47-4783
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Consideration of the mode of contact ice failure in determining ice forces acting on offshore structures (1992, p.790-794, eng) 47-1876
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Relation between coastal boundary current and sea level. Part 1. The Soya warm current (1992, p.47-50, jpn) 47-114
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Regularities in the vertical-zonal distribution of seasonally frozen taiga soils in the Lake Baykal basin (1991, p.109-115, rus) 47-4819
Tsybzhitov, Ts.Kh.
Regularities in the vertical-zonal distribution of seasonally frozen taiga soils in the Lake Baykal basin (1991, p.109-115, rus) 47-4819
Tucker, J.R.
Model ice forces on an upward breaking multifaceted cone (1993, 52p. + appends., eng) 47-3709
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Treeline in relation to climate, with special reference to oceanic areas (1993, p.115-134, eng) 47-4534
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Laboratory tests of ship structures under ice loading. Volume 1 (1993, 171p., eng) 47-3538
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Effects of lime-sludge discharge on an arctic river (1992, p.1083-1094, eng) 47-4626
Tunick, A.
Assessment of the one-dimensional icing forecast model applied to stratiform clouds (1990, p.57-64, eng) 47-909
Tunik, A.L.
Proceedings. Vol.2 (1992, 806p., eng) 47-1828
Turco, R.P.
Heterogeneous chemistry on antarctic polar stratospheric clouds: a microphysical estimate of the extent of chemical processing (1993, p.8965-8981, eng) 47-4382
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Method for extracting tidal and inertial motion from ARGOS ice buoys applied to the Barents Sea during CEAREX (1993, 63p., eng) 47-4908
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Bulldozer equipment with a controlled blade for maintaining mountain roads (1992, p.17-18, rus) 47-2063
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Turner, B.E.
Cook Inlet ice loads calculated using historical data and probabilistic methods (1992, p.677-680, eng) 47-1859
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Equilibrium analysis of projected climate change effects on the global soil organic matter pool (1993, p.59-63, eng) 47-5229
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High latitude wind velocities derived from polar orbiting satellite imagery (1988, p.119-121, eng) 47-4197
Structure of sub-synoptic-scale vortices in polar airstreams from AVHRR and TOVS data (1988, p.126-128, eng) 47-4199
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Arctic offshore structure and installation method therefor (1988, 8 col., eng) 47-3418
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Observations of postglacial uplift at Churchill, Manitoba (1992, p.2418-2425, eng) 47-3716
On the extent and thickness of the Innuitian Ice Sheet: a postglacial-adjustment approach (1991, p.231-239, eng) 47-4160

Tuthill, A.M.
Observation and measurement of ice movement and sediment transport on the St. Marys River during early opening of navigation 15-31 March 1992
Geologic modeling of glacial fan deltas [1992, p.4/1-4/13, eng] 47-2824

Tveit, J.
Water balance in Svalbard—snow erosion, May 19-24, 1992 [1992, 51p., nor] 47-2145
Water balance study in Svalbard—inspection of various forms of snow erosion, June 5-10, 1991 [1991, 16p., nor] 47-2013

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Thermal performance of insulation materials and systems: a retrospective review [1992, p.17-27, eng] 47-3448

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Laboratory studies of the porosity of bottom ice, formed during static ice formation [1990, p.155-159, rus] 47-3602

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Tyugu, K.R.
Distribution of chemical elements in the glacier cores obtained at Nordaustlandet [1991, p.170-176, rus] 47-338

Tzeng, R.Y.
NCAR CCM1 simulation of the modern arctic climate [1992, p.129-132, eng] 47-2399
Present-day antarctic climatology of the NCAR Community Climate Model Version 1 [1993, p.205-226, eng] 47-2707

Tzeng, Y.C.
T-matrix approach to scattering from a snow layer [1992, p.828-829, eng] 47-661

U.S. Air Force. Air Force Materiel Command. Electronic Systems Center
Historical overview of the DEW system in Alaska, and documentation of facilities at POW-3, Bullen Point, Alaska [1993, 96p., eng] 47-4209

U.S. Arctic Research Commission
Arctic research priorities. Annual report of the Arctic Research Commission to the President and the Congress of the United States for the period 1 October 1991-30 September 1992 [1993, 39p., eng] 47-2129
Goals and priorities to guide United States arctic research. Biennial statement [1993, 35p., eng] 47-2128

U.S. Army Corps of Engineers. Alaska District
Prudhoe Bay Waterflood Project environmental monitoring program 1987. Final report [1993, Var. p., eng] 47-2207

U.S. Coast Guard
Report of the International Ice Patrol in the North Atlantic, 1990 season [1990, 86p., eng] 47-45
Report of the International Ice Patrol in the North Atlantic, 1991 season [1991, 51p., eng] 47-44
Report of the International Ice Patrol in the North Atlantic, *1992 season* [1992, 45p., eng] 47-4603

U.S. Congress. Senate. Committee on Commerce, Science, and Transportation. Subcommittee on Science, Technology, and Space
[Hearing on monitoring the arctic and antarctic environments] [1992, 119p., eng] 47-843

U.S. Global Change Research Program
GLOBEC: Southern Ocean Program; GLOBEC Workshop on Southern Ocean Marine Animal Populations and Climate Change [1991, 150p., eng] 47-1281

U.S./Japan Seminar on Micromechanics of Granular Materials, 2nd, Potsdam, NY, Aug. 5-9, 1991
Advances in micromechanics of granular materials [1992, 461p., eng] 47-2125

U.S. National Weather Service Winter Weather Workshop, Portland, OR, Sep. 15-18, 1992
Winter Weather Workshop [1992, Var. p., eng] 47-2130

U.S. Naval Polar Oceanography Center
Eastern-western arctic sea ice analysis: 1990 [1991, n.p., eng] 47-883

U.S. Naval Support Force Antarctica
Final report of Operation Deep Freeze '92 (1991-1992) [1992, var. p., eng] 47-74
Report of Operation Deep Freeze 85, 1984-1985 [1985, Var. p., eng] 47-1285

Uchevatkina, T.S.
Optimal amounts of organic ice-forming reagents in clouds in order to produce precipitation [1991, p.34-43, rus] 47-92

Uchiyama, H.
Active remote sensing of the earth using a powerful dye laser [1992, p.254-258, eng] 47-145

Uchiyama, M.
Measurement of methane concentration in the atmosphere over Siberia [1993, p.30-35, jpn] 47-3972

Ueda, H.
Numerical modeling of long-range transport of acidic species in association with meso-(beta)-convective-clouds across
Observation of lined-up cumulus rows under the winter monsoon situation using MOS-1 and radar data [1990, p.197-203, jpn] 47-886

Ueda, K.
Aiming at lush green roads safe from snow—snowbreak forests along the Nakagawamachi-Kokufu stretch of *Route R-*40 [1992, p.91-96, jpn] 47-2510

Ueda, M.
Snow removal channeling operations—battle against snow and ice bars [1992, p.201-204, jpn] 47-2504

Ueda, S.
Developing comprehensive technology to make cities snowproof [1984, p.85-89, jpn] 47-5073

Ueland, J.
Effects of explosives on the mountain snowpack [1993, p.4-5, eng] 47-2820

Uematsu, T.
Numerical simulation of snowdrift on a road [1992, p.123-135, jpn] 47-3297
Three-dimensional numerical simulation of snowdrift [1992, 13p., eng] 47-942

Uematsu, Y.
Wind effects on snow accumulation on a flat roof [1992, p.105-116, eng] 47-3192

Ugazio, S.
Combined observations of tropospheric and stratospheric thin clouds at McMurdo, Antarctica [1992, p.491-503, eng] 47-2175
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Estimates of denitrification in the 1990 antarctic spring stratosphere [1992, p.323-326, eng] 47-2167

Ugolini, F.C.
Seasonality in the mineral stability of a subalpine spodosol [1992, p.497-507, eng] 47-2189

Ujihashi, Y.
Simulation of time variation in seasonal snowcover based on routinely available data [1991, p.57-68, eng] 47-1934

Ulander, L.M.H.
C-band backscatter signatures of old ice in the central Arctic [1992, p.958-960, eng] 47-664
C-band radar backscatter of Baltic Sea ice: theoretical predictions compared with calibrated SAR measurements [1992, p.2447-2468, eng] 47-258
Calibrated ERS-1 SAR signatures and video underflights over arctic ice [1992, p.1536-1538, eng] 47-683
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Ulriksen, P.
Multistatic radar system—MRS [1992, p.57-63, eng] 47-632

Umantsev, R.F.
Thermal and moisture dust control treatment of a perennially frozen disturbed coal mine [1991, 135p., *rus*] 47-101

Umemoto, T.
Climatology of atmospheric cyclones over the Sea of Okhotsk [1992, p.37-40, eng] 47-112

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Estimation of daily snow mass on the ground using air temperature and precipitation data [1992, p.157-167, eng] 47-3196
Hydraulic transportation machine development for snow removal from urban areas [1992, p.287-297, eng] 47-3287
Snow damage in an urban area with heavy snow fall: definition of the amount of snow damage and appraisal [1991, p.1-11, eng] 47-1935

Umezawa, K.
Near-real-time data distribution plan of ADEOS data [1992, p.249-253, jpn] 47-144

Umezawa, N.
Control of sea ice by the air bubble method—effect of installing air bubbling pipes and setting out seawalls [1991, p.277-282, jpn] 47-2500
Estimate of sea ice freezing [1992, p.147-154, eng] 47-1025

UNESCO, Man and the Biosphere Programme
Biosphere reserves—a challenge and an opportunity [1993, 31p., eng] 47-4602

Ungar, S.G.
Determination of soil moisture distribution from impedance and gravimetric measurements [1992, p.18,969-18,977, eng] 47-1624

United Nations. Food and Agriculture Organization
Avalanche control [1985, 231p., eng] 47-987

Upadhyay, D.S.
Empirical model for prediction of snowmelt runoff in Sutlej [1985, p.76-103, eng] 47-563
Estimation of flow yield in a snow-bound catchment [1985, p.32-42, eng] 47-560
Net energy budget over a snow surface [1985, p.129-143, eng] 47-566
On some physical properties of snowpack [1985, p.133-143, eng] 47-532

Updegraff, K.
Rock glaciers and periglacial phenomena in the Southern Carpathians [1992, p.267-273, eng] 47-1783

Urponen, K.
New directions in arctic research [1989, 4p., eng] 47-428

Urroz, G.E.
Bend ice jams: laboratory observations [1992, p.855-864, eng] 47-3305

Ursaki, M.K.
Freezing earth with seasonal cooling plants [1992, p.258-264, eng] 47-2292

Urusevskaya, I.S.
Mineralogy of silt material of soils of the forest tundra and northern taiga of the Kola Peninsula [1987, p.7-14, eng] 47-596

Uryu, M.
Diagnostic model study of the seasonal variation of global ozone and the antarctic ozone hole [1992, p.20,837-20,-853, eng] 47-2056

Usatenko, S.G.
Thermohaline water circulation in the Norwegian energy-active zone during spring 1987 [1991, p.42-49, rus] 47-3689

Usciaski, B.J.
Analytical technique for solving an arctic acoustic model [1992, p.39-42, eng] 47-4718

Ushakov, A.
Northern Sea Route—now open [1992, p.15-20, eng] 47-4872

Ushakov, A.I.
Problems in studying geographical regularities in the characteristics of snow cover hardness [1983, p.86-90, rus] 47-1248
Working session and seminar of the Glaciology Section, autumn 1990 [1991, p.223-230, rus] 47-2815

Ushakova, L.A.
Avalanche risk: classification and control [1992, p.29-35, rus] 47-1990

Usher, B.
One city's guide to snow and ice operations and planning [1992, p.36-37, eng] 47-1925

Ushiki, S.
Tests on improving the efficiency of snow removal equipment on snow removal trucks [1991, p.205-210, jpn] 47-2524
Tests on snow removal trucks [1990, p.36-67, jpn] 47-4966

Ushio, S.
Oceanographic data in Lützow-Holm Bay of Antarctic Climate Research Programme from March 1990 to January 1991 (JARE-31) [1993, 34p., eng] 47-3619

Ushurtsev, S.N.
Impact of summer snowfalls on glacier regimes in the Akshiyrak Massif [1991, p.176-181, rus] 47-339
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Finite element modelling of natural-convection-controlled change of phase [1992, p.1019-1036, eng] 47-193

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Is the extent of glaciation limited by marine gas-hydrates [1991, p.432-434, eng] 47-1241

Utaka, Y.
Method of efficient ice cool energy storage using heat transfer of direct contact phase change between working medium and PCM in an enclosure [1989, p.469-475, eng] 47-914

Utkina, G.V.
Study of ice nuclei in the area of hail suppression operations in Moldavia [1992, p.301-303, eng] 47-2272

Utt, M.E.
Cook Inlet ice loads calculated using historical data and probabilistic methods [1992, p.677-680, eng] 47-1859

Uttal, T.
Method for determining cirrus cloud particle sizes using lidar and radar backscatter technique [1993, p.1074-1082, eng] 47-4081

Vachon, P.W.
Wave attenuation in the marginal ice zone during LIMEX [1992, p.192-206, eng] 47-2347

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Calculating embankments built of geotextile blocks filled with water-saturated soil [1991, p.66-72, rus] 47-188

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Late Cenozoic uplift and volcanism on Spitsbergen: caused by mantle convection? [1993, p.251-254, eng] 47-2849

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Concurrent freezing and sublimation of a liquid-saturated *porous slab* [1991, p.251-259, eng] 47-2565

Vaikmäe, R.
Oxygen-18 in permafrost ice [1992, p.587-601, eng] 47-3151

Vainshtein, M.B.
Sulfate-reducing bacteria in constant-frozen soils [1992, p.243-247, eng] 47-1738

Vakhnenko, R.V.
Influence of natural conditions on the development of transportation in the Far East [1991, p.103-106, rus] 47-3281

Vakulovskii, S.M.
Radioactive contamination of the Barents and Kara seas [1993, p.157-168, eng] 47-5028
Radioactivity and environmental problems for the seas and oceans [1993, p.65-78, eng] 47-5021

Valanto, P.U.
Experimental and theoretical investigation of the icebreaking cycle in two dimensions [1990, 129p., eng] 47-89
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Total ozone measurements from Scott Base, Antarctica with a Dobson and a Brewer spectrophotometer [1992, p.469-475, eng] 47-2173
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Valeur, H.H.
Cloud induced limitations to satellite based sea ice mapping. The Greenland Sea, August-September 1981-89 [1991, p.263-276, eng] 47-3390

Vali, G.
Memory effect in the nucleation of ice on mercuric iodide [1992, p.259-262, eng] 47-2262

Van Blarcum, S.C.
Effects of climate change on monthly river runoff [1992, p.175-178, eng] 47-2726

Van de Wal, R.S.W.
Study of ablation variations on the tongue of Hintereisferner, Austrian Alps [1992, p.319-324, eng] 47-1384

Van den Broeke, M.R.
Katabatic wind regime in the ablation zone of the Greenland ice sheet during the GIMEX-90 and 91 expeditions: influence on turbulent fluxes near the surface [1992, p.J133-J136, eng] 47-2419

van der Eerden, J.P.
Very large melting point depression of water in silica [1993, p.1143-1149, eng] 47-3290

Van der Hage, J.C.
Study of ablation variations on the tongue of Hintereisferner, Austrian Alps [1992, p.319-324, eng] 47-1384

van der Kamp, B.J.
Frost, canker, and dieback of Douglas-fir in the central interior of British Columbia [1993, p.373-379, eng] 47-3843

Van der Veen, C.J.
Determination of a flow center on an ice cap [1992, p.412-416, eng] 47-1392
Ice sheets: growing or shrinking [1993, p.5-9, eng] 47-4740
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Formation of seasonal ice bodies [1992, p.281-304, eng] 47-856

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Thermal properties of frozen soils [1993, p.783-795, eng] 47-5251

Van Haveren, B.P.
Hydrologic analysis of the Gulkana National Wild River, Alaska [1989, p.331-340, eng] 47-2579

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Aerodynamic effects of ground de anti-icing fluids on Fokker 50 and Fokker 100 [1993, p.35-40, eng] 47-3315

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Altitudinal zonation of selected geomorphological phenomena in an alpine periglacial area (Abisko, northern Sweden) [1992, p.183-196, eng] 47-4327

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Analysis of low-frequency climate variations over the Northern Hemisphere using historical atmospheric data [1993, p.355-360, eng] 47-3050
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Variability of the arctic stratosphere in winter [1992, p.179-180, ger] 47-210

Van Loon, W.K.P.
Thermal properties of frozen soils [1993, p.783-795, eng] 47-5251

van Miltenburg, J.C.
Very large melting point depression of water in silica [1993, p.1143-1149, eng] 47-3290

Van Vliet-Lanoë, B.
Dynamics and extent of the Weichselian permafrost in western Europe (Substage 5E to Stage 1) [1989, p.109-113, eng] 47-440
Frost heaving and frost creep on an experimental slope: results for soil structures and sorted stripes [1988, p.13-23, eng] 47-439
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Antarctic sea ice mapping using the AVHRR [1993, p.155-163, eng] 47-5060

Van Zyl, J.J.
Analysis of scattering behavior and radar penetration in AIRSAR data [1992, p.134-136, eng] 47-642

Vandal, G.M.
Variations in mercury deposition to Antarctica over the past 34,000 years [1993, p.621-623, eng] 47-3445

Vandenberghe, J.
Cryoturbations: a sediment structural analysis [1992, p.343-352, eng] 47-2241
Geomorphology and climate of the cool oxygen isotope stage 3 in comparison with the cold stages 2 and 4 in the Netherlands [1992, p.65-75, eng] 47-1006
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Permafrost changes in Europe during the last Glacial [1993, p.121-135, eng] 47-4148

Vanderbilt, D.
Proton transfer in ice [1993, p.279-284, eng] 47-4856

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Vangengeim, T.G.
Analyzing the thermal effect of the Atlantic on variation in the barometric field during winter [1989, p.128-137, rus] 47-3665
Conditions for formation of significant anomalies in pressure and air temperature during December-February [1989, p.158-162, rus] 47-3669

Vanhala, H.
Detecting organic chemical contaminants by spectral-induced polarization method in glacial till environment [1992, p.1014-1017, eng] 47-779

Van'ko, IU.V.
Ecological-geological regionalization of the cryolithozone in the USSR [1991, p.92-100, rus] 47-403

Varges, G.
Ice breaker [1989, 8 col., eng] 47-3325
Stern apron for ice breakers [1988, 4 col., eng] 47-3768

Varney, S.K.
Climate change 1992. The supplementary report to the IPCC scientific assessment [1992, 200p., eng] 47-2592

Varona, F.
Near-optimum heating profiles in freeze-drying in accordance to the transport parameters and product nature [1991, p.394-404, eng] 47-2304

Vartanov, S.Kh.
Chain-type excavators for digging slit trenches in rocks [1991, p.4-6, rus] 47-2066

Varuska, M.L.
Recent trends in glaciers and glacier runoff, Wind River Range, Wyoming [1989, p.159-169, eng] 47-2578

Vasavada, A.R.
Thermal stability of water ice at the poles of Mercury [1992, p.643-646, eng] 47-738

Vascotto, G.L.
Influence of recent climate patterns on runoff in the Missinaibi River [1992, p.567-577, eng] 47-2738

Vasil'chuk, IU.K.
Oxygen isotope composition of ground ice (application to paleogeocryological reconstruction) [1992, 2 vols. (684p.) + 2 foldouts, rus] 47-4656

Vasilenko, V.N.
Deposition of sulfur and nitrogen compounds over the USSR [1991, p.19-24, eng] 47-1177

Vasil'ev, A.A.
Engineering geocryological properties of deposits of cryogenic weathering crusts in Northern Yakutia [1991, p.63-70, rus] 47-399
Quantitative evaluation of deterioration in cryogenic erosion [1991, p.14-20, rus] 47-395

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Zonality of the dynamics of the active layer in landscapes in Yakutia [1991, p.3-9, rus] 47-393

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Vasil'ev, N.K.
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Vasil'evskaia, V.D.
Resistance of cryogenic soils to anthropogenic influences [1992, p.104-107, eng] 47-1712

Vasyania, M.F.
Method for short-term forecasting of the position of the close pack ice edge in the northern Caspian Sea [1992, p.58-63, eng] 47-3992

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Vatne, G.
Glaciofluvial sediment transfer of a subpolar glacier, Erikbreen, Svalbard [1992, p.253-266, eng] 47-2121

Vaucher, C.A.
Atmospheric boundary layer features observed in the spring marginal ice zone [1988, p.73-74, eng] 47-4185

Vaughan, D.
Chasing the rogue icebergs [1993, p.24-27, eng] 47-1570

Vaughn, G.
Occurrence of ozone laminae near the boundary of the stratospheric polar vortex [1993, p.8883-8890, eng] 47-4381

Vdovin, IU.I.
Creating naleds for water supply and irrigation in valleys of freezing rivers [1991, p.225-233, rus] 47-2452

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Barents Sea ice conditions as observed by passive microwave and other techniques [1991, p.101-115, eng] 47-3379
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Trend analysis of the Barents Sea ice cover [1992, p.325-335, eng] 47-1039

Vehviläinen, B.
Physically based snowcover model [1991, p.113-135, eng] 47-1380
Snowmelt degree-day values for HBV-model in Finland [1992, p.211-220, eng] 47-1963

Velkum, K.O.
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Veksler, M.
Legal regulation of environmental improvement of the Russian Federation nuclear complex activities in order to prevent radioactive pollution of arctic seas [1993, p.609-614, eng] 47-5058

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Apparatus and method for low temperature thermal stripping of volatile organic compounds from soil and waste materials with non-oxidative cross-sweep gases [1993, 12 col., eng] 47-3904

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Global warming and future agroclimatic resources of the Russian Plain [1991, p.83-88, rus] 47-1253
New reports theorizing on the periglacial zone and historical geocryology [1982, p.113-119, rus] 47-1246

Velivetskaia, T.A.
Isotopic pleiad of oxygen in atmospheric precipitation in the polar regions [1991, p.109-112, rus] 47-2796

Verbitskii, M.IA.
Asthenospheric ice-load effects in a global dynamical-system model of the Pleistocene climate [1992, p.1-11, eng] 47-1791
Possible effects of anthropogenically-increased CO2 on the dynamics of climate: implications for ice age cycles [1993, p.1051-1054, eng] 47-4630

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Vere, D.M.
Formation of glacial flutes: assessment of models with evidence from Lyngsdalen, North Norway [1992, p.709-731, eng] 47-3441

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Principles of development of diesel fuel composition with pour-point depressants [1992, p.3-7, eng] 47-205

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Vertical directivity measurements of ice cracking [1993, p.553-562, eng] 47-4836

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Application of the superplasticizer SFS as an antifrost admixture for concrete [1991, p.11-12, rus] 47-2156

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Measurement of pressure ridges in SAR images of sea ice: preliminary results on scattering theory [1992, p.955-957, eng] 47-663

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Microbubble mediated surface probe and the ice-antifreeze glycoprotein solution system [1993, p.67-74, eng] 47-4757

Vestal, J.R.
Environmental regulators of microbial activity in continental antarctic lakes [1993, p.165-195, eng] 47-4400
Environmental regulators of microbial activity in continental antarctic lakes [1993, p.491-541, eng] 47-4598

Veth, C.
On processes determining the vertical stability of surface waters in the marginal ice zone of the northwestern Weddell Sea and their relationship with phytoplankton bloom development [1992, p.237-243, eng] 47-1329

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Air-sea-ice interactions in the Weddell Sea [1993, p.325-327, eng] 47-4433

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Seed bank composition in a subarctic pine-birch forest in Finnish Lapland: natural variation and the effect of simulated acid rain [1993, p.379-384, eng] 47-4583

Vijayaraghavan, S.R.
Special consideration in the construction and maintenance of cement concrete pavements in snowfall areas [1985, p.318-344, eng] 47-581

Vijgen, A.S.
Soluble species in the arctic summer troposphere: acidic gases, aerosols, and precipitation [1992, p.16,531-16,543, eng] 47-1453

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Laboratory study of the compaction properties of frozen soils [1993, p.69-77, eng] 47-4123

Vilhjálmsson, M.
Early Pleistocene glacial-interglacial cycle in the Breidavík group on Tjörnes, Iceland: sedimentary facies, foraminifera, and molluscs [1992, p.733-757, eng] 47-3473

Villarán, M.C.
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Vilo, A.
Geology and foundation works in Estonia [1992, p.109-117, eng] 47-3551

Vincent, J.S.
Sangamonian and early Wisconsinan glacial record in the western Canadian Arctic [1992, p.233-252, eng] 47-2695

Vinje, T.
Upward looking sonar ice draft series from the Greenland Sea [1992, p.B25-B28, eng] 47-3246

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Information resources of the northern regions of Russia: status and availability problems [1992, p.325-329, eng] 47-1410

Vinogradov, A.M.
Ice plates as laminated composite structures [1992, p.65-75, eng] 47-1019

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Calculating the circulation and thermobarometric background in long range meteorological forecasts [1989, p.6-11, rus] 47-3653

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On computer simulation of motion of broken ice [1992, p.15-24, eng] 47-1015

Vinogradova, V.V.
Synoptic conditions for the formation of avalanches and the possibility of forecasting them [1991, p.45-49, rus] 47-892

Vinokurov, I.P.
Geochemical exploration for hidden deposits in the cryolithozone [1988, 108p., rus] 47-2315

Vinson, T.S.
Carbon cycling in boreal forest and sub-arctic ecosystems: biospheric responses and feedbacks to global climate change [1993, 282p., eng] 47-5222
Climate warming and the carbon cycle in the permafrost zone of the former Soviet Union [1993, p.149-163, eng] 47-4150
Framework to quantify the natural terrestrial carbon cycle of the former Soviet Union [1993, p.259-275, eng] 47-5242
Low temperature cracking experiment at USACRREL Frost Effects Research Facility [1992, p.289-307, eng] 47-1139
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Vinton, C.S.
Pneumatically de-iced ice detector [1985, 32p., eng] 47-4896

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Low-temperature performance of biological wastewater treatment systems [1993, p.297-302, eng] 47-4470

Virginia, R.A.
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Virtanen, M.
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Visconti, G.
Antarctic temperature perturbation due to the QBO and the secular ozone trend [1992, p.317-329, eng] 47-1209
Ozone hole over Antarctica [1991, p.102-117, ita] 47-1823
Stratospheric GCM for polar ozone studies: a progress report [1992, p.285-316, eng] 47-1208

Vishniac, H.S.
Microbiology of antarctic soils [1993, p.297-341, eng] 47-4597

Viskanta, R.
Effect of density extremum on the solidification of water on a vertical wall of a rectangular cavity [1992, p.703-713, eng] 47-1628
Effect of the water density extremum on the solidification process [1991, p.1185-1192, eng] 47-5110

Visser, R.C.
Retrospective of platform development in Cook Inlet, Alaska [1992, p.146-150,202-203, eng] 47-224

Vitale, V.
Ozone absorption and Rayleigh scattering features in sunphotometric measurements taken at ultraviolet wavelengths [1992, p.227-245, eng] 47-1205

Vitek, J.D.
Model of water movement in rock glaciers and associated water characteristics [1992, p.159-184, eng] 47-851

Viterbini, M.
Combined observations of tropospheric and stratospheric thin clouds at McMurdo, Antarctica [1992, p.491-503, eng] 47-2175
Combined system for observations of tropospheric and stratospheric thin clouds [1993, p.34-40, eng] 47-2552
Estimates of denitrification in the 1990 antarctic spring stratosphere [1992, p.323-326, eng] 47-2167

Vitt, D.H.
Bryophytes of the Melville Hills region, Northwest Territories [1992, p.100-104, eng] 47-1880
Peatland development in relation to Holocene climatic change in Manitoba and Saskatchewan (Canada) [1992, p.1070-1090, eng] 47-1798

Vlasiuk, M.P.
Study of the spatial distribution of ice nuclei in a mountainous region [1992, p.143-159, rus] 47-2527

Vlokh, V.P.
Experience with pile sinking in plastic-frozen soils by bored-driven and bored-drop methods [1993, p.124-125, eng] 47-2061

Vodogretskii, V.E.
Once more on calculations of maximum spring flood runoff [1992, p.74-78, eng] 47-3994

Voelker, R.
Performance of the *Nathaniel B. Palmer* in ice [1993, p.300-309, eng] 47-5117

Vohden, J.
Preliminary water-quality sampling for the Fairbanks International Airport Bioremediation Project: November 1990 through October 1991 [1992, 15p., eng] 47-4772
Streamflow, sediment load, and water quality study of Hosanna Creek basin near Healy, Alaska: 1991 progress report [1992, 51p., eng] 47-4766

Voldborg, H.
Prediction of road conditions by combined road layer/atmospheric model in winter [1992, 9p., eng] 47-973

Volevakha, V.A.
Recommendations for forecasting moderate and heavy icing in Ukraine [1991, p.48-55, rus] 47-364

Volkov, IU.S.
Protective wall for an offshore platform in the North Sea [1990, p.30-31, rus] 47-2162

Volkov, S.S.
Naleds of the Putorana Plateau and their effect on valley landscapes [1991, p.162-166, rus] 47-2443

Volkov, V.V.
Low temperature tests of unshaped truss joints with T-belts and a crossed grate of single angles [1990, p.122-125, rus] 47-2760

Vollmer, M.
Role of organic matter on nitric and nitrous oxide formation of Nitrosomonas and Nitrobacter [1992, p.251-259, eng] 47-1740

Voloshina, I.P.
Investigation of a mushroom-like flow in the shelf edge area of northern seas [1992, p.317-322, eng] 47-782

Vombatkere, S.G.
Use of radiation absorbing for clearing snow in mountainous regions [1985, p.222-239, eng] 47-574

von Fircks, H.A.
Frost hardiness of dormant Salix shoots [1992, p.317-323, eng] 47-2296

von Mörs, I.
Shoreline shrub population extension in response to recent isostatic rebound in eastern Hudson Bay, Quebec, Canada [1993, p.15-23, eng] 47-3423

Vonder Mühll, D.S.
Borehole logging in alpine permafrost, Upper Engadin, Swiss Alps [1992, p.125-132, eng] 47-1751
Evidence of intrapermafrost groundwater flow beneath an active rock glacier in the Swiss Alps [1992, p.169-173, eng] 47-1758

Vonk, A.M.
Environmental isotope hydrograph separation during snowmelt in a suburban catchment [1992, p.1-12, eng] 47-4027

Vornberger, P.
Interpretation of SAR imagery of the Greenland ice sheet using coregistered TM imagery [1992, p.167-175, eng] 47-2554

Vorob'eva, G.A.
Early and recent cryogenic phenomena in subaerial deposits and soils in southern Central Siberia [1991, p.20-26, rus] 47-4804

Vorontsov, N.N.
Destruction of the ecological food-chain in the Barents Sea as a result of a combination of overfishing and atmospheric nuclear testing at Novaya Zemlya [1993, p.325-327, eng] 47-5039

Voropaev, S.A.
Small and planetary bodies of the solar system: the critical mass of icy bodies [1992, p.692-696, rus] 47-2040

Vorren, T.
Nansen Arctic Ocean Drilling Program [1992, p.553-556, eng] 47-1840

Voss, J.M.
Measuring the point spread function of sea ice *in situ* [1992, p.517-526, eng] 47-3735

Vostretsov, V.M.
Naled formation under reduced moisture conditions (in the example of the Ol'khon Island area) [1991, p.157-162, rus] 47-2442

Voth, T.E.
Thermocapillary convection during solid-liquid phase change [1992, p.1068-1070, eng] 47-1673

Vourlitis, G.L.
Effect of soil moisture and thaw depth on CH4 flux from wet coastal tundra ecosystems on the North Slope of Alaska [1993, p.329-337, eng] 47-3434

Vovk, V.IA.
Work of the wintering personnel of the 32nd Soviet Antarctic Expedition [1991, p.5-9, rus] 47-1572

Vozzhinskaia, V.B.
Hydrobiological studies in the Arctic: the structure of bottom communities in the Spitsbergen Archipelago (western part) [1992, p.1332-1335, rus] 47-2039

Vtiurin, B.I.
Pollen and spores from glaciers and from the proglacial zone in the Arctic and Antarctica [1992, p.167-173, eng] 47-1767
Spores and pollen from the glaciers and periglacial zone of the Arctic and Antarctica [1991, p.181-185, rus] 47-340

Vtorushin, V.A.
Cryogenesis and frost genesis in soils [1992, p.38-42, rus] 47-3266

Vukolov, V.N.
Across northern Tien Shan; mountain tourist routes across Zailiyskiy Alatau and Kungey Alatau [1991, 207p. + 1 fold. map, rus] 47-2244

Vuorinen, A.
Distribution and forms of lead compounds in the environment near southern Finland highways [1986, p.30-33, eng] 47-595

Vuorio, J.
Results from indentation tests in sea ice [1993, p.177-185, eng] 47-4245

Vychuzhanina, M.V.
Airborne ice nuclei concentrations measured aboard a helicopter using a mixing chamber [1992, p.135-143, rus] 47-2526

Study of the kinetics of the activation of natural and man-made ice nuclei in the Salya cloud chamber [1992, p.159-167, rus] 47-2528

Study of the spatial distribution of ice nuclei in a mountainous region [1992, p.143-159, rus] 47-2527

Vyshemirskii, V.S.
Gas homologues of methane and olefins near the earth surface in connection with hydrocarbon accumulations [1993, p.1-4, eng] 47-5194

Wacker, U.
Structural stability in cloud physics using parameterized microphysics [1992, p.231-242, eng] 47-2656

Wackerman, C.C.
Digital SAR image formation [1992, p.105-110, eng] 47-3020

Wada, M.
Microwave signature of polar firn and sea ice in the Antarctic from airborne observation [1992, p.16-35, eng] 47-3002

Study of precipitation in the coastal area of Antarctica as observed at Syowa Station using a vertical pointing radar [1992, p.341-349, eng] 47-3362

Wada, S.
Comparison of 3 micron features of trapped H2O and H2O frost in SiO condensate with observed dust features [1991, p.429-432, eng] 47-2114

Waddington, E.D.
Buoyancy forces induced by freeze-thaw in the active layer: implications for diapirism and soil circulation [1992, p.251-279, eng] 47-855

Glacier geophysical studies for an ice core site at "Taylor Dome" [1991, p.71-73, eng] 47-2469

Wadhams, P.
Active and passive microwave signatures and relationship to ice thickness [1992, p.B66-B75, eng] 47-3253

Advances in ice technology: proceedings of the 3rd international conference [1992, 365p., eng] 47-1013

Antarctic ice thickness distributions obtained from aerial photography [1992, p.B16-B18, eng] 47-3243

Ice edge noise observations from the 1988-89 Greenland Sea tomography experiment [1992, p.611-619, eng] 47-4719

Ice thickness distribution inferred using remote sensing techniques [1992, p.375-383, eng] 47-3035

Ice thickness observations from British submarines [1992, p.B19-B21, eng] 47-3244

Inferring ice thickness distribution from airborne laser profiling [1992, p.B43-B51, eng] 47-3249

Microwave remote sensing of the southern ocean ice cover [1992, p.243-259, eng] 47-3026

Relationship between sea ice freeboard and draft in the Arctic Basin, and implications for ice thickness monitoring [1992, p.20,325-20,334, eng] 47-2344

Roughness of Weddell Sea ice and estimates of the air-ice drag coefficient [1993, p.12,439-12,452, eng] 47-4521

Use of ERS-1 SAR to measure ice flux in the East Greenland current [1993, p.283-287, eng] 47-4426

Waggoner, A.P.
Cloud clearing with a CO2 laser in a cirrus cloud simulation facility [1992, p.5871-5877, eng] 47-2664

Wagner, B.
New computerized approach to estimating the thermal properties of unfrozen soils [1992, p.714-720, eng] 47-1186

Wagner, G.H.
Dew and frost chemistry at a midcontinent site, United States [1992, p.20,591-20,597, eng] 47-2052

Wagner, M.
Late Proterozoic anthracite coals from the Hornsund area, south Spitsbergen [1992, p.71-90, eng] 47-4648

Wagner, P.E.
Proceedings [1992, 523p., eng] 47-2253

Wagner, S.
Creep of alpine permafrost, investigated on the Murtel rock glacier [1992, *p.157-162, eng*] 47-1756

Wahl, K.L.
Evaluation of trends in runoff in the western United States [1992, p.701-710, eng] 47-2746

Wakabayashi, H.
C-band SAR backscatter from ice on shallow tundra lakes: observations and modelling [1993, p.333-337, eng] 47-4435

Wakatsuchi, M.
On the relationships between air temperature fluctuations in Hokkaido and Okhotsk Sea ice [1992, *p.307-310, jpn*] 47-156

Wake, C.P.
Anions and cations in a snow pit on the top of Nelson ice cap, the South Shetland Islands, Antarctica [1993, p.312-316, eng] 47-3096

Anthropogenic sulfate and Asian dust signals in snow from Tien Shan, northwest China [1992, *p.45-52, eng*] 47-1085

Rapid advance of Pumarikish Glacier, Hispar Glacier basin, Karakoram Himalaya [1993, p.204-207, eng] 47-3953

Walden, V.P.
Atmospheric longwave radiation spectrum on the antarctic plateau [1992, p.11-12, eng] 47-2366

Walder, J.
Creep closure of channels in deforming subglacial till [1993, p.17-31, eng] 47-3778

Waldhäusl, P.
Analysis of snow cover patterns as derived from oblique aerial photographs [1991, p.91-99, eng] 47-1296

Waldvogel, A.
Kinetic energy of hailfalls. Part 4: *patterns of hailpad and* radar data [1992, p.1165-1178, eng] 47-460

Wales, C.
Accuracy of submarine ice draft measurements [1992, p.B22-B24, eng] 47-3245

Wales, S.
Very-low-frequency under-ice reflectivity [1993, p.1329-1334, *eng*] 47-3432

Walin, G.
On the formation of ice on deep weakly stratified water [1993, p.143-157, eng] 47-2890

Walker, D.A.
Long-term studies of snow-vegetation interactions [1993, p.287-301, eng] 47-4024

Walker, M.D.
Long-term studies of snow-vegetation interactions [1993, p.287-301, eng] 47-4024

Walker, R.F.
Soil denitrification rates in a subalpine watershed of the eastern Sierra Nevada [*1992, p.217-231, eng*] *47-510*

Walla, M.D.
Selective accumulation of polychlorocamphenes in aquatic biota from the Canadian Arctic [1993, p.701-709, eng] 47-4629

Wallace, D.W.R.
Halocarbon ratio and tritium/He-3 dating of water masses in *the Nansen Basin, Arctic Ocean* [1992, p.S435-S458, eng] 47-1273

Wallhead, M.
Buildings for harsh environments [1989, 8 col., eng] 47-3107

Walrafen, G.E.
Third moments and correlation moments for supercooled liquid water N,P,T ensembles: low-temperature singularity and critical point [1992, p.3840-3846, eng] 47-247

Walsh, A.R.
Shaft construction by raise boring through artificially *frozen* ground [1991, p.705-719, eng] 47-993

Walsh, J.
Determination of soil moisture distribution from impedance and gravimetric measurements [1992, p.18,969-18,977, eng] 47-1624

Walsh, J.E.
Comparison of global climate model simulations of polar regions [1991, p.488-491, eng] 47-4495

Estimation of arctic precipitation from water vapor flux convergence [1993, p.324-328, eng] 47-3048

Long-range forecasts of arctic sea level pressure [1988, p.48-51, eng] 47-4183

Model simulation of changes in arctic sea ice, 1960-1989 [1992, p.C14-C16, eng] 47-3258

Model simulation of changes in arctic sea ice thickness, 1960-1989 [1991, p.346-349, eng] 47-4487

Multivariate sensitivities of a dynamic-thermodynamic sea ice model [1992, p.87-90, eng] 47-2388

North Atlantic sea ice sensitivities of monthly dynamical forecasts [1988, p.32-35, eng] 47-4179

Recent variations of sea ice and air temperature in high latitudes [1993, p.33-47, eng] 47-3477

Sea ice and salinity variability in the Arctic using a coupled sea ice-ocean model [1992, *p.83-86, eng*] 47-2387

Use of satellite observations in ice cover simulations [1992, p.385-404, eng] 47-3036

Walsh, M.E.
Development of field screening methods for TNT, 2,4-DNT and RDX in soil [1992, p.33-45, eng] 47-1819

Field screening methods for TNT, RDX and 2,4-DNT in soil *and water* [1993, p.282-287, eng] 47-3912

Identification of TNT transformation products in soil [1992, 31p., eng] 47-699

Optimization of an analytical method for determining white phosphorus in contaminated sediments [1992, 13p., eng] 47-2755

White phosphorus poisoning of waterfowl in an Alaskan salt marsh [1992, p.669-673, eng] 47-1235

Walsh, M.R.
Design and analysis of a low speed drag plow for use in deep *snow* [1992, 51p., *eng*] 47-1894

Icing of turbine intake louvers [1993, 37p., eng] 47-4095

Walsh, S.J.
Snow-avalanche paths: conduits from the periglacial-alpine to the subalpine-depositional zone [1992, p.185-202, eng] 47-852

Walsh, T.M.
Dual-polarization radar measurements in an Oklahoma hailstorm [1992, p.1734-1736, eng] 47-691

Waltemeyer, S.D.
Computation of a snowpack-loss component for a water-*budget model for the San Juan aquifer basin in New Mexico* and Colorado [1992, p.141-145, eng] 47-506

Walter, B.A.
Aircraft measurements of regional air-ice drag coefficients during high wind conditions over the Beaufort Sea [1992, p.48-49, eng] 47-2377

Sea ice deformation in the Beaufort Sea [1992, p.64-67, *eng*] 47-2382

Walton, D.W.H.
Contribution of SCAR to antarctic research [1992, p.217-228, eng] 47-1405

Rock weathering, soil development and colonization under a changing climate [1992, p.269-277, eng] 47-3146

Wamser, C.
Drag coefficients for winter antarctic pack ice [1993, p.12,431-12,437, eng] 47-4520

Radiation and eddy flux experiment 1991 (REFLEX I) [1992, 72p., eng] 47-41

Wang, A.T.
Stopping criteria for discrete event simulations [1993, p.169-176, eng] 47-4244

Wang, B.L.
Mathematical modelling of near-shore permafrost thermal regimes, western Canadian Arctic [1992, p.202-209, chi] 47-1659

Wang, D.C.
Stochastic approaches for forecasting monthly streamflows [1991, 278p., eng] 47-299

Wang, D.S.
Frazil jam evolution and transport of low density granules [1992, 103p., eng] 47-456

Wang, G.
Outline of avalanches in the Tien Shan mountains [1992, p.7-10, eng] 47-1078

Wang, G.Y.
Variation features of large-scale snow cover in Northern Hemisphere [1992, p.115-121, chi] 47-1647

Wang, J.
Interannual variability of the atmospheric circulation and sea-ice cover in the Hudson Bay-Baffin Bay-Labrador Sea region, 1953-88 [1991, p.358-361, eng] 47-4490

Wang, J.C.
Experimental study on conditions for ice formation of saturated *sand in freezing and thawing cycles* [1992, p.101-106, chi] 47-1645

Wang, J.R.
On the estimation of snow depth from microwave radiometric measurements [1992, p.785-792, eng] 47-357

Retrieval of total precipitable water over *high-latitude regions* using radiometric measurements near 90 and 183 GHz [1992, p.1368-1378, eng] 47-1581

Wang, J.Y.
Integrating GIS and CAD for transportation data base development [1991, p.212-218, eng] 47-1805

Wang, K.
Climatic changes in central and eastern Canada inferred from deep borehole temperature data [1992, p.129-141, eng] 47-2020

Influence of terrain on bedrock temperatures [1992, p.87-100, eng] 47-2019

Wang, L.L.
Ice formation of glaciers in Qilian Mountains [1985, p.27-40, chi] 47-1517

Recent advance and retreat of glaciers in Qilian Mountains [1985, p.82-90, chi] 47-1522

Wang, M.H.
Experimental study of the influence of mixing silt on ice creep [1992, p.1827-1830, eng] 47-1952

Wang, N.L.
Mountain glacier fluctuations and climatic change during the last 100 years [1992, p.242-250, chi] 47-1664

Recent fluctuations of glaciers in the Gongga mountains [1992, p.163-167, *eng*] 47-1105

Wang, P.K.
Comparison between the collection efficiency of aerosol particles by water drops and ice crystals [1991, p.87-96, eng] 47-2210

Numerical simulations *of the 2 August 1981 CCOPE super*-cell storm with and without ice microphysics [1993, p.745-759, eng] 47-3510

Wang, Q.
Characteristics of hydrological processes in a small high mountain basin [1991, *p.229-236, eng*] 47-1310

Distribution characteristics in space and time of precipitation of Heihe Basin in Qilian Mountain [1992, p.121-132, chi] 47-1546

Relationship between runoff and meteorological element in *Binggou experiment basin of Qilian Mountain* [1992, p.101-110, chi] 47-1544

Runoff analysis and estimation of the Binggou Basin in the Qilian Mountain [1992, p.251-257, chi] 47-1665

Wang, S.L.
Air containing propeller stream and its application *in* ice clearance [1993, p.53-58, eng] 47-4230

Clearing of ice fragments in continuous-mode icebreaking [1991, 102p., eng] 47-1371

Computation of ship/pack ice interaction with wave effect [1990, 36p., eng] 47-1357

Investigation of air containing propeller stream. Part I: physical modelling. Part II: mathematical modelling [1993, 4p., eng] 47-4863

Wang, S.L. *(cont.)*
Using the air containing stream for channel ice clearance [1992, 94p., eng] 47-1361
Wang, T.I.
Optical precipitation detection and identification system using scintillation detection [1988, 14 col., eng] 47-3637
Wang, W.
On designing the temperature scale in the range 13.8 K to 273.16 K [1992, p.145-150, eng] 47-2961
Wang, W.L.
Changes of crystal c-axis orientation fabric in uniaxial extension tests [1992, p.29-35, chi] 47-72
Wang, W.T.
Experimental study of the influence of mixing silt on ice creep [1992, p.1827-1830, eng] 47-1952
Wang, X.C.
Determination of pollen accumulation rates in frozen sediments [1993, p.87-93, eng] 47-3120
Wang, Y.L.
Outline of avalanches in the southeastern Tibet Plateau, China [1992, p.146-150, eng] 47-1102
Wang, Y.X.
Tree ring climate during the recent thousand years in Qilian Mountains and its reflection on the glacier [1985, p.97-108, chi] 47-1524
Wang, Z.P.
Ecological environmental features of antarctic sea ice and its role in the marine ecosystems [1993, *p.1-15, chi*] 47-4646
Wang, Z.T.
Characteristics of the distribution of glaciers in China [1992, p.17-20, eng] 47-1080
Wang, Z.X.
Ice formation of glaciers in Qilian Mountains [1985, p.27-40, chi] 47-1517
Mass balance of glaciers in Qilian Mountains [1985, p.41-53, chi] 47-1518
Temperature regime of No.5 Glacier, Yanglong River in Qilian Mountains [1985, p.54-60, chi] 47-1519
Wankiewicz, A.
Mountain snowpack observations by microwave satellite [1991, p.151-160, eng] 47-1302
Warburton, J.
Relative rates of glacial and nonglacial erosion in alpine environments [1993, p.1-7, eng] 47-3422
Use of meltwater stream material loads in the estimation of glacial erosion *rates* [1993, p.19-28, eng] 47-4983
Warburton, J.A.
Field performance of a spinning-reflector microwave radiometer [1993, p.420-427, eng] 47-3775
Ward, B.C.
Late Wisconsinan glaciation of the Glenlyon Range, Pelly Mountains, Yukon Territory, Canada [1992, p.2007-2012, eng] 47-4158
Ward, R.G.W.
Avalanche prediction in Scotland: 1. A survey of avalanche activity [1984, p.91-108, eng] 47-5254
Avalanche prediction in Scotland: 2. Development of a predictive model [1984, p.109-133, eng] 47-5255
Wardle, P.
Causes of alpine timberline: a review of the hypotheses [1993, p.89-103, eng] 47-4532
Warner, R.A.
Use of Marine Observation Satellite-1 in applied ocean science [1990, p.231-245, jpn] 47-887
Warren, C.R.
Iceberg calving and the glacioclimatic record [1992, p.253-282, eng] 47-424
Warren, D.
High latitude wind velocities derived from polar orbiting satellite imagery [1988, p.119-121, eng] 47-4197
Structure of sub-synoptic-scale vortices in polar airstreams from AVHRR and TOVS data [1988, p.126-128, eng] 47-4199
Warren, S.G.
Absorption of solar radiation at the antarctic snow surface [1988, p.151-152, eng] 47-4206
Atmospheric longwave radiation spectrum on the antarctic plateau [1992, p.11-12, eng] 47-2366
East antarctic sea ice: albedo, thickness distribution, and snow *cover* [1993, p.12,417-12,429, eng] 47-4519
Green icebergs formed by freezing of organic-rich seawater to the base of antarctic ice shelves [1993, p.6921-6928, eng] 47-4138
Optical properties of snow [1991, p.272-275, eng] 47-3056
Solar-heating rates and temperature profiles in antarctic snow and ice [1993, p.99-110, eng] 47-3944
Warwick, G.
Flying on thin ice [1992, p.38-40, eng] 47-4610
Wasantha Lal, A.M.
Numerical simulation of river ice dynamics [1992, p.25-36, eng] 47-1016
Washington State OKs six anti-corrosion deicers
Washington State OKs six anti-corrosion deicers [1992, p.24-25, eng] 47-2326
Washington, W.M.
Enhanced research program on the long-range climatic effects of increased atmospheric carbon dioxide—a continuation. Summary of research activities for 1990 [1991, Var. p., eng] 47-882
Washuettl, J.
Development of a new de-icing agent [1985, 34p., ger] 47-5009
Effects of thawing salts on biological sewage treatment plants [1983, p.1-19, ger] 47-5000
Watabe, S.
Large-scale production and purification of an *Erwinia ananas* ice nucleation protein and evaluation of its ice nucleation activity [1993, p.603-606, eng] 47-4734
Watanabe, H.
Properties of granulated blast-furnace slag cement concrete [1993, p.1367-1383, eng] 47-3617
Watanabe, M.
Freeze retardants admixed to asphalt pavements [1992, p.161-166, jpn] 47-2517
Static friction of roofing materials against an ice mass [1992, p.231-240, eng] 47-3202
Watanabe, N.
Scavenging effect of snow [1985, p.61-64, jpn] 47-5101
Watanabe, O.
Atmospheric conditions reflected in chemical components in snow over east Queen Maud Land, Antarctica [1992, p.88-98, eng] 47-3009
Estimation of streamflow change by global warming in a glacier-covered *high mountain area of the Nepal Himalaya* [1991, p.181-188, eng] 47-1305
Waters, J.W.
Stratospheric ClO and ozone from the Microwave Limb Sounder on the upper atmosphere research satellite [1993, p.597-602, eng] 47-3444
Waters, R.A.
Experimental study of freezing of binary solutions [1993, p.133-138, eng] 47-2550
Solidification of a binary mixture in a rectangular cavity [1992, p.629-639, eng] 47-4361
Watson, B.
New England's disastrous weather [1990, 228p., eng] 47-2778
Watt, B.J.
Arctic structure of composite wall construction [1987, 14 col., eng] 47-4007
Watts, A.
International law and the Antarctic Treaty System [1992, 469p., eng] 47-1243
Wayne, W.J.
Ages of the Whitewater and Fairhaven tills in southwestern Ohio and southeastern Indiana [1992, p.89-98, eng] 47-2685
Waythomas, C.F.
Quaternary geology and late-Quaternary environments of the *Holitna lowland and Chuilnuk-Kiokluk Mountains region*, interior southwestern Alaska [1991, 305p., eng] 47-290
Weatherly, J.W.
Sea ice and salinity variability in the Arctic using a coupled sea ice-ocean model [1992, p.83-86, eng] 47-2387
Weaver, A.J.
Propagation of coastal-trapped waves under an ice cover in Hudson Bay [1992, p.593-620, eng] 47-2880
Weaver, J.F.
Comments on "Heavy snowfall during an arctic outbreak *along* the Colorado Front Range" [1991, p.19-21, eng] 47-5259
Heavy snowfall during an arctic outbreak along the Colorado Front Range [1990, p.2-19, eng] 47-5257
Weaver, K.A.
New airborne precipitation spectrometer for atmospheric research [1993, p.30-35, eng] 47-3062
Weaver, R.L.
SSM/I and other cryospheric products from the snow and ice DAAC [1991, *p.87-100, eng*] 47-3378
Weaver, R.L.S.
Passive microwave data for snow and ice research: planned products from the DMSP SSM/I system [1988, p.129-132, eng] 47-4200
Webb, J.D.C.
Destructive hailstorms in Essex on 26 May 1985 [1993, p.166-173, eng] 47-4405
Webb, P.N.
Pliocene fossil *Nothofagus* (southern beech) from Antarctica: phytogeography, dispersal strategies, and survival in high *latitude glacial-deglacial environments* [1993, p.135-165, eng] 47-4535
Weber, B.J.
Arctic pipeline risk assessments [1992, p.15-20, eng] 47-1831
Weber, H.W.
Tensile, fracture and thermal properties of polyarylates at room and cryogenic temperatures [1993, p.686-691, eng] 47-4765
Weber, L.J.
Elastic analysis of stresses in ice structure interactions [1993, *p.83-88, eng*] 47-4234
Fatigue crack propagation in freshwater ice. Final report [1993, 42p., *eng*] 47-4898
Preliminary experiments on creep crack growth in freshwater ice [1993, p.273-280, eng] 47-3760
Weber, M.
Late Quaternary sedimentation at the continental *margin of* the southeastern Weddell Sea, Antarctica [1992, 165p., ger] 47-1436
Weber, P.
IPIX radar: a tool for ocean surveillance and meteorological research [1991, p.25-36, eng] 47-3373
Weber, S.
Fencing pays off big for arctic community [1992, p.8-11, eng] 47-3836
Weber, W.S.
Particulate matter in pack ice of the Beaufort Gyre [1993, p.186-198, eng] 47-3951
Webster, C.R.
Chlorine chemistry on polar stratospheric cloud particles in the Arctic winter [1993, p.1130-1134, eng] 47-5133
Weddle, T.K.
Stratigraphy of Late Wisconsinan deposits in the lower Sandy *River valley*, New Sharon and Mercer, Maine, and relations with till stratigraphy in adjacent areas [1991, 422p. (2 vols.), eng] 47-303
Wedel, J.H.
Hydrometric network evaluation: an assessment of user needs [1991, 110p., eng] 47-434
Wedel, R.L.
Hydrometric network evaluation: an assessment of user needs [1991, 110p., eng] 47-434
Weeks, W.F.
C-band SAR backscatter from ice on shallow tundra lakes: *observations and modelling* [1993, p.333-337, *eng*] 47-4435
Fast-ice properties and structure in McMurdo Sound [1991, p.94-95, eng] 47-3516
Influence of crystallographic and structural properties on the flexural strength of small sea ice beams [1993, p.177-188, eng] 47-3752
Introduction [1992, p.1-7, eng] 47-3015
Petrographic and salinity characteristics of brackish water ice in the Bay of Bothnia [19[illegible], 36p., eng] 47-706
Physical properties of sea ice relevant to remote sensing [1992, p.9-28, eng] 47-3016
Status and future directions for sea ice remote sensing [1992, p.443-446, eng] 47-3040
Structural characteristics and development of sea ice in the *western Ross Sea* [1993, p.63-75, eng] 47-2245
Summer pack-ice properties and structure in the western Ross Sea [1991, p.95-97, eng] 47-3517
Wefer, G.
Recent distribution of planktonic foraminifera in the Nansen Basin, Arctic Ocean [1992, p.S507-S524, eng] 47-1276
Wei, W.S.
Avalanches in the Tien Shan mountains, China [1992, p.140, eng] 47-1100
Wei, Y.
Notch acuity effects on the *CTOD and K(Q) of ice* [1990, p.333-342, eng] 47-2310
Wei, Y.C.
Dislocation movement at crack tip of single crystals of ice [1991, p.62-73, eng] 47-2308
Fracture toughness Kq and fractography of S1 type freshwater ice [1989, p.3421-3428, eng] 47-236
Physics of fracture in ice [1992, 80p., eng] 47-269
Wei, Y.Z.
Observation, interpolation and trend study of glacial mass balance on the Qiyi Glacier in Qilian Mountain [1992, p.21-33, chi] 47-1535
Welch, E.J.
Impacts of summer warming on the energy and water balance of wetland tundra [1992, p.305-326, eng] 47-1375
Weldick, A.
Evaluation of hydropower potential for possible future industrial use, Nuuk area, West Greenland [1993, p.59-62, eng] 47-4917
Glacier inventory and atlas of West Greenland [1992, 194p., eng] 47-3519
Greenland glaciers and the "greenhouse effect," status 1991 [1992, p.9-13, eng] 47-1631
Jakobshavn Isbrae area during the climatic optimum [1992, p.67-72, eng] 47-1640
Neoglacial change of ice cover and the related response of the *Earth's crust in West Greenland* [1993, p.121-126, eng] 47-4921
Weidner, G.A.
Climatic differences in Antarctica from automatic weather stations [1992, p.111-114, eng] 47-2395
Meteorological surveys in support of ice airfields in Antarctica [1992, p.42-43, eng] 47-2375
Southern Oscillation signal in Antarctica [1988, p.141-144, eng] 47-4203
Weigand, B.
Ice-formation phenomena for water flow inside a cooled parallel plate channel: an experimental and theoretical investigation of wavy ice layers [1993, p.685-693, eng] 47-2654
Numerical and experimental study of wavy ice structure in a parallel plate channel [1992, p.233-235, eng] 47-2188

Perturbation analysis of transient freezing of a laminar liquid flow in a cooled two-dimensional channel [1993, p.294-301, eng] 47-3838

Weil, J.C.
Relative dispersion of ice crystals in seeded cumuli [1993, p.1055-1073, eng] 47-4080

Weingartner, T.J.
Circulation and hydrography in the northwestern Gulf of Alaska [1992, p.1499-1519, eng] 47-3817

Weinstein, L.M.
Ice detector [1988, 8 col., eng] 47-3503

Weir, K.R.
Geochemistry of Haines-Klukwan-Porcupine area, southeastern Alaska [1991, 75p. + 2 sheets, eng] 47-1488

Weir, L.
Ice Branch operational use of ice beacons on sea ice [1991, p.53-59, eng] 47-3398

Weiser, K.
Three-dimensional simulation of powder avalanches [1992, p.119-133, eng] 47-3193

Weissenberger, J.
Environmental conditions in the brine channels of antarctic sea ice [1992, 159p., ger] 47-1598

Weltman, N.
Laboratory studies of snow drifts on multilevel roofs [1992, p.195-206, eng] 47-3199

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Methanesulfonic acid in coastal antarctic snow related to sea-ice extent [1993, p.443-446, eng] 47-3728

Welch, W.
Multivariate sensitivities of a dynamic-thermodynamic sea ice model [1992, p.87-90, eng] 47-2388

Well, G.J.
Seasonal variability of hydraulic conductivity [1993, p.451-457, eng] 47-5146

Weller, G.
Antarctica and the detection of environmental change [1992, p.201-208, eng] 47-3139

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Comparison: Palaeoenvironmental change record of Chinese loess and antarctic ice cores over the last 150,000 years [1991, p.15-23, eng] 47-37

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GCM feedback sensitivity to interactive cloud water budget parameterization [1993, p.176-181, eng] 47-3044

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Climatology of the East Antarctic ice sheet (100E to 140E) derived from automatic weather stations [1993, p.8815-8823, eng] 47-4380
Measuring blowing snow in Adélie Land, eastern Antarctica [1988, p.93-96, eng] 47-4191
On the interaction between the katabatic wind regime and large-scale tropospheric forcing near Adelie Land, Antarctica [1992, p.J141-J144, eng] 47-2421

Wensnahan, M.R.
Observations and theoretical studies of microwave emission from thin saline ice [1993, p.8531-8545, eng] 47-3983
Passive microwave remote sensing of thin sea ice using principal component analysis [1993, p.12,453-12,468, eng] 47-4522
Passive microwave signatures of simulated pancake ice and young pressure ridges [1992, p.1253-1255, eng] 47-673

Went, E.
Start of a glacial [1992, 353p., eng] 47-2831

Wergeland, T.
Northern Sea Route—rosy prospects for commercial shipping? [1992, p.43-57, eng] 47-4213

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Numerical simulation of self-organized stone stripes [1993, p.142-145, eng] 47-1596

Werner, C.
Multiple-scattering lidar experiments [1992, p.1731-1745, eng] 47-3160

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Expanding SCS's remote sensing program [1992, p.28-35, eng] 47-491

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Comments on "Heavy snowfall during an arctic outbreak along the Colorado Front Range" [1991, p.19-21, eng] 47-5259
Heavy snowfall during an arctic outbreak along the Colorado Front Range [1990, p.2-19, eng] 47-5257

Wessa, T.
Device for comminuting small ice bodies [1988, 4 col., eng] 47-3638

Wessman, C.A.
Long-term studies of snow-vegetation interactions [1993, p.287-301, eng] 47-4024

West, D.C.
Predicting afforestation success during climatic warming at the northern limit of forests [1993, p.167-188, eng] 47-4536

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Dense medium radiative transfer theory for two scattering layers with a Rayleigh distribution of particle sizes [1993, p.426-437, eng] 47-5268
Extinction behavior of snow between 18 GHz and 90 GHz: comparison between theory and experiments [1992, p.809-811, eng] 47-656

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Microwave sea ice signature modeling: connecting models to the real world [1992, p.1268-1270, eng] 47-678

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Analysis of the content of the PolarPac database using the WLN collection analysis service [1992, p.41-55, eng] 47-1395

Westerdahl, H.
Geo-Radar in tunneling—the tunnel radar [1992, p.41-45, eng] 47-631

Westerlund, S.
Rare earth elements in the Arctic Ocean [1992, p.1613-1626, eng] 47-3537

Western Snow Conference
Proceedings of the 60th annual meeting, Jackson, WY, Apr. 14-16, 1992 [1992, 153p. + appends., eng] 47-487

Westgaard, D.A.
Composition and properties of glacigenic sediments in the southwestern Barents Sea [1991, p.229-255, eng] 47-3175

Westh, P.
Ice-nucleating activity in the freeze-tolerant tardigrade *Adorybiotus coronifer* [1991, p.401-404, eng] 47-2107

Westman, S.E.
Adjustments for backwater effects due to ice cover— the SMHI method [1988, p.53-66, eng] 47-719

Wetlands sewage treatment tested in the north
Wetlands sewage treatment tested in the north [1991, p.9-10, eng] 47-221

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Isotopic peculiarities of meteoric water in polar regions [1990, p.52-56, eng] 47-874

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Acclimation of photosynthesis and dark respiration of a submersed angiosperm beneath ice in a temperate lake [1993, p.985-991, eng] 47-4169

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Kinematic model of river ice motion during dynamic breakup [1993, p.111-134, eng] 47-4907

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Access pipes for sampling through thick ice [1992, p.267-269, eng] 47-1607
Interannual variations in tundra methane emission: a 4-year time series at fixed sites [1992, p.139-159, eng] 47-1053

Whales save USCG icebreaker
Whales save USCG icebreaker [1989, p.40-41, eng] 47-105

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Formation of glacial flutes: assessment of models with evidence from Lyngsdalen, North Norway [1992, p.709-731, eng] 47-3441
Rock glaciers II: models and mechanisms [1992, p.127-186, eng] 47-423

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Computational modeling of antarctic lake ice [1992, p.105-116, eng] 47-1022
Environmental regulators of microbial activity in continental antarctic lakes [1993, p.165-195, eng] 47-4400
Environmental regulators of microbial activity in continental antarctic lakes [1993, p.491-541, eng] 47-4598
Global change implications for antarctic lakes [1993, p.276-279, eng] 47-3047
Perennial ice covers and their influence on antarctic lake ecosystems [1993, p.53-70, eng] 47-4396
Stable isotopic biogeochemistry of carbon and nitrogen in a perennially ice-covered antarctic lake [1993, p.159-172, eng] 47-4906
Terrigenous clastic sedimentation in antarctic dry valley lakes [1993, p.71-81, eng] 47-4397

What makes a quality material spreader
What makes a quality material spreader [1992, p.19, eng] 47-2323

Wheeler, D.
Winter storm mapping: a Geographic Information Systems Transportation application [1992, p.60-71, eng] 47-4359

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On the mathematical description of glaciated valley cross sections [1992, p.477-485, eng] 47-1052

Whillans, I.M.
Determination of a flow center on an ice cap [1992, p.412-416, eng] 47-1392
Location of mechanical controls on Columbia Glacier, Alaska, U.S.A., prior to its rapid retreat [1993, p.99-105, eng] 47-4742

White, J.C.
Examination of the binding energy of small to medium sized systems using ab initio and semi-empirical calculations [1992, 159p., eng] 47-268

White, K.D.
Determining the intrinsic permeability of frazil ice. Part 2: field investigations [1992, 15p., eng] 47-695
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Ice jam flood mitigation: Salmon River, Idaho [1992, p.250-253, eng] 47-624
Salmon River experimental ice boom: 1989-90 and 1990-91 winter seasons [1992, 17p., eng] 47-702

White, R.W.
Galloping instability of ice coated poles [1992, p.675-686, eng] 47-1193

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Microstructural genesis of a frost susceptible soil adjacent to a buried chilled pipeline [1993, p.73-91, eng] 47-4274

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Does detailed areal distribution of snow cover improve the utility of a hydrological model for watershed management [1992, p.181-192, eng] 47-4047

Whiting, D.
Model for deicer scaling resistance of field concretes containing high-range water reducers [1989, p.343-359, eng] 47-64

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Biosphere/atmosphere CO2 exchange in tundra ecosystems: *community characteristics and relationships with multi-*spectral surface reflectance [1992, p.16,671-16,680, eng] 47-1461
Plant-dependent *CH4 emission in a subarctic Canadian fen* [1992, p.225-231, eng] 47-1378

Whiting, L.R.
Analysis of gravity measurements on the Ross Ice Shelf, Antarctica [1992, p.105-155 + 1 microfiche, eng] 47-2874

Whiting, P.T.
High-resolution land/ice imaging using Seasat scatterometer measurements [1992, p.440-442, eng] 47-648

Whitlock, C.
Remediation of diesel contaminated site in a cold climate [1993, p.977-984, eng] 47-4479

Whitlow, S.I.
Methanesulfonic acid in coastal antarctic snow related to sea-ice extent [1993, p.443-446, eng] 47-3728

Whitney, C.M.
Ice and fog: detection and warning systems (Nov 83-present) [1992, n.p., eng] 47-1495

Whittaker, H.
AMOP—the Arctic and Marine Oilspill Program [1992, 9p., eng] 47-2330

Whittecar, G.R.
Boulder streams, debris fans, and Pleistocene climate change in the Blue Ridge Mountains of central Virginia [1992, p.487-494, eng] 47-2704

Whittet, D.C.B.
Ice threshold in molecular clouds: a diagnostic of the infrared radiation field [1992, p.599-601, eng] 47-1787

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Iceberg scouring in Scoresby Sund and on the East Greenland continental shelf [1993, p.37-53, eng] 47-4297

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Novel processes of dislocation multiplication observed in ice [1993, p.205-210, eng] 47-3777

Whung, P.Y.
Study of methanesulfonic acid in ice cores [1991, 173p., eng] 47-46

Wianecki, J.
Excess loads on flat roofs of buildings with and without parapets under the action of wind and snow [1992, p.215-228, eng] 47-3201

Wicke, M.
Test methods for the renovation of road coverings [1985, 48p., ger] 47-4987

Widdel, H.U.
Saturated gravity wave spectrum in the polar summer lower thermosphere observed by foil chaff during campaign "Sodium 88" [1992, p.1781-1789, eng] 47-1474

Wieden, P.
Clearing and spreading tests with minimal salt scattering as observed during abrasion of worn sections [1983, p.21-78, ger] 47-5001

Wiemer, K.
Feasibility and limits of cold preconditioning prior to depositing [1992, p.280.283-284, ger] 47-1280

Wight, J.R.
Effects of climate changes on water supplies [1992, p.185-194, eng] 47-2727

Wigley, T.M.L.
Decadal timescale links between Antarctic Peninsula ice-core oxygen-18, deuterium and temperature [1993, p.14-26, eng] 47-4143

Wigmore, J.K.
Low-temperature physics: an introduction for scientists and engineers [1992, 296p., eng] 47-4858

Wijeweera, H.
Creep behavior of fine-grained frozen soils: discussion and reply [1993, p.385-389, eng] 47-4515
Temperature-independent relationships for frozen soils [1992, p.1-21, eng] 47-516

Wilcox, B.P.
Chaotic characteristics of snowmelt runoff: a preliminary stud; [1990, p.125-134, eng] 47-5217

Wilen, L.
Energy density of water and ice nucleation. [Comment] [1993, p.1469, eng] 47-2318

Wiles, G.C.
Neoglacial fluctuations and sedimentation of an iceberg-calving glacier resolved with tree rings (Kenai Fjords National Park, Alaska [1993, p.35-42, eng] 47-4750
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Fluvial facies architecture in the Tertiary Usibelli Group of Suntrana, central Alaska [1992, p.204-211, eng] 47-617
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On the development of small icebreaker [1992, p.138-144, eng] 47-131
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Simple method for specifying snowpack water equivalent in the northeastern United States [1993, p.965-974, eng] 47-3565
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Williams, A.N.
Approximation of interference effects in dynamic ice-structure interactions [1992, p.299-309, eng] 47-1799
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Perspective: Snow control [1992, p.477-478, eng] 47-3226
Williams, C.J.
Snow load prediction in the Andes Mountains and downtown Toronto [1992, p.135-145, eng] 47-3194
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Ice threshold in molecular clouds: a diagnostic of the infrared radiation field [1992, p.599-601, eng] 47-1787
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Full-scale ice breaker trials: *CCGS Sir John Franklin, Indian Arm/Little Burnt Bay 1991* [1991, 13p.+ appends., eng] 47-1362
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Analysis of potable water-supply options for Gambell, Alaska [1992, 39p., eng] 47-4768
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Three point loading of freshwater ice beams [1990, 44p., eng] 47-1353
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Experimental examination of growing and newly submerged sea ice including acoustic probing of the skeletal layer [1992, p.2075-2092, eng] 47-1125
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Radiocarbon date list VII: Baffin Island, N.W.T., Canada [1992, 82p., eng] 47-1433
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Heterogeneous reactions on sulfuric acid surfaces [1993, p.122-126, eng] 47-3101
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Hydrologic flowpaths of snowpack runoff in a high-elevation catchment [1992, p.103-112, eng] 47-499
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Williams, N.E.
Sedimentary and biological record of the last interglacial-glacial transition at Toronto, Canada [1992, p.119-137, eng] 47-2688
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Depth of frost penetration [1993, p.807-814, eng] 47-5253
France-Canada joint study of deformation of an experimental pipe line by differential frost heave [1993, p.56-60, eng] 47-4301
France-Canada joint study of deformation of an experimental pipeline by differential frost heave [1992, p.40-45, eng] 47-1834
Gas pipelines and the challenge of the cold regions: an experimental study [1993, p.5-18, eng] 47-4268
Proceedings [1993, 170p., eng] 47-4267
Williams, R.J.
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Glacier recession in Iceland and Austria [1992, p.10-13, eng] 47-178
Monitoring the dynamics of the antarctic coastline with Landsat images [1991, p.316-317, eng] 47-4676
Rockslides on the terminus of "Jökulsárgilsjökull," southern Iceland [1991, p.129-140, eng] 47-4336
Satellite image atlas of glaciers of the world. Glaciers of the Middle East and Africa [1991, 70p., eng] 47-3822
Williams, S.A.
Problems of design for operation and transportation in subarctic offshore environments [1993, p.311-322, eng] 47-4472
Williams, T.E.
Arctic production terminal facility [1988, 4 col., eng] 47-3415
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Simulation of the arctic climatology with the NCAR CCM-2 [1992, p.133-136, eng] 47-2400
Willmott, A.J.
Simple coupled steady-state arctic ice-ocean model [1988, p.87-88, eng] 47-4189
Wilson, D.W.
Fluid line deicer [1989, 6 col., eng] 47-3112
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Motorist information needs and changeable sign messages for adverse winter travel [1992, 100p., eng] 47-3524
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Application of image cross-correlation to the measurement of glacier velocity using satellite image data [1992, p.177-186, eng] 47-2555
In situ observations of aerosol and chlorine monoxide after the 1991 eruption of Mount Pinatubo: Effects of reactions on sulfate aerosol [1993, p.1140-1143, eng] 47-5136
Measurements of high number densities of ice crystals in the tops of tropical cumulonimbus [1993, p.8639-8664, eng] 47-4379
Wilson, L.D.
Satellite retrieval of lower-tropospheric ice crystal clouds in the polar regions [1993, p.1467-1472, eng] 47-5214
Wilson, M.A.
Snow wetness project. Final report [1984, 10p. + appends., eng] 47-4904
Wilson, P.
Small-scale patterned ground, Comeragh Mountains, southeast Ireland [1992, p.63-70, eng] 47-3128
Wilson, P.W.
Antifreeze glycopeptide adsorption on single crystal ice surfaces using ellipsometry [1993, p.1878-1884, eng] 47-5059
Wilson, S.C.
Soil-forming rates and processes in cold desert soils of Antarctica [1992, p.42-56, eng] 47-1703
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Plant competition over winter in alpine shrubland and grassland, Snowy Mountains, Australia [1993, p.124-129, eng] 47-4745
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Date of snow disappearance on the arctic tundra as determined from satellite, meteorological station and radiometric *in situ* observations [1992, p.793-798, eng] 47-358
Water soluble organic constituents in arctic aerosols and snow pack [1993, p.45-48, eng] 47-2845
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Episodic fluxes of methane from subarctic fens [1992, p.441-452, eng] 47-3717
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Dense medium radiative transfer theory for two scattering layers with a Rayleigh distribution of particle sizes [1993, p.426-437, eng] 47-5268
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Remediation of diesel contaminated site in a cold climate [1993, p.977-984, eng] 47-4479
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Experience with the performance of load-controlled cone penetration tests in permafrost and ice [1992, p.1-8, eng] 47-2677
Winter equipment maintenance: tips you need to know
Winter equipment maintenance: tips you need to know [1993, p.18,20,21, eng] 47-3908
Winter, T.C.
Role of permafrost and seasonal frost in the hydrology of northern wetlands in North America [1993, p.5-31, eng] 47-2634
Winters, G.V.
Suspended sediment character and distribution in McBeth Fiord, Baffin Island [1992, p.25-35, eng] 47-3351
Winters, W.J.
Liquefaction potential of sediment in the northern Bering Sea [1985, p.454-472, eng] 47-1615
Winther, J.G.
Landsat Thematic Mapper (TM) derived reflectance from a mountainous watershed during the snow melt season [1992, p.632-642, eng] 47-1979
Landsat Thematic Mapper (TM) derived reflectance from a mountainous watershed during the snow melt season [1992, p.273-290, eng] 47-2829
Polar hydrology: Norwegian hydrological research activities in Svalbard [1992, p.693-702, nor] 47-1981
Wirth, V.
Model for quasi-stationary planetary waves in the total ozone [1992, p.192-193, ger] 47-212
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Lower Oligocene ice-rafted debris on the Kerguelen Plateau: evidence for east antarctic continental glaciation [1992, p.161-178, eng] 47-2459
Wisniewski, M.E.
Cold acclimation in genetically related (sibling) deciduous and evergreen peach *(Prunus persica* (L.) Batsch). I. Seasonal changes in cold hardiness and polypeptides of bark and xylem tissues [1992, p.1562-1568, eng] 47-231
Witness the Arctic
Witness the Arctic [1993, 15p. + insert, eng] 47-3521
WMO Operational Ice Remote Sensing Workshop, 2nd, Ottawa, Sep. 10-13, 1991
Abstracts and papers [1991, 2 vols., eng] 47-3369
Wolsy, S.C.
Atmospheric chemistry in the Arctic and subarctic: influence of natural fires, industrial emissions, and stratospheric inputs [1992, p.16,731-16,746, eng] 47-1467
Measurements of NOx and NOy concentrations and fluxes over arctic tundra [1992, p.16,545-16,557, eng] 47-1454
Vapor pressures of solid hydrates of nitric acid: implications for polar stratospheric clouds [1993, p.71-74, eng] 47-1339
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Sea ice edge forecast verification program for the Bering Sea [1991, p.6-12, eng] 47-5260
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Freezing resistance in antarctic and arctic fishes [1993, 99p., ger] 47-3259
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Reactions of a calving glacier to large changes in water level [1992, p.158-162, eng] 47-1104
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Lomen water power plant—channel formation over a lake discharge outlet [1988, 98p., nor] 47-2246
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Wolf, R.A.
Front Range/Palmer Divide blizzard of 7 Jan 1992 [1992, 6p., eng] 47-2132
Observing and forecasting a mesoscale snow event using MAPS [1992, 11p., eng] 47-2133
Wolfe, D.E.
Remote sensing of the arctic boundary layer [1992, p.J33-J36, eng] 47-2411
Surface energy measurements on the arctic ice pack [1992, p.72-75, eng] 47-2384
Turbulence structure of the atmospheric surface layer over arctic ice and near a lead [1992, p.J37-J40, eng] 47-2412
Wolff, E.
Freeze-drying under vacuum and in an adsorbing fluidized bed: influence of operating pressure on drying kinetics [1991, p.237-246, eng] 47-2303
Influence of local and global atmospheric pollution on the chemistry of antarctic snow and ice [1992, p.274-280, eng] 47-4507
Wolff, E.W.
Evidence for winter/spring denitrification of the stratosphere in the nitrate record of antarctic firn cores [1993, p.5213-5220, eng] 47-3785
Seasonal input of heavy metals to antarctic snow [1992, p.351-357, eng] 47-835
Wollenburg, I.
Origin of sediment pellets from the arctic seafloor: sea ice or icebergs? [1992, p.S539-S565, eng] 47-1278
Wolsiefer, J., Sr.
Wet-mix silica fume shotcrete: effect of silica fume form [1993, p.1251-1271, eng] 47-3614
Wong, G.S.K.
Speed of sound in pure water as a function of temperature [1993, p.1609-1612, eng] 47-3433
Wong, J.Y.
Computer-aided methods for the optimization of the mobility of single-unit and two-unit articulated tracked vehicles [1992, p.395-421, eng] 47-784
Expansion of the terrain input base for Nepean Tracked Vehicle Performance Model, NTVPM, to accept Swiss Rammsonde data from deep snow [1992, p.341-357, eng] 47-408
Woo, M.K.
Arctic environment: past, present and future [1992, 164p., eng] 47-1421
Arctic streamflow [1992, p.105-111, eng] 47-1430
Hydrology of a prairie slough [1993, p.175-207, eng] 47-4170

Reconstruction of mass balance variations for Franz Josef Glacier, New Zealand, 1913-1989 [1992, p.281-290, eng] 47-1585
Response of the Canadian permafrost environment to climatic change [1992, p.287-317, eng] 47-2018
Role of permafrost and seasonal frost in the hydrology of northern wetlands in North America [1993, p.5-31, eng] 47-2634

Wood, E.F.
Hydrologic forecasting [1993, p.26/1-26/30, eng] 47-4638

Wood, J.E.
Alaska's mineral industry, 1991 [1992, 89p., eng] 47-1485
Preliminary results of heavy minerals concentrate analysis from selected interior and western Alaska placer mines [1992, 7p., eng] 47-4771

Wood, N.L.H.
Coastal influence on winter road surface temperatures in the County of Devon, United Kingdom [1992, 24p., eng] 47-968

Wood, R.
Hail: the white plague [1993, p.16-21, eng] 47-3924

Wood, S.E.
Thermal stability of water ice at the poles of Mercury [1992, p.643-646, eng] 47-738

Woodwell, G.M.
Warming the North: what happens? [1993, p.1-8, eng] 47-5223

Wookey, C.W.
Stratigraphy, density and crystal structure of firn-ice at DE08 —a very high accumulation site on Law Dome, Antarctica [1991, p.1-14, eng] 47-36

Wooldridge, G.L.
Advective contributions to boundary layer moisture profiles in mountainous terrain [1991, p.123-126, eng] 47-1490
Performance of a simple degree-day estimate of snow accumulation to an alpine watershed [1991, p.221-228, eng] 47-1309

Wooldridge, M.E.
Case study of a mesoscale snow event in New York's Capital District [1992, 13p., eng] 47-2140

Woolley, R.
"Tea kettle" effect snow [1992, p.101-106, eng] 47-4038

Wooters, K.
Field investigation of bioremediation of tundra with residual hydrocarbons [1993, p.331-337, eng] 47-4474

Worcester, P.
Ice edge noise observations from the 1988-89 Greenland Sea tomography experiment [1992, p.611-619, eng] 47-4719

World Glacier Monitoring Service
Fluctuations of glaciers 1985-1990. Volume VI [1993, 319p. + maps, eng] 47-3910
Glacier mass balance bulletin. Bulletin No.2 (1990-1991) [1993, 73p., eng] 47-3712

Worsfold, R.D.
Surface and airborne infrared detection of sea ice hazards [1981, 119p., eng] 47-1315

Worsnop, D.R.
Vapor pressures of solid hydrates of nitric acid: implications for polar stratospheric clouds [1993, p.71-74, eng] 47-1339

Wortley, C.A.
Designing for ice conditions in marinas [1992, p.48-50, eng] 47-1921

Wos, K.A.
Climatology of polar low occurrences in the Nordic Seas and an examination of katabatic winds as a triggering mechanism [1992, 139p., eng] 47-4622

Woyshner, M.R.
Hydrologic analysis and prediction in a soil cover [1993, p.289-296, eng] 47-4469

Wray, W.J., Jr.
Clive's recipe for successful snow and ice control [1993, p.17, eng] 47-3907

Wright, E.
Proceedings [1992, 485p., eng] 47-3182

Wright, H.E., Jr.
Glacial and climatic history of the central Peruvian Andes [1989, p.439-445, eng] 47-5256

Wright, J.R.
Application of routing technologies to rural snow and ice control [1991, p.202-211, eng] 47-1804
Integrating GIS and CAD for transportation data base development [1991, p.212-218, eng] 47-1805

Wright, M.D.
Pleistocene deposits of the South Wales coalfield and their engineering significance [1991, p.441-448, eng] 47-3895

Wrobel, P.J.
Industrial applications of freeze concentration technology. Final report [1987, Var. p., eng] 47-1622

Wu, A.B.
Preliminary research of sedimentary fabric of modern till in Qilian Mountains [1985, p.73-81, chi] 47-1521

Wu, D.W.
Structure-function relationships of insect antifreeze proteins [1991, 187p., eng] 47-286

Wu, G.H.
Features of physical geography and glacial resources in Qilian Mountains [1985, p.1-8, chi] 47-1513
Ice formation of glaciers in Qilian Mountains [1985, p.27-40, chi] 47-1517
Mass balance of glaciers in Qilian Mountains [1985, p.41-53, chi] 47-1518
On problems of Quaternary Ice Age in Qilian Mountains [1985, p.116-123, chi] 47-1526
Recent advance and retreat of glaciers in Qilian Mountains [1985, p.82-90, chi] 47-1522

Wu, H.
Black carbon concentration in a Greenland Dye-3 ice core [1992, p.1951-1953, eng] 47-1181
Black carbon concentration in Byrd Station ice core: from 13,000 to 700 years before present [1992, p.625-629, eng] 47-2005

Wu, H.X.
Ice edge noise observations from the 1988-89 Greenland Sea tomography experiment [1992, p.611-619, eng] 47-4719

Wu, M.S.
Prediction of ice failure by micromechanics [1993, p.35-47, eng] 47-3740

Wu, Q.B.
Effect of tunnel wall rock refreeze on lining stability [1992, p.218-225, chi] 47-1661

Wu, S.C.
Fiber optic probe system [1989, 20 col., eng] 47-3108

Wu, X.
Identification of sea ice using NOAA satellite data [1991, p.81-86, eng] 47-3400

Wu, X.D.
Dendroclimatic studies in China [1992, p.432-445, eng] 47-2095

Wu, Y.F.
Saturated gravity wave spectrum in the polar summer lower thermosphere observed by foil chaff during campaign "Sodium 88" [1992, p.1781-1789, eng] 47-1474

Wu, Z.
Creep and creep damage of polycrystalline ice under multiaxial variable loading [1993, p.1-10, eng] 47-4224
Determination of creep damage parameters for polycrystalline ice [1992, p.181-192, eng] 47-1028
Primary creep of ice plate under constant loading [1993, p.97-104, eng] 47-4236

Wu, Z.W.
Effect of tunnel wall rock refreeze on lining stability [1992, p.218-225, chi] 47-1661

Wuebben, J.L.
Ice impacts on flow along the Missouri River [1992, 10p., eng] 47-1237
Ice jam flood frequency analysis techniques [1991, p.353-356, eng] 47-1239

Wulff, A.
Effects of deicing salt on visible symptoms, element concentrations and membrane damage in first-year needles of roadside Scots pine (Pinus sylvestris) [1992, p.179-185, eng] 47-3995

Wyatt, P.H.
Hudson Bay lowland Quaternary stratigraphy: evidence for early Wisconsinan glaciation centered in Quebec [1992, p.207-221, eng] 47-2693

Xanthakis, J.
Stratospheric ozone variations in the Northern and Southern Hemisphere during the period 1957-1990 [1993, p.109-125, eng] 47-3713

Xia, W.P.
Early diagenesis and biogeochemistry of iodine in west antarctic ocean [1992, p.115-123, chi] 47-219

Xia, Y.J.
Study of superconductive transition temperatures for thermometric fixed points [1992, p.239-242, eng] 47-2967

Xiao, J.
Flow properties of crushed ice [1993, p.11-19, eng] 47-4225
Fracture and damage of ice: towards practical implementation [1993, p.251-260, eng] 47-3758

Xie, Y.B.
Acoustic radiation beneath the arctic ice cover [1993, p.641-647, eng] 47-4842

Xie, Y.G.
Freeze-up and break-up of ice cover on the Shengli Reservoir, Heilongjiang Province [1992, p.168-173, chi] 47-1654

Xie, Y.Q.
Experimental investigations on the artificial augmentation of the ice and snow melting of glaciers in Qilian Mountains [1985, p.150-162, chi] 47-1530

Xie, Z.C.
Analysis of the relationship between lakes' melting regimes and stream runoff [1991, p.245-250, eng] 47-1312
Ice formation of glaciers in Qilian Mountains [1985, p.27-40, chi] 47-1517
Mass balance of glaciers in Qilian Mountains [1985, p.41-53, chi] 47-1518
Observation, interpolation and trend study of glacial mass balance on the Qiyi Glacier in Qilian Mountain [1992, p.21-33, chi] 47-1535
Progress and prospect for research on mountain glaciers in China [1992, p.207-211, eng] 47-1113
Recent advance and retreat of glaciers in Qilian Mountains [1985, p.82-90, chi] 47-1522

Xiong, H.G.
Characteristics of the active layers on Fildes Peninsula of King George Island, Antarctica [1991, p.24-37, eng] 47-38

Xiong, K.
Antarctic total ozone change correlated to the stratosphere wind and temperature during the polar night [1992, p.45-50, chi] 47-1256
Characteristics of radiation over Mizuho Station in Antarctica [1993, p.39-45, chi] 47-4647

Xu, D.M.
Quaternary glaciation of the north slope of Karakorum Mountains [1991, p.233-242, eng] 47-1609

Xu, H.Y.
Three-dimensional numerical simulation of ice phase microphysics in cumulus clouds—part 2: effects of multiplication processes [1991, p.459-470, eng] 47-426

Xu, L.
Hormonal control of hemolymph lipoprotein ice nucleators and antifreeze proteins in freeze-resistant insects [1990, 106p., eng] 47-314

Xu, X.
Field testing of a model for water flow and heat transport in variably saturated, variably frozen soil [1991, p.300-308, eng] 47-1128

Yagi, K.
Application of chemicals for snowy and icy road surfaces in Hokkaido [1991, p.131-136, jpn] 47-2540
Traffic in mountainous areas of snowy and cold regions [1991, p.39-44, jpn] 47-2532

Yamada, M.
Freezing characteristics along a horizontal cooled tube immersed in aqueous binary solution with main flow [1993, p.54-62, eng] 47-3792
Freezing characteristics of aqueous solution on a horizontal downward facing cooled plate [1991, p.285-290, eng] 47-2558
Melting heat transfer along a horizontal heated tube immersed in a fluidized liquid ice bed [1993, p.353-359, eng] 47-4064
Production and heat transfer characteristics of liquid ice as new PCM [1992, p.347-364, eng] 47-2298
Recent advances in research on freezing and melting heat-transfer phenomena [1991, p.1157-1170, eng] 47-5109
Recent advances in research on water-freezing and ice-melting problems [1993, p.90-105, eng] 47-3287

Yamada, S.
Development and improvement of snow removal equipment at the Hokkaido Development Bureau [1985, p.93-97, jpn] 47-5160

Yamada, Y.
Ice crystal formation in cirrus cloud [1992, p.283-286, eng] 47-2268
Shock absorption for the KBR-80 compact snowplow [1980, p.23-30, jpn] 47-4929
Simulation on depth of newly fallen snow based on AMeDAS data [1992, p.169-178, eng] 47-3197

Yamagami, M.
Tests on rotary snow removal machinery [1988, p.82-119, jpn] 47-4962

Yamagata Prefecture Civil Engineering Department
Non-sprinkler snow melting by water pipe heating [1985, p.40-44, jpn] 47-5166
Snow removal in Yamagata Prefecture [1985, p.33-41, jpn] 47-5097

Yamagata, T.
Sensitivity experiment of ocean general circulation model—responses for wind stress (first report) [1991, p.39-68, jpn] 47-3292

Yamaguchi, D.K.
Relationship of temperature and light ring formation at subarctic treeline and implications for climate reconstruction [1993, p.256-262, eng] 47-5123

Yamaguchi, H.
Numerical simulation of pack ice movement using the momentum conservation method [1992, 7p., eng] 47-2117

Yamakoshi, H.
Algorithm for remote sensing of vertical salt density distributions in the sea ice [1992, p.277-280, eng] 47-149

Yamamoto, H.
Development of technology for continuous transport of snow [1986, p.59-63, jpn] 47-5181

Yamamoto, Y.
Field survey of freezing in ports [1992, p.81-85, jpn] 47-120
Wave height observations in the Okhotsk Sea in winter [1992, p.331-336, jpn] 47-2503

Yamanaka, K.
Control of sea ice by the air bubble method—effect of installing air bubbling pipes and setting out seawalls [1991, p.277-282, jpn] 47-2500

Yamanaka, Y.
New standards for studded tires [1985, p.87-89, jpn] 47-5175

Yamanouchi, T.
Interannual fluctuations of sea ice extent in the Antarctic and associated atmospheric conditions [1992, p.132-142, eng] 47-3013
Meteorological data at Asuka Station, Antarctica in 1990 [1992, 110p., eng] 47-43
Meteorological data at Asuka Station, Antarctica in 1991 [1993, 101p., eng] 47-3905
Microwave signature of polar firn and sea ice in the Antarctic from airborne observation [1992, p.16-35, eng] 47-3002
MOS-1 multi-sensor data set and sea ice study [1991, p.277-287, eng] 47-3391
Preliminary report on the observation of polar atmosphere and cryosphere by MOS-1 data received at Syowa Station [1990, p.175-188, jpn] 47-884

Yamashita, H.
Experimental study of melting of ice about horizontal cylinders [1991, p.269-274, eng] 47-2557

Yamauchi, Y.
Friction coefficient between model ice and roughened model surface [1992, p.131-137, jpn] 47-130

Yamazaki, H.
Snow drainage ditch project using sea water—surface maintenance for the snow drainage ditch in Iwanai [1992, p.23-28, jpn] 47-2490

Yamazaki, K.
Moisture budget in the antarctic atmosphere [1992, p.36-45, eng] 47-3003

Yamazaki, T.
Snowmelt and heat balance in snow-covered forested areas [1992, p.1322-1327, eng] 47-1122

Yan, S.
Ice motion retrieval from SAR imagery in terms of intensity derivative [1992, p.585-587, eng] 47-654

Yanagisawa, Y.
Determining the operational visibility of snowplows (part 2) [1980, p.31-36, jpn] 47-4930
Performance tests on a 400 PS-class rotary snowplow with an automatic control device [1985, p.21-26, jpn] 47-4949
Tests on developing a one-touch (oil pressure-type) mechanism for changing the edge of a snow removal grader [1982, p.47-50, jpn] 47-4939
Tests on improving the efficiency of rotary snowplows [1981, p.27-34, jpn] 47-4935
Tests on snow removal machinery [1983, p.49-66, jpn] 47-4945
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Yanagisawa, Z.
Doppler radar analysis of the structure of mesoscale snow bands developed between the winter monsoon and the land breeze [1989, p.503-520, eng] 47-3466

Yanful, E.K.
Chemical interaction and cyclic freeze-thaw effects on the integrity of the soil cover for Waite Amulet tailings [1993, p.259-272, eng] 47-4468
Hydrologic analysis and prediction in a soil cover [1993, p.289-296, eng] 47-4469

Yang, D.Q.
Characteristics of precipitation in the source area of the Urumqi River Basin [1992, p.258-266, chi] 47-1666
Characteristics of seasonal snow cover in Urumqi River Basin [1992, p.129-133, chi] 47-1649
Factors delaying spring runoff in the upper Ürümqi River basin, China [1992, p.225-230, eng] 47-1117
Physical properties of snow cover and estimation of snowmelt runoff in a small watershed in high alpine Tianshan [1991, p.169-177, eng] 47-1304
Results of snow surface sublimation measurements in the mountain area of Urumqi River Basin [1992, p.122-128, chi] 47-1648
Sources and spatial variation of the chemical composition of snow in the Tien Shan, China [1992, p.25-32, eng] 47-1082

Yang, D.S.C.
Protein interaction with ice [1992, p.33-42, eng] 47-1786

Yang, H.A.
Observation, interpolation and trend study of glacial mass balance on the Qiyi Glacier in Qilian Mountain [1992, p.21-33, chi] 47-1535

Yang, H.I.
Characteristics of the distribution of glaciers in China [1992, p.17-20, eng] 47-1080

Yang, J.Y.
Sea-ice interaction with the thermohaline circulation [1993, p.217-220, eng] 47-2859
Self-sustained interdecadal oscillation in the coupled sea ice-thermohaline circulation system [1992, p.80-82, eng] 47-2386

Yang, M.F.
Tire chain device for automobiles travelling on snow-covered terrain [1988, 4 col., eng] 47-3767

Yang, Q.Z.
Anions and cations in a snow pit on the top of Nelson ice cap, the South Shetland Islands, Antarctica [1993, p.312-316, eng] 47-3096

Yang, S.
ENSO-snow-monsoon associations and seasonal prediction [1993, p.418-422, eng] 47-3051

Yang, S.Y.
Operational system of numerical sea ice prediction in Bohai Sea [1992, p.295-299, eng] 47-153

Yang, T.C.
Broadband source localization and signature estimation [1993, p.1797-1806, eng] 47-3232
Scattering from boundary protuberances and reverberation imaging [1993, p.231-242, eng] 47-3233
Very-low-frequency under-ice reflectivity [1993, p.1329-1334, eng] 47-3432

Yang, W.Q.
Study of the preparation of sealed cells for thermometry [1992, p.257-260, eng] 47-2971

Yang, X.Q.
Numerical simulation of influence of the anomalies of the central-eastern equatorial Pacific SST and arctic sea ice cover in summer on the atmospheric circulation [1992, p.401-411, eng] 47-353

Yang, X.Y.
Features of interior rivers and feeding of glacial meltwater in the Hexi region, Gansu Province [1985, p.131-141, chi] 47-1528

Yang, Z.
Temperature regime studies and mathematical calculations for dry snow covers in the western Tien Shan mountains, China [1992, p.185-189, eng] 47-1109

Yang, Z.H.
Characteristics of hydrological processes in a small high mountain basin [1991, p.229-236, eng] 47-1310
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Runoff analysis and estimation of the Binggou Basin in the Qilian Mountain [1992, p.251-257, chi] 47-1665
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Yang, Z.N.
Characteristics of hydrological processes in a small high mountain basin [1991, p.229-236, eng] 47-1310
Distribution characteristics in space and time of precipitation of Heihe Basin in Qilian Mountain [1992, p.121-132, chi] 47-1546
Glacier water resources and effect of glacier water in stream runoff in Qilian Mountain [1992, p.10-20, chi] 47-1534
Runoff analysis and estimation of the Binggou Basin in the Qilian Mountain [1992, p.251-257, chi] 47-1665
Runoff and its generation model of cold region in Binggou basin of Qilian Mountain [1992, p.91-100, chi] 47-1543
Study of glacier meltwater resources in China [1992, p.141-145, eng] 47-1101
Water balance and water resources of Heihe Basin in Qilian Mountain [1992, p.133-147, chi] 47-1547

Yankielun, N.E.
Airborne millimeter-wave FM-CW radar for thickness profiling of freshwater ice [1992, 77p., eng] 47-1893
Development of an airborne MMW FM-CW radar for mapping river ice [1993, 10p., eng] 47-2757
Implementation of a MMW FM-CW radar system for study of surface scattering from freshwater lake and river ice sheets [1991, 20p., eng] 47-888
Thickness profiling of freshwater ice using a millimeter-wave FM-CW radar [1992, p.1094-1100, eng] 47-1262

Yano, K.
Study on icing of marine structures [1991, p.271-276, jpn] 47-2499

Yano, S.
Numerical simulation to estimate the wind- and snowbreak efficiency of snowbreak forests [1991, p.125-130, jpn] 47-2539

Yao, M.S.
GCM feedback sensitivity to interactive cloud water budget parameterization [1993, p.176-181, eng] 47-3044

Yao, Q.F.
R-T relationship and stability of ceramic rhodium-iron resistance thermometers [1992, p.461-465, eng] 47-2984
R-T relationship and tolerances of China-made industrial platinum resistance thermometers in the temperature range from -200 to 0 C [1992, p.423-425, eng] 47-2979

Yao, T.
Simulation of sea-ice motion and distribution off Newfoundland during LIMEX, March 1987 [1992, p.270-296, eng] 47-2351
Verification of an operational sea ice forecast model [1991, p.193-200, eng] 47-3407

Yao, T.D.
Glaciologic studies on Guliya Ice Cap [1992, p.233-241, chi] 47-1663
Present state of ice core bubble study [1992, p.277-284, chi] 47-1669
Trends and features of climatic changes in the past 5000 years recorded by the Dunde ice core [1992, p.21-24, eng] 47-1081

Yapa, P.D.
Simulation of oil slick transport in Great Lakes connecting channels: user's manual for the lake-river oil spill simulation model [1991, 69p., eng] 47-693

Yarger, J.
Calorimetric studies of the ammonia-water system with application to the outer solar system [1993, p.13,109-13,117, eng] 47-4412

Yarnal, B.
Synoptic climatology in environmental analysis: a primer [1993, 195p., eng] 47-2176

Yasinskii, S.V.
Effects of a straw mulch on the thermal conditions in soil after snow-cover loss [1993, p.12-23, eng] 47-4012

Yaslik, A.D.
Three-dimensional simulation of electrothermal deicing systems [1992, p.1035-1042, eng] 47-1563

Yasui, K.
Road snow removal in Hokuriku regional construction [1985, p.42-48, jpn] 47-5098

Yasui, M.
New band of emission from high-energy-electron-irradiated ice at very low temperature [1992, p.9558-9561, eng] 47-1567

Yasunari, T.
Local and remote responses to excessive snow mass over Eurasia appearing in the northern spring and summer climate—a study with MRI-GCM [1991, p.473-487, eng] 47-819

Ye, H.C.
Comments on "Detection of climatic change in the western North American Arctic using a synoptic climatological approach" [1993, p.1473-1478, eng] 47-5215

Ye, J.P.
Turbulence structure of the atmospheric surface layer over arctic ice and near a lead [1992, p.J37-J40, eng] 47-2412

Yeend, W.
Gold placers, gold source, and high terrace gravels in the Fortymile River area, Alaska [1992, p.228-230, eng] 47-620

Yeh, Y.
Microbubble mediated surface probe and the ice-antifreeze glycoprotein solution system [1993, p.67-74, eng] 47-4757

Yeoh, G.H.
Numerical study of three-dimensional natural convection and freezing in water [1992, p.640-650, eng] 47-4362

Yin, X.W.
Assessing climate controls of northern forest soils and tree growth: reconstructing soil moisture, temperature and solution chemistry from monthly weather records [1993, p.187-192, eng] 47-5237

Ylou, F.
I-129 as a tracer of European reprocessing emissions in the North Atlantic and Arctic oceans [1993, p.145-156, eng] 47-5027

Yocham, M.
Rear swing arm assembly for three or four wheeled off-the-road vehicle track conversion unit [1986, 10 col., eng] 47-4098

Yoder, J.A.
Annual cycles of phytoplankton chlorophyll concentrations in the global ocean: a satellite view [1993, p.181-193, eng] 47-3462

Yokouchi, Y.
Springtime ozone depletion and volatile organic compounds in the lower Arctic atmosphere [1993, p.40-41, eng] 47-3973

Yokoyama, E.
Formation of patterns during growth of snow crystals [1993, p.251-257, eng] 47-3470

Yokoyama, K.
Report on improving the accuracy of radar precipitation gages (Part 2)—study on using radar for runoff forecasting [1991, p.109-114, jpn] 47-2520
Vertical profiles of total organic carbon and polar organic compounds in the ice core from Site-J, Greenland [1992, p.99-105, eng] 47-3010

Yokoyama, T.
Experimental and theoretical study on heat mechanism of groundwater flow (first report) [1991, p.69-88, jpn] 47-3293

Yoneta, Y.
Measures to prevent freezing of the Hakucho Bridge drain pipes [1991, p.209-214, jpn] 47-2542

Yong, R.N.
Chemical interaction and cyclic freeze-thaw effects on the integrity of the soil cover for Waite Amulet tailings [1993, p.259-272, eng] 47-4468
Proceedings [1993, 207?p. (2 vols.), eng] 47-4465

Yoon, B.
Droplet trajectories and icing-collision efficiencies for cylinders determined using LDV [1993, p.381-397, eng] 47-5208

Yoshida, Y.
Comprehensive protection measures on antarctic environment [1992, p.51-56, jpn] 47-3623

Yoshimori, A.
Seasonal variation of Oyashio Water southeast off Hokkaido [1992, p.177-181, eng] 47-137

Yoshino, F.
Dual polarization radar observations of anomalous wintertime thunderclouds in Japan [1992, p.838-844, eng] 47-361

Yoshino, H.
Airtightness standards for residential buildings in Japan [1992, p.718-724, eng] 47-1166
Yoshioka, Y.
Properties of high-strength concrete with silica fume using high-range water reducer of slump retaining type [1989, p.79-97, eng] 47-62
Young, D.F.
Inference of cirrus cloud properties using satellite-observed visible and infrared radiances. Part 2: verification of theoretical cirrus radiative properties [1993, p.1305-1322, eng] 47-3732
Young, G.J.
Hydrological interactions in the Mistaya basin, Alberta, Canada [1991, p.237-244, eng] 47-1311
Young, J.A.T.
Glaciers of Africa [1991, p.G49-G70, eng] 47-3825
Young, N.W.
Stratigraphy, density and crystal structure of firn-ice at DE08—a very high accumulation site on Law Dome, Antarctica [1991, p.1-14, eng] 47-36
Younkin, W.E.
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Genetic diversity of tree populations at their arctic limits. Tigerstedt, P.M.A., [1993, p.241-250, eng] 47-4540

Potential species and provenances for forest development in cold climates. Hagman, M., [1993, p.251-263, eng] 47-4541

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Uses of lignoses in horticulture in Iceland. Pálsson, J., [1993, p.293-297, eng] 47-4544

Accelerating adaptation of trees at tree limits by selective breeding. Lindgren, D., [1993, p.299-320, eng] 47-4545

Selection and breeding of Scots pine for northern Sweden. Nilsson, J.E., [1993, p.321-332, eng] 47-4546

Provenance and individual variation in climatic hardiness of Scots pine in northern Finland. Mikola, J., [1993, p.333-342, eng] 47-4547

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Icelandic birch genetics and reforestation. Anamthawat-Jónsson, K., et al, [1993, p.357-368, eng] 47-4549

Chloroplast DNA diversity, phylogenetics, and hybridization in *Picea*. Sigurgeirsson, Á., et al, [1993, p.369-382, eng] 47-4550

Genetic variation in early frost tolerance of spruce from northwestern North America. Dietrichson, J., [1993, p.383-391, eng] 47-4551

History of tree planting on the Aleutian Islands. Bruce, D., [1993, p.393-426, eng] 47-4552

Afforestation of spruce in the Vesteraalen Islands, Norway. Kaasen, N.O., et al, [1993, p.427-436, eng] 47-4553

Forest and arboretum development in Norway. Slettjord, S., [1993, p.437-451, eng] 47-4554

Forest development in Iceland. Loftsson, J., [1993, p.453-461, eng] 47-4555

Forestry in New Zealand's southern high country. Ledgard, N.J., [1993, p.529-548, eng] 47-4560

Inverse relation between frost survival and atmospheric pressure. Halloy, S., et al, [1993, p.117-123, eng] 47-4744

Photosynthetic photon flux effect on *Larix* frost hardiness. Hansen, J.M., et al, [1993, p.204-212, eng] 47-4998

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Refraction correction for radio-echo sounding of large ice masses. Rees, W.G., et al, [1992, p.302-308, eng] 47-471

Objective guidelines to avalanche forecasting in Western Himalayas. Rangachary, N., et al, [1985, p.310-317, eng] 47-548

Problem of evaluating the accuracy of radar measurements. Abshaev, M.T., et al, [1991, p.40-44, rus] 47-751

Preliminary assessments of accuracy characteristics of the double-fenced precipitation gauge. Golubev, V.S., [1991, p.101-106, eng] 47-797

Errors in measuring water discharge during hydrometric surveys of small and medium rivers in permafrost regions. Kolotaev, V.N., et al, [1991, p.147-158, rus] 47-899

Spillway design floods in Sweden: 2. Applications and sensitivity analysis. Lindström, G., et al, [1992, p.521-539, eng] 47-923

Temperature forecast biases associated with snow cover in the Northeast. Wojcik, G.S., et al, [1992, p.501-506, eng] 47-1059

Review of current and potential future sampling practices for volatile organic compounds in soil. Hewitt, A.D., [1992, p.75-82, eng] 47-1820

Comments on "An arctic hurricane over the Bering Sea". Reed, R.J., et al, [1992, p.2713-2715, eng] 47-1994

Occurrence of heavy metals in antarctic and Greenland ancient ice and recent snow. Boutron, C.F., et al, [1990, p.137-151, eng] 47-2071

Scavenging ratios in precipitation studies. Barrie, L.A., [1991, p.403-419, eng] 47-2214

Ship superstructure icing: data collection and instrument performance on USCGC *Midgett* research cruise. Ryerson, C.C., et al, [1992, 133p., eng] 47-2924

Determination of pollen accumulation rates in frozen sediments. Wang, X.C., et al, [1993, p.87-93, eng] 47-3120

Comment on porosities of ice films used to simulate stratospheric cloud surfaces. Keyser, L.F., et al, [1993, p.2800-2803, eng] 47-3178

Sensitivity method for ice floe trajectory calculations. Thomson, N.R., et al, [1992, p.573-585, eng] 47-3344

Erratum: sharp cone testing of creep properties of frozen sand. Ladanyi, B., et al, [1992, p.1008, eng] 47-3355

Positioning of satellite navigation system during snowfall. Tranquilla, J.M., et al, [1993, p.295-299, eng] 47-3361

NO2 measurements in the polar stratosphere. Roscoe, H.K., et al, [1993, p.257-276, eng] 47-3464

General circulation models, palaeoclimatic data and last interglacial climates. Harrison, S.P., et al, [1991, p.231-242, eng] 47-3493

Magnitude of error factors in estimates of snow-particle masses from images. Detwiler, A.G., et al, [1993, p.804-809, eng] 47-3512

Using short series of estimated values and a large number of predictors to improve ice forecasting methods. Spichkin, V.A., [1990, p.66-76, rus] 47-3590

Comments on paper by K.F. Jones. Levi, L., et al, [1993, p.599-609, eng] 47-3646

Accuracy *(cont.)*
Algorithms for alpine land cover classification. Peddle, D.R., [1993, p.31-44, eng] 47-3723
Scale and remotely sensed data for change detection in the James Bay, Ontario, coastal wetlands. McNairn, H., et al, [1993, p.45-49, eng] 47-3724
Mapping partial snowcover during the melt season using C-band SAR imagery. Donald, J.R., et al, [1993, p.68-76, eng] 47-3725
Analysis of errors in satellite altimetry. Minster, J.F., et al, [1993, p.410-419, eng] 47-3774
Intercomparison of artificial intelligence approaches for polar scene identification. Tovinkere, V.R., et al, [1993, p.5001-5016, eng] 47-3781
Mathematical analysis of ice-water isotopic relationships. Burn, C.R., et al, [1993, p.109-112, eng] 47-3786
Correction to paper by Suszcynsky et al. [1993, p.7499, eng] 47-3840
Improved formulas for concrete mix temperature, required for winter concreting. Panfilov, D.F., [1992, p.115-118, rus] 47-3916
Sea ice flexural rigidity: a comparison of methods. DiMarco, R.L., et al, [1993, p.247-255, eng] 47-3928
Once more on calculations of maximum spring flood runoff. Vodogretskii, V.E., [1992, p.74-78, eng] 47-3994
Glaze ice measurement with microprocessor. Provencal, G., et al, [1988, 8 col., eng] 47-4008
Acidification potential of snowpack in Sierra Nevada—discussion. Bales, R.C., et al, [1993, p.399-403, eng] 47-4010
Probablistic computation of maximum ice-dam water levels. Buzin, V.A., [1992, p.56-62, eng] 47-4025
Infrared emissivities of arctic land cover types. Rees, W.G., [1993, p.1013-1017, eng] 47-4070
Swedish varve chronology—a review. Boygle, J., [1993, p.1-19, eng] 47-4073
Is the Greenland ice sheet getting thicker. Braithwaite, R.J., [1993, p.379-381, eng] 47-4136
Interpretation of short-term ice-sheet elevation changes inferred from satellite altimetry. Van der Veen, C.J., [1993, p.383-405, eng] 47-4137
Stabilization of snow temperature in Dronning Maud Land, Antarctica, January 1989. Seppälä, M., [1992, p.227-230, eng] 47-4331
Arctic sea ice signatures for passive microwave algorithms. Thomas, D.R., [1993, p.10,037-10,052, eng] 47-4375
Proceedings. [1993, 2 vol., eng] 47-4415
Analysis of ERS-1 altimeter data over polar ice sheets. Rapley, C.G., et al, [1993, p.235-240, eng] 47-4418
Some results of the derivation of ice sheet elevations in Antarctica from ERS-1 altimeter data. Ihde, J., et al, [1993, p.241-245, eng] 47-4419
Preliminary evaluation of ERS-1 altimetry over Filchner-Ronne Ice Shelf, Antarctica. Doake, C., et al, [1993, p.259-261, eng] 47-4422
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Evaluation of limits to the performance of the surface roughness meter. Johnson, F., et al, [1993, p.140-145, eng] 47-4591
Airborne measurement of absolute sea-surface heights. Brozena, J.M., et al, [1993, p.875-878, eng] 47-4632
New wind-chill nomogram. Rees, W.G., [1993, p.229-234, eng] 47-4703
Ice sheets: growing or shrinking. Van der Veen, C.J., [1993, p.5-9, eng] 47-4740
Equilibrium line altitude correlation of Norwegian glaciers. Torsnes, I., et al, [1993, p.106-116, eng] 47-4743
Taxonomic revision of a herb distribution in arctic landscapes. Bayer, R.J., [1993, p.150-159, eng] 47-4747
Ion chromatography of Greenland ice cores. Legrand, M.R., et al, [1993, p.251-258, eng] 47-4754
Satellite remote sensing of subalpine forest types. Franklin, S.E., [1992, p.25-35, eng] 47-4827
Lake effect of the Great Salt Lake: overview and forecast problems. Carpenter, D.M., [1993, p.181-193, eng] 47-4831
Notch sensitivity of first-year sea ice. Parsons, B.L., et al, [1993, p.1303-1313, eng] 47-4848
Observations of large-size river water temperature and accuracy of hydrothermal calculations. Korenkov, V.A., et al, [1991, p.95-98, eng] 47-4924
Predicting wilderness snow water equivalent with nonwilderness snow sensors. McGurk, B.J., et al, [1993, p.85-94, eng] 47-4993
Bore-hole survey at dome GRIP 1991. Gundestrup, N.S., et al, [1993, p.399-402, eng] 47-5209
Satellite retrieval of lower-tropospheric ice crystal clouds in the polar regions. Wilson, L.D., et al, [1993, p.1467-1472, eng] 47-5214
Sea ice edge forecast verification program for the Bering Sea. Wohl, G.M., [1991, p.6-12, eng] 47-5260

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Avalanche forecasting by acoustic monitoring of snowpacks. Koul, B.B., [1985, p.318-323, eng] 47-549
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Acoustical measurement of current and vorticity beneath ice. Menemenlis, D., et al, [1992, p.827-849, eng] 47-1473
Preliminary analysis of measured sound propagation over various seasonal snow covers. Albert, D.G., [1990, p.51-57, eng] 47-1761
Acoustic sounder experimentation in Victoria Land, Antarctica. Fiocco, G., et al, [1991, p.119-133, eng] 47-2006
Canada's offshore technology meets the arctic challenges. [1985, p.133-135, eng] 47-2914
Glacimarine sediments on Axel Heiberg I. Gilbert, R., et al, [1993, p.257-273, eng] 47-3103
Broadband source localization and signature estimation. Yang, T.C., [1993, p.1797-1806, eng] 47-3232
Determination of sea ice acoustical properties by tomography. Rajan, S.D., et al, [1993, p.721-738, eng] 47-3431
Frost process and thermal degradation of frozen soils. Thimus, J.F., [1993, p.51-57, eng] 47-4120
Sea ice flexure noise attenuation during seismic surveys. Ostrander, W.J., [1986, 14 col., eng] 47-4260
Doppler acoustic studies of fine scale variability in the Arctic Ocean. Pinkel, R., et al, [1992, p.17-23, eng] 47-4715
Matched field tomography results in the Arctic. Diachok, O.I., et al, [1992, p.24-27, eng] 47-4716
Noise generation in the marginal ice zone. Johannessen, O.M., et al, [1992, p.28-38, eng] 47-4717
Ice edge noise observations from the 1988-89 Greenland Sea tomography experiment. Lynch, J.F., et al, [1992, p.611-619, eng] 47-4719
Learning behavior of sea ice. Denner, W.W., [1993, p.527-536, eng] 47-4834
Source mechanisms for arctic ocean ambient noise. Dyer, I., [1993, p.537-551, eng] 47-4835
Vertical directivity measurements of ice cracking. Greening, M.V., et al [1993, p.553-562, eng] 47-4836
Spatial variation in ambient sound level within ice edge eddies. Johannessen, O.M., et al, [1993, p.563-571, eng] 47-4837
Predictions and measurements of the directivity of a monopole source in a floating ice plate. Stein, P.J., [1993, p.625-639, eng] 47-4841
Development of a portable ice-measuring instrument. Doundoulakis, G.J., [1991, 31p. + appends., eng] 47-4884

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Acoustics
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Active layer
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Spectral signature of coupled flow in the refreezing active layer, northern Alaska. Outcalt, S.I., et al, [1992, p.273-284, eng] 47-709
Active-layer detachment slides on Ellesmere Island. Lewkowicz, A.G., [1992, p.223-250, eng] 47-854
Buoyancy forces induced by freeze-thaw in the active layer. Hallet, B., et al, [1992, p.251-279, eng] 47-855
Runoff analysis and estimation of the Binggou Basin in the Qilian Mountain. Yang, Z.H., et al, [1992, p.251-257, chi] 47-1665
Dynamics of heat-mass transfer in cryogenic soils of north-east Yakutia. Davydov, S.P., et al, [1992, p.180-184, eng] 47-1726
Gas-geochemical processes as a result of soil seasonal freezing and thawing in the cryolithozone. Glotov, V.E., [1992, p.216-220, eng] 47-1732
Formation of the cryogenic structure of the upper layer of permafrost. Konstantinov, S.A., [1991, p.48-53, rus] 47-1989
Report on field work in Svalbard. Bruland, O., [1992, 11p., nor] 47-2012
New technology for insulating the bottom of an alluvial reservoir on a frozen base. Kuznetsov, G.I., et al, [1992, p.84-91, rus] 47-2033
Fractal geometry of thermal and chemical time series from the active layer, Alaska. Outcalt, S.I., et al, [1992, p.315-322, eng] 47-2239
Characteristics of the seasonal thawing of permafrost in Mongolia. Babinski, Z., et al, [1991, p.223-229, eng] 47-2569
Field investigation of water and salt movement in permafrost and the active layer. Final report. Osterkamp, T.E., [1993, Var. p., eng] 47-2619
Solifluction meter for permafrost sites. Lewkowicz, A.G., [1992, p.11-18, eng] 47-3122
Annual gas-geochemical cyclic recurrence in a seasonally thawed layer in the lowlands of the cryolithozone. Glotov, V.E., [1992, p.150-153, rus] 47-3336
Modeling of tussock phosphatase activity. Moorhead, D.L., et al, [1993, p.50-55, eng] 47-3428
CO2 emissions in Siberian soils as greenhouse effect factor. Zimov, S.A., et al, [1993, p.5017-5023, eng] 47-3782
Classification of permafrost active layer depth from remotely sensed and topographic evidence. Peddle, D.R., et al, [1993, p.67-80, eng] 47-3918
Pediments and cold-climate conditions, Barn Mountains, unglaciated northern Yukon, Canada. French, H.M., et al, [1992, p.145-157, eng] 47-4324
Occurrence of algae on tundra soils in Oscar II Land, Spitsbergen. Oleksowicz, A.S., et al, [1992, p.131-147, eng] 47-4652
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Gas-bio-geochemical characteristics of the seasonally thawing layer in the Anadyr' and Khatyrka lowlands. Glotov, V.E., [1991, p.80-86, rus] 47-4814

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Silicone emulsion having improved freeze/thaw resistance. Bakken, K.L., [1987, 8 col., eng] 47-3851
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NO adsorption on ice at low concentrations. Sommerfeld, R.A., et al, [1992, p.569-574, eng] 47-202
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Sticking of HCl and ClOH to ice: a computational study. Kroes, G.J., et al, [1992, p.7079-7088, eng] 47-1265
Preferential adsorption on amorphous ice surfaces. Buch, V., et al, [1993, p.4195-4206, eng] 47-2674
Effect of competitive adsorption on polar stratospheric cloud reactions. Mozurkewich, M., [1993, p.355-358, eng] 47-4140
Adsorbate spectra for amorphous ice. Buch, V., et al, [1993, p.2265-2268, eng] 47-4464
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Monomer molecular adsorption on ice Ih. Bell, K.P., et al, [1993, p.4160-4167, eng] 47-5272

Advection
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Avalanche dating and avalanche accident feed-back. Rao, N.M., [1985, p.212-225, eng] 47-540
Mapping Alaska's North Slope with aerial photography. Harrison, B.V., [1981, p.179-182, eng] 47-1194
Meteorological overview of the Arctic Boundary Layer Expedition (ABLE 3A) flight series. Shipham, M.C., et al, [1992, p.16,395-16,419, eng] 47-1445
Summertime photochemistry of the troposphere at high northern latitudes. Jacob, D.J., et al, [1992, p.16,421-16,431, eng] 47-1446

Sampling of radioactive isotopes in the arctic atmosphere. Dibb, J.E., et al. [1992, p.16,709-16,715. eng] 47-1465

Atmospheric chemistry in the Arctic and subarctic. Wofsy, S.C., et al. [1992, p.16,731-16,746. eng] 47-1467

Volcano under Ice Stream B. Monastersky, R., [1993, p.104-107. eng] 47-1940

Active volcanism beneath the west antarctic ice sheet. Blankenship, D.D., et al. [1993, p.526-530. eng] 47-1941

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Development of ice and precipitation in New Mexican *summertime cumulus* clouds. Blyth, A.M., et al. [1993, p.91-120. eng] 47-2146

Relationship between sea ice freeboard and draft in the Arctic Basin, and implications for ice thickness monitoring. Wadhams, P., et al. [1992, p.20,325-20,334. eng] 47-2344

Comparison of in-cloud measurements obtained with six PMS 2D-C probes. Gayet, J.F., et al. [1993, p.180-194. eng] 47-2768

Aircraft observations of the origin and growth of very large snowflakes. Lawson, R.P., et al. [1993, p.53-56. eng] 47-2846

Investigation of cirrus microstructure on May 15, 1989. Burkovskaia, S.N., et al. [1992, p.714-724. eng] 47-3157

Repeat-pass *interferometry* with airborne synthetic aperture radar. Gray, A.L., et al. [1993, p.180-191. eng] 47-3359

Automated processing and analysis of data on cracks in the sea ice cover, made from visual observations from an aircraft. Brestkin, S.V., et al. [1990, p.133-147. rus] 47-3600

High ice crystal production in winter cumuli over the Japan Sea. Takahashi, T., [1993, p.451-454. eng] 47-3729

Observations of cirrus cloud microphysical properties. Noone, K.B., et al. [1993, p.294-303. eng] 47-3773

Enhancement of microwave images of sea ice. Full, W.E., et al. [1993, p.1-23. eng] 47-3917

Estimating snow grain size using AVIRIS data. Nolin, A.W., et al. [1993, p.231-238. eng] 47-3919

Measurements of high number densities of ice crystals in *the tops of tropical cumulonimbus*. Knollenberg, R.G., et al. [1993, p.8639-8664. eng] 47-4379

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Airborne measurement of absolute sea-surface heights. Brozena, J.M., et al. [1993, p.875-878. eng] 47-4632

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Aerosols

Cloud acidity, lower troposphere and stratospheric ozone depletion. Lin, N.H., [1991, 190p., eng] 47-47

Reactive nitrogen, ozone, and nitrate aerosols observed in *the arctic stratosphere in January 1990*. Kondo, Y., et al. [1992, p.13,025-13,038. eng] 47-80

Study of the ice-forming properties of copper acetylacetonate. Molotkova, I.A., et al. [1991, p.44-48. rus] 47-93

Spatial-temporal variability of surface inversions in the Arctic. Timerev, A.A., et al. [1991, p.39-44. eng] 47-267

Distribution and forms of lead compounds in the environment near southern Finland highways. Vuorinen, A., [1986, p.30-33. eng] 47-595

Vertical distribution of some oligo-elements in the Cazadora Glacier near the Juan Carlos I Station. Eraso, A., et al. [1989, p.61-70. spa] 47-813

Aerosol and general atmospheric circulation models. Genthon, C., [1992, p.371-389. eng] 47-836

Volcanic aerosol and ozone over Antarctica, Spring 1991. Deshler, T., et al. [1992, p.1819-1822. eng] 47-870

Aerosols and ozone behavior over Thule. Di Sarra, A., [1992, p.1823-1826. eng] 47-871

Ozone absorption and sun-photometric measurements. Tomasi, C., et al. [1992, p.227-245. eng] 47-1205

Role of sulfate aerosols in the stratospheric ozone climatology. Pitari, G., [1992, p.331-347. eng] 47-1210

Aerosol optical characteristics of the arctic atmosphere. Sakunov, G.G., et al. [1989, p.53-58. eng] 47-1223

Global changes in the environment as "mirrored" in an ice core. Kotliakov, V.M., [1992, p.59-68. rus] 47-1250

Large-scale variability of ozone and aerosols in the *summertime arctic and sub-arctic troposphere*. Browell, E.V., et al. [1992, p.16,433-16,450. eng] 47-1447

Tropospheric ozone and aerosol observations: the Alaskan Arctic. Gregory, G.L., et al. [1992, p.16,451-16,471. eng] 47-1448

Measurement of organic nitrates in high latitude atmospheres. Singh, H.B., et al. [1992, p.16,511-16,522. eng] 47-1451

Soluble species in the arctic summer troposphere: acidic gases, aerosols, and precipitation. Talbot, R.W., et al. [1992, p.16,531-16,543. eng] 47-1453

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Impact of heterogeneous chemistry on model predictions of ozone changes. Granier, C., et al. [1992, p.18,015-18,033. eng] 47-1565

Black carbon concentration in Byrd Station ice core: from 13,000 to 700 years before present. Chylek, P., et al. [1992, p.625-629. eng] 47-2005

Removal of atmospheric aerosols in the sub-arctic region. Selin, E., et al. [1992, p.S965-S968. eng] 47-2074

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Transport of marine organic matter evidenced in antarctic snow. Cini, R., et al. [1992, p.191-204. eng] 47-2164

Pinatubo in the Antarctic?. Stefanutti, L., et al. [1992, p.327-343. eng] 47-2168

Aerosol scavenging by ice in supercooled clouds. Song, N.H., et al. [1991, p.63-74. eng] 47-2208

Scavenging of aerosols by ice crystals. Prodi, F., et al. [1991, p.75-86. eng] 47-2209

Comparison between the collection efficiency of aerosol particles by water drops and ice crystals. Wang, P.K., [1991, p.87-96. eng] 47-2210

Effect of internal charge distribution in ice crystals on scavenging of aerosol particles. Zhang, R.Y., et al. [1991, p.97-108. eng] 47-2211

Scavenging ratios in precipitation studies. Barrie, L.A., [1991, p.403-419. eng] 47-2214

Numerical model of aerosol scavenging, part 1: microphysics parameterization. Molenkamp, C.R., et al. [1991, p.575-590. eng] 47-2216

Numerical model of aerosol scavenging, part 2: simulation *of a large city fire*. Bradley, M.M., et al. [1991, p.591-601. eng] 47-2217

Polar precipitation chemistry. Delmas, R.J., [1991, p.1669-1691. eng] 47-2218

Sulfate in the air, surface snow and snowpits at Dye 3, *Greenland*. Jaffrezo, J.L., et al. [1991, p.1693-1704. eng] 47-2219

Origin of dust in polar regions. Gillette, D.A., [1991, p.1719-1732. eng] 47-2221

Proceedings. [1992, 523p., eng] 47-2253

Homogeneous freezing of sulfuric acid droplets. 1. Formation of H2SO4 x 4H2O (SAT). Luo, B.P., et al. [1992, p.225-228. eng] 47-2254

Homogeneous freezing of sulfuric acid droplets. 2. Implications for PSCs and heterogeneous chemistry. Peter, T., et al. [1992, p.229-232. eng] 47-2255

Ice nucleus concentrations measured in a cloud chamber. Aksenov, M.IA., et al. [1992, p.241-243. eng] 47-2258

Laboratory studies of the ice-forming characteristics of natural aerosol models. Gorbunov, B.Z., et al. [1992, p.245-247. eng] 47-2259

Laboratory investigations of ice-forming properties transformation of crystallizing agent aerosol. Kerimov, A.M., et al. [1992, p.255-257. eng] 47-2261

Mechanistic studies of heterogeneous ice nucleation by AgI-AgCl and AgI-AgCl-4NaCl aerosols. DeMott, P.J., et al. [1992, p.263-266. eng] 47-2263

Ice nucleation studies on AgI-NaCl system. Radhakrishnan, T., et al. [1992, p.267-270. eng] 47-2264

Ice nucleation or ice crystal formation? An analysis of mechanisms. Pitter, R.L., et al. [1992, p.271-274. eng] 47-2265

Preliminary study of ice nucleating properties of loess particles. Feng, D.X., et al. [1992, p.275-277. eng] 47-2266

Potential role of heterogeneous nucleation in the cloud element formation at high altitudes. Hagen, D.E., et al. [1992, p.291-294. eng] 47-2270

Solubility effects on mixed aerosol ice nuclei in the supercooled clouds. Smorodin, V.E., [1992, p.295-299. eng] 47-2271

Study of ice nuclei in the area of hail suppression operations in Moldavia. Potapov, E.I., et al. [1992, p.301-303. eng] 47-2272

Ice forming capability of various aerosols under haloid influence. Kim, N.S., et al. [1992, p.313-315. eng] 47-2275

Modification of aerosol chemistry by reactions in atmospheric ice crystals. Finnegan, W.G., et al. [1992, p.399-402. eng] 47-2280

Peculiarities of vertical distribution of aerosol particles and ice nuclei in cloud atmosphere. Khorguani, V.G., [1992, p.427-430. eng] 47-2281

Aerosol role in the ozone hole. Préndez, M., [1992, p.10-12. spa] 47-2300

Airborne ice nuclei concentrations measured aboard a helicopter using a mixing chamber. Vychuzhanina, M.V., et al. [1992, p.135-143. rus] 47-2526

Study of the spatial distribution of ice nuclei in a mountainous region. Vlasiuk, M.P., et al. [1992, p.143-159. rus] 47-2527

Study of the kinetics of the activation of natural and man-made ice nuclei in the Salya cloud chamber. Vychuzhanina, M.V., [1992, p.159-167. rus] 47-2528

Study of the ice nucleating properties of various polymers. Sosnikova, E.V., [1992, p.168-172. rus] 47-2529

Measurements of airborne carbonaceous aerosols in the eastern Arctic. Hansen, A.D.A., et al. [1992, p.429-433. eng] 47-2544

Studies of the arctic aerosol in Greenland. Heidam, N.Z., [1990, 116p., dan] 47-2585

PSCs above the South Pole in 1990. Collins, R.L., et al. [1993, p.1001-1010. eng] 47-2701

Water soluble organic constituents in arctic aerosols and *snow pack*. Li, S.M., et al. [1993, p.45-48. eng] 47-2845

Laboratory measurements of the loss of ClO on Pyrex, ice and NAT at 183 K. Kenner, R.D., et al. [1993, p.193-196. eng] 47-2857

Spring measurements *of tropospheric bromine at Barrow*, Alaska. Sturges, W.T., et al. [1993, p.201-204. eng] 47-2858

Long-term variations in the turbidity of the arctic atmosphere in Russia. Radionov, V.F., et al. [1992, p.531-549. eng] 47-2877

Tropospheric aerosol and climate: results from numerical experiments. Kolomeev, M.P., et al. [1991, p.253-257. eng] 47-2896

Air-snow exchange processes. Harder, S.L., et al. [1991, p.277-278. eng] 47-3057

HNO3 variations in volcanic layers of polar ice. Laj, P., et al. [1993, p.219-230. eng] 47-3463

Atmospheric scavenging during surface frost formation. Georgiadis, T., et al. [1993, p.267-276. eng] 47-3474

Fractionation of sea salt and acids during transport across an antarctic ice shelf. Mulvaney, R., et al. [1993, p.179-187. eng] 47-3535

Particle transport to the snow surface at the South Pole. Hogan, A.W., et al. [1993, p.188-207. eng] 47-3536

Microholographic study of cloud layers. Borrmann, S., et al. [1993, p.277-293. eng] 47-3772

Observations of cirrus cloud microphysical properties. Noone, K.B., et al. [1993, p.294-303. eng] 47-3773

Vertical structure and size distributions of Martian aerosols from solar occultation measurements. Chassefière, E., et al. [1992, p.46-69. eng] 47-3923

Geochemical study of atmospheric aerosols in Yakutsk. Ohta, S., et al. [1993, p.4-9. eng] 47-3969

Effect of competitive adsorption on polar stratospheric cloud reactions. Mozurkewich, M., [1993, p.355-358. eng] 47-4140

Ammonium to sulphate ratio in aerosol and snow of Greenland and antarctic regions. Silvente, E., et al. [1993, p.687-690. eng] 47-4167

Submicron size aerosols and weather forecasting in East Antarctica. Lal, M., [1988, p.105-107. eng] 47-4193

Experimental studies of clouds and *aerosols along the* antarctic coast. Saxena, V.K., et al. [1988, p.108-111. eng] 47-4194

Atmospheric transport of aerosols and haze to Barrow, Alaska. Herbert, G.A., et al. [1988, p.116-118. eng] 47-4196

Spectroscopic probe of model polar stratospheric cloud films. Koehler, B.G., et al. [1993, p.10,563-10,571. eng] 47-4294

Below-cloud scavenging of aerosol particles: particle-bound radionuclides—experimental. Sparmacher, H., et al. [1993, p.605-618. eng] 47-4349

Measurements of high number densities of ice crystals in the tops of tropical cumulonimbus. Knollenberg, R.G., et al. [1993, p.8639-8664. eng] 47-4379

Antarctic polar stratospheric cloud chemistry. Drdla, K., et al. [1993, p.8965-8981. eng] 47-4382

Antarctic ozone lidar system. Stefanutti, L., et al. [1992, p.3-12. eng] 47-4720

Snow impurities as a function of pollutant emission remoteness. Malakhov, S.G., et al. [1993, p.111-115. eng] 47-5003

Probing stratospheric ozone. Rodriguez, J.M., [1993, p.1128-1129. eng] 47-5132

Chlorine chemistry on polar stratospheric cloud particles in the Arctic winter. Webster, C.R., et al. [1993, p.1130-1134. eng] 47-5133

Characteristics of cold volcanic aerosols. Toon, O., et al. [1993, p.1136-1140. eng] 47-5135

Ozone and aerosol changes during the 1991-1992 Airborne Arctic Stratospheric Expedition. Browell, E.V., et al. [1993, p.1155-1158. eng] 47-5140

Source of volcanic ash in a Greenland ice core. Fiacco, R.J., Jr., et al. [1993, p.267-273. eng] 47-5141

Aluminium solubility in rainwater and molten snow. Losno, R., et al. [1993, p.29-43. eng] 47-5145

Spatial-temporal variability of surface inversions in the *Arctic*. Timerev, A.A., et al. [1991, p.39-44. eng] 47-5197

See also: Particles; Smoke generators

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Afghanistan

Glacier system of Afghanistan: morphology, climate, mass *exchange, and runoff*. Lebedeva, I.M., et al. [1991, p.76-87. rus] 47-324

Estimating avalanche hazard in the territory of Afghanistan. Kravtsova, V.I., et al. [1991, p.86-93. rus] 47-2793

Africa

Glaciers of Africa. Young, J.A.T., et al. [1991, p.G49-G70. eng] 47-3825

Age determination
On the age of stratospheric air and ozone depletion potential in polar regions. Pollock, W.H., et al. [1992, p.12,993-12,999, eng] 47-77
Multiple glaciations and sea level changes, northern Ellesmere Island, high arctic Canada. Lemmen, D.S., et al. [1992, p.137-152, eng] 47-225
Do glaciers tell a true atmospheric CO2 story. Jaworowski, Z., et al. [1992, p.227-284, eng] 47-235
Defining the boundaries of the Late-Glacial isotope episodes. Broecker, W.S., [1992, p.135-138, eng] 47-986
Interpretation of ice age-gas differences in polar ice cores. Sowers, T., et al. [1992, p.15,683-15,697, eng] 47-996
Glacial and lake fluctuations in the area of the west Kunlun mountains during the last 45,000 years. Li, S.J., et al. [1992, p.79-84, eng] 47-1090
Tyrol's ice-man. Ambach, W., et al. [1992, p.1471, eng] 47-1902
Lichenometric dating of a Norwegian moraine sequence. Bickerton, R.W., et al. [1992, p.227-237, eng] 47-1999
Outline of stratigraphy of the Pleistocene and the Holocene in south and central Spitsbergen. Lindner, L., et al. [1991, p.165-172, eng] 47-2769
Reconstruction of humidification conditions of eastern Issyk-Kul' areas. Mel'nikova, N.G., et al. [1991, p.80-86, rus] 47-2792
Dendro-indication of climatic conditions in the areas of glaciation in the polar Urals and southern Tien-Shan. Adamenko, V.N., et al. [1991, p.159-164, rus] 47-2807
Dating stable isotope records from Greenland ice cores. Johnsen, S.J., et al. [1993, p.13-24, eng] 47-2863
Tree-ring dating of moraines. McCarthy, D.P., et al. [1993, p.63-68, eng] 47-3430
Early Pleistocene paleoclimate indicated by Greenland sediments. Penney, D.N., [1993, p.49-66, eng] 47-3460
Last interglaciation in Alaska: stratigraphy and paleoecology of potential sites. Hamilton, T.D., et al. [1991, p.49-71, eng] 47-3480
Isotope stage 5 (130-74 ka) in Greenland—a review. Funder, S., et al. [1991, p.107-122, eng] 47-3484
Last interglacial as recorded in the Greenland ice sheet and Canadian arctic ice caps. Reeh, N., [1991, p.123-142, eng] 47-3485
Review of the Late Pleistocene stratigraphy of Reykjavík, Iceland. Eirfksson, J., et al. [1991, p.143-150, eng] 47-3486
Late Quaternary land-sea interactions: Fennoscandia and Svalbard—the Nordic seas. Larsen, E., et al. [1991, p.151-159, eng] 47-3487
Problems of the last interglacial in arctic Siberia. Sher, A.V., [1991, p.215-222, eng] 47-3491
Reconstructed paleoclimatic meltwater anomalies. Sarnthein, M., et al. [1992, p.183-200, eng] 47-3558
Astronomical theory of glaciation cycles. Grieger, B., [1990, p.81-96, eng] 47-3575
Statistics of firn closure: a simulation study. Enting, I.G., [1993, p.133-142, eng] 47-3947
Plant colonization in a polar oceanic environment. André, M.F., [1992, p.329-347, eng] 47-4077
2000-year lichen-snowkill chronology for the Colorado Front Range, USA. Benedict, J.B., [1993, p.27-33, eng] 47-4144
Paleoclimate record for Northwind Ridge, western Arctic Ocean. Poore, R.Z., et al. [1993, p.149-159, eng] 47-4152
Lichenometrical studies and dating of debris flow deposits in the High Tatra Mountains, Poland. Jonasson, C., et al. [1991, p.141-146, eng] 47-4337
Ground frost restriction of subarctic Picea abies forest in northern Sweden. Kullman, L., [1991, p.167-178, eng] 47-4339
Glacial landform distribution in Yunnan Province, China. Aniya, M., [1992, p.1-12, eng] 47-4360
Subarctic dune dynamics determined by tree ring analysis. Marin, P., et al. [1992, p.316-330, eng] 47-4407
Extension of the Vostok ice core paleoclimate record. Jouzel, J., et al. [1993, p.407-411, eng] 47-4573
Dendrochronology of an iceberg-calving glacier. Wiles, G.C., et al. [1993, p.35-42, eng] 47-4750
Influence of snow upon rates of granodiorite weathering, Colorado Front Range, USA. Benedict, J.B., [1993, p.87-92, eng] 47-4850
Dating of ice-marginal moraines of a Norwegian glacier. Bickerton, R.W., et al. [1993, p.45-66, eng] 47-5006
Paleoclimatic variables derived from subarctic treeline dendrochronology. Yamaguchi, D.K., et al. [1993, p.256-262, eng] 47-5123
Isotope dating of Taylor Glacier moraines. Brook, E.J., et al. [1993, p.11-23, eng] 47-5202
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Aggregates
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Agriculture
Study of the processes of snow cover formation in an unirrigated agricultural zone. Petropavlovskaia, M.S., [1991, p.3-21, rus] 47-380
Formation and calculation of snow reserves on agricultural fields with a snow fence. Kaliuzhnyi, I.L., et al. [1991, p.22-34, rus] 47-381
Effectiveness of snow fences in cultivated fields. Petropavlovskaia, M.S., et al. [1991, p.57-66, rus] 47-384
Calculating the thermal regime of soils in areas with snow fences. Lavrov, S.A., [1991, p.67-74, rus] 47-385
Growing season trends in the Alaskan climate record. Sharratt, B.S., [1992, p.124-127, eng] 47-518
Effect of agricultural development on the variation of thixotropic properties of tundra soils. Manucharov, A.S., et al. [1987, p.45-49, eng] 47-598
Radiation balance of ridge-tillage with modeling strategies for slope and aspect in the subarctic. Sharratt, B.S., et al. [1992, p.1379-1384, eng] 47-1182
Global warming and future agroclimatic resources of the Russian Plain. Sirotenko, O.D., et al. [1991, p.83-88, rus] 47-1253
Bioclimatology of frost. Kalma, J.D., et al. [1992, 144p., eng] 47-1794
Overwinter nitrate loss and denitrification potential of cultivated soils in Alberta. Heaney, D.J., et al. [1992, p.877-884, eng] 47-1795
Seed-zone temperature and moisture conditions under conventional and no-tillage in Alaska. Bidlake, W.R., et al. [1992, p.1904-1910, eng] 47-2299
Freeze risk to Florida citrus. Part 2: Temperature variability and circulation patterns. Downton, M.W., et al. [1993, p.364-372, eng] 47-2708
Erosion of agricultural lands in the Irkutsk region. Khismatullin, Sh.D., [1991, p.49-61, rus] 47-3279
Support standard for implement. Schoessow, J., [1988, 4 col., eng] 47-3416
Effects of a straw mulch on the thermal conditions in soil after snow-cover loss. Gusev, E.M., et al. [1993, p.12-23, eng] 47-4012
Using drained land and some examples of its improvement. Gil', A.F., [1991, p.30-40, rus] 47-4105
Regulating the thermal regime of soils in the northern taiga subzone of the Komi ASSR. Mokiev, V.V., [1991, p.41-55, rus] 47-4106
Using schist and schist ash as a means of improving cultivated podzol soils. IUdintseva, I.I., et al. [1991, p.66-75, rus] 47-4108
Effectiveness of applying meliorative agents on tundra soils. Kononenko, A.V., et al. [1991, p.76-88, rus] 47-4109
Effect of fertilizer on the percentage of protein and amino acid composition of feed crops. El'kina, G.IA., et al. [1991, p.89-97, rus] 47-4110
Role of nitrogen in podzol soils in the formation of a crop of annual agrocenoses. Beznosikov, V.A., [1991, p.98-106, rus] 47-4111
Effect of manure-lignin compost on soil and agricultural crop yields. Shvetsova, V.M., et al. [1991, p.107-113, rus] 47-4112
Fertilizer placement for conventional and no-tillage barley in the subarctic. Cochran, V.L., et al. [1992, p.1973-1978, eng] 47-4356
Grass plants in Yakutia. Petrova, A.N., [1990, 125p., rus] 47-4654
Conditions and effectiveness of feed production in tundra. Archegova, I.B., et al. [1988, 102p., rus] 47-4655
Effect of the complexity of soil cover on the agricultural development of meadow-swamp soils. Butsenko, A.N., [1991, p.97-103, rus] 47-4817
Mineral feeding of plants—to increase bioproductivity and protect frozen soils. Gershevich, E.G., et al. [1991, p.115-120, rus] 47-4820
Bog fertilizer removal through surface runoff. Telitsyn, V.L., [1993, p.72-78, eng] 47-5192

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Analysis of cool storage for air conditioning. Chen, S.L., et al. [1992, p.553-563, eng] 47-1055
Freeze-control strategy and air-to-air energy recovery performance. Phillips, E.G., et al. [1992, p.44-45,48-49, eng] 47-1936
Production and heat transfer characteristics of liquid ice as new PCM. Fukusako, S., et al. [1992, p.347-364, eng] 47-2298
Water freezing enhancement for thermal storage brine tube. Holowczenko, A., et al. [1988, 6 col., eng] 47-3641
Air conditioning energy conservation through ice storage. Tassou, S.A., et al. [1992, p.419-425, eng] 47-3798
Immersed tube heat transfer in a melting ice bed. Fukusako, S., et al. [1993, p.353-359, eng] 47-4064
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Air cushion vehicles
Research on hovercraft and suction bow icebreakers. Hinchey, M.J., et al. [1992, p.243-251, eng] 47-1032
Oscillations of an ice sheet under a periodically varying load. Kozin, V.M., et al. [1993, p.746-750, eng] 47-3169
Canadian experience with air cushion vehicle skirts. Sullivan, P.A., et al. [1993, p.23-34, eng] 47-3797

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Freeze-salt resistance of superplasticized concrete. Berntsson, L., [1989, p.18-22, eng] 47-11
Effect of industrial by-products on the frost resistance of concrete. Fagerlund, G., [1989, p.33-52, eng] 47-12
Effect of condensed silica fume on the frost resistance of concrete. Opsahl, O.A., et al. [1989 p.149-160, eng] 47-14
Use of air-conditioning and plasticizing admixtures for producing concrete with good salt-frost resistance. Petersson, P.E., [1989, p.161-169, eng] 47-15
Salt-scaling resistance of concrete with air-entraining and superplasticizing admixtures. Ranisch, E.H., et al. [1989, p.170-178, eng] 47-16
Chemical resistance of alkali-activated concrete. Talling, B., [1989, p.252-257, eng] 47-18
Frost resistance of superplasticized air-entrained concrete. Siebel, E., [1989, p.297-319, eng] 47-63
Model for deicer scaling resistance of field concretes containing high-range water reducers. Whiting, D., et al. [1989, p.343-359, eng] 47-64
Influence of soluble alkalies on air-entrainment in concrete admixtures. Pigeon, M., et al. [1992, p.24-31, eng] 47-82
Non-air-entrained high-strength concrete—is it frost resistant. Cohen, M.D., et al. [1992, p.406-415, eng] 47-1548
Concrete freeze/thaw resistance in the presence of deicer solutions. Bordeleau, D., et al. [1992, p.547-553, eng] 47-2546
Influence of immersion vibration on the void system of air entrained concrete. Simon, M.J., et al. [1992, p.99-126, eng] 47-2573
Frost resistance of high-strength concrete. Pigeon, M., et al. [1992, p.975-980, fre] 47-3342
Freeze-thaw durabilit[illegible]rd scaling resistance of concrete paving blocks. Bo[illegible], J., et al. [1992, p.1017-1024, fre] 47-3343
Squires' penetrative downdraft model. Reuter, G.W., [1993, p.794-798, eng] 47-3511
Deicer scaling resistance of concrete pavement aggregates. Marchand, J., et al. [1993, p.151-178, eng] 47-3606
Silica fume in concrete—an overview. Khayat, K.H., et al. [1993, p.835-872, eng] 47-3611
Mean spacing of air voids in hardened concrete. Attiogbe, E.K., [1993, p.174-181, eng] 47-4352
High strength concrete resistance to cold weather. Ernzen, J.J., et al. [1993, 304p., eng] 47-5061

Air flow
Evolution of stratiform cirrus simulated in a lifting layer. Zhang, Y., et al. [1992, p.23-33, eng] 47-6
Case studies of the atmospheric boundary layer structure over sea ice for weakly unstable conditions. Myrhaug, D., [1992, p.93-99, eng] 47-266
Evidence of ascent in a sloped barrier jet and an associated heavy-snow band. Dunn, L.B., [1992, p.914-924, eng] 47-590
Algorithm for calculating the components and spatial orientation of air flow and water drops in a hail cloud. Baragunov, V.S., et al. [1991, p.8-14, rus] 47-747
Cold air outbreak near Spitsbergen in springtime—boundary-layer modification and cloud development. Brümmer, B., et al. [1992, p.13-46, eng] 47-900
Two polar lows affecting Denmark. Rasmussen, E.A., et al. [1992, p.326-338, eng] 47-1173
Aircraft take-off laboratory simulation for de/anti-icing study. Laforte, J.L., et al. [1992, p.183-193, eng] 47-1578
Snow and ice melting system for automotive vehicles. Ahmed, M.I., [1989, 12 col., eng] 47-3105
Aerodynamic effects of deicing and anti-icing fluids. Reinmann, J.J., et al. [1993, p.8-9, eng] 47-3310
Aerodynamic effects of aircraft ground deicing anti-icing fluids. Hill, E.G., et al. [1993, p.24-34, eng] 47-3314
Aerodynamic effects of ground de anti-icing fluids on Fokker 50 and Fokker 100. van Hengst, J., [1993, p.35-40, eng] 47-3315
Squires' penetrative downdraft model. Reuter, G.W., [1993, p.794-798, eng] 47-3511
Rime-ice accretion on fixed stranded conductors. Skelton, P.L.I., et al. [1993, p.45-52, eng] 47-3529
Processes that block zonal flow in the atmosphere. Tsvetkov, A.S., [1989, p.152-157, rus] 47-3668
Deicer control system. Phillips, R.W., II, [1988, 6 col., eng] 47-3765
Stochastic regime of large-scale atmospheric waves. Bekriaev, R.V., [1992, p.22-49, rus] 47-3804
Cargo container lift device. Hatley, J.F., [1987, 6 col., eng] 47-3852
Swirl anti-ice system. Rosenthal, H.A., [1987, 6 col., eng] 47-3853
Apparatus for deicing exterior parts of a railway vehicle. Björklund, B., [1987, 6 col., eng] 47-4002
Wing slat anti-ice air duct system. Knowler, J.C., [1986, 6 col., eng] 47-4263
Evaluation of air flow over an anti-ic[illegible]id film. Laforte, J.L., et al. [1993, p.96-10[illegible] 47-5007

Heavy snowfall during an arctic outbreak along the Colorado Front Range. Wesley, D.A., et al. [1990, p.2-19, eng] 47-5257
Comments on paper by Wesley et al and reply. Auer, A.H., Jr., et al. [1991, p.19-21, eng] 47-5259

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Air ice water interaction

Radiation and eddy flux experiment 1991 (REFLEX I). Hartmann, J., et al. [1992, 72p., eng] 47-41
Abstracts. [1992, 415p., eng] 47-106
Carbon dioxide and other trace gases in arctic seas. Kelley, J.J., et al. [1992, p.3-20, eng] 47-107
Climatology of atmospheric cyclones over the Sea of Okhotsk. Umemoto, T., [1992, p.37-40, eng] 47-112
Relation between atmospheric and ice conditions along the Okhotsk Sea coast of Hokkaido. Murai, K., et al. [1992, p.41-46, jpn] 47-113
JAMSTEC's ice sea study program—from the Okhotsk Sea to the Arctic Ocean. Sasaki, Y., et al. [1992, p.69-74, eng] 47-118
Air temperature fluctuations in Hokkaido and Okhotsk Sea ice. Honda, A., et al. [1992, p.307-310, jpn] 47-156
Ice features in Liaodong Gulf in the winter of 1988-1989. Li, Z.J., et al. [1992, p.317-320, eng] 47-158
German Meteorologists Meeting 1992. [1992, 425p., ger] 47-209
Geostrophic wind and sea ice motion in the Weddell Sea. Olf, J., [1992, p.228-229, ger] 47-214
Sensible heat flux over open water and sea ice in the Weddell Sea. Dutz, S., et al. [1992, p.317-318, ger] 47-217
Turbulent heat exchange between sea ice and the atmosphere in the Weddell Sea (Antarctica). Frieden, W., [1992, p.338-339, ger] 47-218
Arctic sea ice cover effect on summer atmospheric circulation. Yang, X.Q., et al, [1992, p.401-411, eng] 47-353
Surface water temperature changes in the high latitudes of the Southern Hemisphere over the last glacial-interglacial cycle. Pichon, J.J., et al, [1992, p.289-318, eng] 47-786
Pattern of ocean-atmosphere exchange in a Weddell Sea ice core. Peel, D.A., et al, [1992, p.430-442, eng] 47-837
Buoyant convection above open leads in arctic pack ice. Serreze, M.C., et al, [1992, p.J3/45-J3/48, eng] *47-880*
Research program on global warming at NCAR. Washington, W.M., et al, [1991, Var. p., eng] 47-882
Atmospheric general circulation/mixed layer ocean model for climate studies and long-term weather forecasting. Meleshko, V.P., et al, [1991, p.1-9, eng] 47-1176
Snow, sea ice and climate: a study of scales. LeDrew, E.F., et al, [1992, p.45-59, eng] 47-1425
Wind and tidal induced currents in an ice covered ocean. Furnes, G.E., [1992, p.608-617, eng] 47-1848
Effect of water course regulation on the local climate. Nordli, P.Ø., [1992, p.497-505, nor] 47-1974
Sea level variations during ice-covered periods in the Baltic Sea. Omstedt, A., et al, [1991, p.41-61, eng] 47-1992
Wind forcing and ice motion in the Weddell Sea region. Kottmeier, C., et al, [1992, p.20,373-20,383, eng] 47-2051
One-dimensional modeling study of carbonaceous haze effects on the springtime arctic environment. Emery, C.A., et al, [1992, p.20,599-20,613, eng] 47-2053
Modeling the seasonal variability of a coupled arctic ice-ocean system. Häkkinen, S., et al, [1992, p.20,285-20,304, eng] 47-2341
Oceanographic features in the Newfoundland marginal ice zone, March-April 1990. Tang, C.L., [1992, p.151-172, eng] 47-2345
Sea-ice properties off Labrador and Newfoundland during LIMEX '89. Prinsenberg, S.J., et al, [1992, p.207-222, eng] 47-2348
Preprints. [1992, 146p. + joint papers, eng] 47-2362
Unusual cloud forms in the arctic winter boundary layer. Byers, C.A., et al, [1992, p.7-10, eng] 47-2365
Microphysical processes occurring in ice crystal plumes emanating from arctic leads. Pinto, J.O., et al, [1992, p.17-20, eng] 47-2368
Spectral interactions of radiation and sea ice. Ebert, E.E., et al, [1992, p.21-24, eng] 47-2369
Arctic energy fluxes over sea ice from satellite data. Francis, J.A., [1992, p.25-28, eng] 47-2370
Katabatic surges across the Ross Ice Shelf. Bromwich, D.H., et al, [1992, p.29-32, eng] 47-2371
Determining realistic wind stress forcing fields for marine arctic regions. Davidson, K.L., et al, [1992, p.44-47, eng] 47-2376
Characteristics of the lower troposphere during LEADEX 92. *Persson, P.O.G., et al, [1992, p.50-53, eng]* 47-2378
Mesoscale meteorological modeling support for LEADEX. Thompson, W.T., *et al*, [1992, p.58-61, eng] 47-2380
Meteorological prerequisites for sea ice. Thorndike, A.S., [1992, p.62-63, eng] 47-2381
Sea ice deformation in the Beaufort Sea. Overland, J.E., et al, [1992, p.64-67, eng] 47-2382
Seasonal and regional variability of sea ice thickness *distribution.* Moritz, R.E., [1992, p.68-71, eng] 47-2383
Surface energy measurements on the arctic ice pack. Wolfe, D.E., et al, [1992, p.72-75, eng] 47-2384
Multivariate sensitivities of a dynamic-thermodynamic sea ice model. Chapman, W.L., et al, [1992, p.87-90, eng] 47-2388
Sensitivity study of a dynamic thermodynamic sea-ice model. Holland, D.M., et al, [1992, p.91-93, eng] 47-2389
Simulation of the arctic climatology with the NCAR CCM-2. Battisti, D.S., et al, [1992, p.133-136, eng] 47-2400
Stratification of the atmospheric boundary layer in the arctic marginal ice zone. Frederickson, P.A., et al, [1992, p.J16-J19, eng] 47-2407
Boundary-layer structure near an ice edge as a function of wind direction. Glendening, J.W., [1992, p.J20-J23, eng] 47-2408
Turbulence structure of the atmospheric surface layer over arctic ice and near a lead. Gaynor, J.E., et al, [1992, p.J37-J40, eng] 47-2412
Modelling the horizontally inhomogeneous cloudy boundary layer in the presence of leads. Alam, A., et al, [1992, p.J41-J44, eng] 47-2413
Sensitivity study of a dynamic thermodynamic sea ice model. Holland, D.M., et al, [1993, p.2561-2586, eng] 47-2626
On the interannual variability of arctic sea-level pressure and sea ice. Power, S.B., et al, [1992, p.551-577, eng] 47-2878
Introduction to "Microwave Remote Sensing of Sea Ice". Carsey, F.D., et al, [1992, p.1-7, eng] 47-3015
Air-ice-ocean processes in the seasonal ice zone. Johannessen, O.M., et al, [1992, p.261-289, eng] 47-3027
Use of satellite observations in ice cover simulations. Preller, R.H., et al, [1992, p.385-404, eng] 47-3036
Status and future directions for sea ice remote sensing. Carsey, F.D., et al, [1992, p.443-446, eng] 47-3040
Preprints. [1993, 438p., eng] 47-3042
Can greenhouse warming induce ice sheet growth. Ledley, T.S., et al, [1993, p.272-275, eng] 47-3046
Global change implications for antarctic lakes. Lindner, B.L., et al, [1993, p.276-279, eng] 47-3047
Estimation of arctic precipitation from water vapor flux convergence. Walsh, J.E., et al, [1993, p.324-328, eng] *47-3048*
Intrinsic thermodynamical time-scales of the atmosphere-ocean-cryosphere climate system. Chu, P.C., [1993, p.433-438, eng] 47-3052
Use of a wing-mounted airflow pod for airborne wind and flux measurement. MacPherson, J.I., [1993, p.169-174, eng] 47-3068
Antarctica and the detection of environmental change. Weller, G., [1992, p.201-208, eng] 47-3139
Antarctic climate and general circulation model experiments. Cattle, H., et al, [1992, p.209-218, eng] 47-3140
Improvements in general circulation model performance in simulating antarctic climate. Simmonds, I., [1990, p.287-300, eng] 47-3149
Controls on ice thickness. Rothrock, D.A., [1992, p.A4-A9, eng] 47-3237
Scientific concept of the Arctic Climate System Study (ACSYS). Augstein, E., ed, [1992, 89p. + appends., eng] 47-3291
Climatic regime of the Arctic at the transition from the 20th to the 21st century. Krutskikh, B.A., ed, [1991, 200p., *rus*] 47-3334
Sensitivity analysis of ice motion near Adams Island. Sykes, J.F., et al, [1992, p.890-901, eng] 47-3354
Recent variations of sea ice and air temperature in high latitudes. Chapman, W.L., et al, [1993, p.33-47, eng] 47-3477
Land-ocean-atmosphere relationships during last interglacial. Anderson, P., et al, [1991, p.29-48, eng] 47-3479
Framework for interpreting paleoclimatic variations in eastern Beringia. Bartlein, P.J., et al, [1991, p.73-83, eng] 47-3481
Atlantic circulation simulation with sea ice interface model, pt.1. Oberhuber, J.M., [1993, p.809-829, eng] 47-3568
Atlantic circulation simulation with sea ice interface model, pt.2. Oberhuber, J.M., [1993, p.830-845, eng] 47-3569
Opportunities to improve hydrologic data. Dozier, J., [1992, p.315-331, eng] 47-3645
Study of the North Water polynya using passive microwave and infrared imagery. Press, M.J., et al, [1993, p.92-101, eng] 47-3726
Interactive coupling of a lake thermal model with a regional climate model. Hostetler, S.W., et al, [1993, *p.3045-3057, eng*] 47-3784
Paleoclimate sensitivity to glacial ice cover. deMenocal, P.B., et al, [1993, p.7265-7287, eng] 47-3831
Changes of characteristics of arctic sea ice in case of a doubling of carbon dioxide. Kolomeev, M.P., et al, [1992, p.34-40, eng] 47-3991
Thickness predictions of rafted ice in the Caspian Sea. Bukharitsin, P.I., [1993, p.390-394, eng] 47-4067
Preprints. [1988, 160p., eng] 47-4173
Arctic sea ice 1973-1986: seasonal and interannual variability. Parkinson, C.L., et al, [1988, p.4-7, eng] 47-4174
Arctic sea ice 1973-1986: interregional comparisons. Cavalieri, D.J., et al, [1988, p.8-10, eng] 47-4175
Ice extent and flux in the Grand Banks-Labrador Sea area. Argus, S.D., et al, [1988, p.11-14, eng] 47-4176
Seasonal variations of atmospheric circulation and sea ice motion in the Arctic. McLaren, A.S., et al, [1988, p.20-23, eng] 47-4177
Short-period changes in sea ice and atmospheric conditions. Maslanik, J.A., et al, [1988, p.28-31, eng] 47-4178
North Atlantic sea ice sensitivities of monthly dynamical forecasts. Walsh, J.E., et al, [1988, p.32-35, eng] 47-4179
Synoptic ice melt from [illegible]bus-7 SMMR. Crane, R.G., et al, [1988, p.36-39, eng] 47-4180
Lead patterns in arctic sea ice. Barry, R.G., et al, [1988, p.40-43, eng] 47-4181
Summer cryospheric and atmospheric variability in the Arctic Basin. Robinson, D.A., et al, [1988, p.44-[illegible] eng] [illegible]
Long-range forecasts of arctic sea level pressure. R[illegible] B., et al, [1988, p.48-51, eng] 47-[illegible]
Atmospheric boundary layer features observed in the spring marginal ice zone. Guest, P.S., et al, [1988, p.73-74, eng] 47-4185
Arctic ice conditions and the 500 mb component. Englebretson, R.E., [1988, p.79-82, eng] 47-4187
Polar low sensitivity to sea surface temperature. Langland, R.H., et al, [1988, p.83-86, eng] 47-4188
High-latitude processes in a coupled ocean-atmosphere general circulation model. Roberts, D.L., [1988, p.89-91, eng] 47-4190
Climatic changes in the Barents Sea area. Borisov, S.B., et al, [1991, p.46-50, eng] *47-4252*
Variations in snow on sea ice: a mechanism for producing climate variations. Ledley, T.S., [1993, p.10,401-10,410, eng] 47-4291
Katabatic flow thermodynamics of Adélie Coast. Pettré, P., et al, [1993, p.10,429-10,440, eng] 47-4292
Dynamics of ice cover interacting with ocean and atmosphere. Kheisin, D.E., [1993, p.51-55, eng] 47-4300
Boolean delay equation model of an interdecadal arctic climate cycle. Darby, M.S., et al, [1993, p.241-246, eng] *47-4354*
Thermal energy conservation in icebergs and tracking by temperature. Løset, S., [1993, p.10,001-10,012, eng] 47-4372
Hydrography and vertical fluxes of heat and salt northeast of Svalbard in autumn. Steele, M., et al, [1993, p.10,013-10,024, eng] 47-4373
Numerical study of haline convection beneath leads in sea *ice.* Smith, D.C., IV, et al, [1993, p.10,069-10,083, eng] 47-4377
Thermodynamic model of ice-atmosphere interactions. Ebert, E.E., et al, [1993, p.10,085-10,109, eng] 47-4378
Sea ice—a climate component. Gudmandsen, P., [1993, p.9-13, eng] 47-4416
Ice studies in the Barents Sea by ERS-1 SAR during SIZEX 92. Johannessen, O.M., et al, [1993, p.277-282, eng] 47-4425
Air-sea-ice interactions in the Weddell Sea. Viehoff, T., et al, [1993, p.325-327, eng] 47-4433
Impact of ERS-1 wind/wave/ice data on operational ocean forecasting. Guddal, J., [1993, p.695-699, eng] 47-4448
Modeling the deltaO-18-derived record of Quaternary climatic change with low dynamical systems. Saltzman, B., [1987, p.355-380, eng] 47-4453
Cloud-ice-vapor feedbacks in a global climate model. Jentsch, V., [1987, p.417-437, eng] 47-4456
Sea ice-ocean interaction. Lemke, P., [1987, p.439-451, eng] 47-4457
Preprints. [1991, 528p. + joint papers, eng] 47-4480
Faint young sun paradox: climate model with sea-ice. Molnar, G.I., et al, [1991, p.135-138, eng] 47-4482
Coupling of the CSU GCM to a simple ocean and sea ice model. Jensen, T.G., et al, [1991, p.321-322, eng] 47-4485
Modeling study of the role of snow on sea ice in producing interannual climate variations. Ledley, T.S., [1991, p.323-326, eng] 47-4486
Model simulation of changes in arctic sea ice thickness, 1960-1989. Walsh, J.E., et al, [1991, p.346-349, eng] 47-4487
Atmospheric circulation anomalies in the arctic basin. Serreze, M.C., et al, [1991, p.350-353, eng] 47-4488
Simultaneous winter sea ice and atmospheric circulation anomaly patterns. Agnew, T., [1991, p.362-365, eng] 47-4491
Atmospheric forcings on albedo over arctic sea ice. Serreze, M.C., et al, [1991, p.396-399, eng] 47-4493
Comparison of global climate model simulations of polar regions. Crane, R.G., et al, [1991, p.488-491, eng] 47-4495
Climate system modeling. Trenberth, K.E., ed, [1992, 788p., eng] 47-4497

Air ice water interaction *(cont.)*

Ocean circulation. Niiler, P.P., [1992, p.117-148, eng] 47-4498

Sea ice models. Hibler, W.D., III, et al, [1992, p.413-436, eng] 47-4499

Global coupled models: atmosphere, ocean, sea ice. Meehl, G.A., [1992, p.555-581, eng] 47-4501

Drag coefficients for winter antarctic pack ice. Wamser, C., et al, [1993, p.12,431-12,437, eng] 47-4520

Climate model sensitivity to sea ice albedo parameterization. Morassutti, M.P., [1991, p.25-36, eng] 47-4640

High latitude ocean convection. Rudels, B., [1993, p.323-356, eng] 47-4843

Ocean convection and the creation of polynyas. Schmalzl, J., et al, [1993, p.371-383, eng] 47-4844

Environmental and climatic links between Antarctica and South Africa. Lucas, M.I., et al, [1991, p.193-219, eng] 47-4978

Polaarialueiden tutkimus ja globaalinen ilmaston-ja ympäristönmuutos. Launiainen, J., [1993, p.21-31, fin] 47-4996

Sea ice edge forecast verification program for the Bering Sea. Wohl, G.M., [1991, p.6-12, eng] 47-5260

Modelling the last ice-age cycle with 2-D climate models. Herterich, K., et al, [1993, p.107-116, eng] 47-5267

Air ice water interface

Ice edge noise observations from the 1988-89 Greenland Sea tomography experiment. Lynch, J.F., et al, [1992, p.611-619, eng] 47-4719

Air inflated structures

See also: Inflatable structures

Air leakage

Air leakage control in residential buildings in cold climates. Parekh, A., [1992, p.632-642, eng] 47-1164

Airtightness standards for residential buildings in Japan. Yoshino, H., [1992, p.718-724, eng] 47-1166

Air masses

Conditions for the formation and forecasting of frontal and air mass icing in the Central Volga region. Maksimovich, S.N., [1991, p.10-13, rus] 47-891

Two polar lows affecting Denmark. Rasmussen, E.A., et al, [1992, p.326-338, eng] 47-1173

Tropospheric ozone and aerosol observations: the Alaskan Arctic. Gregory, G.L., et al, [1992, p.16,451-16,471, eng] 47-1448

Summertime tropospheric composition over Alaska. Sandholm, S.T., et al, [1992, p.16,481-16,509, eng] 47-1450

Air pollution

On the age of stratospheric air and ozone depletion potential in polar regions. Pollock, W.H., et al, [1992, p.12,993-12,999, eng] 47-77

Trace gases in the winter arctic atmosphere. Adrian, G.P., et al, [1992, p.210-211, ger] 47-213

Arctic contaminants: sources, occurrence and pathways. Barrie, L.A., et al, [1992, p.1-74, eng] 47-261

Spatial-temporal variability of surface inversions in the Arctic. Timerev, A.A., et al, [1991, p.39-44, eng] 47-267

Nitrogen oxides in the arctic troposphere. Honrath, R.E., Jr., [1992, 289p., eng] 47-271

Transport and fate of organic contaminants in the environment. Cotham, W.E., Jr., [1991, 208p., eng] 47-305

Microphysical, chemical and meteorological aspects of aerosol hazes in the Arctic. Brock, C.A., [1991, 323p., eng] 47-308

Comment on "Formic and acetic acids in coastal North Carolina rainwater". Hewitt, A.D., et al, [1992, p.1666, eng] 47-452

Changing sources of impurities to the Greenland ice sheet over the last 250 years. Laj, P., et al, [1992, p.2627-2640, eng] 47-901

Anthropogenic sulfate and Asian dust signals in snow from Tien Shan, northwest China. Wake, C.P., et al, [1992, p.45-52, eng] 47-1085

Synopsis of research conducted under the 1991/1992 northern contaminants program. Murray, J.L., ed, [1992, 213p., eng] 47-1147

Deposition of sulfur and nitrogen compounds over the USSR. Vasilenko, V.N., et al, [1991, p.19-24, eng] 47-1177

Brewer spectrophotometry in total ozone measurements. Anav, A., et al, [1992, p.277-284, eng] 47-1207

Composition of the arctic troposphere. Barrie, L.A., [1992, p.71-77, eng] 47-1427

Organic micropollutants in arctic snow and firn. Gregor, D.J., [1992, p.79-90, eng] 47-1428

Arctic Boundary Layer Expedition (ABLE 3A): July-August 1988. Harriss, R.C., et al, [1992, p.16,383-16,394, eng] 47-1444

Meteorological overview of the Arctic Boundary Layer Expedition (ABLE 3A) flight series. Shipham, M.C., et al, [1992, p.16,395-16,419, eng] 47-1445

Summertime photochemistry of the troposphere at high northern latitudes. Jacob, D.J., et al, [1992, p.16,421-16,431, eng] 47-1446

Large-scale variability of ozone and aerosols in the summertime arctic and sub-arctic troposphere. Browell, E.V., et al, [1992, p.16,433-16,450, eng] 47-1447

Tropospheric ozone and aerosol observations: the Alaskan Arctic. Gregory, G.L., et al, [1992, p.16,451-16,471, eng] 47-1448

Summertime tropospheric composition over Alaska. Sandholm, S.T., et al, [1992, p.16,481-16,509, eng] 47-1450

Measurement of organic nitrates in high latitude atmospheres. Singh, H.B., et al, [1992, p.16,511-16,522, eng] 47-1451

Nitrate proportions in northern high latitude atmospheres. Singh, H.B., et al, [1992, p.16,523-16,530, eng] 47-1452

Soluble species in the arctic summer troposphere: acidic gases, aerosols, and precipitation. Talbot, R.W., et al, [1992, p.16,531-16,543, eng] 47-1453

Measurements of NOx and NOy concentrations and fluxes over arctic tundra. Bakwin, P.S., et al, [1992, p.16,545-16,557, eng] 47-1454

Nonmethane hydrocarbons in the arctic boundary layer. Blake, D.R., et al, [1992, p.16,559-16,588, eng] 47-1455

Carbon monoxide and methane in the North American arctic and subarctic troposphere: July-August 1988. Harriss, R.C., et al, [1992, p.16,589-16,599, eng] 47-1456

Airborne flux measurements of trace species in an arctic boundary layer. Ritter, J.A., et al, [1992, p.16,601-16,625, eng] 47-1457

Atmospheric chemistry in the Arctic and subarctic. Wofsy, S.C., et al, [1992, p.16,731-16,746, eng] 47-1467

Elemental source signatures of aerosols from the Canadian high Arctic. Landsberger, S., et al, [1992, p.181-187, eng] 47-1554

High latitude environments and environmental change. Kullman, L., [1992, p.478-488, eng] 47-1744

Ozone hole. Stefanutti, L., [1991, p.159-164, ita] 47-1825

Thermodynamics of pollutant removal as an indicator of possible source areas for arctic haze. Bowling, S.A., et al, [1992, p.2953-2961, eng] 47-1949

Effect of acid mist on spruce frost resistance. Eamus, D., et al, [1993, p.135-142, eng] 47-2017

Dew and frost chemistry at a midcontinent site, United States. Wagner, G.H., et al, [1992, p.20,591-20,597, eng] 47-2052

One-dimensional modeling study of carbonaceous haze effects on the springtime arctic environment. Emery, C.A., et al, [1992, p.20,599-20,613, eng] 47-2053

Seasonal cycle of nitrogen oxides in the arctic troposphere at Barrow, Alaska. Honrath, R.E., Jr., et al, [1992, p.20,615-20,630, eng] 47-2054

Removal of atmospheric aerosols in the sub-arctic region. Selin, E., et al, [1992, p.S965-S968, eng] 47-2074

Pinatubo in the Antarctic?. Stefanutti, L., et al, [1992, p.327-343, eng] 47-2168

NWRI digest. Cooley, J., ed, [1993, 8p., eng] 47-2199

Scavenging of atmospheric constituents by alpine snow. Baltensperger, U., et al, [1991, p.483-493, eng] 47-2215

Polar precipitation chemistry. Delmas, R.J., [1991, p.1669-1691, eng] 47-2218

Measurements of airborne carbonaceous aerosols in the eastern Arctic. Hansen, A.D.A., et al, [1992, p.429-433, eng] 47-2544

Studies of the arctic aerosol in Greenland. Heidam, N.Z., [1990, 116p., dan] 47-2585

Dependence of cloud chemistry on drop size. Collett, J.L., Jr., et al, [1993, p.33-42, eng] 47-2705

Water soluble organic constituents in arctic aerosols and snow pack. Li, S.M., et al, [1993, p.45-48, eng] 47-2845

Source of lead in Greenland snows. Rosman, K.J.R., et al, [1993, p.333-335, eng] 47-2891

Measurements on contrails of commercial aircraft. Baumann, R., et al, [1993, p.484-489, eng] 47-3079

Preprints, [1993, 140p., eng] 47-3098

Global and regional changes in atmospheric composition. Mészáros, E., [1993, 175p., eng] 47-3136

Atmospheric physics and chemistry of Adélie Coast. Polian, G., [1990, p.50-59, fre] 47-3162

Arctic haze: patterns and relationships to regional *signatures of trace gases.* Khalil, M.A.K., et al, [1993, p.27-36, eng] 47-3461

Atmospheric scavenging during surface frost formation. Georgiadis, T., et al, [1993, p.267-276, eng] 47-3474

Tropospheric ozone distribution in Antarctica and European Arctic. Taalas, P., et al, [1993, p.106-119, eng] 47-3532

Size distribution of particles in precipitation and river waters in the Baikal Lake region. Anokhin, IU.A., et al, [1992, p.19-26, eng] 47-3989

Cleanup in the Arctic. Josephson, J., [1993, p.585, eng] 47-4020

Chemical composition of precipitation in Uzbekistan. Kulmatov, R.A., et al, [1993, p.413-419, eng] 47-4068

Measurements of cloud-droplet-size distributions in *polluted and unpolluted stratiform.* Alkezweeny, A.J., et al, [1993, p.106-115, eng] 47-4166

Ammonium to sulphate ratio in aerosol and snow of Greenland and antarctic regions. Silvente, E., et al, [1993, p.687-690, eng] 47-4167

Submicron size aerosols and weather forecasting in East Antarctica. Lal, M., [1988, p.105-107, eng] 47-4193

"Major" arctic haze event north of Point Barrow, Alaska, *April 1986.* Schnell, R.C., et al, [1988, p.112-115, eng] 47-4195

Atmospheric transport of aerosols and haze to Barrow, Alaska. Herbert, G.A., et al, [1988, p.116-118, eng] 47-4196

Acid snow over coastal Japan, pt.1. Kitada, T., et al, [1993, p.1061-1076, eng] 47-4581

Acid snow over coastal Japan, pt.2. Kitada, T., et al, [1993, p.1077-1090, eng] 47-4582

Seed bank composition in a subarctic forest. Vieno, M., et al, [1993, p.379-384, eng] 47-4583

Emissions from antiskid materials applied to icy roadways. Kinsey, J.S., [1993, Var. p., eng] 47-4617

Sulfur mass loading of the atmosphere from volcanic eruptions. Sigurdsson, H., et al, [1990, 7p. + appends., eng] 47-4618

Constraints imposed by the ice core data on the budgets of nitrous oxide and methane. Khalil, M.A.K., et al, [1989, p.403-410, eng] 47-4639

Atmospheric pesticides in the southern polar regions, *summer 1990.* Bidleman, T.F., et al, [1993, p.258-262, eng] 47-4881

Snow impurities as a function of pollutant emission remoteness. Malakhov, S.G., et al, [1993, p.111-115, eng] 47-5003

Scavenging effect of snow. Kumagai, K., et al, [1985, p.61-64, jpn] 47-5101

Decrease in growth rates of atmospheric CFCs 11 and 12. Elkins, J.W., et al, [1993, p.780-783, eng] 47-5126

Partitioning of nitrogen oxides in the lower arctic troposphere during spring 1988. Bottenheim, J.W., et al, [1993, p.15-27, eng] 47-5144

Chemical composition of snow near a mining plant. Lazareva, I.P., et al, [1993, p.79-86, eng] 47-5193

Tracer gas for meteorological analysis in the Fairbanks basin. Rezek, J.F., et al, [1981, 33p. + appends., eng] 47-5246

Air snow interface

See also: Snow air interface

Air soil interface

See also: Soil air interface

Air temperature

Radiation and eddy flux experiment 1991 (REFLEX I). Hartmann, J., et al, [1992, 72p., eng] 47-41

Meteorological data at Asuka Station, Antarctica in 1990. Iwasaki, A., et al, [1992, 110p., eng] 47-43

Stratospheric composition and temperatures poleward of 60N. Remsberg, E.E., et al, [1992, p.13,001-13,014, eng] 47-78

Air temperature fluctuations in Hokkaido and Okhotsk Sea ice. Honda, A., et al, [1992, p.307-310, jpn] 47-156

Anticipated human modifications of global climate. Budyko, M.I., et al, [1990, p.11-23, eng] 47-171

Recent tendencies in climatic changes in the Arctic. Aleksandrov, E.I., et al, [1992, p.865-868, rus] 47-237

Parameters which influence the air content in polar ice. Martinerie, P., et al, [1992, p.1-13, eng] 47-458

Use of energy-balance model to reflect climate sensitivity of glaciers. Oerlemans, J., [1992, p.223-232, eng] 47-463

Forecasting snow versus rain in Kulu Valley. Rangachary, N., et al, [1985, p.304-309, eng] 47-547

Effects of severe freezing periods and discharge on the *formation of ice jams.* Zufelt, J.E., et al, [1992, 12p., eng] 47-698

Great Lakes winter-weather 700-hPa PNA teleconnections. Assel, R.A., [1992, p.2156-2163, eng] 47-877

Surface air temperature forecasting during heavy snowfall. Petrichenko, I.A., et al, [1991, p.6-9, eng] 47-995

Climatology of surface-based inversion in the North American Arctic. Bradley, R.S., et al, [1992, p.15,699-15,712, eng] 47-997

Temperature forecast biases associated with snow cover in the Northeast. Wojcik, G.S., et al, [1992, p.501-506, eng] 47-1059

Source strength terms for winter dispersion models. Hogan, A.W., et al, [1992, p.149-155, eng] 47-1069

Prediction of mountain glacier mass balance changes. Ageta, Y., et al, [1992, p.89-94, eng] 47-1092

Effect of arctic ice cover on the monthly temperature and precipitation in China. Chen, Y.S., et al, [1992, p.275-286, eng] 47-1124

Low temperature records and snow cover effect in the *Colorado desert.* Doesken, N.J., [1992, p.19-22, eng] 47-1174

Results of investigating the middle atmosphere at antarctic station Molodezhnaya. Ivanova, I.N., et al, [1991, p.30-34, eng] 47-1178

Variations of sea ice area and thickness in the southern ocean due to climate warming. Baĭkova, I.M., [1991, p.41-45, eng] 47-1179

Antarctic temperature perturbation due to the QBO and *the secular ozone trend.* Pitari, G., et al, [1992, p.317-329, eng] 47-1209

Relationship between the Earth's thermal regime and snow-ice cover during climate warming and cooling. Baĭkova, I.M., [1989, p.21-27, eng] 47-1229

Evaluating the nival-glacial climate of mountains to be used for recreation. Suprunenko, IU.P., [1982, p.34-41, rus] 47-1247
Global changes in the environment as "mirrored" in an ice core. Kotliakov, V.M., [1992, p.59-68, rus] 47-1250
Total ozone changes and stratospheric wind and temperature. Xiong, K., et al, [1992, p.45-50, chi] 47-1256
Temperature-precipitation relationships for Canadian stations. Isaac, G.A., et al, [1992, p.822-830, eng] 47-1268
Canadian Climate Centre second-generation general circulation model and its equilibrium climate. McFarlane, N.A., et al, [1992, p.1013-1044, eng] 47-1269
Greenhouse gas-induced climate change simulated with the CCC second-generation general circulation model. Boer, G.J., et al, [1992, p.1045-1077, eng] 47-1270
Stratospheric sudden cooling after solar proton event. Kodama, M., et al, [1992, p.361-366, eng] 47-1336
In situ meteorological sounding archives for arctic studies. Kahl, J.D., et al, [1992, p.1824-1830, eng] 47-1625
Cold air production and drainage in Finnmarksvidda. Part 6. Diurnal and group averages from measurements in the period 1987-1988. Hanssen-Bauer, I., [1989, 51p., nor] 47-1691
Cold air production and drainage in Finnmarksvidda. Part 5. Cold air drainage along the Alta Valley during a week in winter with a weak pressure gradient over Finnmark. Hanssen-Bauer, I., [1988, 17p., nor] 47-1692
Cold air production and drainage in Finnmarksvidda. Part 4. Study on the drainage flow through a canyon with variable scale wind pressure. Hanssen-Bauer, I., [1988, 20p., nor] 47-1693
Cold air production and drainage in Finnmarksvidda. Part 3. Study on the flow in a canyon with neutral stability. Gjessing, Y., et al, [1988, 22p., nor] 47-1694
Cold air production and drainage in Finnmarksvidda. Part 2. Diurnal and group averages from measurements in the period 1984-87. Hanssen-Bauer, I., et al, [1988, 104p., nor] 47-1695
Cold air production and drainage in Finnmarksvidda. Part 1. Statement of the problem, background data and outline. Gjessing, Y., et al, [1988, 17p., nor] 47-1696
Global changes during the latest glacial-interglacial cycle. Kotliakov, V.M., et al, [1992, p.89-113, eng] 47-1762
Reflection of twentieth-century climatic warming in glacier cores from Nordaustlandet. Sin'kevich, S.A., [1992, p.114-122, eng] 47-1763
Temperature and precipitation series at Norwegian arctic meteorological stations. Nordli, P.Ø., [1990, 14p., eng] 47-1917
Climate of Spitsbergen. Hanssen-Bauer, I., et al, [1990, 40p., eng] 47-1918
Constant or cooling temperatures over the Arctic Ocean. Kahl, J.D., et al, [1993, p.335-337, eng] 47-1939
Effect of water course regulation on the local climate. Nordli, P.Ø., [1992, p.497-505, nor] 47-1974
Climate since A.D. 1500. Bradley, R.S., ed. [1992, 679p., eng] 47-2078
Climate since A.D. 1500: introduction. Bradley, R.S., et al, [1992, p.1-16, eng] 47-2079
Historical and instrumental evidence of climate: western Hudson Bay, Canada, 1714-1850. Ball, T.F., [1992, p.40-73, eng] 47-2081
Historical climate records from the northeastern United States, 1640-1900. Baron, W.R., [1992, p.74-91, eng] 47-2082
Documentary evidence for changes in the climate of Iceland, A.D. 1500 to 1800. Ogilvie, A.E.J., [1992, p.92-117, eng] 47-2083
Monthly temperature and precipitation in central Europe 1525-1979. Pfister, C., [1992, p.118-142, eng] 47-2084
Reconstructing the climate of northern Italy from archive sources. Camuffo, D., et al, [1992, p.143-154, eng] 47-2085
Climatic variations in the longest instrumental records. Jones, P.D., et al, [1992, p.246-268, eng] 47-2088
Dendroclimatic evidence from the northern Soviet Union. Graybill, D.A., et al, [1992, p.393-414, eng] 47-2093
1991 ozone hole. Clarkson, T.S., et al, [1992, p.303-309, eng] 47-2165
1990 spring stratospheric denitrification. Gobbi, G.P., et al, [1992, p.323-326, eng] 47-2167
Tropospheric temperature trends in the Arctic. Stone, R.S., et al, [1992, p.137-140, eng] 47-2401
Lower tropospheric temperature trends over the Arctic Ocean: 1950-1990. Kahl, J.D., et al, [1992, p.141-144, eng] 47-2402
Multiyear surface climatology of a regional atmospheric model over the western United States. Giorgi, F., et al, [1993, p.75-95, eng] 47-2460
Extending the antarctic meteorological record using ice-sheet temperature profiles. Nicholls, K.W., et al, [1993, p.141-150, eng] 47-2462
Effects of cloud seeding on meteorological parameters. Shmeter, S.M., [1991, p.29-33, eng] 47-2636
Observed climate variations and change. Folland, C.K., et al, [1990, p.198-238, eng] 47-2652
Freeze risk to Florida citrus. Part 2: Temperature variability and circulation patterns. Downton, M.W., et al, [1993, p.364-372, eng] 47-2708
Temperature extremes. Hickcox, D.H., [1993, p.42-46, eng] 47-2766
Reflection of 20th-century climatic warming in the glacier cores of Nordauslandet. Sin'kevich, S.A., [1991, p.53-59, rus] 47-2788
Air inclusions as an index of ice formation conditions on polar glaciers. Samollov, O.IU., [1991, p.118-121, rus] 47-2799
Interrelation between the altitude of the equilibrium line, air temperature, and runoff in the Sary-Tor Glacier. Diurgerov, M.B., et al, [1991, p.136-139, rus] 47-2803
Recent temperature trends: are they reinforced by insolation shifts. Kukla, G.J., et al, [1992, p.291-305, eng] 47-2841
Tropospheric low-level temperature inversions in the Canadian Arctic. Kahl, J.D., et al, [1992, p.511-529, eng] 47-2876
Stratospheric ozone depletion and denitrification in spring 1990. Deshler, T., [1991, p.242-244, eng] 47-3055
Air temperature fluctuations in Austria, 1775-1991. Boehm, R., [1993, p.J26-J30, eng] 47-3080
Homogeneity problems in Danish and Greenlandic temperature time series. Frich, P., [1993, p.J39-J42, eng] 47-3081
Rotational Raman lidar to measure the atmospheric temperature from the ground to 30 km. Nedeljkovic, D., et al, [1993, p.90-101, eng] 47-3357
Impacts of severe weather during December 1989 in the Lake Erie snowbelt. Schmidlin, T.W., [1993, p.759-767, eng] 47-3476
Recent variations of sea ice and air temperature in high latitudes. Chapman, W.L., et al, [1993, p.33-47, eng] 47-3477
Last interglacial evidence in Northern Hemisphere high latitudes. Anderson, P., et al, [1991, p.9-28, eng] 47-3478
Eemian-Early Weichselian N-S temperature gradients: North Atlantic-NW Europe. Sejrup, H.P., et al, [1991, p.161-166, eng] 47-3488
Climatic rhythm of the last interglacial in northern Eurasia. Velichko, A.A., et al, [1991, p.191-213, eng] 47-3490
Insolation effects on last interglacial climate. Kutzbach, J.E., et al, [1991, p.223-229, eng] 47-3492
Analysis of the characteristics of decrease in areas of ice massifs in the Novosibirsk region during summer. Egorov, A.G., et al, [1990, p.15-24, rus] 47-3585
Diagnosis and forecasting of significant 10-year anomalies in air temperatures in the western Arctic. Grakhovskiĭ, G.N., et al, [1989, p.88-96, rus] 47-3660
Dependence of the formation of anomalies in air temperature above arctic seas during the autumn period on the H500 field. Korzhikov, A.IA., [1989, p.122-127, rus] 47-3664
Conditions for formation of significant anomalies in pressure and air temperature during December-February. Vangengeĭm, T.G., [1989, p.158-162, rus] 47-3669
Problem of climatic standards of temperature and air pressure in the Northern Hemisphere. Bolotinskaia, M.Sh., [1989, p.163-169, rus] 47-3670
Air conditioning energy conservation through ice storage. Tassou, S.A., et al, [1992, p.419-425, eng] 47-3798
Stochastic regime of large-scale atmospheric waves. Bekriaev, R.V., [1992, p.22-49, rus] 47-3804
Effect of a meridional profile of surfaces on the characteristics of large-scale atmospheric waves. Bekriaev, R.V., et al, [1992, p.75-86, rus] 47-3807
Cause-effect relationships in the interactive processes of the ocean and atmosphere in the North Atlantic. Zablotskiĭ, G.A., et al, [1992, p.105-115, rus] 47-3810
Stratospheric cooling over Scandinavia. Claud, C., et al, [1993, p.7229-7243, eng] 47-3829
Equatorial atmospheric influence on polar stratospheric temperatures. Kodera, K., [1993, p.7245-7250, eng] 47-3830
Multi-year fluctuations in air temperature in the northern European basin. Dement'ev, A.A., [1991, p.6-13, rus] 47-3954
Strongly temperature dependent microphysical processes and the atmosphere. Stewart, R.E., et al, [1992, p.309-315, eng] 47-3996
Local influences on winter minimum air temperatures. Hogan, A.W., et al, [1992, p.243-246, eng] 47-4054
Thickness predictions of rafted ice in the Caspian Sea. Bukharitsin, P.I., [1993, p.390-394, eng] 47-4067
Correlation between ice core isotope levels and air temperature. Jones, P.D., et al, [1993, p.14-26, eng] 47-4143
Climate and permafrost. Gavrilova, M.K., [1993, p.99-111, eng] 47-4146
Southern Oscillation signal in Antarctica. Savage, M.L., et al, [1988, p.141-144, eng] 47-4203
Observation of recurrent temperature lapse near the surface at the South Pole. Obremski, J.S., et al, [1988, p.145-147, eng] 47-4204
Climatic changes in the Barents Sea area. Borisov, S.B., et al, [1991, p.46-50, eng] 47-4252
Cloud-ice-vapor feedbacks in a global climate model. Jentsch, V., [1987, p.417-437, eng] 47-4456
Temperature trends and circulation changes on the Northern Hemisphere in winter. Van Loon, H., [1991, p.12-15, eng] 47-4481
Recent climate variability in the Antarctic Peninsula. King, J.C., [1991, p.354-357, eng] 47-4489
TOVS temperature sounding record for the Arctic. Khalsa, S.J.S., et al, [1991, p.366-367, eng] 47-4492
Great Lakes air temperature trends for land stations, 1901-1987. Bolsenga, S.J., et al, [1993, p.379-388, eng] 47-4565
Effects of increased atmospheric CO2 on the ocean-atmosphere system. Manabe, S., et al, [1993, p.215-218, eng] 47-4571
"Recent warming": ice core evidence from tropical ice cores with emphasis on Central Asia. Thompson, L.G., et al, [1993, p.145-156, eng] 47-4588
Climate change inferred from borehole temperatures. Pollack, H.N., [1993, p.173-179, eng] 47-4589
Distribution of *delta*D in snow on the longest antarctic traverse route. Qin, D.H., et al, [1993, p.375-384, eng] 47-4600
Air temperature variations on Spitsbergen in 1979-1983. Przybylak, R., [1992, p.113-129, eng] 47-4651
Arctic Ocean Buoy Program data report for 1 January 1987-31 December 1987. Colony, R.L., et al, [1990, 152p., eng] 47-4670
Arctic Ocean Buoy Program data report for 1 January 1988-31 December 1988. Colony, R.L., et al, [1991, 181p., eng] 47-4671
Arctic Ocean Buoy Program data report for 1 January 1989-31 December 1989. Colony, R.L., et al, [1991, 158p., eng] 47-4672
Arctic Ocean Buoy Program data report for 1 January 1990-31 December 1990. Colony, R.L., et al, [1991, 142p., eng] 47-4673
Large-scale statistical structure of antarctic temperature fields. Liubarskiĭ, A.N., [1992, p.18-25, rus] 47-4922
Stratospheric meteorological conditions in the Arctic polar vortex, 1991-1992. Newman, P., et al, [1993, p.1143-1146, eng] 47-5137
Recent snowfall variations in North America. Karl, T.R., et al, [1993, p.1327-1344, eng] 47-5211
Correlation between continental snow cover and air temperature. Leathers, D.J., et al, [1993, p.1345-1355, eng] 47-5212
Pacific warming and antarctic ozone depletion. Mo, K.C., [1993, p.1375-1391, eng] 47-5213
Arctic climatic change: comment and reply. Burn, C.R., et al, [1993, p.1473-1478, eng] 47-5215
Heavy snowfall during an arctic outbreak along the Colorado Front Range. Wesley, D.A., et al, [1990, p.2-19, eng] 47-5257

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Supercooled liquid water and precipitation-enhancement opportunities. Long, A.B., et al, [1992, p.1041-1055, eng] 47-9
Physical and dynamic properties of sea ice in the polar oceans. Gow, A.J., et al, [1991, 46p., eng] 47-704
Bromoform in the Nansen Basin in the Arctic Ocean. Krysell, M., [1991, p.187-197, eng] 47-1195
Carbon isotopes in methane emitted from Alaskan wetlands. Martens, C.S., et al, [1992, p.16,689-16,701, eng] 47-1463
Global climatic changes in water and heat transfer—accumulation processes. Dobrovol'skiĭ, S.G., [1992, 265p., eng] 47-1512
Flux of CO2 and CH4 from lakes and rivers in arctic Alaska. Kling, G.W., et al, [1992, p.23-36, eng] 47-1601
Anomalies in global heat-water exchange; stochastic models. Dobrovol'skiĭ, S.G., [1991, 128p., rus] 47-2285
Three dimensional pseudovorticity field in the west Spitsbergen current. Chu, P.C., [1992, p.101-104, eng] 47-2392
Apparent moratorium on greenhouse warming. Kellogg, W.W., [1993, p.265-267, eng] 47-3045
Low-frequency climate variations over the Northern Hemisphere. Hurrell, J.W., et al, [1993, p.355-360, eng] 47-3050
ENSO-snow-monsoon associations and seasonal prediction. Yang, S., [1993, p.418-422, eng] 47-3051
Wind stress in an ocean general circulation model (part 1). Matsuura, T., et al, [1991, p.39-68, jpn] 47-3292
Model and real climate compared in the NW European winter. Beersma, J.J., [1992, 32p., eng] 47-3522
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Analyzing the thermal effect of the Atlantic on variation in the barometric field during winter. Vangengeim, T.G., [1989, p.128-137, rus] 47-3665
Convergence of the solution to certain models of climatic systems. Liubich, M.IU., [1992, p.100-104, rus] 47-3809
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Circulation and hydrography in the northwestern Gulf of Alaska. Musgrave, D.L., et al. [1992, p.1499-1519, eng] 47-3817

Deep and bottom waters of the Greenland Sea—formation and transformation processes. Popov, A.V., [1991, p.44-55, rus] 47-3957

Large-scale variations *in the thermal regime of* the Norwegian Sea during 1959-1984. Shevchenko, A.V., [1991, p.56-65, rus] 47-3958

Variability of the heat balance component in the northern Norwegian Sea. Seriakov, E.I., et al. [1991, p.66-74, rus] 47-3959

Forecasting the temperature of water in the Norwegian Sea. Zhevnovatyi, V.T., et al. [1991, p.110-120, rus] 47-3962

Oceanic boundary layer in the tropics during the last ice age. Betts, A.K., et al. [1991, p.480-483, eng] 47-4494

Marine humic acids in Bering and Chukchi sea ecosystems. Perminova, I.V., et al. [1993, p.43-49, eng] 47-5227

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Radiation and eddy flux experiment 1991 (REFLEX I). Hartmann, J., et al. [1992, 72p., eng] 47-41

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Airborne radar

Bothnian Experiment in Preparation for ERS-1, 1988 (BEPERS-88)—an overview. Askne, J., et al. [1992, p.2377-2398, eng] 47-254

Classification of low-salinity sea ice types by ranging scatterometer. Hyyppä, J., et al. [1992, p.2399-2413, eng] 47-255

Relation between SAR imagery and regional sea ice ridging characteristics from BEPERS-88. Similä, M., et al. [1992, p.2415-2432, eng] 47-256

C-band radar backscatter of Baltic Sea ice: theoretical predictions compared with calibrated SAR measurements. Ulander, L.M.H., et al. [1992, p.2447-2468, eng] 47-258

Unsupervised segmentation of polarimetric SAR data using the covariance matrix. Rignot, E.J., et al. [1992, p.697-705, eng] 47-356

Snow conditions during MLRS-TGW BBU1 Captive Flight Program. Fisk, D.J., et al. [1992, 76p., eng] 47-700

Airborne video as satellite imagery ground truthing. Johannessen, B.O., et al. [1992, p.337-349, eng] 47-1040

Thickness profiling of freshwater ice using a millimeter-wave FM-CW radar. Yankielun, N.E., et al. [1992, p.1094-1100, eng] 47-1262

Airborne millimeter-wave FM-CW radar for thickness profiling of freshwater ice. Yankielun, N.E., [1992, 77p., eng] 47-1893

SAR: a new ice analysis tool. Kniskern, F.E., [1993, p.22-23, *eng*] 47-2143

Development of an airborne MMW FM-CW radar for mapping river ice. Yankielun, N.E., et al. [1993, 10p., eng] 47-2757

Volumetric hydrothermal state and regime of Spitsbergen glaciers. Macheret, Iu.IA., et al. [1991, p.40-53, rus] 47-2787

Helicopter-borne scatterometer for remote sensing pt. 1. Hallikainen, M., et al. [1993, p.161-169, eng] 47-3358

Repeat-pass interferometry with airborne synthetic aperture radar. Gray, A.L., et al. [1993, p.180-191, eng] 47-3359

Mapping partial snowcover during the melt season using C-band SAR imagery. Donald, J.R., et al. [1993, p.68-76, eng] 47-3725

Aerial roof moisture surveys. Tobiasson, W., [1993, p.18-19, eng] 47-3795

Snow conditions during MLRS-TGW BBS European Captive Flight Program, Hessen, Germany, February 1992. Fisk, D.J., [1993, 37p., *eng*] 47-3796

Test of airborne, side-looking synthetic aperture radar. Graham, D.F., et al. [1991, p.257-265, eng] 47-4161

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Ice crystals produced by expansion: experiments and *application to aircraft-produced ice.* Foster, T.C., et al. [1993, p.716-728, eng] 47-3509

Spectroscopic determination of aviation fuel freezing point. Lysaght, M.J., et al. [1993, p.623-631, eng] 47-3985

Storm water regulations—aircraft deicer/anti-icers operations. Espey, W.H., Jr., et al. [1993, p.2333-2338, eng] 47-4452

Use of the C-5 Galaxy in support of the United States Antarctic Program. Bresnahan, D.M., [1993, p.238-245, eng] 47-5113

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Icebreaker face-off. Cox, B., [1992, p.52-53, eng] 47-444

Assessment of the one-dimensional icing forecast model applied to stratiform clouds. Tunick, A., et al. [1990, p.57-64, eng] 47-909

Toward the improvement of aircraft-icing forecasts for the continental United States. Schultz, P., et al. [1992, p.491-500, eng] 47-1058

Winter Icing and Storms Project (WISP). Rasmussen, R., et al. [1992, p.951-974, eng] 47-1263

Three-dimensional simulation of electrothermal deicing systems. Yaslik, A.D., et al. [1992, p.1035-1042, eng] 47-1563

Numerical modeling of an advanced pneumatic impulse ice protection system for aircraft. Ramamurthy, S., et al. [1992, p.1057-1063, eng] 47-1564

Aircraft take-off laboratory simulation for de/anti-icing study. Laforte, J.L., et al. [1992, p.183-193, eng] 47-1578

Proceedings. [1989, 272p., eng] 47-1681

Aerodynamic acceptance testing of aircraft ground de/anti-icing fluids. Laforte, J.L., et al. [1992, 41p. + appends., eng] 47-2226

Aircraft ground de/anti-icing fluid holdover time field testing program for the 1991-1992 winter. D'Avirro, J., et al. [1992, 83p. + append., eng] 47-2231

Alpha Jet *surface icing at different flight velocities: the* results. Hoffmann, H.E., et al. [1992, 61p., ger] 47-2586

Airborne instrumentation for Canadian Atlantic storms. Jordan, J.E., et al. [1993, p.181-185, eng] 47-3069

Ice, rain, fog, and frost protection. [1990, 62p., eng] 47-3137

Aerodynamic effects of deicing and anti-icing fluids. *Reinmann, J.J., et al. [1993, p.8-9, eng]* 47-3310

Contrasting requirements for Type II de anti-icing fluids. Ross, J.F., et al. [1993, p.10-13, eng] 47-3311

Development of an international standard for safe winter operation. Hornig, R., [1993, p.14-18, eng] 47-3312

Aircraft ground deicing, a flight crew perspective. Haase, D.J., [1993, p.19-23, eng] 47-3313

Aerodynamic effects of aircraft ground deicing anti-icing fluids. Hill, E.G., et al. [1993, p.24-34, *eng*] 47-3314

Aerodynamic effects of ground de anti-icing fluids on Fokker 50 and Fokker 100. van Hengst, J., [1993, p.35-40, eng] 47-3315

New concept in runback water modeling for anti-iced aircraft surfaces. Al-Khalil, K.M., et al. [1993, p.41-49, eng] 47-3316

Ice detector. Weinstein, L.M., [1988, 8 col., *eng*] 47-3503

Anti-icing and deicing device. Bird, L., [1988, 8 col., eng] 47-3764

Deicer control system. Phillips, R.W., II, [1988, 6 col., eng] 47-3765

Method and apparatus for deicing a leading edge. Briscoe, J.A., et al. [1987, 14 col., eng] 47-3849

Trustworthy simplified vacuum systems. Henry, R.D., [1987, 6 col., eng] 47-3850

Swirl anti-ice system. Rosenthal, H.A., [1987, 6 col., eng] 47-3853

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Pneumatic deicers with inextensible threads. Kageorge, P.W., [1987, 8 col., eng] 47-3999

Some experiences in assessing aircraft anti-icing fluid under various snow conditions. Stamm, A., et al. [1992, p.31-37, eng] 47-4030

Improvements to expulsive separation ice protection blankets. Goldberg, J., et al. [1992, p.213-218, eng] 47-4050

Measurements of cloud-droplet-size distributions in polluted and unpolluted stratiform. Alkezweeny, A.J., *et al. [1993, p.106-115, eng]* 47-4166

Computer model of glaze accretion on wires. Draganoiu, G., et al. [1993, p.89-95, eng] 47-4235

Wing slat anti-ice air duct system. Knowler, J.C., [1986, 6 col., eng] 47-4263

Corrosion of aircraft fuel tanks by antifreezes. Likhterova, N.M., et al. [1993, p.563-566, eng] 47-4386

Aircraft ice detectors for onground and inflight applications. Hoover, G.A., [1993, 43p., eng] 47-4601

Winter storms test new anti-ice tactics. McKenna, J.T., [1993, p.38-40, eng] 47-4607

European Helicopters' ICE detection system enters final trials stage. [1988, p.23, eng] 47-4609

Flying on thin ice. Elliott, S., et al. [1992, p.38-40, *eng*] 47-4610

Meteorological conditions for icing on a dirigible. Minervin, V.E., [1992, p.42-60, rus] 47-4657

Radiosonde supercooled liquid water detector. Hill, G.E., [1990, 97p., eng] 47-4882

Avoiding aircraft icing. Collins, R.L., [1993, p.53-57, eng] 47-4999

Ice detectors for aircraft. Horne, T.A., [1993, p.T-11,T-14, eng] 47-5002

Evaluation of air flow over an anti-icing fluid film. Laforte, J.L., et al. [1993, p.96-104, eng] 47-5007

Aircraft landing areas

Construction techniques for expedient air strips in *snowbound regions.* Natarajan, T.K., et al. [1985, p.293-317, eng] 47-580

Landing and parking a C5 Galaxy on sea ice: McMurdo Station, Antarctica. Barthelemy, J.L., [1992, p.37-49, eng] 47-1017

Snow-compacting equipment for constructing winter roads and airfields. Rongonen, V.E., [1990, p.22-23, rus] 47-1414

Field survey of potential airstrip locations: Mt. Howe, Antarctica, 1991. DenHartog, S.L., [1991, 6p., eng] 47-3338

Prediction of restricted visibility at the McMurdo airfield. Hale, R.A., et al. [1988, p.148-150, eng] 47-4205

Use of the C-5 Galaxy in support of the United States Antarctic Program. Bresnahan, D.M., [1993, p.238-245, eng] 47-5113

See also: Airports; Ice runways; Runways

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Airports

Performance of asphalt concrete airport pavements during thaw weakening periods. Janoo, V.C., et al. [1992, p.167-183, eng] 47-1135

Effect of the freezing of a foundation on the bearing capacity of a rigid airfield pavement. Onopa, I.A., *et al.* [1990, p.96-101, rus] 47-2759

Water quality sampling for the Fairbanks airport. Ray, S.R., et al. [1992, 15p., eng] 47-4772

Alaska

—North Slope—Canning River

Three-dimensional model of an Alaskan river polar fan-delta. Lindsay, J.F., [1992, p.183-201, eng] 47-4366

Alassy

Soils of the valley near the middle course of the Amga River. Desiatkin, R.V., et al. [1989, 120p., rus] 47-100

Evolution of alassy in Central Yakutia. Bosikov, N.P., [1991, 127p., *rus*] 47-102

Albedo

Boreal forests and climate. Thomas, G., et al. [1992, p.469-497, eng] 47-375

Evaluating the effect of snow cover pollution on its *melting rate.* Shutov, V.A., [1991, p.75-86, rus] 47-386

Evaluation of bi-hemispherical reflectance of antarctic surfaces. Zibordi, G., *et al. [1992, p.149-157, eng]* 47-1199

Relationship between the Earth's thermal regime and snow-ice cover during climate warming and cooling. Balkova, I.M., [1989, p.21-27, eng] 47-1229

Large-scale patterns and variability of snowmelt and parameterized surface albedo in the Arctic Basin. Robinson, D.A., et al. [1992, p.1109-1119, eng] 47-1271

Study of ablation variations on the tongue of Hintereisferner, Austrian Alps. Van de Wal, R.S.W., et al. [1992, p.319-324, eng] 47-1384

Europa, Ganymede, and Callisto: new radar results from Arecibo and Goldstone. Ostro, S.J., et al. [1992, p.18,227-18,244, eng] 47-1556

Light reflection from a sea ice cover during the onset of summer melt. Perovich, D.K., et al. [1992, p.508-516, eng] 47-1809

Ice sheet growth simulation including ice albedo feedback. *Deblonde, G., et al. [1992, p.37-55, eng]* 47-1885

Heat and water balance of naleds. Delkin, B.N., [1991, p.76-89, rus] 47-2431

Ways of refining the calculation of naled ice melting. Ergin, V.P., [1991, p.123-128, rus] 47-2436

Hemispherical asymmetry in the Martian polar caps. Lindner, B.L., [1993, p.3339-3344, eng] 47-2671

Arctic sea ice albedo: a comparison of two satellite-derived data sets. Schweiger, A.J., et al. [1993, p.41-44, eng] 47-2844

Using satellite data to determine glacier radiation field. Gratton, D.J., et al. [1993, p.315-331, eng] 47-2886

Proceedings of the NIPR Symposium on Polar Meteorology and Glaciology, No.6. Kawaguchi, S., ed. [1992, 167p., eng] 47-3000

Surface albedo distribution in Lützow-Holm Bay. Nakagawa, K., [1992, p.1-15, eng] 47-3001

Multiple scattering model for the atmosphere-snow system. Aoki, T., [1992, p.77-83, eng] 47-3007

Optical properties of snow. Brandt, R.E., et al. [1991, p.272-275, eng] 47-3056

Seasonal changes in the radiation balance of subarctic forest and tundra. Lafleur, P.M., et al. [1993, p.32-36, eng] 47-3425

Late Pleistocene ice age scenarios based on observational evidence. Deblonde, G., et al. [1993, p.709-727, eng] 47-3475

Measuring the point spread function of sea ice *in situ.* Voss, J.M., et al. [1992, p.517-526, eng] 47-3735

New parameterizations and sensitivities for simple climate models. Graves, C.E., et al. [1993, p.5025-5036, eng] 47-3783

Cause-effect relationships in the interactive processes of the ocean and atmosphere in the North Atlantic. Zablotskii, G.A., et al. [1992, p.105-115, rus] 47-3810

Sensitivity of a thermodynamic model of sea ice to parametrization of short-wave and long-wave radiation. Makshtas, A.P., et al. [1992, p.116-137, rus] 47-3811

Absorption of solar radiation at the antarctic snow surface. Grenfell, T.C., et al. [1988, p.151-152, eng] 47-4206

Variations in snow on sea ice: a mechanism for producing climate variations. Ledley, T.S., [1993, p.10,401-10,410, eng] 47-4291

Thermodynamic model of ice-atmosphere interactions. Ebert, E.E., et al. [1993, p.10,085-10,109, eng] 47-4378

Parameterization of the radiative properties of cirrus clouds. Fu, Q., et al. [1993, p.2008-2025, eng] 47-4459

Atmospheric forcings on albedo over arctic sea ice. Serreze, M.C., et al. [1991, p.396-399, eng] 47-4493

East antarctic sea ice: albedo, thickness distribution, and snow cover. Allison, I., et al. [1993, p.12,417-12,429, eng] 47-4519

Climate model sensitivity to sea ice albedo parameterization. Morassutti, M.P., [1991, p.25-36, eng] 47-4640

Model for the anisotropic reflectance of pure snow. Li, S.S., [1982, 60p., eng] 47-4644

Radiation characteristics at Mizuho Station. Liu, S.H., et al. [1993, p.39-45, chi] 47-4647

Science of snow and ice (4). Inoue, M., [1985, p.7-11, jpn] 47-5148

Algae

Sea ice microalgae in Hudson Bay. Legendre, L., et al. [1992, p.206-210, eng] 47-140

Ice algae in Lake Saroma: review. Taguchi, S., [1992, p.211-220, eng] 47-141

Model for vertical structure of phytoplankton community in arctic regions. Legendre, L., et al. [1992, p.314-316, eng] 47-157

Sea ice diatoms and ice edge planktonic diatoms in the Weddell Sea. Ligowski, R., et al. [1992, p.9-20, eng] 47-442

Environmental influences on snow algal microbes. Hoham, R.W., [1992, p.78-83, eng] 47-496

Surface water temperature changes in the high latitudes of the Southern Hemisphere over the last glacial-interglacial cycle. Pichon, J.J., et al. [1992, p.289-318, eng] 47-786

Spring phytoplankton in relation to sea ice, hydrography and nutrients in Weddell Sea. Bianchi, F., et al. [1992, p.225-235, eng] 47-1328

Nitrogen uptake in the Weddell Sea during late winter and spring. Kristiansen, S., et al. [1992, p.245-251, eng] 47-1330

Experiments on effects of sea ice biota on seeding. Kuosa, H., et al. [1992, p.333-339, eng] 47-1333

Ecology of sea ice biota. 2. Legendre, L., et al. [1992, p.429-444, eng] 47-1335

Photosynthetic capacity in microalgae associated with antarctic pack ice. Lizotte, M.P., et al. [1992, p.497-502, eng] 47-1337

Fragilariopsis cylindrus (Grunow) Krieger. Kang, S.H., et al. [1992, p.609-627, eng] 47-1623

Soil microbial communities under cryptogamic plants in tundra and arctic deserts. Parinkina, O.M., et al. [1992, p.185-189, eng] 47-1727

In situ patterns of intracellular photosynthate allocation by sea ice algae in the Canadian High Arctic. Smith, R.E.H., et al. [1992, p.545-551, eng] 47-1789

Hydrobiological studies in the Arctic: the structure of bottom communities. Vozzhinskaia, V.B., et al. [1992, p.1332-1335, rus] 47-2039

Salinity, temperature, and photophysiology of antarctic sea ice microalgae. Arrigo, K.R., et al. [1992, p.746-756, eng] 47-2594

Ice algae during EPOS, leg 1. Syvertsen, E.E., et al. [1993, p.61-65, eng] 47-3440

Surface-sediment diatom assemblages from the George V Coast. Leventer, A., [1991, p.120-122, eng] 47-3518

Bromoalkane production by antarctic ice algae. Sturges, W.T., et al. [1993, p.120-126, eng] 47-3533

Mixotrophic algae in three ice-covered lakes of the Pocono Mountains, U.S.A. Berninger, U.G., et al. [1992, p.263-272, eng] 47-4517

Microorganisms in antarctic sea ice. Palmisano, A.C., et al. [1993, p.167-218, eng] 47-4595

Ecological environmental features of antarctic sea ice and its role in the marine ecosystems. Wang, Z.P., et al. [1993, p.1-15, chi] 47-4646

Occurrence of algae on tundra soils in Oscar II Land, Spitsbergen. Oleksowicz, A.S., et al. [1992, p.131-147, eng] 47-4652

Discovery of a new sea ice diatom genus. Poulin, M., [1993, p.223-233, eng] 47-4735

Geologic use of polar marine diatoms. Leventer, A., et al. [1993, p.134-253, eng] 47-4823

Platelet ice ecosystem in McMurdo Sound. Arrigo, K.R., et al. [1993, p.173-185, eng] 47-5200

Alimentation

Characteristics of the formation of spring runoff from rivers in the cryolithozone. Kravchenko, V.V., et al. [1991, p.53-64, rus] 47-3275

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All terrain vehicles

Registration of vehicular tracks on the Svalbard archipelago. Raheim, E., [1992, 51p., eng] 47-1890

Rear swing arm assembly for three or four wheeled off-the-road vehicle track conversion unit. Yochum, M., [1986, 10 col., eng] 47-4098

Snowplow mounted on longitudinal frame attachable to chassis. Racicot, G., [1986, 14 col., eng] 47-4264

Response of shrub-tussock community to vehicle use. Ahlstrand, G.M., et al. [1993, p.142-149, eng] 47-4746

See also: Tracked vehicles

Alluvium

Upper surface layer of permafrost: collected scientific papers. Mel'nikov, P.I., ed. [1991, 100p., rus] 47-392

Formation of the structure and properties of flood-plain deposits by *major rivers*. Zaikanov, V.G., [1991, p.31-47, rus] 47-397

Cryogenic structure and properties of technogenic soils of placer mines in Northern Yakutia. Samylin, I.A., et al. [1991, p.76-87, rus] 47-401

Mechanical properties of *undisturbed Tone River gravel* obtained by *in situ* freezing method. Goto, S., et al. [1992, p.15-25, eng] 47-1190

New technology for insulating the bottom of an alluvial reservoir on a frozen base. Kuznetsov, G.I., et al. [1992, p.84-91, rus] 47-2033

Geochemical exploration for hidden deposits in the cryolithozone. Makarov, V.N., et al. [1988, 108p., rus] 47-2315

Potential climate-change effects on bed-material entrainment, the Gunnison Gorge, Colorado. Elliot, J.G., et al. [1992, p.751-759, eng] 47-2750

Grain-size distribution of the Edoma deposits on Cape Bykovskiy. Nagaoka, D., [1993, p.104-109, eng] 47-3981

Salinization mechanism of the deposits of an ice complex in Yakutia. Konishchev, V.N., et al. [1991, p.74-80, rus] 47-4813

Distribution and renovation time of soil carbon in boreal and subarctic ecosystems of European Russia. Cherkinskii, A.E., et al. [1993, p.65-69, eng] 47-5230

Alpine glaciation

Pleistocene *glaciation and karst potholes*. Ljesevic, M., [1991, p.147-150, eng] 47-29

Behaviour of New *Zealand* glaciers and atmospheric circulation changes over the past 130 years. Fitzharris, B.B., et al. [1992, p.97-106, eng] 47-54

Late Quaternary glaciation and climatic change in the northern Peruvian Andes. Rodbell, D.T., [1992, 233p., eng] 47-282

Quaternary geology of southwestern Alaska. Waythomas, C.F., [1991, 305p., eng] 47-290

Dating of Quaternary glaciation in the Sierra Nevada. Berry, M.E., [1991, 376p., eng] 47-293

Late Proterozoic glaciation in the Mackenzie Mountains. Aitken, J.D., [1991, 43p., eng] 47-435

Study on local circulation and temperature in alpine glaciated area. Kang, X.C., [1992, p.141-152, chi] 47-1651

Quaternary glaciation in the Qinghai-Xizang *Plateau*. Deng, X.F., et al. [1992, p.153-160, chi] 47-1652

Excursion guide for northern Finland-Norway-Sweden. Revised edition. Sollid, J.L., ed. [1989, 105p., eng] 47-2116

Glacial landforms on an extinct volcano in Jilin Province. Li, B.L., [1992, p.431-438, chi] 47-2224

Early Wisconsinan alpine glaciation in the western United States. Colman, S.M., et al. [1992, p.269-278, eng] 47-2697

Glacial history of the Ellsworth Mountains. Denton, G.H., et al. [1992, p.403-432, eng] 47-2700

Interglacial to glacial climatic change: observations from selected Colombian pollen records. Hooghiemstra, H., et al. [1992, p.71-84, eng] 47-2833

Mass balance variations of an alpine glacier. Giada, M., et al. [1991, p.221-227, ita] 47-3170

Relative rates of glacial and nonglacial erosion in alpine environments. Harbor, J.M., et al. [1993, p.1-7, eng] 47-3422

Changes of alpine climate and glacier water resources. Chen, J.Y., [1991, 196p., eng] 47-4462

Rhine-Linth glacier in the upper Wurm: a model of the last alpine glaciation. Keller, O., et al. [1993, p.15-17, eng] 47-4749

Glacial and climatic history of the central Peruvian Andes. Wright, H.E., Jr., et al. [1989, p.439-445, eng] 47-5256

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Alpine landscapes

Natural revegetation of coal mine spoils in an alpine landscape. Baig, M.N., [1992, p.285-300, eng] 47-422

Microorganism nucleic acids and biomass in alpine-forest soils in the northern Caucasus. Aseeva, I.V., et al. [1981, p.37-43, eng] 47-457

Some indices of the biological activity of soils of the mountain meadow belt of the northwestern Caucasus. Efremov, A.L., [1981, p.76-78, eng] 47-475

Structure, productivity and energy flow in an alpine grassland in the Garhwal Himalaya. Sundriyal, R.C., [1992, p.15-20, eng] 47-511

Annual nutrient budget for an alpine grassland in the Garhwal Himalaya. Sundriyal, R.C., et al. [1992, p.21-26, eng] 47-512

Karstic denudation and tufas deposits in high alpine mountains (Alpes, France). Chardon, M., [1992, p.19-38, eng] 47-742

Nutrient cycle in high-meadow alpine soils. Stepanov, A.L., et al. [1989, p.55-57, eng] 47-745

Seed entrapment in alpine ecosystems: effects of soil particle size and diaspore morphology. Chambers, J.C., et al. [1991, p.1668-1677, eng] 47-767

Numerical modeling of the development of U-shaped valleys by glacial erosion. Harbor, J.M., [1992, p.1364-1375, eng] 47-770

Elements of the material balance under conditions of an *alpine lichen heath of the North Caucasus*. Makarov, M.I., [1983, p.58-61, eng] 47-799

Paleoperiglacial processes in the central Appalachians. Clark, G.M., et al. [1992, p.31-61, eng] 47-846

Soils of alpine mountains. Legros, J.P., [1992, p.155-181, eng] 47-1211

Snow, hydrology and forests in high alpine areas. Bergman, H., ed. [1991, 250p., eng] 47-1288

Climatic factors and snow surface energy exchange, pt.1. Marks, D., et al. [1992, p.3029-3042, eng] 47-1476

Climatic factors and snow surface energy exchange, pt.2. Marks, D., et al. [1992, p.3043-3054, eng] 47-1477

Simulation of natural acid sulfate weathering in an alpine watershed. Bassett, R.L., et al. [1992, p.2197-2209, eng] 47-1506

Zonation of flora and vegetation of the northern declivity of the Karakoram/Kunlun Mountains (SW Xinjiang *China*). Dickoré, W.B., [1991, p.265-284, eng] 47-1613

Construction, environmental problems and natural hazards in periglacial mountain belts. Haeberli, W., [1992, p.111-124, eng] 47-1750

Borehole logging in alpine permafrost, Upper Engadin, Swiss Alps. Vonder Mühll, D.S., et al. [1992, p.125-132, eng] 47-1751

Monitoring of periglacial phenomena in the Furggentälti Swiss Alps. Krummenacher, B., et al. [1992, p.149-155, eng] 47-1755

Permafrost research sites in the Alps. Haeberli, W., et al. [1992, p.189-202, eng] 47-1770

Alpine periglacial landforms of eastern North America: a review. Clark, G.M., et al. [1992, p.225-230, eng] 47-1775

Seismic profiles of alpine glacial basins. Pugin, A., et al. [1992, p.491-502, eng] 47-1912

Spatial considerations of snow chemistry as a non-point contamination source in alpine watersheds. Elder, K., et al. [1991, p.31-38, eng] 47-2076

Seasonality of methane emissions from five lakes and associated wetlands of the Colorado Rockies. Smith, L.K., et al. [1992, p.323-338, eng] 47-2235

Soil catena variation along an alpine climatic transect, northern Peruvian Andes. Miller, D.C., et al. [1992, p.211-223, eng] 47-2252

Mountain effects on the antarctic circulation. Egger, J., [1992, p.J3-J7, eng] 47-2404

Groundwater contributions in an alpine basin in the Sierra Nevada. Kattelmann, R., [1989, p.361-369, eng] 47-2580

Holocene mire development at a Japanese alpine site. Takahashi, N., [1990, p.93-156, eng] 47-2603

Nitrogen storage in an alpine herb. Jaeger, C.H., et al. [1992, p.578-585, eng] 47-2711

Sulfate sources in the Glacier Lakes catchment, Snowy Range, Wyoming, U.S.A. Finley, J.B., et al. [1993, p.185-188, eng] 47-2851

Performance and phenology of alpine herbs along a snow-melting gradient. Kudo, G., [1992, p.297-304, eng] 47-3340

Relative rates of glacial and nonglacial erosion in alpine environments. Harbor, J.M., et al. [1993, p.1-7, eng] 47-3422

C4 photosynthesis in alpine species of the Pamirs. P'iankov, V.I., et al. [1992, p.421-430, eng] 47-3472

Characteristics of two landslide-dammed lakes in a glaciated alpine environment. Butler, D.R., et al. [1993, p.441-445, eng] 47-3563

Hydroclimatological variations in an alpine glacier basin. Gurnell, A.M., et al. [1992, p.821-839, eng] 47-3679

Algorithms for alpine land cover classification. Peddle, D.R., [1993, p.31-44, eng] 47-3723

Effect of snow-free duration on leaf life-span of four alpine plant species. Kudo, G., [1992, p.1684-1688, eng] 47-3826

Long-term studies of snow-vegetation interactions. Walker, D.A., et al. [1993, p.287-301, eng] 47-4024

Modeling the redistribution of snow in alpine areas. Cline, D.W., [1992, p.13-24, eng] 47-4028

Aerial infrared mapping of snow cover in the Sierra Nevada. Hall, D.K., et al. [1992, p.39-46, eng] 47-4031

2000-year lichen-snowkill chronology for the Colorado Front Range, USA. Benedict, J.B., [1993, p.27-33, eng] 47-4144

Alpine landscapes *(cont.)*
Stagnant glacier ice, St. Elias Mountains, Yukon. *Johnson, P.G.,* [1992, p.13-19, eng] 47-4319
Sediment transfer on the floor of the Martinelli Snowpatch, Colorado Front Range, U.S.A. Caine, N., [1992, p.133-144, eng] 47-4323
Pediments and cold-climate conditions, Barn Mountains, unglaciated northern Yukon, Canada. French, H.M., et al, [1992, p.145-157, eng] 47-4324
Palimpsest glacial landscape in northwestern Sweden. Kleman, J., [1992, p.305-325, eng] 47-4342
Spatial heterogeneity of high mountain vegetation in the Andean desert zone of Chile. Squeo, F.A., et al, [1993, p.203-209, eng] 47-4712
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Isotope tracing of sulfate trends in Colorado lakes. Turk, J.T., et al, [1993, p.415-431, eng] 47-4759
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Alpine soils
Snowmelt-induced stream acidity in a subarctic catchment. Davies, T.D., et al, [1993, p.267-300, eng] 47-4171
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Alpine tundra
Reproductive ecology of *Saxifraga oppositifolia*: phenology, mating system, and reproductive success. Stenström, M., et al, [1992, p.337-343, eng] 47-1590
Phytomass and primary productivity in several communities of a central Himalayan alpine meadow, India. Rikhari, H.C., et al, [1992, p.344-351, eng] 47-1591
Atmospheric loading of nitrogen to alpine tundra in the Colorado Front Range. Sievering, H., et al, [1992, p.339-346, eng] 47-2236
CO2-gas exchange and annual production in plant communities of the Khibiny mountain tundra. Politova, N.IU., [1991, p.217-225, rus] 47-2359
Ecological analysis of pigment content in the leaves of mountain-tundra dwarf shrubs. Korniushenko, G.A., et al, [1992, p.55-77, rus] 47-4093
Seed and vegetation dynamics in an alpine herb field: effects of disturbance type. Chambers, J.C., [1993, p.471-485, eng] 47-4584

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Altitude
Topographical effects on the equilibrium-line altitude on glaciers. Nesje, A., [1992, p.383-391, eng] 47-447
Diurnal depletion of mountain snow cover at different altitudes. Krishnan, V., et al, [1985, p.157-163, eng] 47-535
Forecasting snow versus rain in Kulu Valley. Rangachary, N., et al, [1985, p.304-309, eng] 47-547
Can the mass balance of the entire glacier area of the Tien Shan be estimated. Diurgerov, M.B., et al, [1992, p.173-179, eng] 47-1107
Climate at the equilibrium line of glaciers. Ohmura, A., et al, [1992, p.397-411, eng] 47-1391
Orographic enhancement of snowfall. Dore, A.J., et al, [1992, p.175-179, eng] 47-1553
Precipitation conditions for the development of the present glaciers on the northern slope of Karakorum. Ding, Y.J., [1991, p.243-248, eng] 47-1610
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Distribution of mountain permafrost and climate. Cheng, G.D., et al, [1992, p.83-91, eng] 47-1747
Climatic factors related to mountain periglacial processes. Ahumada, A.L., [1992, p.221-224, eng] 47-1774
High-altitude and polar humidity. Schlatter, T., [1992, p.39-40, eng] 47-3457
Equilibrium line altitude correlation of Norwegian glaciers. Torsnes, I., et al, [1993, p.106-116, eng] 47-4743
Inverse relation between frost survival and atmospheric pressure. Halloy, S., et al, [1993, p.117-123, eng] 47-4744

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Amorphous ice
Molecular interactions with icy surfaces: infrared spectra of CO absorbed in microporous amorphous ice. Devlin, J.P., [1992, p.6185-6188, eng] 47-249
Far-IR study of irradiated amorphous ice: an unreported oscillation between amorphous and crystalline phases. Hudson, R.L., et al, [1992, p.6500-6504, eng] 47-251
Calorimetric study of pressure-amorphized cubic ice. Johari, G.P., et al, [1990, p.1212-1214, eng] 47-817
Ultraviolet-induced amorphization of cubic ice and its implications for the evolution of ice grains. Kouchi, A., et al, [1991, p.87-90, eng] 47-2111
Hydrogen-bond structures in water & ice. Dore, J., [1990, p.188-197, eng] 47-2194
Preferential adsorption on amorphous ice surfaces. Buch, V., et al, [1993, p.4195-4206, eng] 47-2674
UV-excited luminescences from amorphous and polycrystalline H2O ices. Lennon, D., et al, [1993, p.120-126, eng] 47-3513
Adsorbate spectra for amorphous ice. Buch, V., et al, [1993, p.2265-2268, eng] 47-4464
Water II is a "strong" liquid. Angell, C.A., [1993, p.6339-6341, eng] 47-4748
O2 electron attachment resonances on amorphous ice surfaces. Huels, M.A., et al, [1993, p.340-346, eng] 47-5191
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Analysis (mathematics)
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Forecasting the bearing strength of a thawing railroad embankment. Prokudin, I.V., et al, [1991, p.76-83, rus] 47-190
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Calculating corrections for low frequency radio-navigation systems for sea routes covered with ice. Pylaev, A.A., et al, [1991, p.106-111, rus] 47-192
Effect of soil stress on its water permeability during freezing and forecasting frost heave intensity. Karlov, V.D., [1991, p.77-82, rus] 47-238
Some aspects of the statistical evaluation of the mechanical properties of soil and foundations. Gerasimov, A.S., [1991, p.82-91, rus] 47-239
Numerical studies of the temperature, ice age and conditions of a glacier bed. Larina, T.B., [1991, p.123-131, rus] 47-329
Thermal regime of filtrating taliks in the foundation of a hydraulic power system and reservoir banks. Sobol', S.V., et al, [1992, p.106-110, rus] 47-366
Formation and calculation of snow reserves on agricultural fields with a snow fence. Kaliuzhnyi, I.L., et al, [1991, p.22-34, rus] 47-381
Calculating the evaporation from snow in fields with snow fences. Shutov, V.A., [1991, p.35-45, rus] 47-382
Evaluating water vapor diffusion. Delarov, D.A., et al, [1991, p.46-56, rus] 47-383
Calculating the thermal regime of soils in areas with snow fences. Lavrov, S.A., [1991, p.67-74, rus] 47-385
Method of determining the heat balance components of snow cover during a melting period. Shutov, V.A., [1991, p.87-96, rus] 47-387
Correlation of turbulent coefficients in vertical heat flux and moisture in the surface boundary layer. Postnikov, A.N., [1991, p.123-125, rus] 47-391
Quantitative evaluation of deterioration in cryogenic erosion. Vasil'ev, A.A., et al, [1991, p.14-20, rus] 47-395
Developing a method of forecasting rain and snow-rain triggered floods with insufficient data. Basilashvili, Ts.Z., [1990, p.46-59, rus] 47-417
Algorithm for calculating the components and spatial orientation of air flow and water drops in a hail cloud. Baragunov, V.S., et al, [1991, p.8-14, rus] 47-747
Possibility of using the third central moment of doppler spectra to indicate ice particles. Marchenko, P.E., et al, [1991, p.14-18, rus] 47-748
Third central moment of falling velocity of water drops and its relationship to hailstorm clouds. Marchenko, P.E., et al, [1991, p.19-31, rus] 47-749
Finite-difference Lyapunov functions used in creating an algorithm for calculating radar and radiometer equations. Karmov, L.N., et al, [1991, p.32-39, rus] 47-750
Algorithms for mapping radar data. Abshaev, M.T., et al, [1991, p.44-50, rus] 47-752
Heat and mass transfer processes during the nucleation, growth and melting of hailstones. Filatkin, V.N., et al, [1991, p.50-68, rus] 47-753
Statistical-mathematical processing of data from a land-based network of passive hail indicators. Zhakamikhov, Kh.M., et al, [1991, p.112-122, rus] 47-759
Evaluating the effectiveness of hail modification products. Abshaev, M.T., et al, [1991, p.122-136, rus] 47-760
Variations in the diameter of hailstones during the seeding of hail clouds. Bocharova, V.A., et al, [1991, p.143-149, rus] 47-762
Calculating the processes of condensation and coagulation growth of droplets and ice crystal aggregates. Sergeev, B.N., [1991, p.85-96, rus] 47-890
Conditions for the formation and forecasting of frontal and air mass icing in the Central Volga region. Maksimovich, S.N., [1991, p.10-13, rus] 47-891
Calculating winter runoff from rivers in a cryolithozone. Kravchenko, V.V., et al, [1991, p.41-60, rus] 47-894
Problems in calculating the minimal runoff from periodically freezing on drying-up rivers. Liubimov, G.A., et al, [1991, p.61-71, rus] 47-895
Errors in measuring water discharge during hydrometric surveys of small and medium rivers in permafrost regions. Kolotaev, V.N., et al, [1991, p.147-158, rus] 47-899
Ice plates as laminated composite structures. Vinogradov, A.M., [1992, p.65-75, eng] 47-1019
Boundary element analysis of macrocracking of ice in a large test basin. Marcellus, R.W., et al, [1992, p.91-104, eng] 47-1021
Determination of creep damage parameters for polycrystalline ice. Mahrenholtz, O., et al, [1992, p.181-192, eng] 47-1028
Stress and time effects on the creep rate of polycrystalline ice. Kuo, S.S., [1992, p.209-224, eng] 47-1030
Ice floe collision under wave action in the Marginal Ice Zone. Gao, L., et al, [1992, p.281-291, eng] 47-1035
Trend analysis of the Barents Sea ice cover. Vefsnmo, S., et al, [1992, p.325-335, eng] 47-1039
Calculating the maximum water levels in areas of backwater curves in designing a reservoir. Bolotnikov, G.I., [1991, p.12-16, rus] 47-1043
Relationship between the Earth's thermal regime and snow-ice cover during climate warming and cooling. Balkova, I.M., [1989, p.21-27, eng] 47-1229
Polarization characteristics of natural thermal emission from antarctic sea ice. Darovskikh, A.N., et al, [1991, p.32-35, rus] 47-1576
Problems of optimization in avalanche studies. Bozhinskii, A.N., [1990, p.38-43, rus] 47-1986
Determining the mean parameters of heat transfer through snow cover. Zviagin, V.V., et al, [1991, p.1085-1088, rus] 47-2009
Formation of a closure channel upon rupture of a frozen dam. Moroz, A.A., [1992, p.72-75, rus] 47-2032
Thermal processes caused by the formation of defects in materials at cryogenic temperatures. Deviatkin, E.A., et al, [1992, p.541-545, rus] 47-2035
Flows of fractal-broken ice. Gol'dshtein, R.V., et al, [1992, p.576-581, rus] 47-2036
Small and planetary bodies of the solar system: the critical mass of icy bodies. Sliuta, E.N., et al, [1992, p.692-696, rus] 47-2040
Numerical solution to the problem of heat transfer during borehole drilling. Starovoltova, E.R., [1988, p.120-126, rus] 47-2233
Problems in the study of naleds; collected scientific papers. Alekseev, V.R., ed, [1991, 238p., rus] 47-2424
Mechanism of the development of the naled process. Rumiantsev, E.A., [1991, p.55-66, rus] 47-2429
Heat and water balance of naleds. Detkin, B.N., [1991, p.76-89, rus] 47-2431
Information analysis in the study of naleds. Kolotaev, V.N., et al, [1991, p.90-95, rus] 47-2432
Annual dynamics of naleds in ground water and methods for calculating them. Markov, M.L., [1991, p.103-116, rus] 47-2434
Stochastic method for forecasting estimated parameters of naleds. Dement'ev, V.A., [1991, p.116-123, rus] 47-2435
Ways of refining the calculation of naled ice melting. Ergin, V.P., [1991, p.123-128, rus] 47-2436
System approach to selecting anti-naled procedures. Merkulov, D.M., et al, [1991, p.210-214, rus] 47-2449
Effectiveness of anti-naled measures during road building. Nevskii, S.D., [1991, p.214-218, rus] 47-2450
Theoretical basis for calculating the control of concrete curing in cold weather. Zubkov, V.I., [1990, p.70-77, rus] 47-2761
Optimization of deicer application zone based on industrial wastes. Prusenko, E.D., [1992, p.96-100, rus] 47-2780
Characteristics of climate and glacier ablation in the intertropical Andes. Kadomtseva, T.G., et al, [1991, p.99-107, rus] 47-2795
Determining the design values for the depth of seasonal thawing of permafrost for pile foundations. Tsurikov, A.S., et al, [1992, p.22-25, rus] 47-2901
Revised freezing point equation and table for H2O-NaCl solutions. Bodnar, R.J., [1993, p.683-684, eng] 47-2928
Moisture budget in the antarctic atmosphere. Yamazaki, K., [1992, p.36-45, eng] 47-3003
Polarization of electromagnetic emissions from cracking ice. Petrenko, V.F., [1993, p.301-305, eng] 47-3168
Oscillations of an ice sheet under a periodically varying load. Kozin, V.M., et al, [1993, p.746-750, eng] 47-3169
Polarimetric observations and theory of millimeter- wave backscatter from snow cover. Mead, J.B., et al, [1993, p.38-46, eng] 47-3172
Effects of electric fields on ice deformation. Petrenko, V.F., et al, [1993, p.173-185, eng] 47-3174
Broadband source localization and signature estimation. Yang, T.C., [1993, p.1797-1806, eng] 47-3232
Scattering from boundary protuberances and reverberation imaging. Yang, T.C., [1993, p.231-242, eng] 47-3233
Extreme values of thermal loading parameters in concrete bridges. Maes, M.A., et al, [1992, p.935-946, eng] 47-3341

Adjoint sensitivity theory for a pack ice momentum model. Sykes, J.F., et al. [1992, p.881-889, eng] 47-3353

Formation of patterns during growth of snow crystals. Yokoyama, E., [1993, p.251-257, eng] 47-3470

Laws of the kinetic theory of strength of frozen soils. Konovalov, A.A., [1993, p.892-897, eng] 47-3506

Convection forecasting during a cloud-seeding experiment. Czys, R.R., et al. [1993, p.996-1005, eng] 47-3566

Contact melting during sliding on ice. Fowler, A.J., et al. [1993, p.1171-1179, eng] 47-3578

Problem of calculating and forecasting significant anomalies in ice phenomena. Spichkin, V.A., [1990, p.54-65, rus] 47-3589

Accounting for atmospheric stratification in the calculation of tangential wind pressure in questions of the dynamics of ice cover. Pozdnyshev, S.P., [1990, p.117-125, rus] 47-3598

Automated processing and analysis of data on cracks in the sea ice cover, made from visual observations from an aircraft. Brestkin, S.V., et al. [1990, p.133-147, rus] 47-3600

Numerical calculation of the trajectory of ice drift. Aksenov, E.O., [1990, p.148-154, rus] 47-3601

Comments on paper by K.F. Jones. Levi, L., et al. [1993, p.599-609, eng] 47-3646

Diagnosis of large-scale reconstructions in the troposphere of the Northern Hemisphere. Kurazhov, V.K., et al. [1989, p.97-103, rus] 47-3661

Analysis of factors determining the circulation of waters in the Chukchi Sea. Kulakov, M.IU., et al. [1991, p.59-64, rus] 47-3691

Predictability of large-scale thermohaline anomalies in surface waters of the arctic basin. Artem'ev, A.O., [1991, p.65-75, rus] 47-3692

Probability method of forecasting surge level oscillations in the example of the East Siberian Sea. Andriushchenko, V.I., [1991, p.76-85, rus] 47-3693

Using piecewise polynomial smoothing in statistical series analysis. Lashov, E.S., [1991, p.96-100, rus] 47-3695

Estimates of parameters of vertical turbulent exchange in the Chukchi Sea based on observational data. Pavlov, V.K., et al. [1991, p.101-106, rus] 47-3696

Snow crystals, natural and man made. Mason, B.J., [1992, p.227-243, eng] 47-3718

Growth habits and growth rates of snow crystals. Mason, B.J., [1993, p.3-16, eng] 47-3727

Creep closure of channels in deforming subglacial till. Fowler, A., et al. [1993, p.17-31, eng] 47-3778

Mathematical analysis of ice-water isotopic relationships. Burn, C.R., et al. [1993, p.109-112, eng] 47-3786

Sensitivity of a thermodynamic model of sea ice to parametrization of short-wave and long-wave radiation. Makshtas, A.P., et al. [1992, p.116-137, rus] 47-3811

Elastohydrodynamic response of an ice sheet to forced sub-surface uplift. Dempsey, J.P., et al. [1993, p.487-506, eng] 47-3827

Liquid freezing during laminar flow. Weigand, B., et al. [1993, p.294-301, eng] 47-3838

Improved formulas for concrete mix temperature, required for winter concreting. Panfilov, D.F., [1992, p.115-118, rus] 47-3916

Floating ice pressures on sloping and vertical structures. Arunachalam, V.M., et al. [1993, p.231-245, eng] 47-3927

Sea ice flexural rigidity: a comparison of methods. DiMarco, R.L., et al. [1993, p.247-255, eng] 47-3928

Temperate firn constitutive equation derived from strain rates. Ambach, W., et al. [1993, p.295-303, eng] 47-3932

Effects of climatic perturbations on the equilibrium-line altitude, West Greenland. Ambach, W., [1993, p.5-9, eng] 47-3935

Topological approach to the strain-rate pattern of ice sheets. Nye, J.F., [1993, p.10-14, eng] 47-3936

Internal melting and ice accretion at the bottom of temperate glaciers. Lliboutry, L.A., [1993, p.50-64, eng] 47-3940

Solar-heating rates and temperature profiles in antarctic snow and ice. Brandt, R.E., et al. [1993, p.99-110, eng] 47-3944

Steady flow of a viscous ice stream across a no-slip/free-slip transition at the bed. Barcilon, V., et al. [1993, p.167-185, eng] 47-3950

Analysis of conditions and long-term forecast of ice-dam levels on the Lena. Kilmianinov, V.V., [1992, p.64-69, eng] 47-3993

Strongly temperature dependent microphysical processes and the atmosphere. Stewart, R.E., et al. [1992, p.309-315, eng] 47-3996

Aqueous salt solution solidification. Heschel, I., et al. [1993, p.63-66, ger] 47-4063

Overhead line ice accretion due to freezing rain. Poots, G., et al. [1992, p.390-398, eng] 47-4069

Calculating the dynamics of snow avalanches. IAdroshnikov, V.I., [1993, p.4-8, rus] 47-4084

Determination of creep properties of frozen soils by means of the borehole stress relaxation test. Ladanyi, B., et al. [1993, p.170-186, eng] 47-4164

Hydrology of a prairie slough. Woo, M.K., et al. [1993, p.175-207, eng] 47-4170

Static analysis of floating ice block stability. Coutermarsh, B.A., et al. [1993, p.147-160, eng] 47-4172

Solvation, freezing, and the crystal/liquid interface: modern theories and computer simulation. Haymet, A.D.J., [1993, p.415-426, eng] 47-4216

Effects of variable eddy viscosity on wave-induced currents under ice. Melsom, A., [1993, p.78-88, eng] 47-4218

Size-effect in indentation-induced splitting floe experiments. Gupta, V., et al. [1993, p.29-34, eng] 47-4227

Elastic analysis of stresses in ice structure interactions. Nixon, W.A., et al. [1993, p.83-88, eng] 47-4234

Ice and rubble failure loads on sloping structures by two-dimensional upper-bound plastic limit analysis. Luk, C.H., et al. [1993, p.157-168, eng] 47-4243

Stopping criteria for discrete event simulations. Wang, A.T., [1993, p.169-176, eng] 47-4244

Analysis for dynamic ice structure interaction involving finite difference model and damage considerations. Iyer, S.H., et al. [1993, p.199-206, eng] 47-4247

Dynamical problems of ice cover fracture. Pushkin, A.V., et al. [1991, p.212-219, eng] 47-4282

Ice action onto multilegged structures due to change of water level. Matskevitch, D.G., et al. [1992, p.222-227, eng] 47-4306

Mean spacing of air voids in hardened concrete. Attiogbe, E.K., [1993, p.174-181, eng] 47-4352

Study of snow melting mechanism by solar radiative absorption material. Inaba, H., et al. [1992, p.715-726, eng] 47-4363

Freezing. Haymet, A.D.J., [1992, p.363-405, eng] 47-4367

Nucleation. Oxtoby, D.W., [1992, p.407-442, eng] 47-4368

Computerized simulation of permafrost mass transfer. Kozlov, A.N., et al. [1992, p.63-67, eng] 47-4384

Ice sheet dynamics and the Pleistocene ice ages. Birchfield, G.E., [1987, p.381-398, eng] 47-4454

Evolution of a porous H2O-CO2-ice sample in response to irradiation. Steiner, G., et al. [1993, p.9065-9073, eng] 47-4508

Creep behavior of fine-grained frozen soils: discussion and reply. Juárez-Badillo, E., et al. [1993, p.385-389, eng] 47-4515

Onset and evolution of penetrative convection during the melting process in a porous medium. Nguyen, T.H., et al. [1992, p.381-392, eng] 47-4708

Temperature determination of saline permafrost. Gokhman, M.R., [1993, p.23-26, eng] 47-4730

Polarized infrared radiation in ice crystals. Takano, Y., et al. [1993, p.1243-1256, eng] 47-4737

Source mechanisms for arctic ocean ambient noise. Dyer, I., [1993, p.537-551, eng] 47-4835

Ocean convection and the creation of polynyas. Schmalzl, J., et al. [1993, p.371-383, eng] 47-4844

Tidal motions derived from ice buoy data. Turet, P., et al. [1993, 63p., eng] 47-4908

When ice melts in sea water: a review. Gade, H.G., [1993, p.139-165, eng] 47-4914

Rate of vapor condensation in a cloud layer at a slow updraft. Smirnov, V.I., et al. [1991, p.78-82, eng] 47-4925

Numerical and experimental study on supercooled laminar flow of water. Ismail, K.A.R., et al. [1991, p.899-903, eng] 47-5108

Glacier study using wavenumber domain synthetic aperture radar. Hamran, S.E., et al. [1993, p.559-570, eng] 47-5120

On the accuracy of cometary nuclei simulation experiments. Klinger, J., et al. [1989, p.493-497, eng] 47-5125

Saltating particles over flat beds. Nalpanis, P., et al. [1993, p.661-685, eng] 47-5195

Application of data of short-term hydrometeorological studies to computations of river runoff. Rozhdestvenskii, A.V., et al. [1991, p.70-76, eng] 47-5196

Heat transfer from a cylinder buried in a frozen medium. Oosthuizen, P.H., et al. [1992, p.457-475, eng] 47-5264

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Anchor ice

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Anchors

Construction of a geogrid- and geocomposite-faced soil-nailed slope reinforcement project in eastern Canada. Alston, C., [1991, p.87-95, eng] 47-1130

New technical solution for the reliable anchoring of an underground pipeline in frost-heaving ground. Kharionovskii, V.V., et al. [1992, p.20-22, rus] 47-2900

Andes

Characteristics of climate and glacier ablation in the intertropical Andes. Kadomtseva, T.G., et al. [1991, p.99-107, rus] 47-2795

Anemometers

Use of a wing-mounted airflow pod for airborne wind and flux measurement. MacPherson, J.I., [1993, p.169-174, eng] 47-3068

Integrated semiconductor resistance temperature sensor and resistive heater. Sittler, F.C., et al. [1989, 10 col., eng] 47-3327

Pneumatically de-iced ice detector. Franklin, C.H., et al. [1985, 32p., eng] 47-4896

Animals

Arctic insects as indicators of environmental change. Danks, H.V., [1992, p.159-166, eng] 47-519

Seismic properties of artificial polar bear dens. Blix, A.S., et al. [1992, p.20-24, eng] 47-3350

Results of the Third Joint US-USSR Bering & Chukchi Seas Expedition (BERPAC), Summer 1988. Nagel, P.A., ed. [1988, 415p., eng] 47-3864

"Panarctic Flora and Fauna" Workshop (Moscow, 25 Feb.-1 Mar.; Leningrad, 4-6 Mar. 1991). IUrtsev, B.A., [1992, p.140-144, rus] 47-4094

Ecological situation and protection of flora and fauna of the Barents Sea. Matishov, G.G., ed. [1991, 211p., rus] 47-4660

Bomb radiocarbon in arctic Alaskan aquatic and terrestrial biota. Schell, D.M., [1993, p.135-144, eng] 47-5026

Radioactivity in the Barents Sea, past and present status, and its impact on fisheries. Föyn, L., [1993, p.201-211, eng] 47-5031

Anion exchange

See also: Ion exchange

Anisotropy

Structural analysis of the Cazadora Glacier ice, directional anisotropy quantification and subglacial drainage prediction. Eraso, A., et al. [1989, p.71-79, spa] 47-814

Observations of the water-vein system in polycrystalline ice. Mader, H.M., [1992, p.333-347, eng] 47-1386

Creep law of rock ice with anisotropic fabric inferred from homogenization. Lliboutry, L.A., [1991, p.242-245, eng] 47-2314

Optical properties of snow. Brandt, R.E., et al. [1991, p.272-275, eng] 47-3056

Polarimetric observations and theory of millimeter- wave backscatter from snow cover. Mead, J.B., et al. [1993, p.38-46, eng] 47-3172

Formation of patterns during growth of snow crystals. Yokoyama, E., [1993, p.251-257, eng] 47-3470

Modeling and numerical simulations of dendritic crystal growth. Kobayashi, R., [1993, p.410-423, eng] 47-4071

Effect of boundary conditions on borehole indentor test results. Sinha, N.K., et al. [1993, p.65-72, eng] 47-4232

Adsorbate spectra for amorphous ice. Buch, V., et al. [1993, p.2265-2268, eng] 47-4464

Polarized infrared radiation in ice crystals. Takano, Y., et al. [1993, p.1243-1256, eng] 47-4737

Notch sensitivity of first-year sea ice. Parsons, B.L., et al. [1993, p.1303-1313, eng] 47-4848

Nonsymmetric icing of guyed masts. Peil, U., et al. [1991, 10p., eng] 47-5012

Anomalous water

Okhotsk Sea water anomaly: implications for ventilation in the North Pacific. Talley, L.D., [1991, p.S171-S190, eng] 47-2909

Antarctica

Final report of Operation Deep Freeze '92 (1991-1992). [1992, var. p., eng] 47-74

Spores and pollen from the glaciers and periglacial zone of the Arctic and Antarctica. Surova, T.G., et al. [1991, p.181-185, rus] 47-340

Crystal desert: summers in Antarctica. Campbell, D.G., [1992, 308p., eng] 47-628

International law and the Antarctic Treaty System. Watts, A., [1992, 469p., eng] 47-1243

Quo vadimus re the springtime antarctic ozone depletion?. Rycroft, M.J., [1990, p.(10)275-(10)277, eng] 47-1284

Report of Operation Deep Freeze 85, 1984-1985. [1985, Var. p., eng] 47-1285

Contribution of SCAR to antarctic research. Walton, D.W.H., [1992, p.217-228, eng] 47-1405

Environmental management in Antarctica: a guide to the literature resources. Meadows, J., [1992, p.229-241, eng] 47-1406

NSF's role in polar information. Guthridge, G.G., [1992, p.243-249, eng] 47-1407

Information sources used by antarctic scientists. Phillips, C., [1992, p.317-324, eng] 47-1409

International Conference on Antarctic Science, Bremen, Sep. 1991. Qin, D.H., [1992, p.178-183, chi] 47-1656

Panelised forms of building construction for antarctic regions. Incoll, P., [1992, p.564-570, eng] 47-1842

Safety in ice navigation in antarctic waters. Brune, E., [1992, p.571-576, eng] 47-1843

Snowdrift around antarctic building—effects of corner geometry and wind incidence. Kwok, K.C.S., et al. [1992, p.587-591, eng] 47-1845

Interactive atmospheric surface-layer modifications for a large-scale sea-ice model. Stössel, A., et al. [1992, p.109-110, eng] 47-2394

Mountain effects on the antarctic circulation. Egger, J., [1992, p.J3-J7, eng] 47-2404

Antarctica *(cont.)*

Generation mechanisms of quasi-stationary waves in the Southern Hemisphere. Quintanar, A.I., et al. [1992, p.J8-J11, eng] 47-2405

Microwave remote sensing of the southern ocean ice cover. *Comiso, J.C., et al. [1992, p.243-259, eng]* 47-3026

Global change implications for antarctic lakes. Lindner, B.L., et al. [1993, p.276-279, eng] 47-3047

Improvements in general circulation model performance in simulating antarctic climate. Simmonds, I., [1990, p.287-300, eng] 47-3149

Wind stress in an ocean general circulation model (part 1). Matsuura, T., et al. [1991, p.39-68, jpn] 47-3292

Overview of the National Institute of Polar Research '92. [1992, 32p., jpn] 47-3520

33rd Japanese Antarctic Research Expedition in 1991-93. Fukuchi, M., [1992, p.31-37, jpn] 47-3622

Comprehensive protection measures on antarctic environment. Yoshida, Y., [1992, p.51-56, jpn] 47-3623

Antarctic science conference, Germany, 1991. Kanda, H., [1992, p.57-60, jpn] 47-3624

Summer activity of JARE-32. Kokubun, S., [1991, p.38-42, jpn] 47-3626

Analysis of strong wind events simulated in a GCM near Casey in the Antarctic. Murphy, B.F., et al. [1993, p.522-534, eng] 47-3677

Glaciers. Hambrey, M.J., et al. [1992, 207p., eng] 47-4009

Experimental studies of clouds and aerosols along the antarctic coast. *Saxena, V.K., et al. [1988, p.108-111, eng]* 47-4194

Southern Oscillation signal in Antarctica. Savage, M.L., et al. [1988, p.141-144, eng] 47-4203

First annual West Antarctic ice sheet (WAIS) science workshop. Bindschadler, R.A., ed. [1993, 58p., eng] 47-5245

—Aboa Station

Vehicles and transports during the Swedish Antarctic Research Programme 1991/92. Berg, A., [1993, p.258-266, eng] 47-5114

—Adélie Coast

Katabatic winds and large-scale tropospheric forcing. Parish, T.R., et al. [1992, p.J141-J144, eng] 47-2421

Stratospheric ozone on Adélie Coast. Aimedieu, P., [1990, p.47-49, fre] 47-3161

Atmospheric physics and chemistry of Adélie Coast. Polian, G., [1990, p.50-59, fre] 47-3162

Use of concrete for new structures on Adélie Coast. Leguet, J.L., [1991, p.76-80, fre] 47-3180

Iceberg impact program. Guichard, A., [1991, p.81-87, fre] 47-3181

Analysis of errors in satellite altimetry. Minster, J.F., et al. [1993, p.410-419, eng] 47-3774

Measuring blowing snow in Adélie Land, eastern Antarctica. Wendler, G., [1988, p.93-96, eng] 47-4191

Numerical simulation of antarctic drainage flows. Parish, T.R., et al. [1988, p.97-99, eng] 47-4192

Katabatic flow thermodynamics of Adélie Coast. Pettré, P., et al. [1993, p.10,429-10,440, eng] 47-4292

—Amery Ice Shelf

Ocean interactions with the base of Amery Ice Shelf, Antarctica. Hellmer, H.H., et al. [1992, p.20,305-20,317, eng] 47-2342

Pressure and temperature anomalies in the southern oscillation. Smith, S.R., et al. [1992, p.121-124, eng] 47-2397

Green iceberg formation on antarctic ice shelf bases. Warren, S.G., et al. [1993, p.6921-6928, eng] 47-4138

—Amundsen-Scott Station

Parameters which influence the air content in polar ice. Martinerie, P., et al. [1992, p.1-13, eng] 47-458

Ozone depletion in Antarctica in 1991. Hofmann, D.J., et al. [1992, p.283-287, eng] 47-484

1000 years of explosive volcanism recorded at the South Pole. Delmas, R.J., et al. [1992, p.335-350, eng] 47-834

Aerosol and general atmospheric circulation models. Genthon, C., [1992, p.371-389, eng] 47-836

Paleoenvironmental conditions in Antarctica since A.D. 1500: ice core evidence. Mosley-Thompson, E., [1992, p.572-591, eng] 47-2101

Atmospheric longwave radiation spectrum on the antarctic plateau. Walden, V.P., et al. [1992, p.11-12, eng] 47-2366

Stratospheric stability and tropospheric circulations over the South Pole. Neff, W.D., [1992, p.115-120, eng] 47-2396

Synoptic influence on inversion winds at the South Pole. Neff, W.D., [1992, p.J24-J28, eng] 47-2409

PSCs above the South Pole in 1990. Collins, R.L., et al. [1993, p.1001-1010, eng] 47-2701

Anomalies in the intra-annual ozone variability in polar regions from ozone sounding area. Gruzdev, A.N., et al. [1991, p.272-279, eng] 47-2897

Optical properties of snow. Brandt, R.E., et al. [1991, p.272-275, eng] 47-3056

Air-snow exchange processes. Harder, S.L., et al. [1991, p.277-278, eng] 47-3057

Atmospheric infrared emission measurements at the South Pole. Murcray, F.J., et al. [1991, p.278-281, eng] 47-3058

Attenuation of acoustic waves in antarctic ice. Price, P.B., [1993, p.346-356, eng] 47-3097

Tropospheric ozone annual variation at both poles. Gruzdev, A.N., et al. [1993, p.89-98, eng] 47-3530

Particle transport to the snow surface at the South Pole. Hogan, A.W., et al. [1993, p.188-207, eng] 47-3536

Observation of recurrent temperature lapse near the surface at the South Pole. Obremski, J.S., et al. [1988, p.145-147, eng] 47-4204

Absorption of solar radiation at the antarctic snow surface. *Grenfell, T.C., et al. [1988, p.151-152, eng]* 47-4206

Decrease in growth rates of atmospheric CFCs 11 and 12. Elkins, J.W., et al. [1993, p.780-783, eng] 47-5126

—Antarctic Peninsula

Ratio of MSA to non-sea-salt sulphate in Antarctic Peninsula ice cores. Mulvaney, R., et al. [1992, p.295-303, eng] 47-833

Ice core evidence from the Antarctic Peninsula region. Peel, D.A., [1992, p.549-571, eng] 47-2100

Glacial history of the Antarctic Peninsula's continental shelf. Pope, P.G., et al. [1992, p.63-91, eng] 47-2872

Recent climate variability in the Antarctic Peninsula. *King, J.C., [1991, p.354-357, eng]* 47-4489

—Arena Valley

Isotope dating of Taylor Glacier moraines. Brook, E.J., et al. [1993, p.11-23, eng] 47-5202

—Arrival Heights

1991 ozone hole. Clarkson, T.S., et al. [1992, p.303-309, eng] 47-2165

DSIR's stratospheric trace gas program. Matthews, W.A., et al. [1992, p.311-321, eng] 47-2166

—Arthur Harbor

Microbial ecology of the 1989 antarctic oil spill. Karl, D.M., [1992, p.77-89, eng] 47-1257

Hydrocarbon pollution in Arthur Harbor subtidal sediments. Kennicutt, M.C., II, et al. [1992, p.499-506, eng] 47-1931

Hydrocarbon contamination of limpets in Arthur Harbor. Kennicutt, M.C., II, et al. [1992, p.506-511, eng] 47-1932

—Asgard Range

Subglacial meltwater channel systems and ice sheet overriding, Asgard Range, Antarctica. Sugden, D.E., et al. [1991, p.109-121, eng] 47-4310

—Asuka Station

Meteorological data at Asuka Station, Antarctica in 1990. Iwasaki, A., et al. [1992, 110p., eng] 47-43

Meteorological data at Asuka Station, Antarctica in 1991. Sukegawa, Y., et al. [1993, 101p., eng] 47-3905

—Bellingshausen Sea

Fragilariopsis cylindrus (Grunow) Krieger. Kang, S.H., et al. [1992, p.609-627, eng] 47-1623

Navigation in the Weddell and Bellingshausen seas. Federici, V.M., et al. [1993, p.274-299, eng] 47-5116

—Bonney, Lake

Light attenuation of Lake Bonney's ice cap. Priscu, J.C., [1991, p.223-224, eng] 47-2191

Fluorescence and photosynthesis in phytoplankton from permanently ice-covered lakes. Lizotte, M.P., et al. [1991, p.226-228, eng] 47-2192

Spectral irradiance in dry valley lakes. Lizotte, M.P., et al. [1992, p.1-14, eng] 47-2868

Fluorescence and phytoplankton photosynthesis in Lake Bonney. Neale, P.J., et al. [1991, p.228-230, eng] 47-3053

—Bransfield Strait

Distribution of phytoplankton at the ice edge in the Scotia/Weddell confluence. Ligowski, R., et al. [1991, p.529-546, eng] 47-3090

—Browning Pass

Radio echo sounding on Browning Pass. Sievers, J., et al. [1992, p.135-137, eng] 47-2185

—Brunt Ice Shelf

Evidence for an antarctic winter coastal polynya. Anderson, P.S., [1993, p.221-226, eng] 47-3652

—Bunger Hills

Late Quaternary glaciation and deglaciation of the Bunger Hills, Antarctica. Adamson, D.A., et al. [1992, p.435-446, eng] 47-904

Morphology and development of sea terraces on the shores of Bunger Hills. Verkulich, S.R., [1991, p.9-14, rus] 47-1573

—Byrd Glacier

Measurement, analysis, and modeling of deformation of the shelf flow, Byrd Glacier. Zhao, Z.H.M., [1990, 108p., eng] 47-486

—Byrd Station

Study of ice borehole closure by finite element method. Li, F., et al. [1992, p.77-89, eng] 47-1020

Black carbon concentration in Byrd Station ice core: from 13,000 to 700 years before present. Chylek, P., et al. [1992, p.625-629, eng] 47-2005

Shallow ice core drilling project at Byrd Station. Langway, C.C., Jr., [1991, p.60-61, eng] 47-2463

Bore-hole survey at Camp Century, 1989. Gundestrup, N.S., et al. [1993, p.187-193, eng] 47-2649

Be-10 peaks as time markers in polar ice cores. Beer, J., et al. [1993, p.141-153, eng] 47-2865

Last deglaciation event in Antarctica. Jouzel, J., et al. [1993, p.229-266, eng] 47-2866

Attenuation of acoustic waves in antarctic ice. Price, P.B., [1993, p.346-356, eng] 47-3097

—Casey Station

Prefabricated engineering services for use in antarctic regions: pipe lines in harsh environments. Archibald, J., [1992, p.577-586, eng] 47-1844

—Coats Land

Stratospheric denitrification indicated by firm core chemistry. Mulvaney, R., et al. [1993, p.5213-5 eng] 47-785

—Dakshin Gangotri Station

Workshop on Antarctic Studies, May 3-5, 1988, National Physical Laboratory: seven years of antarctic research. [1988, 54p., eng] 47-3630

Submicron size aerosols and weather forecasting in East Antarctica. Lal, M., [1988, p.105-107, eng] 47-4193

—Davis Sea

One method of analyzing the interdependence of short time series. Chepurina, M.A., [1990, p.77-83, rus] 47-3591

—Davis Station

Prefabricated engineering services for use in antarctic regions: pipe lines in harsh environments. Archibald, J., [1992, p.577-586, eng] 47-1844

—Dolleman Island

Ratio of MSA to non-sea-salt sulphate in Antarctic Peninsula ice cores. Mulvaney, R., et al. [1992, p.295-303, eng] 47-833

Seasonal input of heavy metals to antarctic snow. Suttie, E.D., et al. [1992, p.351-357, eng] 47-835

Pattern of ocean-atmosphere exchange in a Weddell Sea ice core. Peel, D.A., et al. [1992, p.430-442, eng] 47-837

Sea salt dependent electrical conduction in polar ice. Moore, J.C., et al. [1992, p.19,803-19,812, eng] 47-2187

Correlation between ice core isotope levels and air temperature. Jones, P.D., et al. [1993, p.14-26, eng] 47-4143

—Dome C

Last deglaciation event in Antarctica. Jouzel, J., et al. [1993, p.229-266, eng] 47-2866

Variations in mercury deposition to Antarctica over the past 34,000 years. Vandal, G.M., et al. [1993, p.621-623, eng] 47-3445

Climatology of the East Antarctic ice sheet (100E to 140E) derived from automatic weather stations. Allison, I., et al. [1993, p.8815-8823, eng] 47-4380

Cadmium concentration changes in antarctic ice and snow. Boutron, C.F., et al. [1993, p.431-441, eng] 47-4833

—Dominion Range

Study of methanesulfonic acid in ice cores. Whung, P.Y., [1991, 173p., eng] 47-46

—Don Juan Pond

Lacustrine deposits around Lake Vanda and Don Juan Pond. Smith, G.I., et al. [1993, p.83-94, eng] 47-4398

—Dumont d'Urville Station

Methodology for full-scale iceberg impact experiments in the Antarctic. Guichard, A., et al. [1992, p.718-723, eng] 47-1866

Pinatubo in the Antarctic?. Stefanutti, L., et al. [1992, p.327-343, eng] 47-2168

DIAL ozone measurements at Dumont d'Urville Station. Stefanutti, L., et al. [1992, p.345-358, eng] 47-2169

Katabatic winds and large-scale tropospheric forcing. Parish, T.R., et al. [1992, p.J141-J144, eng] 47-2421

Construction of the Dumont d'Urville airfield. Engler, M., [1990, p.78-83, fre] 47-3163

Polar engineering. Guichard, A., et al. [1990, p.84-87, fre] 47-3164

French research on polar ozone. Pommereau, J.P., [1991, p.28-35, fre] 47-3179

Antarctic ozone lidar system. Stefanutti, L., et al. [1992, p.3-12, eng] 47-4720

—East Antarctica

Antarctic ice sheets at risk?. Sugden, D.E., [1992, p.775-776, eng] 47-872

Evidence for east antarctic continental glaciation. Breza, J.R., et al. [1992, p.161-178, eng] 47-2459

Comparison of altimetry profiles over East Antarctica from Seasat and Geosat: an interim report. Bentley, C.R., et al. [1990, p.1-9, eng] 47-3570

Hydrology and hydrochemistry of natural waters of East Antarctica. Shmideberg, N.A., [1992, p.65-76, rus] 47-4923

—Ekström Ice Shelf

Tension faults on the Ekström Ice Shelf. Nixdorf, U., [1992, 101p., ger] 47-1437

Magnetic investigations of the Ekström Ice Shelf, Antarctica. Reiprich, S., et al. [1992, p.113-129, eng] 47-4739

—Elephant Island

Polish expedition to the Weddell Sea sea ice zone. Rakusa-Suszczewski, S., [1991, p.485-494, eng] 47-3086

Macrozooplankton near the ice edge in the Scotia/Weddell Confluence. Siciński, J., et al. (1991, p.565-582, eng) 47-3092

Krill migration at the ice edge in the Scotia/Weddell confluence. Godlewska, M., et al. (1991, p 583-592, eng) 47-3093

Krill abundance and distribution in the Scotia/Weddell Confluence. Godlewska, M., et al. (1991, p.593-603, eng) 47-3094

—Ellsworth Mountains

Soil-forming rates and processes in cold desert soils of Antarctica. Bockheim, J.G., et al. (1992, p.42-56, eng) 47-1703

Glacial history of the Ellsworth Mountains. Denton, G.H., et al. (1992, p.403-432, eng) 47-2700

—Filchner Ice Shelf

Accumulation on the Filchner and Ronne Ice Shelves. Moser, H., et al. (1990, p.57-71, ger) 47-875

Mass balance variations on Filchner-Ronne Ice Shelf. Determann, J., et al. (1990, p.57-68, eng) 47-3573

Analysis of ERS-1 altimeter data over polar ice sheets. Rapley, C.G., et al. (1993, p.235-240, eng) 47-4418

Some results of the derivation of ice sheet elevations in Antarctica from ERS-1 altimeter data. Ihde, J., et al. (1993, p.241-245, eng) 47-4419

Preliminary evaluation of ERS-1 altimetry over Filchner-Ronne Ice Shelf, Antarctica. Doake, C., et al. (1993, p.259-261, eng) 47-4422

Validating the UK-PAF land ice product surface elevation. Mantripp, D.R., et al. (1993, p.483-488, eng) 47-4444

—Filchner Station

Sketch on West Germany antarctic station. Nishio, F., (1991, p.14-21, jpn) 47-405

—Fildes Peninsula

Active layers of Fildes Peninsula. Zhu, C., et al. (1991, p.24-37, eng) 47-38

—Fimbul Ice Shelf

Fractionation of sea salt and acids during transport across an antarctic ice shelf. Mulvaney, R., et al. (1993, p.179-187, eng) 47-3535

—Fosdick Mountains

Glacial flow reorientation in the SW Fosdick Mountains. Richard, S. M., et al. (1991, p.67-69, eng) 47-2467

—Fryxell, Lake

Fluorescence and photosynthesis in phytoplankton from permanently ice-covered lakes. Lizotte, M.P., et al. (1991, p.226-228, eng) 47-2192

Spectral irradiance in dry valley lakes. Lizotte, M.P., et al. (1992, p.1-14, eng) 47-2868

—Géologie Archipelago

Seasonal changes of antarctic marine bacterioplankton. Delille, D., et al. (1991, p.213-218, eng) 47-2070

—Georg von Neumayer Station

Sketch on West Germany antarctic station. Nishio, F., (1991, p.14-21, jpn) 47-405

Tension faults on the Eskström Ice Shelf. Nixdorf, U., (1992, 101p., ger) 47-1437

Meteorological research using a high mast on an antarctic ice shelf. Belitz, H.-J., et al. (1987, p.5-10, eng) 47-2912

—George V Coast

Surface-sediment diatom assemblages from the George V Coast. Leventer, A., (1991, p.120-122, eng) 47-3518

—George VI Ice Shelf

Radar absorption due to impurities in antarctic ice. Corr, H., et al. (1993, p.1071-1074, eng) 47-4562

—Glubokoye, Lake

Hydrology of Lake Glubokoye, King George I., winter 1987. Mart'ianov, V.L., et al. (1991, p.27-32, rus) 47-1575

—Great Wall Station

Geochemistry and environmental evolution at the Great Wall Station. Zhao, J.L., (1991, 178p., chi) 47-1438

—Hells Gate

Marine ice transfer along the bottom of a small ice shelf. Souchez, R., et al. (1991, p.503-506, eng) 47-1793

—Hoare, Lake

Computational modeling of antarctic lake ice. Lindner, B.L., et al. (1992, p.105-116, eng) 47-1022

Fluorescence and photosynthesis in phytoplankton from permanently ice-covered lakes. Lizotte, M.P., et al. (1991, p.226-228, eng) 47-2192

Spectral irradiance in dry valley lakes. Lizotte, M.P., et al. (1992, p.1-14, eng) 47-2868

Perennial ice covers and their influence on antarctic lake ecosystems. Wharton, R.A., Jr., et al. (1993, p.53-70, eng) 47-4396

Isotopic geochemistry of an ice-covered antarctic lake. Wharton, R.A., Jr., et al. (1993, p.159-172, eng) 47-4906

—Howe, Mount

Meteorological surveys in support of ice airfields in Antarctica. Hogan, A.W., et al. (1992, p.42-43, eng) 47-2375

Field survey of potential airstrip locations: Mt. Howe, Antarctica, 1991. DenHartog, S.L., (1991, 6p., eng) 47-3338

—James Ross Island

Geomorphology of James Ross Island. Strelin, J., et al. (1992, p.7-36, spa) 47-866

—Juan Carlos I Station

Drainage of the Cazadora Glacier at Juan-Carlos I Base. Eraso, A., et al. (1991, p.69-91, eng) 47-25

Record of the 1988-1989 expedition at the Spanish Juan Carlos I Station. Eraso, A., et al. (1989, p.3-22, spa) 47-808

Correlation between discharge and hydrochemical parameters in the river at Juan Carlos I Station. Antiguedad, I., et al. (1989, p.24-31, spa) 47-809

Meteorological data and hydrogram of the river at Juan Carlos I Station. Antiguedad, I., et al. (1989, p.32-40, spa) 47-810

Different water types found in the vicinity of Juan Carlos I Station. Antiguedad, I., et al. (1989, p.41-49, spa) 47-811

Stable isotope distribution in the Cazadora Glacier. Eraso, A., et al. (1989, p.50-60, spa) 47-812

Vertical distribution of some oligo-elements in the Cazadora Glacier near the Juan Carlos I Station. Eraso, A., et al. (1989, p.61-70, spa) 47-813

Structural analysis of the Cazadora Glacier ice, directional anisotropy quantification and subglacial drainage prediction. Eraso, A., et al. (1989, p.71-79, spa) 47-814

Mineralogic and microsonde analysis of volcanic ash in the vicinity of Juan Carlos I Station. Eraso, A., et al. (1989, p.80-88, spa) 47-815

Plans for the construction of a dam in a fossil lagoon near the Juan Carlos I Station. Eraso, A., et al. (1989, p.89-101, spa) 47-816

—King George Island

Distribution of phytoplankton at the ice edge in the Scotia/Weddell confluence. Ligowski, R., et al. (1991, p.529-546, eng) 47-3090

Ichthyoplankton near the ice edge in the Scotia/Weddell confluence. Skóra, K.E., (1991, p.605-611, eng) 47-3095

—King Sejong Station

Study on the meteorological characteristics over King Sejong Station, Antarctica during 1990. Nam, J.C., et al. (1991, p.63-70, kor) 47-1571

Meteorological observations at King Sejong Station. Lee, B.Y., et al. (1992, p.1-16, kor) 47-2926

—Koettlitz Glacier

Glacier, river and sea ice blister observations. Kovacs, A., (1992, 14p., eng) 47-785

—Komsomolskaya Station

Last deglaciation event in Antarctica. Jouzel, J., et al. (1993, p.229-266, eng) 47-2866

—Law Dome

Firn stratigraphy, density and crystal structure on Law Dome. Li, J., et al. (1991, p.1-14, eng) 47-36

Thermal properties of snow/firn on the Law Dome ice cap. Ren, J.W., et al. (1991, p.38-46, eng) 47-39

Parameters which influence the air content in polar ice. Martinerie, P., et al. (1992, p.1-13, eng) 47-458

Changes in tropospheric methane, 1841-1978, from ice core. Etheridge, D.M., et al. (1992, p.282-294, eng) 47-832

Basal ice accretion and debris entrainment within the coastal ice margin, Law Dome, Antarctica. Goodwin, I.D., (1993, p.157-166, eng) 47-3949

—Lewis Cliff

Annual ablation rates of the Lewis Cliff ice tongue. Fori, G., et al. (1991, p.86-87, eng) 47-2472

—Livingston Island

Bedrock weathering associated with antarctic snowpatches. Hall, K., (1993, p.121-129, eng) 47-5270

—Lützow-Holm Bay

Postembryonic development of a copepod from Lützow-Holm Bay. Tanimura, A., (1992, p.109-128, eng) 47-1219

Surface albedo distribution in Lützow-Holm Bay. Nakagawa, K., (1992, p.1-15, eng) 47-3001

Hydrography under fast ice in Lützow-Holm Bay. Takizawa, T., et al. (1992, p.106-125, eng) 47-3011

JARE-31 oceanographic survey in Lützow-Holm Bay, 1990-1991. Ushio, S., et al. (1993, 34p., eng) 47-3619

Oceanographic observation of Lützow-Holm Bay, Antarctica in 1990. Takizawa, T., (1992, p.22-30, jpn) 47-3621

—Maitri Hills Station

Submicron size aerosols and weather forecasting in East Antarctica. Lal, M., (1988, p.105-107, eng) 47-4193

—Marambio Station

Tropospheric ozone distribution in Antarctica and European Arctic. Taalas, P., et al. (1993, p.106-119, eng) 47-3532

—Marie Byrd Land

Volcano under Ice Stream B. Monastersky, R., (1993, p.104-107, eng) 47-1940

Active volcanism beneath the west antarctic ice sheet. Blankenship, D.D., et al. (1993, p.526-530, eng) 47-1941

—Mawson Station

Prefabricated engineering services for use in antarctic regions: pipe lines in harsh environments. Archibald, J., (1992, p.577-586, eng) 47-1844

Seismicity associated with icebergs calving from glaciers near Mawson, East Antarctica. Gault, B.A., et al. (1992, p.473-480, eng) 47-1883

Prevailing winds in the arctic and antarctic atmospheres at ca 80-110 km. Portniagin, IU.I., et al. (1993, p.827-841, eng) 47-2930

Dynamics of the antarctic and arctic mesosphere and the lower thermosphere regions. II. The semidiurnal tide. Portniagin, IU.I., et al. (1993, p.843-855, eng) 47-2931

—McMurdo Dry Valleys

Fluorescence and photosynthesis in phytoplankton from permanently ice-covered lakes. Lizotte, M.P., et al. (1991, p.226-228, eng) 47-2192

Physical hydrology of the dry valley lakes. Chinn, T.J., (1993, p.1-51, eng) 47-4395

Perennial ice covers and their influence on antarctic lake ecosystems. Wharton, R.A., Jr., et al. (1993, p.53-70, eng) 47-4396

Terrigenous clastic sedimentation in antarctic dry valley lakes. Andersen, D.W., et al. (1993, p.71-81, eng) 47-4397

Microbiology of antarctic soils. Vishniac, H.S., (1993, p.297-341, eng) 47-4597

—McMurdo Ice Shelf

Oxygen isotope data from McMurdo Ice Shelf. Kellogg, T.B., et al. (1991, p.73-76, eng) 47-2470

—McMurdo Sound

Seasonal changes in the sea ice brine community, McMurdo Sound. Stoecker, D.K., et al. (1992, p.265-278, eng) 47-520

Physical and dynamic properties of sea ice in the polar oceans. Gow, A.J., et al. (1991, 46p., eng) 47-704

Dinoflagellates and their cysts in land-fast ice. Stoecker, D.K., et al. (1991, p.143-144, eng) 47-1439

Properties and genesis of cryosols at Marble Point, McMurdo Sound region, Antarctica. Campbell, I.B., et al. (1992, p.59-66, eng) 47-1705

Salinity, temperature, and photophysiology of antarctic sea ice microalgae. Arrigo, K.R., et al. (1992, p.746-756, eng) 47-2594

Antarctic scallop shell proxy records. Berkman, P.A., et al. (1992, p.27-38, eng) 47-2870

Fast-ice properties and structure in McMurdo Sound. Jeffries, M.O., et al. (1991, p.94-95, eng) 47-3516

Bromoalkane production by antarctic ice algae. Sturges, W.T., et al. (1993, p.120-126, eng) 47-3533

Simulated antarctic fast ice ecosystem. Arrigo, K.R., et al. (1993, p.6929-6946, eng) 47-4139

Physical hydrology of the dry valley lakes. Chinn, T.J., (1993, p.1-51, eng) 47-4395

Seasonal changes in the sea ice brine community, McMurdo Sound. 2. Stoecker, D.K., et al. (1993, p.103-113, eng) 47-4725

Platelet ice ecosystem in McMurdo Sound. Arrigo, K.R., et al. (1993, p.173-185, eng) 47-5200

—McMurdo Station

Ozone depletion in Antarctica in 1991. Hofmann, D.J., et al. (1992, p.283-287, eng) 47-484

Field manual for the U.S. Antarctic Program. (1992, 207p., eng) 47-601

Volcanic aerosol and ozone over Antarctica, Spring 1991. Deshler, T., et al. (1992, p.1819-1822, eng) 47-870

Landing and parking a C5 Galaxy on sea ice: McMurdo Station, Antarctica. Barthelemy, J.L., (1992, p.37-49, eng) 47-1017

Near breakup of the surface-flooded ice wharf at McMurdo Station, Antarctica. Barthelemy, J.L., (1992, p.592-599, eng) 47-1846

Development of a wheeled runway for McMurdo on the Ross Ice Shelf. Blaisdell, G.L., et al. (1992, 31p., eng) 47-2120

1990 spring stratospheric denitrification. Gobbi, G.P., et al. (1992, p.323-326, eng) 47-2167

1991 spring lidar PSC studies at McMurdo. Adriani, A., et al. (1992, p.367-373, eng) 47-2171

Tropospheric and stratospheric thin clouds at McMurdo. Adriani, A., et al. (1992, p.491-503, eng) 47-2175

Climatic differences in Antarctica from automatic weather stations. Stearns, C.R., et al. (1992, p.111-114, eng) 47-2395

Stratospheric ozone depletion and denitrification in spring 1990. Deshler, T., (1991, p.242-244, eng) 47-3055

Distribution of enteric bacteria in antarctic seawater surrounding a sewage outfall. McFeters, G.A., et al. (1993, p.645-650, eng) 47-3678

Prediction of restricted visibility at the McMurdo airfield. Hale, R.A., et al. (1988, p.148-150, eng) 47-4205

Atmospheric NO3. 4. Vertical profiles at middle and polar latitudes at sunrise. Smith, J.P., et al. (1993, p.8983-8989, eng) 47-4383

Use of the C-5 Galaxy in support of the United States Antarctic Program. Bresnahan, D.M., (1993, p.238-245, eng) 47-5113

—Melbourne, Mount

Transport of marine organic matter evidenced in antarctic snow. Cini, R., et al. (1992, p.191-204, eng) 47-2164

—Mirayy Station

Energy resource of winter season in Siberia and polar areas. Karnatsevich, I.V., (1992, p.177-179, eng) 47-1725

Surface ozone concentrations in Antarctica. Gruzdev, A.N., et al. (1992, p.41-47, eng) 47-2847

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—Mirnyy Station *(cont.)*

Recent surface ozone measurements at Molodezhnaya and Mirnyy stations. Gruzdev, A.N., et al. [1993, p.99-105, eng] 47-3531

—Mizuho Plateau

Continuous 770-year record of volcanic activity from East Antarctica. Moore, J.S., et al. [1991, p.17,353-17,359, eng] 47-348

Microwave signature of firn and sea ice from airborne observations. Yamanouchi, T., et al. [1992, p.16-3[illegible] eng] 47-3002

—Mizuho Station

Oxygen isotopic content variation in snow at Mizuho Station. Ageta, Y., [1993, p.24-31, jpn] 47-4357

Radiation characteristics at Mizuho Station. Liu, S.H., et al. [1993, p.39-45, chi] 47-4647

—Molodezhnaya Station

Results of investigating the middle atmosphere at antarctic station Molodezhnaya. Ivanova, I.N., et al. [1991, p.30-34, eng] 47-1178

Surface ozone concentrations in An[illegible]ctica. Gruzdev, A.N., et al. [1992, p.41-47, eng] 47-2847

Prevailing winds in the arctic and antarctic atmospheres at *ca* 80-110 km. Portniagin, IU.I., et al. [1993, p.827-841, eng] 47-2930

Dynamics of the antarctic and arctic mesosphere and the lower thermosphere regions, II. The semidiurnal tide. Portniagin, IU.I., et al. [1993, p.843-855, eng] 47-2931

Recent surface ozone measurements at Molodezhnaya and Mirnyy stations. Gruzdev, A.N., et al. [1993, p.99-105, eng] 47-3531

—Müller Ice Shelf

Growth of the Müller Ice Shelf during the Little Ice Age. Stein, A.B., [1992, 56p., eng] 47-71

—Nansen Ice Sheet

Interaction of gravity driven flows at Nansen Ice Sheet. Mastrantonio, G., et al. [1992, p.159-166, eng] 47-1200

Acoustic sounder experimentation in Victoria Land, Antarctica. Fiocco, G., et al. [1991, p.119-133, eng] 47-2006

—Nelson Island

Soluble ions in a snow pit on Nelson I. Qin, D.H., et al. [1993, p.312-316, eng] 47-3096

—*Newall Glacier*

Methanesulfonic acid in coastal antarctic snow related to sea-ice extent. Welch, K.A., et al. [1993, p.443-446, eng] 47-3728

—Palmer Station

U.S. Palmer Station in Antarctica. Kaminuma, K., [1991, p.3-6, jpn] 47-404

Hydrocarbon contamination of limpets in Arthur Harbor. Kennicutt, M.C., II, et al. [1992, p.506-511, eng] 47-1932

Long-term ecological research strategy for polar environmental research. Quetin, L.B., et al. [1992, p.233-238, eng] 47-4506

—Prince Albert Mountains

Site survey for heat flow in the Prince Albert Mountains. Delisle, G., et al. [1992, p.138-139, eng] 47-2186

—Queen Maud Land

Chemical components of snow from Queen Maud Land. Kamiyama, K., et al. [1992, p.88-98, eng] 47-3009

Local climate and mass balance of a blue-ice area in western Dronning Maud Land, Antarctica. Jonsson, S., [1990, p.11-29, eng] 47-3571

Stabilization of snow temperature in Dronning Maud Land, Antarctica, January 1989. Seppälä, M., [1992, p.227-230, eng] 47-4331

Vehicles and transports during the Swedish Antarctic Research Programme 1991/92. Berg, A., [1993, p.258-266, eng] 47-5114

—Ronne Ice Shelf

Accumulation on the Filchner and Ronne Ice Shelves. Moser, H. et al. [1990, p.57-71, ger] 47-875

Origin of green icebergs in Antarctica. Kipfstuhl, J., et al. [1992, p.20,319-20,324, eng] 47-2343

Mass balance variations on Filchner-Ronne Ice Shelf. Determann, J., et al. [1990, p.57-68, eng] 47-3573

Analysis of ERS-1 altimeter data over polar ice sheets. Rapley, C.G., et al. [1993, p.235-240, eng] 47-4418

Some results of the derivation of ice sheet elevations in Antarctica from ERS-1 altimeter data. Ihde, J., et al. [1993, p.241-245, eng] 47-4419

Preliminary evaluation of ERS-1 altimetry over Filchner-Ronne Ice Shelf, Antarctica. Doake, C., et al. [1993, p.259-261, eng] 47-4422

Radar absorption due to impurities in antarctic ice. Corr, H., et al. [1993, p.1071-1074, eng] 47-4562

—Ross Ice Shelf

Satellite observation of katabatic-wind propagation for great distances across the Ross Ice Shelf. Bromwich, D.H., et al. [1992, p.1940-1949, eng] 47-876

Interpretation of seismic data collected on floating ice. Beaudoin, B.C., et al. [1992, p.1359-1372, eng] 47-984

Katabatic surges across the Ross Ice Shelf. Bromwich, D.H., et al. [1992, p.29-32, eng] 47-2371

Climatic differences in Antarctica from automatic weather stations. Stearns, C.R., et al. [1992, p.111-114, eng] 47-2395

Pressure and temperature anomalies in the southern oscillation. Smith, S.R., et al. [1992, p.121-124, eng] 47-2397

Analysis of gravity measurements on the Ross Ice Shelf, Antarctica. Greischar, L.L., et al. [1992, p.105-155 + 1 *microfiche*, eng] 47-2874

—Ross Island

Acoustic remote sensing study of boundary layer blocking near Ross Island, Antarctica. Liu, Z., et al. [1992, p.J29-J32, eng] 47-2410

Development of laser ice-cutting apparatus. Zeller, E.J., et al. [1991, p.89-91, eng] 47-2474

—Ross Sea

Cenozoic sedimentary processes on the antarctic continental margin and the record from deep drilling. Hambrey, M.J., et al. [1992, p.77-103, eng] 47-1007

Structural characteristics and development of sea ice in the western Ross Sea. Jeffries, M.O., et al. [1993, p.63-75, eng] 47-2245

Case studies of katabatic wind forced mesoscale cyclogenesis over the southwestern Ross Sea. Carrasco, J.F., et al. [1992, p.J129-J132, eng] 47-2418

Late Pleistocene ice sheet grounding in the Ross Sea. Anderson, J.B., et al. [1992, p.39-62, eng] 47-2871

Pliocene-Pleistocene seismic stratigraphy of the Ross Sea. Alonso, B., et al. [1992, p.93-103, eng] 47-2873

Evidence from the antarctic continental margin of Late Paleogene ice sheets. Bartek, L.R., et al. [1992, p.131-159, eng] 47-3166

Summer pack-ice properties and structure in the western Ross Sea. Jeffries, M.O., et al. [1991, p.95-97, eng] 47-3517

Methanesulfonic acid in coastal antarctic snow related to sea-ice extent. Welch, K.A., et al. [1993, p.443-446, eng] 47-3728

Sediment descriptions, western Ross Sea 1987. Bryan, J.R., ed. [1993, 75p., eng] 47-4826

—*Rothera Point*

Short-offset seismic refraction results near Rothera Station, Antarctic Peninsula. King, E.C., et al. [1992, p.479-480, eng] 47-905

—Russkaya Station

Atmospheric radiation regime at Russkaya Station. Mart'ianov, V.L., [1991, p.17-22, rus] 47-1574

—SANAE Station

SANAE total column ozone: 1980 to 1990. Bodeker, G.E., et al. [1991, p.220-221, eng] 47-4979

Natural ozone depletion over Antarctica. Stephenson, J.A.E., et al. [1991, p.222, eng] 47-4980

—Scotia Sea

Sea ice bacteria between Elephant I. and the South Orkneys. Zdanowski, M.K., et al. [1993, p.245-254, eng] 47-4394

—Scott Base

Brewer spectrophotometry in total ozone measurements. Anav, A., et al. [1992, p.277-284, eng] 47-1207

Total ozone measurements with Dobson and Brewer spectrophotometers. Nichol, S.E., et al. [1992, p.469-475, eng] 47-2173

Prevailing winds in the arctic and antarctic atmospheres at *ca* 80-110 km. Portniagin, IU.I., et al. [1993, p.827-841, eng] 47-2930

Dynamics of the antarctic and arctic mesosphere and the lower thermosphere regions, II. The semidiurnal tide. Portniagin, IU.I., et al. [1993, p.843-855, eng] 47-2931

—Shackleton Range

Further evidence for a glacial maximum in Antarctica during the Late Neogene. Höfle, H.C., et al. [1992, p.125-137, eng] 47-1008

—Showa Station

Cloud radar data at Showa Station 1989. Konishi, H., [1992, 60p., eng] 47-42

Seasonal sea-level variation at Syowa Station. Kawamiya, M., et al. [1992, p.165-169, eng] 47-135

Multi-sensor data set and sea ice study. Nishio, F., et al. [1992, p.272-276, jpn] 47-148

Programs of JARE-32 in 1990-1992. Kokubun, S., [1991, p.28-34, jpn] 47-406

MOS-1 data received at Showa Station. Yamanouchi, T., et al. [1990, p.175-188, jpn] 47-884

Brewer spectrophotometry in total ozone measurements. Anav, A., et al. [1992, p.277-284, eng] 47-1207

Postembryonic development of a copepod from Lützow-Holm Bay. Tanimura, A., [1992, p.109-128, eng] 47-1219

Total ozone changes and stratospheric wind and temperature. Xiong, K., et al. [1992, p.45-50, chi] 47-1256

Stratospheric sudden cooling after solar proton event. Kodama, M., et al. [1992, p.361-366, eng] 47-1336

Microwave signature of firn and sea ice from airborne observations. Yamanouchi, T., et al. [1992, p.16-35, eng] 47-3002

Moisture budget in the antarctic atmosphere. Yamazaki, K., [1992, p.36-45, eng] 47-3003

Results of ozonesonde observations at Syowa Station in 1990. Shibata, S., et al. [1992, p.46-52, eng] 47-3004

Vertical profiles of long wave radiation at Showa Station. Miyauchi, M., et al. [1992, p.53-70, eng] 47-3005

Vertical radar precipitation study at Showa Station. Wada, M., et al. [1992, p.341-349, eng] 47-3362

JARE-32 wintering party activities at Showa Station, 1991. Fujii, Y., [1992, p.441-472, jpn] 47-3368

JARE-32 oceanographic data, Nov. 1990-Mar.1991. Nakamura, H., et al. [1993, 50p., eng] 47-3620

Finding of antarctic "ozone hole". Chubachi, S., [1991, p.23-29, jpn] 47-3625

Report on the 31st JARE wintering party at Syowa Station. Naito, Y., [1991, p.43-46, jpn] 47-3627

Design of the new central building at Showa Station. Hannuki, T., et al. [1993, p.61-102, jpn] 47-4358

—Signy Island

Mechanical weathering in the Antarctic: a maritime perspective. Hall, K.J., [1992, p.103-123, eng] 47-849

—Siple Coast

Numerical simulation of katabatic winds crossing the Siple Coast area of West Antarctica. Bromwich, D.H., et al. [1992, p.J137-J140, eng] 47-2420

Analysis of radar studies on the Siple Coast. Bentley, C.R., et al. [1991, p.62-63, eng] 47-2464

Siple Coast seismic and gravity studies. Bentley, C.R., et al. [1991, p.63-65, eng] 47-2465

Feature maps of ice streams C, D, and E, West Antarctica. Scambos, T.A., et al. [1991, p.312-314, eng] 47-4674

—Siple Station

Paleoenvironmental conditions in Antarctica since A.D 1500: ice core evidence. Mosley-Thompson, E., [1992, p.572-591, eng] 47-2101

—Sör Rondane Mountains

Frost heave and creep in the Sör Rondane Mountains, Antarctica. Matsuoka, N., et al. [1992, p.271-280, eng] 47-1584

—Terra Nova Bay

Geomorphological and glaciological research during the 2nd P.N.R.A. expedition to Terra Nova Bay, 1986-1987. Baroni, C., et al. [1991, p.83-90, ita] 47-1792

Acoustic sounder experimentation in Victoria Land, Antarctica. Fiocco, G., et al. [1991, p.119-133, eng] 47-2006

Katabatic wind dynamics at Terra Nova Bay, Antarctica from the satellite image perspective. Bromwich, D.H., et al. [1992, p.J125-J128, eng] 47-2417

—Terra Nova Bay Station

Ozone absorption and sun-photometric measurements. Tomasi, C., et al. [1992, p.227-245, eng] 47-1205

Atmospheric microphysical measurements in Terra Nova Bay. Guerrini, A., et al. [1991, p.145-154, ita] 47-1824

Lidar in Antarctica. Stefanutti, L., et al. [1991, p.623-629, eng] 47-1827

Climatic parameters and ground-level ozone at Terra Nova Bay. Giovanelli, G., et al. [1991, p.483-495, eng] 47-2007

—Transantarctic Mountains

Soil-forming rates and processes in cold desert soils of Antarctica. Bockheim, J.G., et al. [1992, p.42-56, eng] 47-1703

Pliocene fossil *Nothofagus* (southern beech) from Antarctica. Webb, P.N., et al. [1993, p.135-165, eng] 47-4535

—Vanda, Lake

Lacustrine deposits around Lake Vanda and Don Juan Pond. Smith, G.I., et al. [1993, p.83-94, eng] 47-4398

—Vestfold Hills

Early Holocene deglaciation of Vestfold Hills. Fitzsimons, S.J., et al. [1993, p.237-240, eng] 47-4577

Till stratigraphy and glacial history of the Vestfold Hills area, East Antarctica. Hirvas, H., et al. [1993, p.81-95, eng] 47-4753

—Victoria Land

Evaluation of bi-hemispherical reflectance of antarctic surfaces. Zibordi, G., et al. [1992, p.149-157, eng] 47-1199

Late Neogene glacio-eustatic record. Ishman, S.E., et al. [1992, p.327-347, eng] 47-2047

"Taylor Ice-Dome" study: reconnaissance 1990-1991. Grootes, P.M., et al. [1991, p.69-71, eng] 47-2468

Oxygen isotope study of ice fields in East Antarctica. Faure, G., et al. [1992, p.15-26, eng] 47-2869

Weathering of basaltic rocks under cold arid conditions: Antarctica and Mars Allen, C.C., et al. [1991, p.711-717, eng] 47-4636

—Vostok Station

Numerical studies of the temperature, ice age and conditions of a glacier bed. Larina, T.B., [1991, p.123-131, rus] 47-329

Surface water temperature changes in the high latitudes of the Southern Hemisphere over the last glacial-interglacial cycle. Pichon, J.J., et al. [1992, p.289-318, eng] 47-786

Crystallographic analyses of clathrate hydrates included in Vostok ice cores. Hondoh, T., et al. [1992, p.268-278, jpn] 47-976

Supernova shock ensemble model using Vostok Be-10 radioactivity. Sonett, C.P., [1992, p.239-245, eng] 47-1480

Energy resource of winter season in Siberia and polar areas. Karnatsevich, I.V., [1992, p.177-179, eng] 47-1725

Global changes during the latest glacial-interglacial cycle. Kotlyakov, V.M., et al. [1992, p.89-113, eng] 47-1762

Ice record of greenhouse gases. Raynaud, D., et al. [1993, p.926-934, eng] 47-2028

Studies of the relationship of thermophysical properties of ice to hydrostatic pressure and temperature. Zotikov, I.A., et al. [1991, p.22-27, rus] 47-2784

Characteristics of the spatial structure of subsurface ice in the vicinity of Vostok Station, Antarctica. Chashchinov, IU.M., et al. [1991, p.121-125, rus] 47-2800

Effect of Be-10 deposition at Vostok during the last 50 ky. Raisbeck, G.M., et al. [1993, p.127-139, eng] 47-2864

Last deglaciation event in Antarctica. Jouzel, J., et al. [1993, p.229-266, eng] 47-2866

Measurement of helium isotopes in Vostok ice core. Jean-Baptiste, P., et al. [1993, p.491-497, fre] 47-3041

Optical properties of snow. Brandt, R.E., et al. [1991, p.272-275, eng] 47-3056

Ice core record for past and future climate studies. Lorius, C.J., et al. [1992, p.227-234, eng] 47-3142

Extension of the Vostok ice core paleoclimate record. Jouzel, J., et al. [1993, p.407-411, eng] 47-4573

Core drilling by electromechanical drill. Vasil'ev, N.I., et al. [1993, p.235-237, eng] 47-4576

Glacials-interglacials in Vostok: climate and greenhouse gases. Lorius, C.J., et al. [1993, p.131-143, eng] 47-4587

Microorganisms in the antarctic ice. Abyzov, S.S., [1993, p.265-295, eng] 47-4596

Cadmium concentration changes in antarctic ice and snow. Boutron, C.F., et al. [1993, p.431-441, eng] 47-4833

—Wasa Station

Vehicles and transports during the Swedish Antarctic Research Programme 1991/92. Berg, A., [1993, p.258-266, eng] 47-5114

—Weddell Sea

Geostrophic wind and sea ice motion in the Weddell Sea. Olf, J., [199-, p.228-229, ger] 47-214

Sensible heat flux over open water and sea ice in the Weddell Sea. Dutz, S., et al. [1992, p.317-318, ger] 47-217

Turbulent heat exchange between sea ice and the atmosphere in the Weddell Sea (Antarctica). Frieden, W., [1992, p.338-339, ger] 47-218

Sea ice diatoms and ice edge planktonic diatoms in the Weddell Sea. Ligowski, R., et al. [1992, p.9-20, eng] 47-442

Salinity profiles of antarctic sea ice: field data and model results. Eicken, H., [1992, p.15,545-15,557, eng] 47-514

Sea ice advection derived from buoy and satellite data. Massom, R.A., [1992, p.15,559-15,572, eng] 47-515

Comparison of radar backscatter from antarctic and arctic sea ice. Hosseinmostafa, R., et al. [1992, p.1533-1535, eng] 47-682

Physical and dynamic properties of sea ice in the polar oceans. Gow, A.J., et al. [1991, 46p., eng] 47-704

Air-ice drag coefficient in the Weddell Sea deduced from profile measurements. Andreas, E.L., et al. [1992, p.J5/109-J5/112, eng] 47-868

Weddell Sea drift station. Holden, C., ed. [1992, p.26, eng] 47-1073

O2 and CO2 concentrations in the Weddell Sea in the spring of 1988. Bouquegneau, J.M., et al. [1992, p.163-170, eng] 47-1326

Marine bacterioplankton at the Weddell Sea ice edge. Delille, D., [1992, p.205-210, eng] 47-1327

Spring phytoplankton in relation to sea ice, hydrography and nutrients in Weddell Sea. Bianchi, F., et al. [1992, p.225-235, eng] 47-1328

Vertical stability of surface waters and phytoplankton bloom in Weddell Sea marginal ice zone. Veth, C., et al. [1992, p.237-243, eng] 47-1329

Nitrogen uptake in the Weddell Sea during late winter and spring. Kristiansen, S., et al. [1992, p.245-251, eng] 47-1330

Organic carbon during ice retreat period in the Scotia and Weddell seas. Cadée, G.C., [1992, p.253-259, eng] 47-1331

Microplankton respiration relationship with ice cover and ice edge. Martínez, R., et al. [1992, p.275-282, eng] 47-1332

Experiments on effects of sea ice biota on seeding. Kuosa, H., et al. [1992, p.333-339, eng] 47-1333

Photosynthetic capacity in microalgae associated with antarctic pack ice. Lizotte, M.P., et al. [1992, p.497-502, eng] 47-1337

Sediment facies and bottomwater current on the continental slope in the northwestern Weddell Sea. Brehme, I., [1992, 127p., ger] 47-1435

Late Quaternary sedimentation at the continental margin of the southeastern Weddell Sea, Antarctica. Weber, M., [1992, 165p., ger] 47-1436

Fragilariopsis cylindrus (Grunow) Krieger. Kang, S.H., et al. [1992, p.609-627, eng] 47-1623

Wind forcing and ice motion in the Weddell Sea region. Kottmeier, C., et al. [1992, p.20,373-20,383, eng] 47-2051

Strategies for estimating turbulent fluxes in polar ocean boundary layers. McPhee, M.G., [1992, p.J49-J52, eng] 47-2414

Ice formation on deep weakly stratified water. Walin, G., [1993, p.143-157, eng] 47-2890

Characterization of snow on floating ice. Garrity, C., [1992, p.313-328, eng] 47-3030

Polish expedition to the Weddell Sea sea ice zone. Rakusa-Suszczewski, S., [1991, p.485-494, eng] 47-3086

Microflagellates and diatoms at the Scotia Sea and Weddell Sea confluence. Kopczyńska, E., [1991, p.515-528, eng] 47-3089

Antarctic ice thickness distributions obtained from aerial photography. Ackley, S.F., et al. [1992, p.B16-B18, eng] 47-3243

Ice algae during EPOS, leg 1. Syvertsen, E.E., et al. [1993, p.61-65, eng] 47-3440

Remote sensing of sea-ice thickness in the Weddell Sea. Swift, C.T., et al. [1991, p.92-93, eng] 47-3515

Winter plankton assemblages at the Weddell and Scotia Seas ice edge. Garrison, D.L., et al. [1993, p.311-338, eng] 47-3628

Glaciomarine sediment indicators of Weddell Sea depositional processes. Kuhn, G., et al. [1993, p.477-487, eng] 47-3644

Evidence for an antarctic winter coastal polynya. Anderson, P.S., [1993, p.221-226, eng] 47-3652

Air-sea-ice interactions in the Weddell Sea. Viehoff, T., et al. [1993, p.325-327, eng] 47-4433

Winter ecology of the sea ice biota in Weddell Sea pack ice. Garrison, D.L., et al. [1993, p.17-31, eng] 47-4575

Phytoplankton in the Weddell Sea marginal ice zone. Kang, S.H., et al. [1993, p.335-348, eng] 47-4722

High latitude ocean convection. Rudels, B., [1993, p.323-356, eng] 47-4843

Ocean convection and the creation of polynyas. Schmalzl, J., et al. [1993, p.371-383, eng] 47-4844

Antarctic sea ice mapping using the AVHRR. Zibordi, G., et al. [1993, p.155-163, eng] 47-5060

Navigation in the Weddell and Bellingshausen seas. Federici, V.M., et al. [1993, p.274-299, eng] 47-5116

Performance of the *Nathaniel B. Palmer* in ice. Sutherland, A.L., et al. [1993, p.300-309, eng] 47-5117

—West Antarctica

Early diagenesis and biogeochemistry of iodine in west antarctic ocean. Cheng, X.H., et al. [1992, p.115-123, chi] 47-219

Coherent Antarctic Radar Depth Sounder (CARDS) design, development and results. Garudachar, R., [1989, 169p., eng] 47-349

Ice sheets and climate. Alley, R.B., [1989, p.41-45, eng] 47-2196

Formation of ice-stream rafts by recrystallization. Alley, R.B., [1991, p.66-67, eng] 47-2466

Measurement of glacier velocity using satellite image data. Scambos, T.A., et al. [1992, p.177-186, eng] 47-2555

Sediment descriptions, western side of the Antarctic Peninsula during Deep Freeze 1985. Bryan, J.R., ed. [1992, 179p., eng] 47-2627

—Whitmore Mountains

Active volcanism beneath the west antarctic ice sheet. Blankenship, D.D., et al. [1993, p.526-530, eng] 47-1941

—Windless Bight

Development of laser ice-cutting apparatus. Zeller, E.J., et al. [1991, p.89-91, eng] 47-2474

Nitrate signal of solar flares in polar snow and ice. Dreschhoff, G.A.M., et al. [1992, 23p., eng] 47-3631

Antennas

Attenuation due to snow fall on an earth-space path. Dong, Q.S., [1989, p.407-410, eng] 47-2072

Passive transponder for locating avalanche victims. Leuenberger, C.E., [1987, 8 col., eng] 47-4006

Instrument for measuring ice depth in aircraft fuel tanks. [1991, 36p., eng] 47-4404

Hail detection using active and passive radars. Ajvazyan, H.M., et al. [1993, p.1155-1174, eng] 47-4510

Antifreezes

Unusual antifreeze in the fishes of northern Japan. Raymond, J.A., [1992, p.221-224, eng] 47-142

Field-tested model for freeze protection of arctic multiphase pipelines. Eager, K., [1992, p.142-145, eng] 47-223

Groundwater issues relating to an Alaskan methanol spill. Robertson, S.B., [1992, p.936-940, eng] 47-234

Frost tolerance of tobacco with fish antifreeze protein. Lee, J.S., [1992, 136p., eng] 47-277

Structure-function relationships of insect antifreeze proteins. Wu, D.W., [1991, 187p., eng] 47-286

Lipoprotein ice nucleators and antifreeze proteins in insects. Xu, L., [1990, 106p., eng] 47-314

Propylene glycol ethanol antifreeze for precipitation gages. McGurk, B.J., [1992, p.56-65, eng] 47-494

Strength development of concrete cured at low temperature. Korhonen, C.J., et al. [1992, p.34-39, eng] 47-1560

Aircraft take-off laboratory simulation for de/anti-icing study. Laforte, J.L., et al. [1992, p.183-193, eng] 47-1578

Protein interaction with ice. Hew, C.L., et al. [1992, p.33-42, eng] 47-1786

Influence of wind, temperature, and deicing chemicals on snow accretion. Adams, E.E., et al. [1991, p.182-187, eng] 47-1801

Pavement admixtures compounded with antifreezes. Ninomiya, H., et al. [1992, p.155-160, jpn] 47-2516

Freeze retardants admixed to asphalt pavements. Sanjo, K., et al. [1992, p.161-166, jpn] 47-2517

Test characteristics of asphalts with antifreeze admixtures. Ninomiya, H., et al. [1991, p.91-96, jpn] 47-2536

Freezing resistance in antarctic and arctic fishes. Wöhrmann, A.P.A., [1993, 99p., ger] 47-3259

Calorimetric investigation of solution glass transition. Mehl, P.M., [1993, p.177-197, eng] 47-3779

Corrosion of aircraft fuel tanks by antifreezes. Likhterova, N.M., et al. [1993, p.563-566, eng] 47-4386

Storm water regulations—aircraft deicer/anti-icers operations. Espey, W.H., Jr., et al. [1993, p.2333-2338, eng] 47-4452

Thermodynamics of fuel oil cloud-point depressant additives. Claudy, P., et al. [1993, p.821-827, eng] 47-4518

Anticorrosive deicer used on bridges. [1993, p.36, eng] 47-4623

Microbubble mediated surface probe and the ice-antifreeze glycoprotein solution system. Vesenka, J.P., et al. [1993, p.67-74, eng] 47-4757

Evaluation of air flow over an anti-icing fluid film. Laforte, J.L., et al. [1993, p.96-104, eng] 47-5007

Antifreeze glycopeptide adsorption on single crystal ice surfaces using ellipsometry. Wilson, P.W., et al. [1993, p.1878-1884, eng] 47-5059

Antiicing additives

See also: Chemical ice prevention

Arctic clothing

See also: Clothing

Arctic deserts

See also: Deserts

Arctic ice islands

See also: Ice islands

Arctic landscapes

Diary of an arctic year. Krasemann, S.J., [1991, 189p., eng] 47-788

Canada north of sixty. Boden, J.F., ed. [1991, 336p., eng] 47-789

Industrial influence on glacial processes in mountains of circumpolar regions. Grebenets, V.I., et al. [1992, p.212-214, eng] 47-1114

Topography and soil acidity in an arctic landscape. Valentine, D.W., et al. [1992, p.1553-1559, eng] 47-1183

Breakup of limestone bedrock by frost shattering and chemical weathering, eastern Canadian Arctic. Dredge, L.A., [1992, p.314-323, eng] 47-1588

Bryophytes of the Melville Hills region, Northwest Territories. Scotter, G.W., et al. [1992, p.100-104, eng] 47-1880

Lichens of the Cape Parry and Melville Hills regions, Northwest Territories. Thomson, J.W., et al. [1992, p.105-111, eng] 47-1881

Report on field work in Svalbard. Bruland, O., [1992, 11p., nor] 47-2012

Water balance study in Svalbard—inspection of various forms of snow erosion, June 5-10, 1991. Frisvold, H., et al. [1991, 16p., nor] 47-2013

Water balance in Svalbard—snow erosion, May 19-24, 1992. Tveit, J., [1992, 51p., nor] 47-2145

Long-term response of an arctic sedge to climate change: a simulation study. Leadley, P.W., et al. [1992, p.323-340, eng] 47-2288

Of measured risks: the environmental impacts of the Prudhoe Bay, Alaska oil field. Maki, A.W., [1992, p.1691-1707, eng] 47-2604

Disposal of hazardous wastes in Canada's Northwest Territories. Heeney, P.L., et al. [1992, p.806-810, eng] 47-3303

Palynological investigations of Siberian Miocene deposits. Zyrianov, E.V., [1992, p.285-294, eng] 47-3322

Thaw depth effects on tundra methane flux. Vourlitis, G.L., et al. [1993, p.329-337, eng] 47-3434

Environmental and biotic controls over methane flux from arctic tundra. Torn, M.S., et al. [1993, p.357-368, eng] 47-3436

Russia pins energy hopes on western Siberia gas. [1992, p.17-20, eng] 47-3528

Vegetation of stressed calcareous screes and slopes on Sverdrup Pass, Ellesmere Island, Canada. Maycock, P.F., et al. [1992, p.2359-2377, eng] 47-3837

Cretaceous chemosynthetic carbonate mounds in the Canadian Arctic. Beauchamp, B., et al. [1992, p.434-450, eng] 47-3987

Radiocarbon dating of west Spitsbergen Quaternary deposits. Forman, S.L., et al. [1993, p.1-6, eng] 47-4015

Infrared emissivities of arctic land cover types. Rees, W.G., [1993, p.1013-1017, eng] 47-4070

Morphosedimentological dynamics and coastal evolution in the Kongsfjorden area, Spitsbergen. Héquette, A., [1992, p.321-328, eng] 47-4076

Arctic landscapes *(cont.)*

Plant colonization in a polar oceanic environment. André, M.F., [1992, p.329-347, eng] 47-4077

Geomorphological effects of glaciation in arctic Canada. Blake, W., Jr., [1992, p.1958-1980, eng] 47-4156

On the extent and thickness of the Innuitian Ice Sheet: a postglacial-adjustment approach. Tushingham, A.M., [1991, p.231-239, eng] 47-4160

Submarine rock diagenesis as exposed on Ellesmere I. Davies, G.R., et al, [1990, 77p., eng] 47-4365

Three-dimensional model of an Alaskan river polar fan-delta. Lindsay, J.F., [1992, p.183-201, *eng*] 47-4366

Reflectance characteristics of arctic tundra vegetation from airborne radiometry. Stow, D.A., et al, [1993, p.1239-1244, eng] 47-4403

Last glacial maximum on Spitsbergen, Svalbard. Mangerud, J., et al, [1992, p.1-31, eng] 47-4406

Late Proterozoic anthracite coals from the Hornsund area, south Spitsbergen. Birkenmajer, K., et al, [1992, p.71-90, eng] 47-4648

Quaternary landforms on Spitsbergen. Lindner, L., et al, [1992, p.91-101, eng] 47-4649

Statistical analysis of soil temperature on Spitsbergen. Mietus, M., [1992, p.103-112, *eng*] 47-4650

Occurrence of algae on tundra soils in Oscar II Land, Spitsbergen. Oleksowicz, A.S., et al, [1992, p.131-147, eng] 47-4652

Paleoclimatic implications of Alaskan coastal marine deposits. Kaufman, D.S., et al, [1993, p.21-33, eng] 47-4733

Taxonomic revision of a herb distribution in arctic landscapes. Bayer, R.J., [1993, p.150-159, eng] 47-4747

Pre-Holocene marine limit on Hopen, Svalbard. Zale, R., et al, [1993, p.159-164, eng] 47-4853

Silurian pinnacle reefs of the Canadian Arctic. De Freitas, T.A., et al, [1993, p.172-182, eng] 47-4912

Arctic Ocean

ARCTIC '91: The Expedition ARK-VIII/3 of RV *Polarstern* in 1991. Fütterer, D.K., ed, [1992, 267p., *eng*] 47-40

Constant or cooling temperatures over the Arctic Ocean. Kahl, J.D., et al, [1993, p.335-337, eng] 47-1939

Ice sheet glaciations in Northern Eurasia and their role in the history of the ocean. Grosval'd, M.G., et al, [1991, p.3-15, rus] 47-2782

Chemical composition of snow cover on drifting ice in the Arctic. Bardin, V.I., et al, [1991, p.129-135, rus] 47-2802

Climatic regime of the Arctic at the transition from the 20th to the 21st century. Krutskikh, B.A., ed, [1991, 200p., rus] 47-3334

Calculating tidal movements in the Kara Sea. Dmitriev, N.E., et al, [1991, p.14-21, rus] 47-3686

Predictability of large-scale thermohaline anomalies in surface waters of the arctic basin. Artem'ev, A.O., [1991, p.65-75, rus] 47-3692

Observation of flooded ice in arctic regions. Goroch, A.K., et al, [1993, p.1305-1324, eng] 47-4905

Proceedings, [1993, 647p., eng] 47-5013

I-129 as a tracer of European reprocessing emissions in the North Atlantic and Arctic oceans. Zhou, Z.Q., et al, [1993, p.145-156, eng] 47-5027

Artificial radioactivity, and mixing in the Arctic. Denner, W.W., *et al*, [1993, *p.191-200, eng*] 47-5030

Large-scale circulation of the Arctic Ocean: implications for pollutant transport. Schlosser, P., et al, [1993, p.285-309, eng] 47-5037

Radioecological risk assessment for solid radioactive waste (SRW) dumped into the Kara Sea by the former USSR. Lystsov, V.N., [1993, p.395-414, eng] 47-5045

Environmental security and governance issues in the Arctic Ocean. Perelet, R., [1993, p.595-601, eng] 47-5057

Dynamics of tritium deposition from precipitation over the USSR and its removal into seas. Katrich, I.IU., [1991, p.90-93, eng] 47-5198

Arctic regions

See also: Polar regions

Argentina

Note on ground thermal regimes and global solar radiation *at 4720 m a.s.l., High Andes of Argentina.* Happoldt, H., et al, [1992, p.241-245, eng] 47-1778

Artificial freezing

Design method for frozen-soil retaining wall. Soo, S., et al, [1992, p.73-89, eng] 47-3

Low-temperature microscopy and analysis. Echlin, P., [1992, 539p., eng] 47-621

Ground freezing to provide support for tunneling using vertical refrigeration pipes. Sopko, J.A., Jr., et al, [1991, p.267-272, eng] 47-992

Shaft construction by raise boring through artificially frozen ground. Walsh, A.R., et al, [1991, p.705-719, *eng*] 47-993

Ground freezing to control ground water and support deep storm sewer structural excavations. Shuster, J.A., et al, [1989, p.149-155, eng] 47-994

Mechanical properties of undisturbed Tone River gravel *obtained by in situ freezing method.* Goto, S., et al, [1992, p.15-25, eng] 47-1190

Some thermal and mechanical properties of flooded ice. Lozowski, E.P., et al, [1990, 96p., eng] 47-1346

Industrial applications of freeze concentration technology. Final report. Barron, T.S., et al, [1987, Var. p., eng] 47-1622

Stresses in ground-freezing problems with infinite *boundaries.* Askar, H.G., [1993, p.58-73, eng] 47-1759

General report—soil freezing-ground freezing. Andersland, O.B., et al, [1992, p.2657-2672, eng] 47-1816

Concentration of black liquor by freeze crystallization. Egan, C.J., et al, [1982, p.471-479, eng] 47-1882

Application of infinite elements to phase change situations on deforming meshes. Sullivan, J.M., Jr., et al, [1992, p.1861-1874, eng] 47-1915

Freezing earth with seasonal cooling plants. Buchko, N.A., et al, [1992, p.258-264, eng] 47-2292

Freezing system plugs pipeline segments for repair. [1992, p.64, eng] 47-2637

Ice plugs help in pipeline retrofit. [1993, p.67, eng] 47-3526

Cryogenic deformations of Suluk BAM station building. Rubinchik, S.B., [1993, *p.167-169, eng*] 47-3577

Foundation improvement by artificial freezing. Spalding, A.V., et al, [1988, 6 col., eng] 47-3769

Refreezing of a building foundation on permafrost. Claisse, M., et al, [1993, p.303-309, fre] 47-4471

Lagoon sludge dewatering by natural freeze-thaw. Martel, C.J., et al, [1993, p.357-364, eng] 47-4477

Freezing rate of sludge layers. Parker, P.J., et al, [1993, p.405-412, eng] 47-4478

Ground freezing. Bell, F.G., [1992, p.321-333, eng] 47-4890

Heat transfer from a cylinder buried in a frozen medium. Oosthuizen, P.H., et al, [1992, p.457-475, eng] 47-5264

Artificial ice

Ice loads on vertical bridge pier at two different model scales. Christensen, F.T., et al, [1992, p.93-110, eng] 47-585

Controlling river runoff with artificial glaciers. Faiko, L.I., et al, [1991, *p.54-59, rus*] 47-1049

CD model ice—preliminary observations on the effect of density on tank testing. Spencer, D.S., [1992, 7p., eng] 47-1348

Three point loading of freshwater ice beams. Williams, J.L., [1990, 44p., eng] 47-1353

Properties of EG/AD/S doped ice at the IMD ice tank. [1990, 31p., *eng*] 47-1367

See also: Ice makers

Artificial ice crystals

See also: Ice crystal replicas

Artificial islands

Compressibility of spray ice. Domaschuk, L., et al, [1992, p.651-655, eng] 47-1853

1988 Endicott Environmental Monitoring Program. Final report. Dewey, R.K., ed, [1992, 5 vols., eng] 47-3456

Artificial melting

Accelerated snow melting by artificial means. Bhattacharya, U., et al, [1985, p.248-263, eng] 47-576

Artificial melting of glaciers in the Qilian Mountains. Bai, C.Y., et al, [1985, p.150-162, chi] 47-1530

Artificial dusting of glaciers in the Qilian Mountains. Bai, C.Y., [1985, p.163-171, chi] 47-1531

Selecting a current for melting glaze. Nikitina, L.G., et al, [1992, p.46-49, rus] 47-2360

Specifying snow melting system performance. Fyall, W.L., et al, [1992, p.241-252, eng] 47-3203

Snow removal from a pantiled roof using electrically heated roof tiles. Higashiyama, Y., et al, [1992, p.253-262, eng] 47-3204

Removal of snow from membrane structures. Otsuka, K., et al, [1992, p.263-274, eng] 47-3205

Heat mechanism of groundwater flow (part 1). Higashiura, M., et al, [1991, p.69-88, jpn] 47-3293

Method of preparing and molding mortar or like. Suzuki, T., [1988, 8 col., eng] 47-3495

Study of snow melting mechanism by solar radiative *absorption material.* Inaba, H., et al, [1992, p.715-726, eng] 47-4363

Simulation for planning road snow melting. Miyamoto, S., [1990, p.13-16, jpn] 47-4682

Road heating in Sapporo. [1990, 18p., eng] 47-4781

Study on winter road maintenance with a snow melting system. Miyamoto, S., et al, [1993, p.34-37, jpn] 47-4790

Road heating control using snowfall forecast data. Takahashi, T., et al, [1993, p.43-50, jpn] 47-4792

Current status of road snow melting in Jozankei, Sapporo City. Sato, M., et al, [1986, p.330-339, jpn] 47-4798

On-site tests for dealing with roadside snowbanks by water sprinkling. Murakuni, M., [1984, p.90-95, jpn] 47-5074

Snow removal drains and snow melting drains. Okuma, T., [1985, p.21-26, jpn] 47-5163

Current status and problems of road heating facilities for expressways. Murakuni, M., [1985, p.27-33, jpn] 47-5164

Non-sprinkler snow melting by water pipe heating. [1985, p.40-44, jpn] 47-5166

See also: Artificial thawing

Artificial nucleation

Optimal amounts of organic ice-forming reagents in clouds in order to produce precipitation. Stalevich, D.D., et al, [1991, p.34-43, rus] 47-92

Study of the ice-forming properties of copper acetylacetonate. Molotkova, I.A., et al, [1991, p.44-48, rus] 47-93

Quantifying ice nucleation by silver iodide aerosols. DeMott, P.J., [1990, 281p., eng] 47-313

Controlling nucleation in protein solutions. DeMattei, R.C., et al, [1992, p.21-30, eng] 47-769

Study of the ice nucleating properties of various polymers. Sosnikova, E.V., [1992, p.168-172, rus] 47-2529

Water freezing enhancement for thermal storage brine tube. Holowczenko, A., et al, [1988, 6 col., eng] 47-3641

Snow crystals, natural and man made. Mason, B.J., [1992, p.227-243, eng] 47-3718

On the reproduction of ice from a common seed. Barrette, P., et al, [1993, p.153-156, eng] 47-4290

Artificial precipitation

Optimal amounts of organic ice-forming reagents in clouds in order to produce precipitation. Stalevich, D.D., et al, [1991, p.34-43, rus] 47-92

Study of the ice-forming properties of copper acetylacetonate. Molotkova, I.A., et al, [1991, p.44-48, rus] 47-93

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See also: Spacecraft

Artificial snow

Snow-weathering test apparatus for self-propelled vehicle. Kimura, C., [1989, 6 col., eng] 47-3329

Apparatus for changing artificial snow to wet snow. Suga, N., et al, [1988, 6 col., eng] 47-3634

See also: Snow manufacturing

Artificial thawing

See also: Artificial melting

Ash

See also: Volcanic ash

Asphalt concretes

See also: Bituminous concretes

Asphalts

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Atmosphere

See also: Air masses; Atmospheric physics; Meteorology; Stratosphere

Atmospheric absorption

See also: Atmospheric attenuation

Atmospheric attenuation

On the age of stratospheric air and ozone depletion potential in polar regions. Pollock, W.H., et al, [1992, p.12,993-12,999, eng] 47-77

On the estimation of snow depth from microwave radiometric measurements. Wang, J.R., et al, [1992, p.785-792, eng] 47-357

Modeling of trace species in the arctic stratosphere. Chipperfield, M.P., et al, [1993, p.7199-7218, eng] 47-3828

Stratospheric cooling over Scandinavia. Claud, C., et al, [1993, p.7229-7243, eng] 47-3829

Detectability of arctic leads using thermal imagery under varying atmospheric conditions. Stone, R.S., et al, [1993, p.12,469-12,482, eng] 47-4523

Diode laser humidity sensor for cold environments. Phase *I. Final technical report.* Stanton, A.C., et al, [1988, 35p., eng] 47-4861

Atmospheric boundary layer

Atmospheric boundary layer features observed in the spring marginal ice zone. Guest, P.S., et al, [1988, p.73-74, eng] 47-4185

Oceanic boundary layer in the tropics during the last ice age. Betts, A.K., et al, [1991, p.480-483, eng] 47-4494

Study of the arctic heat sink. Ripley, E.A., [1990, 95p. + appends., eng] 47-4910

Partitioning of nitrogen oxides in the lower arctic troposphere during spring 1988. Bottenheim, J.W., et al, [1993, p.15-27, eng] 47-5144

Atmospheric chemiluminescence

See also: Chemiluminescence

Atmospheric circulation

Behaviour of New Zealand glaciers and atmospheric circulation changes over the past 130 years. Fitzharris, B.B., et al, [1992, p.97-106, *eng*] 47-54

Effect of global atmospheric circulation on Okhotsk Sea ice. Sekine, Y., et al, [1992, p.34-36, jpn] 47-111

German Meteorologists Meeting 1992. [1992, 425p., ger] 47-209

Variability of the arctic stratosphere in winter. Labitzke, K., et al, [1992, p.179-180, ger] 47-210

Ozone and stratospheric polar vortices. Petzoldt, K., [1992, p.181-182, ger] 47-211

Model for quasi-stationary planetary waves in the total ozone. Wirth, V., [1992, p.192-193, ger] 47-212

Geostrophic wind and sea ice motion in the Weddell Sea. Olf, J., [1992, p.228-229, ger] 47-214

Transport and fate of organic contaminants in the environment. Cotham, W.E., Jr., [1991, 208p., eng] 47-305

Spores and pollen from the glaciers and periglacial zone of the Arctic and Antarctica. Surova, T.G., et al, [1991, p.181-185, rus] 47-340

Arctic sea ice cover effect on summer atmospheric circulation. Yang, X.Q., et al, [1992, p.401-411, eng] 47-353

Severe winters and droughts. Sazonov, B.I., [1991, 239p., rus] 47-363

Snow cover effect on monsoon fluctuations over India. Sikka, D.R., [1985, p.47-60, eng] 47-524

Ozone 'minihole' over northern Scandinavia. Rabbe, A., et al, [1992, p.1447-1451, eng] 47-739

Climatic effect of excessive snow mass over Eurasia. Yasunari, T., et al, [1991, p.473-487, eng] 47-819

Great Lakes winter-weather 700-hPa PNA teleconnections. Assel, R.A., [1992, p.2156-2163, eng] 47-877

Cold air outbreak near Spitsbergen in springtime—boundary-layer modification and cloud development. Brümmer, B., et al, [1992, p.13-46, eng] 47-900

Atmospheric general circulation/mixed layer ocean model for climate studies and long-term weather forecasting. Meleshko, V.P., et al, [1991, p.1-9, eng] 47-1176

Evolution of atmospheric circulation over the North Atlantic in the period of hydrological front displacement. Semenov, M.V., et al, [1991, p.85-89, *eng*] 47-1180

Canadian Climate Centre second-generation general circulation model and its equilibrium climate. McFarlane, N.A., et al, [1992, p.1013-1044, eng] 47-1269

Meteorological overview of the Arctic Boundary Layer Expedition (ABLE 3A) flight series. Shipham, M.C., et al, [1992, p.16,395-16,419, eng] 47-1445

Gravity wave dynamics within the polar atmosphere. Wu, Y.F., et al, [1992, p.1781-1789, eng] 47-1474

Asian snow cover-monsoon-ENSO connection. Barnett, T.P., et al, [1991, p.191-225, eng] 47-1503

Global warming: myth or reality. Nichols, A.B., [1990, p.48-55, eng] 47-1698

Large-scale characteristics of the global distribution of snow cover. Loktionova, E.M., [1992, p.148-159, eng] 47-1765

Pollen and spores from glaciers and from the proglacial zone in the *Arctic and Antarctica*. Surova, T.G., *et al*, [1992, p.167-173, eng] 47-1767

Ozone hole over Antarctica. Visconti, G., [1991, p.102-117, ita] 47-1823

Diagnostic model study of the seasonal variation of global *ozone and the antarctic ozone* hole. Akiyoshi, H., et al, [1992, p.20,837-20,853, eng] 47-2056

Transport of marine organic matter evidenced in antarctic snow. Cini, R., et al, [1992, p.191-204, eng] 47-2164

Synoptic climatology in environmental analysis: a primer. Yarnal, B., [1993, 195p., eng] 47-2176

Interannual variability of wintertime snow cover across the Northern Hemisphere. Gutzler, D.S., et al, [1992, p.1441-1447, eng] 47-2178

Preprints, [1992, 146p. + joint papers, eng] 47-2362

Atmospheric longwave radiation spectrum on the antarctic plateau. Walden, V.P., et al, [1992, p.11-12, eng] 47-2366

Interactive atmospheric surface-layer modifications for a large-scale sea-ice model. Stössel, A., et al, [1992, p.109-110, eng] 47-2394

Stratospheric stability and tropospheric circulations over the South Pole. Neff, W.D., [1992, p.115-120, eng] 47-2396

Pressure and temperature anomalies in the southern oscillation. Smith, S.R., et al, [1992, p.121-124, eng] 47-2397

NCAR CCM1 simulation of the modern arctic climate. Bromwich, D.H., et al, [1992, p.129-132, eng] 47-2399

Simulation of the arctic climatology with the NCAR CCM-2. Battisti, D.S., et al, [1992, p.133-136, eng] 47-2400

Tropospheric temperature trends in the Arctic. Stone, R.S., et al, [1992, p.137-140, eng] 47-2401

Lower tropospheric temperature trends over the Arctic Ocean: 1950-1990. Kahl, J.D., et al, [1992, p.141-144, eng] 47-2402

Continental polar mesolows over North America in winter. Kahrs, J.E., [1992, p.145-146, eng] 47-2403

Mountain effects on the antarctic circulation. Egger, J., [1992, p.J3-J7, eng] 47-2404

Generation mechanisms of quasi-stationary waves in the Southern Hemisphere. *Quintanar, A.I., et al*, [1992, p.J8-J11, eng] 47-2405

Modelling of the mean and turbulent structure of the arctic atmospheric boundary layer. McInnes, K.L., et al, [1992, p.J13-J15, eng] 47-2406

Synoptic influence on inversion winds at the South Pole. Neff, W.D., [1992, p.J24-J28, eng] 47-2409

Acoustic remote sensing study of boundary layer blocking near Ross Island, Antarctica. Liu, Z., et al, [1992, p.J29-J32, eng] 47-2410

Remote sensing of the arctic boundary layer. Wolfe, D.E., et al, [1992, p.J33-J36, eng] 47-2411

Katabatic winds and large-scale tropospheric forcing. Parish, T.R., et al, [1992, p.J141-J144, eng] 47-2421

Mesoscale blocking ahead of mountain ridges and cold fronts. Taylor, P., et al, [1992, p.J149-J152, eng] 47-2423

Climate change 1992. The supplementary report to the *IPCC scientific assessment*. Houghton, J.T., ed, [1992, 200p., eng] 47-2592

Observed climate variations and change. Folland, C.K., et al, [1990, p.198-238, eng] 47-2652

Martian atmospheric circulation simulation. Pollack, J.B., et al, [1993, p.3149-3181, eng] 47-2669

General circulation model under ice age conditions. Joussaume, S., [1993, p.2767-2805, eng] 47-2702

Freeze risk to Florida citrus. Part 2: Temperature variability and circulation patterns. Downton, M.W., et al, [1993, p.364-372, eng] 47-2708

Climate-change scenarios for the Sierra Nevada. Dettinger, M.D., et al, [1992, p.681-690, eng] 47-2744

Atmospheric circulation and precipitation in the Sierra Nevada. Cayan, D.R., et al, [1992, p.711-720, eng] 47-2747

Three-dimensional atmospheric circulation model with a *comprehensive description of physical processes* and simplified dynamics. Kislov, A.V., [1991, p.241-246, eng] 47-2895

Anomalies in the intra-annual ozone variability in polar regions from ozone sounding area. Gruzdev, A.N., et al, [1991, p.272-279, eng] 47-2897

Prevailing winds in the arctic and antarctic atmospheres at *ca* 80-110 km. Portniagin, IU.I., et al, [1993, p.827-841, eng] 47-2930

Preprints, [1993, 438p., eng] 47-3042

Simulation of the regional climate and hydrology of the Great Lakes basin. Bates, G.T., et al, [1993, p.32-33, eng] 47-3043

GCM feedback sensitivity to interactive cloud water budget parameterization. Del Genio, A.D., et al, [1993, p.176-181, eng] 47-3044

Low-frequency climate variations over the Northern Hemisphere. Hurrell, J.W., et al, [1993, p.355-360, *eng*] 47-3050

ENSO-snow-monsoon associations and seasonal prediction. Yang, S., [1993, p.418-422, eng] 47-3051

Intrinsic thermodynamical time-scales of the atmosphere-ocean-cryosphere climate system. Chu, P.C., [1993, p.433-438, eng] 47-3052

High frequency satellite cloud motion at high latitudes. Herman, L.D., [1993, p.465-468, eng] 47-3077

Improvements in general circulation model performance *in* simulating antarctic climate. Simmonds, I., [1990, p.287-300, eng] 47-3149

Scientific concept of the Arctic Climate System Study (ACSYS). Augstein, E., ed, [1992, 89p. + appends., *eng*] 47-3291

Wind stress in an ocean general circulation model (part 1). Matsuura, T., et al, [1991, p.39-68, jpn] 47-3292

Climatic regime of the Arctic at the transition from the 20th to the 21st century. Krutskikh, B.A., ed, [1991, 200p., *rus*] 47-3334

Measuring instrument for atmospheric ClO and O3. Waters, J.W., et al, [1993, p.597-602, eng] 47-3444

Climatic rhythm of the last interglacial in northern Eurasia. Velichko, A.A., et al, [1991, p.191-213, eng] 47-3490

General circulation models, palaeoclimatic data and last interglacial climates. Harrison, S.P., et al, [1991, p.231-242, eng] 47-3493

Model and real climate compared in the NW European winter. Beersma, J.J., [1992, 32p., eng] 47-3522

Mass balance simulation of the antarctic ice sheet. Fortuin, J.P.F., et al, [1990, p.31-56, eng] 47-3572

Calculating the circulation and *thermobarometric* background in long range meteorological forecasts. Vinogradov, N.D., [1989, p.6-11, rus] 47-3653

Nature of the annual variation in the circumpolar eddy and its calculation in weather forecasting in the Arctic. *Dmitriev, A.A.*, [1989, p.12-25, rus] 47-3654

Objectivization of the analysis and diagnosis of near surface and high altitude mean ESP fields. Sel'tser, P.A., [1989, p.26-42, rus] 47-3655

Quantitative characteristics of mid-latitude air exchange during basic types of transformations. Sel'tser, P.A., [1989, p.76-87, rus] 47-3659

Diagnosis and forecasting of significant 10-year anomalies *in air temperatures in the western Arctic*. *Grakhovskii*, G.N., et al, [1989, p.88-96, rus] 47-3660

Diagnosis of large-scale reconstructions in the troposphere of the Northern Hemisphere. Kurazhov, V.K., et al, [1989, p.97-103, rus] 47-3661

Manifestation of intensive latitudinal and meridional air *exchange in the Northern Hemisphere*. Sel'tser, P.A., et al, [1989, p.104-112, rus] 47-3662

Processes that block zonal flow in the atmosphere. Tsvetkov, A.S., [1989, p.152-157, rus] 47-3668

Polar low dynamics. Montgomery, M.T., et al, [1992, p.2484-2505, eng] 47-3673

Stochastic regime of large-scale atmospheric waves. *Bekriaev, R.V.*, [1992, p.22-49, *rus*] 47-3804

Modeling spectra of weather noise. Alekseev, G.V., [1992, p.50-55, rus] 47-3805

Sparse parameter quasi-solenoidal model of large-scale atmospheric movements. Bekriaev, R.V., [1992, p.56-74, *rus*] 47-3806

Effect of a meridional profile of surfaces on the characteristics of large-scale atmospheric waves. Bekriaev, R.V., et al, [1992, p.75-86, rus] 47-3807

Problem of nonlinear interaction of Rossby waves with *zonal flow*. Podgornyi, I.A., [1992, p.87-99, rus] 47-3808

Equatorial atmospheric influence on polar stratospheric temperatures. Kodera, K., [1993, p.7245-7250, eng] 47-3830

Paleoclimate sensitivity to glacial ice cover. deMenocal, P.B., et al, [1993, p.7265-7287, eng] 47-3831

Preprints, [1988, 160p., eng] 47-4173

Ice extent and flux in the Grand Banks-Labrador Sea area. Argus, S.D., et al, [1988, p.11-14, eng] 47-4176

Seasonal variations of atmospheric circulation and sea ice motion in the Arctic. McLaren, A.S., et al, [1988, p.20-23, eng] 47-4177

North Atlantic sea ice sensitivities of monthly dynamical forecasts. Walsh, J.E., et al, [1988, p.32-35, eng] 47-4179

Synoptic activity in the Arctic Basin in summer, 1979-1985. Serreze, M.C., et al, [1988, p.52-55, eng] 47-4184

Arctic ice conditions and the 500 mb component. Englebretson, R.E., [1988, p.79-82, eng] 47-4187

Polar low sensitivity to sea surface temperature. Langland, R.H., et al, [1988, p.83-86, eng] 47-4188

High-latitude processes in a coupled ocean-atmosphere general circulation model. Roberts, D.L., [1988, p.89-91, eng] 47-4190

Numerical simulation of antarctic drainage flows. Parish, T.R., et al, [1988, p.97-99, eng] 47-4192

Satellite observations over the Greenland and Barents seas. Claud, C., et al, [1988, p.122-125, eng] 47-4198

Structure of sub-synoptic-scale vortices in polar airstreams from AVHRR and TOVS data. Turner, J., et al, [1988, p.126-128, eng] 47-4199

Southern Oscillation signal in Antarctica. Savage, M.L., et al, [1988, p.141-144, eng] 47-4203

Annual snowpack patterns across the Rockies. Changnon, D., et al, [1993, p.633-647, eng] 47-4255

Occurrence of ozone laminae near the boundary of the stratospheric polar vortex. Reid, S.J., et al, [1993, p.8883-8890, eng] 47-4381

Preprints, [1991, 528p. + joint papers, eng] 47-4480

Temperature trends and circulation changes on the Northern Hemisphere in winter. Van Loon, H., [1991, p.12-15, eng] 47-4481

Effects of infrared cooling and ice microphysics on large-scale cloud simulations. Lee, J.L., et al, [1991, p.295-298, eng] 47-4484

Coupling of the CSU GCM to a simple ocean and sea ice model. Jensen, T.G., et al, [1991, p.321-322, eng] 47-4485

Atmospheric circulation anomalies in the arctic basin. *Serreze, M.C.*, et al, [1991, p.350-353, *eng*] 47-4488

Atmospheric circulation and sea-ice cover off northeast Canada. Wang, J., et al, [1991, p.358-361, eng] 47-4490

Simultaneous winter sea ice and atmospheric circulation *anomaly patterns*. Agnew, T., [1991, p.362-365, eng] 47-4491

Comparison of global climate model simulations of polar regions. Crane, R.G., et al, [1991, p.488-491, eng] 47-4495

Climate system modeling. Trenberth, K.E., ed, [1992, 788p., eng] 47-4497

Global coupled models: atmosphere, ocean, sea ice. Meehl, G.A., [1992, p.555-581, eng] 47-4501

Effects of increased atmospheric CO2 on the ocean-atmosphere system. Manabe, S., et al, [1993, p.215-218, eng] 47-4571

Acid snow over coastal Japan. pt.1. Kitada, T., et al, [1993, p.1061-1076, *eng*] 47-4581

Polar lows and katabatic winds as a triggering mechanism. Wos, K.A., [1992, 139p., eng] 47-4622

Climate model sensitivity to sea ice albedo parameterization. Morassutti, M.P., [1991, p.25-36, *eng*] 47-4640

Air temperature variations on Spitsbergen in 1979-1983. Przybylak, R., [1992, p.113-129, eng] 47-4651

On the relation between ozone and potential vorticity. Allaart, M.A.F., et al, [1993, p.811-814, eng] 47-4726

Forecasters handbook for the Bering Sea, Aleutian Islands, and Gulf of Alaska. Fett, R.W., et al, [1993, Var. p., eng] 47-4886

Polaarialueiden tutkimus ja globaalinen ilmaston-ja ympäristönmuutos. Launiainen, J., [1993, p.21-31, fin] 47-4996

Snow impurities as a function of pollutant emission remoteness. Malakhov, S.G., et al, [1993, p.111-115, eng] 47-5003

Stratospheric meteorological conditions in the Arctic polar vortex, 1991-1992. Newman, P., et al, [1993, p.1143-1146, eng] 47-5137

Chemical loss of ozone in the Arctic polar vortex in the winter of 1991-1992. Salawitch, R.J., et al, [1993, p.1146-1149, eng] 47-5138

Ozone loss inside the northern polar vortex during the 1991-1992 winter. Proffitt, M.H., et al, [1993, p.1150-1154, *eng*] 47-5139

Atmospheric circulation *(cont.)*

Source of volcanic ash in a Greenland ice core. Fiacco, R.J., Jr., et al, [1993, p.267-273, eng] 47-5141

Arctic climatic change: comment and reply. Burn, C.R., et al, [1993, p.1473-1478, eng] 47-5215

Tracer gas for meteorological analysis in the Fairbanks basin. Rezek, J.F., et al, [1981, 33p. + appends., eng] 47-5246

Atmospheric composition

Study of methanesulfonic acid in ice cores. Whung, P.Y., [1991, 173p., eng] 47-46

Adsorption of HCl on ice under stratospheric conditions. Kroes, G.J., et al, [1992, p.1355-1358, eng] 47-49

On the age of stratospheric air and ozone depletion potential in polar regions. Pollock, W.H., et al, [1992, p.12,993-12,999, eng] 47-77

Stratospheric composition and temperatures poleward of 60N. Remsberg, E.E., et al, [1992, p.13,001-13,014, eng] 47-78

Optical effects of polar stratospheric clouds on the retrieval of TOMS total ozone. Torres, O., et al, [1992, p.13,015-13,024, eng] 47-79

Reactive nitrogen, ozone, and nitrate aerosols observed in the arctic stratosphere in January 1990. Kondo, Y., et al, [1992, p.13,025-13,038, eng] 47-80

Carbon dioxide and other trace gases in arctic seas. Kelley, J.J., et al, [1992, p.3-20, eng] 47-107

Trace gases in the winter arctic atmosphere. Adrian, G.P., et al, [1992, p.210-211, ger] 47-213

Balmy past of icy Triton. Croswell, K., [1992, p.13, eng] 47-232

Do glaciers tell a true atmospheric CO2 story. Jaworowski, Z., et al, [1992, p.227-284, eng] 47-235

Spatial-temporal variability of surface inversions in the Arctic. Timerev, A.A., et al, [1991, p.39-44, eng] 47-267

Nitrogen oxides in the arctic troposphere. Honrath, R.E., Jr., [1992, 289p., eng] 47-271

Stratospheric trace constituents, ozone and nitric acid. Hanson, D.R., [1989, 85p., eng] 47-350

Environmental information from ice cores. Delmas, R.J., [1992, p.1-21, eng] 47-787

Changes in tropospheric methane, 1841-1978, from ice core. Etheridge, D.M., et al, [1992, p.282-294, eng] 47-832

Ratio of MSA to non-sea-salt sulphate in Antarctic Peninsula ice cores. *Mulvaney, R., et al, [1992, p.295-303, eng]* 47-833

1000 years of explosive volcanism recorded at the South Pole. Delmas, R.J., et al, [1992, p.335-350, eng] 47-834

Aerosol and general atmospheric circulation models. *Genthon, C., [1992, p.371-389, eng]* 47-836

Pattern of ocean-atmosphere exchange in a Weddell Sea ice core. Peel, D.A., et al, [1992, p.430-442, eng] 47-837

Possibility of an Arctic ozone hole in a doubled-CO2 climate. Austin, J., et al, [1992, p.221-225, eng] 47-907

Interannual variations in tundra methane emission: a 4-year time series at fixed sites. Whalen, S.C., et al, [1992, p.139-159, eng] 47-1053

Chemical mechanisms behind ozone depletion. Folkins, I., et al, [1992, p.294-297, eng] 47-1071

Physical variation of water vapor, and the relation with carbon dioxide. Egan, W.G., et al, [1992, p.2245-2248, eng] 47-1145

Results of investigating the middle atmosphere at antarctic station Molodezhnaya. Ivanova, I.N., et al, [1991, p.30-34, eng] 47-1178

O3 and NO2 absorption cross section measurements by multipath spectrophotometer. Bonasoni, P., et al, [1992, p.205-211, eng] 47-1202

Brewer spectrophotometry in total ozone measurements. Anav, A., et al, [1992, p.277-284, eng] 47-1207

Role of sulfate aerosols in the stratospheric ozone climatology. Pitari, G., [1992, p.331-347, eng] 47-1210

Reduced solar luminosity and atmospheric carbon dioxide. Kasting, J.F., [1992, p.676-677, eng] 47-1220

Aerosol optical characteristics of the arctic atmosphere. Sakunov, G.G., et al, [1989, p.53-58, eng] 47-1223

Is the extent of glaciation limited by marine gas-hydrates. Paull, C.K., et al, [1991, p.432-434, eng] 47-1241

Vapor pressures of solid hydrates of nitric acid and PSCs. Worsnop, D.R., et al, [1993, p.71-74, eng] 47-1339

Plant-dependent CH4 emission in a subarctic Canadian fen. Whiting, G.J., et al, [1992, p.225-231, eng] 47-1378

Composition of the arctic troposphere. Barrie, L.A., [1992, p.71-77, eng] 47-1427

Arctic Boundary Layer Expedition (ABLE 3A): July-August 1988. Harriss, R.C., et al, [1992, p.16,383-16,394, eng] 47-1444

Meteorological overview of the Arctic Boundary Layer Expedition (ABLE 3A) flight series. Shipham, M.C., et al, [1992, p.16,395-16,419, eng] 47-1445

Summertime photochemistry of the troposphere at high northern latitudes. Jacob, D.J., et al, [1992, p.16,421-16,431, eng] 47-1446

Large-scale variability of ozone and aerosols in the summertime arctic and sub-arctic troposphere. Browell, E.V., et al, [1992, p.16,433-16,450, eng] 47-1447

Tropospheric ozone and aerosol observations: the Alaskan Arctic. Gregory, G.L., et al, [1992, p.16,451-16,471, eng] 47-1448

Deposition of ozone to tundra. Jacob, D.J., et al, [1992, p.16,473-16,479, eng] 47-1449

Summertime tropospheric composition over Alaska. Sandholm, S.T., et al, [1992, p.16,481-16,509, eng] 47-1450

Measurement of organic nitrates in high latitude atmospheres. Singh, H.B., et al, [1992, p.16,511-16,522, eng] 47-1451

Nitrate proportions in northern high latitude atmospheres. Singh, H.B., et al, [1992, p.16,523-16,530, eng] 47-1452

Soluble species in the arctic summer troposphere: acidic gases, aerosols, and precipitation. Talbot, R.W., et al, [1992, p.16,531-16,543, eng] 47-1453

Measurements of NOx and NOy concentrations and fluxes over arctic tundra. Bakwin, P.S., et al, [1992, p.16,545-16,557, eng] 47-1454

Nonmethane hydrocarbons in the arctic boundary layer. Blake, D.R., et al, [1992, p.16,559-16,588, eng] 47-1455

Carbon monoxide and methane in the North American arctic and subarctic troposphere: July-August 1988. Harriss, R.C., et al, [1992, p.16,589-16,599, eng] 47-1456

Airborne flux measurements of trace species in an arctic boundary layer. Ritter, J.A., et al, [1992, p.16,601-16,625, eng] 47-1457

Micrometeorological measurements of *CH4* and *CO2* exchange between the atmosphere and subarctic tundra. Fan, S.M., et al, [1992, p.16,627-16,643, eng] 47-1458

Methane emissions from tundra environments in the Yukon-Kuskokwim Delta, Alaska. Bartlett, K.B., et al, [1992, p.16,645-16,660, eng] 47-1459

Methane emissions from Alaska arctic tundra: an assessment of local spatial variability. Morrissey, L.A., et al, [1992, p.16,661-16,670, eng] 47-1460

CO2 exchange in tundra ecosystems. Whiting, G.J., et al, [1992, p.16,671-16,680, eng] 47-1461

Methane transport in macrophytes of a tundra lake. Chanton, J.P., et al, [1992, p.16,681-16,688, eng] 47-1462

Carbon isotopes in methane emitted from Alaskan wetlands. Martens, C.S., et al, [1992, p.16,689-16,701, eng] 47-1463

Emissions of biogenic sulfur gases from Alaskan tundra. Hines, M.E., et al, [1992, p.16,703-16,707, eng] 47-1464

Sampling of radioactive isotopes in the arctic atmosphere. Dibb, J.E., et al, [1992, p.16,709-16,715, eng] 47-1465

Turbulent transports over tundra. Fitzjarrald, D.R., et al, [1992, p.16,717-16,729, eng] 47-1466

Atmospheric chemistry in the Arctic and subarctic. Wofsy, S.C., et al, [1992, p.16,731-16,746, eng] 47-1467

Anomalous 11-year *delta*C-14 cycle at high latitudes?. Damon, P.E., et al, [1992, p.235-238, eng] 47-1479

Earth's ozone shield and its variation. Aleksandrov, E.L., et al, [1992, 288p., rus] 47-1501

Elemental source signatures of aerosols from the Canadian high Arctic. Landsberger, S., et al, [1992, p.181-187, eng] 47-1554

Impact of heterogeneous chemistry on model predictions of ozone changes. Granier, C., et al, [1992, p.18,015-18,033, eng] 47-1565

Ozone hole chemistry. Crutzen, P.J., et al, [1992, p.1113-1116, eng] 47-1566

Retrieval of total precipitable water over high-latitude regions using radiometric measurements near 90 and 183 GHz. Wang, J.R., et al, [1992, p.1368-1378, eng] 47-1581

Heterogeneous interactions of ClONO2 and HCl on nitric acid trihydrate at 202 K. Abbatt, J.P.D., et al, [1992, p.7674-7679, eng] 47-1768

Ozone hole over Antarctica. Visconti, G., [1991, p.102-117, ita] 47-1823

Ozone hole. Stefanutti, L., [1991, p.159-164, ita] 47-1825

Chemical and dynamic processes in the antarctic ozone depletion. Eckman, R.S., et al, [1993, p.(1)311-(1)319, eng] 47-1930

Determinations of methyl iodide in the antarctic atmosphere and the south polar sea. Reifenhäuser, W., et al, [1992, p.2905-2912, eng] 47-1948

Seasonal cycle of nitrogen oxides in the arctic troposphere at Barrow, Alaska. Honrath, R.E., Jr., et al, [1992, p.20,615-20,630, eng] 47-2054

Measurements of HCl column amounts over McMurdo in 1989. Liu, X., et al, [1992, p.20,795-20,804, eng] 47-2055

Diagnostic model study of the seasonal variation of global ozone and the antarctic ozone hole. Akiyoshi, H., et al, [1992, p.20,837-20,853, eng] 47-2056

Removal of atmospheric aerosols in the sub-arctic region. Selin, E., et al, [1992, p.S965-S968, eng] 47-2074

Aerosols in the Arctic—results and evidence from the 1991/1992 EASOE aircraft measurement campaigns. Below, M., et al, [1992, p.S1019-S1022, eng] 47-2075

DSIR's stratospheric trace gas program. Matthews, W.A., et al, [1992, p.311-321, eng] 47-2166

1990 spring stratospheric denitrification. Gobbi, G.P., et al, [1992, p.323-326, eng] 47-2167

PSC in a 2D model and the secular ozone trend. Pitari, G., et al, [1992, p.375-396, eng] 47-2172

Sulfate in the air, surface snow and snowpits at Dye 3, Greenland. *Jaffrezo, J.L., et al, [1991, p.1693-1704, eng]* 47-2219

Proceedings. [1992, 523p., eng] 47-2253

Atmospheric CO2 and global warming: a critical review. Jaworowski, Z., et al, [1992, 76p., eng] 47-2289

Aerosol role in the ozone hole. Prendez, M., [1992, p.10-12, spa] 47-2300

Measurements of airborne carbonaceous aerosols in the eastern Arctic. Hansen, A.D.A., et al, [1992, p.429-433, eng] 47-2544

Climate change 1992. The supplementary report to the IPCC scientific assessment. Houghton, J.T., ed, [1992, 200p., eng] 47-2592

Coupled subsurface-boundary layer model of water on Mars. Zent, A.P., et al, [1993, p.3319-3337, eng] 47-2670

Atmospheric water-vapour transport to Antarctica inferred from radiosonde data. Connolley, W.M., et al, [1993, p.325-342, eng] 47-2712

Ozone depletion over the polar caps caused by solar protons. Stephenson, J.A.E., et al, [1992, p.2425-2428, eng] 47-2771

Relation between arctic sea ice extent and ozone levels. Marko, J.R., et al, [1993, p.37-40, eng] 47-2843

Water soluble organic constituents in arctic aerosols and snow pack. Li, S.M., et al, [1993, p.45-48, eng] 47-2845

Surface ozone concentrations in Antarctica. *Gruzdev, A.N., et al, [1992, p.41-47, eng]* 47-2847

Laboratory measurements of the loss of ClO on Pyrex, ice and NAT at 183 K. Kenner, R.D., et al, [1993, p.193-196, eng] 47-2857

Spring measurements of tropospheric bromine at Barrow, Alaska. Sturges, W.T., et al, [1993, p.201-204, eng] 47-2858

Long-term variations in the turbidity of the arctic atmosphere in Russia. Radionov, V.F., et al, [1992, p.531-549, eng] 47-2877

Chemical components of snow from Queen Maud Land. Kamiyama, K., et al, [1992, p.88-98, eng] 47-3009

Preprints. [1993, 140p., eng] 47-3098

Cloud droplets at a mountain-top site in Colorado. Hindman, E.E., et al, [1993, p.15-22, eng] 47-3099

In-cloud removal of trace chemicals. Chen, J.P., et al, [1993, p.53-56, eng] 47-3100

Heterogeneous reactions on sulfuric acid surfaces. Williams, L.R., et al, [1993, p.122-126, eng] 47-3101

The sorption and reactions of SO2, H2O2, and O3 on ice. Pellerano, D., et al, [1993, p.131-134, eng] 47-3102

Global and regional changes in atmospheric composition. Mészáros, E., [1993, 175p., eng] 47-3136

Ozone loss in Antarctica: the implications for global change. Pyle, J.A., et al, [1992, p.219-226, eng] 47-3141

Ice core record for past and future climate studies. Lorius, C.J., et al, [1992, p.227-234, eng] 47-3142

Atmospheric physics and chemistry of Adélie Coast. Polian, G., [1990, p.50-59, fre] 47-3162

French research on polar ozone. Pommereau, J.P., [1991, p.28-35, fre] 47-3179

Atmospheric and climatic changes. Golitsyn, G.O., et al, [1992, p.33-43, rus] 47-3285

Measuring instrument for atmospheric ClO and O3. Waters, J.W., et al, [1993, p.597-602, eng] 47-3444

High-altitude and polar humidity. Schlatter, T., [1992, p.39-40, eng] 47-3457

Arctic haze: patterns and relationships to regional signatures of trace gases. Khalil, M.A.K., et al, [1993, p.27-36, eng] 47-3461

HNO3 variations in volcanic layers of polar ice. Laj, P., et al, [1993, p.219-230, eng] 47-3463

NO2 measurements in the polar stratosphere. Roscoe, H.K., et al, [1993, p.257-276, eng] 47-3464

Bromoalkane production by antarctic ice algae. Sturges, W.T., et al, [1993, p.120-126, eng] 47-3533

Proceedings. [1992, 344p., eng] 47-3555

Stratospheric ozone in the Arctic and Antarctic (Review). Danilov, A.D., et al, [1992, p.1-10, eng] 47-3629

Stratospheric ozone variations 1957-1990. Xanthakis, J., et al, [1993, p.109-125, eng] 47-3713

Methanesulfonic acid in coastal antarctic snow related to sea-ice extent. Welch, K.A., et al, [1993, p.443-446, eng] 47-3728

CO2 emissions in Siberian soils as greenhouse effect factor. Zimov, S.A., et al, [1993, p.5017-5023, eng] 47-3782

Stratospheric denitrification indicated by firn core chemistry. Mulvaney, R., et al, [1993, p.5213-5220, eng] 47-3785

Modeling of trace species in the arctic stratosphere. Chipperfield, M.P., et al, [1993, p.7199-7218, eng] 47-3828

Stratospheric cooling over Scandinavia. Claud, C., et al, [1993, p.7229-7243, eng] 47-3829
Vertical structure and size distributions of Martian aerosols from solar occultation measurements. Chassefière, E., et al, [1992, p.46-69, eng] 47-3923
Statistics of firn closure: a simulation study. Enting, I.G., [1993, p.133-142, eng] 47-3947
Proceedings. [1993, 112p., eng] 47-3968
Geochemical study of atmospheric aerosols in Yakutsk. Ohta, S., et al, [1993, p.4-9, eng] 47-3969
Measurements of methane flux in Yakutsk. Ohta, S., et al, [1993, p.10-17, eng] 47-3970
Aircraft measurement of atmospheric CO2 over Siberia. Izumi, K., et al, [1993, p.21-29, eng] 47-3971
Measurement of methane concentration in the atmosphere over Siberia. Uchiyama, M., [1993, p.30-35, jpn] 47-3972
Springtime ozone depletion and volatile organic compounds in the lower Arctic atmosphere. Yokouchi, Y., [1993, p.40-41, eng] 47-3973
Carbon cycle in Siberia and global warming. Takahashi, K., [1993, p.47-50, jpn] 47-3974
CO2 concentration in a forest and photosynthesis. Koike, T., et al, [1993, p.69-74, eng] 47-3977
Measurement of methane flux in Tiksi, Siberia. Nakayama, T., [1993, p.110-112, eng] 47-3982
Changes of characteristics of arctic sea ice in case of a doubling of carbon dioxide. Kolomeev, M.P., et al, [1992, p.34-40, eng] 47-3991
Ammonium to sulphate ratio in aerosol and snow of Greenland and antarctic regions. Silvente, E., et al, [1993, p.687-690, eng] 47-4167
Decrease in total ozone concentration in the polar cap following solar proton flares. Shumilov, O.I., et al, [1991, p.17-21, eng] 47-4251
Antarctic polar stratospheric cloud chemistry. Drdla, K., *et al,* [1993, *p.8965-8981, eng*] 47-4382
Atmospheric NO3. 4. Vertical profiles at middle and polar latitudes at sunrise. Smith, J.P., et al, [1993, p.8983-8989, eng] 47-4383
Revised snowstorm maximization method for Canadian boreal regions. Chow, K.C.A., et al, [1993, p.449-454, eng] 47-4401
Atmospheric pollution related to antarctic snow and ice chemistry. Wolff, E., [1992, p.274-280, eng] 47-4507
Acid snow over coastal Japan, pt.2. Kitada, T., et al, [1993, p.1077-1090, eng] 47-4582
Glacials-interglacials in Vostok: climate and greenhouse gases. Lorius, C.J., et al, [1993, p.131-143, eng] 47-4587
Isotopic analysis of carbon dioxide from air trapped in polar ice. Lang, S.J., [1991, 148p., eng] 47-4604
Sulfur mass loading of the atmosphere from volcanic eruptions. Sigurdsson, H., et al, [1990, 7p. + appends., eng] 47-4618
Effects of CO2 increase on climate dynamics. Saltzman, B., *et al,* [1993, *p.1051-1054, eng*] 47-4630
Constraints imposed by the ice core data on the budgets of nitrous oxide and methane. Khalil, M.A.K., et al, [1989, p.403-410, eng] 47-4639
Greenland Ice Sheet Project Two. GISP2 internal data report 1991. [1991, Var. p., eng] 47-4669
Greenland: a temptation and a challenge. Dansgaard, W., *et al,* [1993, *p.12-16, eng*] 47-4728
Cadmium concentration changes in antarctic ice and snow. Boutron, C.F., et al, [1993, p.431-441, eng] 47-4833
Atmospheric pesticides in the southern polar regions, summer 1990. Bidleman, T.F., et al, [1993, p.258-262, eng] 47-4881
Hydrology and hydrochemistry of natural waters of East Antarctica. *Shmideberg,* N.A., [1992, p.65-76, rus] 47-4923
Environmental and climatic links between Antarctica and South Africa. Lucas, M.I., et al, [1991, p.193-219, eng] 47-4978
Surface ices and the atmospheric composition of Pluto. Owen, T.C., et al, [1993, p.745-748, eng] 47-5129
Probing stratospheric ozone. Rodriguez, J.M., [1993, p.1128-1129, eng] 47-5132
Chlorine chemistry on polar stratospheric cloud particles in the Arctic winter. Webster, C.R., et al, [1993, p.1130-1134, eng] 47-5133
Seasonal evolution of reactive chlorine in the Northern Hemisphere stratosphere. Toohey, D.W., et al, [1993, *p.1134-1136, eng*] 47-5134
Characteristics of cold volcanic aerosols. Toon, O., et al, [1993, p.1136-1140, eng] 47-5135
In Situ observations of aerosols and ClO after Pinatubo eruption. Wilson, J.C., et al, [1993, p.1140-1143, eng] 47-5136
Stratospheric meteorological conditions in the Arctic polar *vortex, 1991-1992.* Newman, P., *et al,* [1993, p.1143-1146, eng] 47-5137
Chemical loss of ozone in the Arctic polar vortex in the winter of 1991-1992. Salawitch, R.J., et al, [1993, p.1146-1149, eng] 47-5138
Ozone loss inside the northern polar vortex during the 1991-1992 winter. Proffitt, M.H., et al, [1993, p.1150-1154, eng] 47-5139
Ozone and aerosol changes during the 1991-1992 Airborne Arctic Stratospheric Expedition. Browell, E.V., et al, [1993, p.1155-1158, eng] 47-5140
Partitioning of nitrogen oxides in the lower arctic troposphere during spring 1988. Bottenheim, J.W., et al, [1993, p.15-27, eng] 47-5144
Aluminium solubility in rainwater and molten snow. Losno, R., *et al,* [1993, *p.29-43, eng*] 47-5145
Atmosphere during the Younger Dryas. Mayewski, P.A., et al, [1993, p.195-197, eng] 47-5221
Tracer gas for meteorological analysis in the Fairbanks basin. Rezek, J.F., et al, [1981, 33p. + appends., eng] 47-5246

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Atmospheric density

Optical effects of polar stratospheric clouds on the retrieval of TOMS total ozone. Torres, O., et al, [1992, p.13,015-13,024, eng] 47-79
Evaluation of bi-hemispherical reflectance of antarctic surfaces. Zibordi, G., et al, [1992, p.149-157, eng] 47-1199
Solar UV-spectra in various environmental conditions. Huber, M., et al, [1992, p.413-415, eng] 47-1810
Measurements of HCl column amounts over McMurdo in 1989. Liu, X., *et al,* [1992, p.20,795-20,804, eng] 47-2055
Arctic ozone loss declines. Bush, S., [1992, p.210, eng] 47-2601
Snow versus rain: looking beyond the "magic" numbers. Heppner, P.O.G., [1992, p.683-691, eng] 47-2764
Cirrus optical properties determination from actinometric observations. Tarasova, T.A., [1992, p.690-696, eng] 47-3156
Pacific warming and antarctic ozone depletion. Mo, K.C., [1993, p.1375-1391, eng] 47-5213

Atmospheric disturbances

Climatology of atmospheric cyclones over the Sea of Okhotsk. Umemoto, T., [1992, p.37-40, eng] 47-112
Minimum sampling for spectral analysis of nonstationary turbulence. Treviño, G., et al, [1992, p.289-292, eng] 47-867
Satellite observation of katabatic-wind propagation for great distances across the Ross Ice Shelf. Bromwich, D.H., et al, [1992, p.1940-1949, eng] 47-876
Two polar lows affecting Denmark. Rasmussen, E.A., et al, [1992, p.326-338, eng] 47-1173
Evolution of atmospheric circulation over the North Atlantic in the period of hydrological front displacement. Semenov, M.V., et al, [1991, p.85-89, eng] 47-1180
Comments on "An arctic hurricane over the Bering Sea". Reed, R.J., et al, [1992, p.2713-2715, eng] 47-1994
NGM model output error and the effect on forecasting a Great Basin cyclogenic event: a case study. Conger, M.C., [1992, 38p., eng] 47-2141
Diagnostic study of the evolution of an intense North American anticyclone during winter 1989. Tan, Y.C., et al, [1992, p.38-41, eng] 47-2374
Continental polar mesolows over North America in winter. Kahrs, J.E., [1992, p.145-146, eng] 47-2403
Case studies of katabatic wind forced mesoscale cyclogenesis over the southwestern Ross Sea. Carrasco, J.F., et al, [1992, p.J129-J132, eng] 47-2418
Katabatic winds and large-scale tropospheric forcing. Parish, T.R., et al, [1992, p.J141-J144, eng] 47-2421
Turbulence structure in stably stratified flow in the wake behind high mountains. Smedman, A.S., et al, [1992, p.J145-J148, eng] 47-2422
Mesoscale blocking ahead of mountain ridges and cold fronts. Taylor, P., et al, [1992, p.J149-J152, eng] 47-2423
Meteorological trends in the Italian Alps during the 1991-92 winter season. Kerkmann, J., et al, [1992, p.8-19, ita] 47-2615
Characteristics of synoptic processes in homogeneous groups of macro-changes in the Arctic. Kuznetsov, A.V., et al, [1989, p.43-52, rus] 47-3656
Processes that block zonal flow in the atmosphere. Tsvetkov, A.S., [1989, p.152-157, rus] 47-3668
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Katabatic flow thermodynamics of Adélie Coast. Pettré, P., et al, [1993, p.10,429-10,440, eng] 47-4292
Polar lows and katabatic winds as a triggering mechanism. Wos, K.A., [1992, 139p., eng] 47-4622

Atmospheric electricity

Influence of solar wind on cloud microphysics. Tinsley, B.A., et al, [1993, p.10,375-10,384, eng] 47-4391

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Atmospheric physics

Phenomenology of a water venting in low earth orbit. Kofsky, I.L., et al, [1992, p.325-347, eng] 47-81
Development and verification of a three-dimensional large-scale cloud model. Lee, J.L., [1991, 165p., eng] 47-87
Coldest places in the solar system. Dyer, A., [1992, p.30-33, eng] 47-197
Theoretical studies on binary homogeneous nucleation. Laaksonen, A., [1992, 12p., eng] 47-229
Case studies of the atmospheric boundary layer structure over sea ice for weakly unstable conditions. Myrhaug, D., [1992, p.93-99, eng] 47-266
Evidence of ascent in a sloped barrier jet and an associated heavy-snow band. Dunn, L.B., [1992, p.914-924, eng] 47-590
Seasonal river runoff calculated from a global atmospheric model. Kuhl, S.C., *et al,* [1992, *p.2029-2039, eng*] 47-776
Sublimation and reformation of icy grains in the primitive solar nebula. Lunine, J.I., et al, [1991, p.333-344, eng] 47-990
Uncertainty in a path-averaged measurement of the friction velocity u*. Andreas, E.L., [1992, p.1312-1321, eng] 47-1121
Doppler radar wind and reflectivity signatures with overrunning and freezing-rain episodes: preliminary results. Prater, E.T., et al, [1992, p.1350-1358, eng] 47-1123
Winter Icing and Storms Project (WISP). Rasmussen, R., et al, [1992, p.951-974, eng] 47-1263
Gravity wave dynamics within the polar atmosphere. Wu, Y.F., et al, [1992, p.1781-1789, eng] 47-1474
Thermodynamics of pollutant removal as an indicator of possible source areas for arctic haze. Bowling, S.A., et al, [1992, p.2953-2961, eng] 47-1949
Martian atmospheric circulation simulation. Pollack, J.B., et al, [1993, p.3149-3181, eng] 47-2669
On the interannual variability of arctic sea-level pressure and sea ice. Power, S.B., et al, [1992, p.551-577, eng] 47-2878
Tropospheric aerosol and climate: results from numerical *experiments.* Kolomeev, M.P., et al, [1991, p.253-257, eng] 47-2896
Anomalies in the intra-annual ozone variability in polar regions from ozone sounding area. Gruzdev, A.N., et al, [1991, p.272-279, eng] 47-2897
Chemical components of snow from Queen Maud Land. Kamiyama, K., et al, [1992, p.88-98, eng] 47-3009
Polar low dynamics. Montgomery, M.T., *et al,* [1992, p.2484-2505, eng] 47-3673
Strongly temperature dependent microphysical processes and the atmosphere. Stewart, R.E., et al, [1992, p.309-315, eng] 47-3996
Decrease in total ozone concentration *in the polar cap* following solar proton flares. Shumilov, O.I., et al, [1991, p.17-21, *eng*] 47-4251
Mean circulations of boundary-layer rolls in lake-effect snow storms. Kristovich, D.A.R., [1993, p.293-315, eng] 47-4350
Measurements of high number densities of ice crystals in the tops of tropical cumulonimbus. Knollenberg, R.G., et al, [1993, p.8639-8664, eng] 47-4379
Influence of solar wind on cloud microphysics. Tinsley, B.A., et al, [1993, p.10,375-10,384, eng] 47-4391
Heavy snowfall during an arctic outbreak along the Colorado Front Range. Wesley, D.A., et al, [1990, p.2-19, eng] 47-5257
Comments on paper by Wesley et al and reply. Auer, A.H., Jr., et al, [1991, p.19-21, eng] 47-5259

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Atmospheric pressure

Parameters which influence the air content in polar ice. Martinerie, P., *et al,* [1992, *p.1-13, eng*] 47-458
Great Lakes winter-weather 700-hPa PNA teleconnections. Assel, R.A., [1992, p.2156-2163, eng] 47-877
Forecasting sea ice clearing in the Labrador Sea. Newell, J.P., [1992, p.313-323, eng] 47-1038
Case study of the Jan. 9-10, 1992 polar low in the Bering Sea. Hefner, D.B., [1992, p.33-36, eng] 47-2372
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Calculating the circulation and thermobarometric background in long range meteorological forecasts. Vinogradov, N.D., [1989, p.6-11, rus] 47-3653
Nature of the annual variation in the circumpolar eddy *and its calculation in weather forecasting in the Arctic.* Dmitriev, A.A., [1989, p.12-25, rus] 47-3654
Numerical experiment in hydrodynamic forecasting of pressure fields 5 days in advance in the Arctic. Evseev, M.P., et al, [1989, p.53-65, rus] 47-3657
Using hydrodynamic surface fields at a geopotential of 500 gPa for medium-range forecasting of a surface pressure *field.* Baranov, G.I., *et al,* [1989, p.113-117, rus] 47-3663
Analyzing the thermal effect of the Atlantic on variation in the barometric field during winter. Vangengeim, T.G., [1989, p.128-137, rus] 47-3665
Static stability parameter and the variation of barometric formations. Golev, D.A., [1989, p.148-151, rus] 47-3667

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Conditions for formation of significant anomalies in pressure and air temperature during December-February. Vangengeim, T.G., [1989, p.158-162, rus] 47-3669
Problem of climatic standards of temperature and air pressure in the Northern Hemisphere. Bolotinskaia, M.Sh., [1989, p.163-169, rus] 47-3670
Analysis of strong wind events simulated in a GCM near Casey in the Antarctic. Murphy, B.F., et al. [1993, p.522-534, eng] 47-3677
Pressure effects on non-freezing water layer thickness. Bardasov, S.A., et al. [1992, p.160-166, eng] 47-3733
Deicer control system. Phillips, R.W., II. [1988, 6 col., eng] 47-3765
Stochastic regime of large-scale atmospheric waves. Bekriaev, R.V., [1992, p.22-49, rus] 47-3804
Sparse parameter quasi-solenoidal model of large-scale atmospheric movements. Bekriaev, R.V., [1992, p.56-74, rus] 47-3806
Effect of a meridional profile of surfaces on the characteristics of large-scale atmospheric waves. Bekriaev, R.V., et al. [1992, p.75-86, rus] 47-3807
Long-range forecasts of arctic sea level pressure. Ross, B., et al. [1988, p.48-51, eng] 47-4183
Synoptic activity in the Arctic Basin in summer 1979-1985. Serreze, M.C., et al. [1988, p.52-55, eng] 47-4184
Arctic ice conditions and the 500 mb component. Englebretson, R.E., [1988, p.79-82, eng] 47-4187
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Temperature trends and circulation changes on the Northern Hemisphere in winter. Van Loon, H., [1991, p.12-15, eng] 47-4481
Polar lows and katabatic winds as a triggering mechanism. Woo, K.A., [1992, 139p., eng] 47-4622
Arctic Ocean Buoy Program data report for 1 January 1987-31 December 1987. Colony, R.L., et al. [1990, 152p., eng] 47-4670
Arctic Ocean Buoy Program data report for 1 January 1988-31 December 1988. Colony, R.L., et al. [1991, 181p., eng] 47-4671
Arctic Ocean Buoy Program data report for 1 January 1989-31 December 1989. Colony, R.L., et al. [1991, 158p., eng] 47-4672
Arctic Ocean Buoy Program data report for 1 January 1990-31 December 1990. Colony, R.L., et al. [1991, 142p., eng] 47-4673
Inverse relation between frost survival and atmospheric pressure. Halloy, S., et al. [1993, p.117-123, eng] 47-4744
Correlation between continental snow cover and air temperature. Leathers, D.J., et al. [1993, p.1345-1355, eng] 47-5212

Attenuation
Dual-wavelength radar method for ice-water characterization in mixed-phase clouds. Gosset, M., et al. [1992, p.538-547, eng] 47-412
Extinction of visible and infrared beams by falling snow. Hutt, D.L., et al. [1992, p.5121-5132, eng] 47-449
On ice-coupled waves: a comparison of data and theory. Squire, V.A., et al. [1992, p.269-280, eng] 47-1034
Attenuation due to snow fall on an earth-space path. Dong, Q.S., [1989, p.407-410, eng] 47-2072
Wave attenuation in the marginal ice zone during LIMEX. Liu, A.K., et al. [1992, p.192-206, eng] 47-2347
Use of radar measurements to investigate hail formation in clouds. Alvazian, G.M., [1991, p.208-217, eng] 47-2543
Lidar measurement of cirrus clouds backscattering. Ansmann, A., et al. [1992, p.7113-7131, eng] 47-2663
Broadband source localization and signature estimation. Yang, T.C., [1993, p.1797-1806, eng] 47-3232
Seismic properties of artificial polar bear dens. Blix, A.S., et al. [1992, p.20-24, eng] 47-3350
Determination of sea ice acoustical properties by tomography. Rajan, S.D., et al. [1993, p.721-738, eng] 47-3431
Shock response of snow. Johnson, J.B., et al. [1993, p.4852-4861, eng] 47-3794
Depolarization of radio waves by ice crystals. Maekawa, Y., et al. [1993, p.249-259, eng] 47-4062
Sea ice flexure noise attenuation during seismic surveys. Ostrander, W.J., [1986, 14 col., eng] 47-4260
Bio-optical observations of first-year arctic sea ice. Perovich, D.K., et al. [1993, p.1059-1062, eng] 47-4266
Snow surface scattering theory and particle size distribution. West, R., et al. [1993, p.426-437, eng] 47-5268
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Augers
Snowblower. Swanson, J.L., [1986, 4 col., eng] 47-4099
Pipeline trenching. Langner, C.G., [1986, 4 col., eng] 47-4262
Sampling frozen soils. Tarnocai, C., [1993, p.755-765, eng] 47-5249

Australia
—Snowy Mountains
Plant competition over winter in alpine shrubland and grassland, Snowy Mountains, Australia. Egerton, J.J.G., et al. [1993, p.124-129, eng] 47-4745

Austria
Spatially distributed snowmelt model for application in alpine terrain. Blöschl, G., et al. [1991, p.51-60, eng] 47-1292
Avalanche events and weather conditions in Austria, winter 1987/88, 1988/89, 1989/90 and 1990/91. Luzian, R., [1992, 188p., ger] 47-1496
Air temperature fluctuations in Austria, 1775-1991. Boehm, R., [1993, p.J26-J30, eng] 47-3080
—Tyrol
Snow in north and east Tyrol 1897-1991. Fliri, F., [1992, 2 vols., ger] 47-4208

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Snow avalanche paths as periglacial conduits. Butler, D.R., et al. [1992, p.185-202, eng] 47-852
Debris flows and snow avalanche landforms in the Lairig Ghru, Cairngorm Mountains, Scotland. Luckman, B.H., [1992, p.109-121, eng] 47-4321

Avalanche dynamics
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Avalanche engineering
Avalanche control. [1985, 231p., eng] 47-987
Avalanche protection in the Bavarian Alps. Göttle, A., [1989, p.458-462 (p.463 missing), ger] 47-1197
Effects of impulse waves on storage reservoirs. Müller, D., et al. [1992, p.96-100, ger] 47-1214
Mountain conifers reduce snow avalanche hazard in French Alps. Jenkins, M.J., [1993, p.4-5, eng] 47-1887
Works of the wind. Sivardière, F., et al. [1992, p.16-23, fre] 47-2332
Telemetry of loads on avalanche protection structures. Bavoux, E., [1992, p.26-28, fre] 47-2333
Snow loads on cable-anchored avalanche snow fences. Kurokawa, K., et al. [1992, p.103-108, jpn] 47-2512
Characteristics of snow pressure acting on avalanche-preventive fences. Katakawa, K., et al. [1992, p.323-331, eng] 47-3210
Avalanche shed on a Colorado highway. Mears, A., [1992, 113p., eng] 47-4614
Published research papers. [1990, 37p. + panel discussion, jpn] 47-4678
Basic experiments on snow avalanche abatement. Shimomura, C., et al. [1990, p.5-8, jpn] 47-4680
Research summaries. [1990, 78p., jpn] 47-4688
Local protection from snowdrifts defence structures. Sivardière, F., et al. [1993, p.6-17, ita] 47-4700
Snow load on avalanche barriers. *In-situ measurements* and experiments. Bavoux, E., [1993, p.18-25, ita] 47-4701
New snow protection engineering handbook. [1988, 527p., jpn] 47-4724
Research summaries. [1993, 107p., jpn] 47-4794
Avalanche countermeasures in Hokkaido. Takeuchi, M., [1985, p.22-26, jpn] 47-5149
Avalanche countermeasures. Sato, K., [1985, p.27-31, jpn] 47-5150
Avalanche countermeasures in the Tsuchidaru stretch of the Kanetsu Highway. Tsukada, C., et al. [1985, p.32-36, jpn] 47-5151
Avalanche countermeasures in Fukushima Prefecture. Hamazu, F., [1985, p.37-44, jpn] 47-5152
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Method for dealing with snow cornices. Aoki, S., [1986, p.94-95, jpn] 47-5187
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Avalanche erosion
Rehabilitation of avalanche protection forests. Konetschny, H., et al. [1989, p.482-486, ger] 47-1198

Avalanche forecasting
Snow science: reflections on the past, perspectives on the future. Kalitowski, M., ed. [1992, 46p., eng] 47-477
Systems: the world, the flesh, the metal. Ferguson, S.A., [1992, p.22-31, eng] 47-480
Suggestions for snow research. Schaerer, P., [1992, p.32-41, eng] 47-481
Five problems in avalanche research. Perla, R., [1992, p.42-45, eng] 47-482
Proceedings. [1985, 2 vols., eng] 47-523
Approach to slope and subsurface studies in avalanche prone area by air photos. Pathak, R.C., et al. [1985, p.204-211, eng] 47-539
Avalanche dating and avalanche accident feed-back. Rao, N.M., [1985, p.212-225, eng] 47-540
Estimation of runout distances of flowing avalanches. Sethi, D.N., [1985, p.271-275, eng] 47-545
Assessment of stresses and strains on an avalanche slope by indirect evidence. Sharma, S.S., [1985, p.276-295, eng] 47-546
Objective guidelines to avalanche forecasting in Western Himalayas. Rangachary, N., et al. [1985, p.310-317, eng] 47-548
Avalanche forecasting by acoustic monitoring of snowpacks. Koul, B.B., [1985, p.318-323, eng] 47-549
Snow avalanches of Himalaya—an analysis. Rao, N.M., et al. [1985, p.327-340, eng] 47-550
General appreciation of ice-snow avalanche and glaciers in Chandra-Bhaga valley. Khular, Y.L., [1985, p.347-353, eng] 47-552
Synoptic conditions for the formation of avalanches and the possibility of forecasting them. Vinogradova, V.V., [1991, p.45-49, rus] 47-892
Snowpack characteristics associated with avalanche accidents. Jamieson, J.B., et al. [1992, p.862-866, eng] 47-1441
Annual report—1991-92. [1992, 54p. + append., eng] 47-1745
Experience with rutschblocks. Jamieson, J.B., et al. [1992, p.1.4-5, eng] 47-1886
Avalanche risk: classification and control. Andreev, IU.B., et al. [1992, p.29-35, rus] 47-1990
Snow avalanche and rock fall mapping projects and experiences. Lied, K., [1992, p.1-19, nor] 47-2676
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Evaluating the cost of anti-avalanche measures. Blagoveshchenskii, V.P., et al. [1991, p.179-186, rus] 47-2810
Mapping avalanche hazard areas in the USSR. Kanaev, L.A., [1991, p.196-210, rus] 47-2813
Investigations on snow disasters and development of a disaster potential index. Ito, T., [1992, p.147-156, eng] 47-3195
Perspective: Analytical modeling. Irwin, P.A., [1992, p.471-472, eng] 47-3224
Geography of avalanches. Miagkov, S.M., ed. [1992, 331p., rus] 47-3505
Spatial analysis of avalanche hazards. First developments of a decision support system. Bolognesi, R., [1991, 217p., fre] 47-3782
Published research papers. [1990, 37p. + panel discussion, jpn] 47-4678
Study on predicting snow avalanches. Oka, K., [1990, p.1-4, jpn] 47-4679
Snow surveys for ski-lift managers in avalanche hazard areas. Bariffi, A., [1993, p.26-37, ita] 47-4702
Research summaries. [1993, 107p., jpn] 47-4794
Avalanche countermeasures in the Tsuchidaru stretch of the Kanetsu Highway. Tsukada, C., et al. [1985, p.32-36, jpn] 47-5151
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Avalanche countermeasures (2). Kuriyama, H., [1985, p.62-66, jpn] 47-5170
Avalanche prediction in Scotland: 1. A survey of avalanche activity. Ward, R.G.W., [1984, p.91-108, eng] 47-5254
Avalanche prediction in Scotland: 2. Development of a predictive model. Ward, R.G.W., [1984, p.109-133, eng] 47-5255

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Characteristics of avalanche-forming snow on Sakhalin Island. Danilina, A.V., et al. [1992, p.51-57, rus] 47-184
Regions of catastrophic avalanches in Georgian territory. Salukvadze, M.E., [1990, p.100-109, rus] 47-419
Avalanche control in formation zone—a case study. Rajaram, T., [1985, p.354-368, eng] 47-553
New approach for design of diversion and retarding dams. Sharma, S.S., [1985, p.369-383, eng] 47-554
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Effects of forests near the timberline on avalanche formation. Gubler, H., et al. [1991, p.19-38, eng] 47-1290
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Geography of avalanches. Miagkov, S.M., ed. [1992, 331p., rus] 47-3505
Avalanche countermeasures. Sato, K., [1985, p.27-31, jpn] 47-5150
Avalanche countermeasures (1). Kuriyama, H., [1985, p.53-57, jpn] 47-5154

Avalanche mechanics

Trials for the measurement of static and impact pressure of snow and avalanches. Hariprasad, N.M., et al. [1985, p.226-243, eng] 47-541
Study of creep in a mountain snow pack. Ghoshal, P.R., et al. [1985, p.257-270, eng] 47-544
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General appreciation of ice-snow avalanche and glaciers in Chandra-Bhaga valley. Khular, Y.L., [1985, p.347-353, eng] 47-552
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Avalanche control. [1985, 231p., eng] 47-987
Giant avalanche on K2 Mount, Karakorum. Shen, Y.P., [1991, p.249-254, eng] 47-1611
Problems of optimization in avalanche studies. Bozhinskil, A.N., [1990, p.38-43, rus] 47-1986
Experiments on ice-sphere flows along an inclined chute. Nishimura, K., et al. [1992, p.123-129, eng] 47-2126
My old friends—avalanches (part 3). Roch, A., [1993, p.2-3, eng] 47-2819
Three-dimensional simulation of powder avalanches. Brandstätter, W., et al. [1992, p.119-133, eng] 47-3193
Shock response of snow. Johnson, J.B., et al. [1993, p.4852-4861, eng] 47-3794
Calculating the dynamics of snow avalanches. [Adroshnikov, V.I., [1993, p.4-8, rus] 47-4084
Debris flows and snow avalanche landforms in the Lairig Ghru, Cairngorm Mountains, Scotland. Luckman, B.H., [1992, p.109-121, eng] 47-4321

Avalanche modeling

Systems: the world, the flesh, the metal. Ferguson, S.A., [1992, p.22-31, eng] 47-480
Advances in micromechanics of granular materials. [1992, 461p., eng] 47-2125
Experiments on ice-sphere flows along an inclined chute. Nishimura, K., et al. [1992, p.123-129, eng] 47-2126
Simulations of rapid bimodal granular flows. Nakagawa, M., et al. [1992, p.131-140, eng] 47-2127
Three-dimensional simulation of powder avalanches. Brandstätter, W., et al. [1992, p.119-133, eng] 47-3193
Spatial analysis of avalanche hazards. First developments of a decision support system. Bolognesi, R., [1991, 217p., fre] 47-3702
Basic experiments on snow avalanche abatement. Shimomura, C., et al. [1990, p.5-8, jpn] 47-4680
Avalanche countermeasures (2). Kuriyama, H., [1985, p.62-66, jpn] 47-5170

Avalanche tracks

Influence of avalanche snow transport on snowmelt runoff. De Scally, F.A., [1992, p.73-97, eng] 47-173
Estimation of runout distances of flowing avalanches. Sethi, D.N., [1985, p.271-275, eng] 47-545
Snow avalanche paths as periglacial conduits. Butler, D.R., et al. [1992, p.185-202, eng] 47-852
Debris flows and snow avalanche landforms in the Lairig Ghru, Cairngorm Mountains, Scotland. Luckman, B.H., [1992, p.109-121, eng] 47-4321

Avalanche triggering

I kill avalanches. Atwater, M.M., [1992, p.4-5, eng] 47-1213
Snowpack characteristics associated with avalanche accidents. Jamieson, J.B., et al. [1992, p.862-866, eng] 47-1441
My old friends—avalanches (part 3). Roch, A., [1993, p.2-3, eng] 47-2819
Effects of explosives on the mountain snowpack. Ueland, J., [1993, p.4-5, eng] 47-2820

Avalanches

Protecting railroads on Sakhalin from avalanches. [Adroshnikov, V.I., [1992, p.2-11, rus] 47-371
Regions of catastrophic avalanches in Georgian territory. Salukvadze, M.E., [1990, p.100-109, rus] 47-419
Proceedings. [1985, 2 vols., eng] 47-523
Snow avalanches of Himalaya—an analysis. Rao, N.M., et al. [1985, p.327-340, eng] 47-550
Snow avalanches—classification, detection and search of victims. Bhandari, R.K., et al. [1985, p.341-346, eng] 47-551
Avalanche control project: what does it involve. Rajaram, T., [1985, p.384-391, eng] 47-555
Afforestation for avalanche prevention and control. Tiwari, K.M., et al. [1985, p.392-395, eng] 47-556
Problems of snow on road and airfields. Ghosal, D.N., [1985, p.212-221, eng] 47-573
Snow avalanches in Iceland during the winter 1987/88. Magnússon, M.M., [1989, p.114-117, ice] 47-715
Outline of avalanches in the Tien Shan mountains. Hu, R.J., et al. [1992, p.7-10, eng] 47-1078
Avalanche videos. Dennis, A., [1992, p.53-54, eng] 47-1086
Avalanches in the Tien Shan mountains, China. Wei, W.S., [1992, p.140, eng] 47-1100
Outline of avalanches in the southeastern Tibet Plateau, China. Wang, Y.L., et al. [1992, p.146-150, eng] 47-1102
Mountain rescue by the Customs Service. Moretti, B., [1992, p.16-23, eng] 47-1318
New perspectives on the survival chances of a person buried in an avalanche. Brugger, H., et al. [1992, p.24-31, eng] 47-1319
Snow is their profession—the French "Pisteurs-Secouristes". Escudero, H., et al. [1992, p.32-39, eng] 47-1320
Avalanche studies in Italy. Peretti, G., [1992, p.40-47, eng] 47-1321
1992: Catastrophic avalanches in Turkey. Gürer, I., [1992, p.56-61, eng] 47-1322
ARVA 90—Comparison of different avalanche victim locators. Schild, D., [1991, p.524-526, ger] 47-1489
Avalanche events and weather conditions in Austria, winter 1987/88, 1988/89, 1989/90 and 1990/91. Luzian, R., [1992, 188p., ger] 47-1496
Snow and avalanches in the Swiss Alps, winter 1990/91. [1992, 199p., ger] 47-2206
Month of July like no other. Brunot, G., [1992, p.12-13, fre] 47-2331
Avalanches in the Italian Alps in the winter of 1991-92. [1992, p.20-63, ita] 47-2616
Snow avalanche and rock fall mapping projects and experiences. Lied, K., [1992, p.1-19, nor] 47-2676
Snow and avalanches in the Dolomites and Veneto Fore-alps, winter season 1991-92. Cagnati, A., et al. [1993, 45p., ita] 47-3153
Fatal avalanche accidents in the United States 1991/92-1992/93 (through 2/13/93). Atkins, D., [1993, p.1-5, eng] 47-3260
Snowy torrents '92-'93. [1993, p.3, eng] 47-3261
Geography of avalanches. Miagkov, S.M., ed. [1992, 331p., rus] 47-3505
Passive transponder for locating avalanche victims. Leuenberger, C.E., [1987, 8 col., eng] 47-4006
Study on predicting snow avalanches. Oka, K., [1990, p.1-4, jpn] 47-4679
Safeguarding traffic on the snowy stretches of National Highway 17 during the 1984 snowstorms. Aoki, S., [1984, p.45-50, jpn] 47-5066
Science of snow and ice (2). Inoue, M., [1985, p.9-13, jpn] 47-5079
Avalanche countermeasures in Hokkaido. Takeuchi, M., [1985, p.22-26, jpn] 47-5149
Avalanche countermeasures. Sato, K., [1985, p.27-31, jpn] 47-5150
Avalanche countermeasures in Fukushima Prefecture. Hamazu, F., [1985, p.37-44, jpn] 47-5152
Summary of avalanche countermeasure operations in Fukushima Prefecture. [1985, p.45-52, jpn] 47-5153
Avalanche prediction in Scotland: I. A survey of avalanche activity. Ward, R.G.W., [1984, p.91-108, eng] 47-5254

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Backscattering

Classification of low-salinity sea ice types by ranging scatterometer. Hyyppä, J., et al. [1992, p.2399-2413, eng] 47-255
Observations of the snowcover on sea ice in the Gulf of Bothnia. Crocker, G.B., [1992, p.2433-2445, eng] 47-257
C-band radar backscatter of Baltic Sea ice: theoretical predictions compared with calibrated SAR measurements. Ulander, L.M.H., et al. [1992, p.2447-2468, eng] 47-258
Effects of ice ridge properties on calculated surface backscattering in BEPERS-88. Manninen, A.T., [1992, p.2469-2487, eng] 47-259
Unsupervised segmentation of polarimetric SAR data using the covariance matrix. Rignot, E.J., et al. [1992, p.697-705, eng] 47-356
Scattering model for snow-covered sea ice. Tjuatja, S., et al. [1992, p.804-810, eng] 47-360
Radar backscatter signatures of Baltic Sea ice. Toikka, M., et al. [1992, p.1527-1529, eng] 47-680
Radar backscatter from arctic sea ice during IAOE '91. Beaven, S.G., et al. [1992, p.1530-1532, eng] 47-681
Comparison of radar backscatter from antarctic and arctic sea ice. Hosseinmostafa, R., et al. [1992, p.1533-1535, eng] 47-682
Calibrated ERS-1 SAR signatures and video underflights over arctic ice. Ulander, L.M.H., et al. [1992, p.1536-1538, eng] 47-683
Angular width of the coherent back-scatter opposition effect: an application to icy outer planet satellites. Mishchenko, M.I., [1992, p.327-333, eng] 47-1191
Europa, Ganymede, and Callisto: new radar results from Arecibo and Goldstone. Ostro, S.J., et al. [1992, p.18,227-18,244, eng] 47-1556
Ice-cloud depolarization of backscatter for CO2 and other infrared lidars. Eberhard, W.L., [1992, p.6485-6490, eng] 47-2043
Pinatubo in the Antarctic?. Stefanutti, L., et al. [1992, p.327-343, eng] 47-2168
Simulation of lidar depolarization by polar stratospheric clouds. Flesia, C., et al. [1992, p.359-365, eng] 47-2170
Lidar measurement of cirrus clouds backscattering. Ansmann, A., et al. [1992, p.7113-7131, eng] 47-2663
Polarimetric observations and theory of millimeter- wave backscatter from snow cover. Mead, J.B., et al. [1993, p.38-46, eng] 47-3172
Combined infrared emission spectra and radar reflectivity studies of cirrus clouds. Palmer, A.J., et al. [1993, p.64-69, eng] 47-3356
Rotational Raman lidar to measure the atmospheric temperature from the ground to 30 km. Nedeljkovic, D., et al. [1993, p.90-101, eng] 47-3357
Helicopter-borne scatterometer for remote sensing pt. I. . Hallikainen, M., et al. [1993, p.161-169, eng] 47-3358
Change detection on Alaska's North Slope using repeat-pass ERS-1 SAR images. Villasenor, J.D., et al. [1993, p.227-236, eng] 47-3360
Optical techniques for the measurement of frazil ice. Pegau, W.S., et al. [1992, p.498-507, eng] 47-3734
Analysis of synthetic aperture radar data collected over the southwestern Greenland ice sheet. Jezek, K.C., et al. [1993, p.119-132, eng] 47-3946
Method for determining cirrus cloud particle sizes using lidar and radar backscatter technique. Intrieri, J.M., et al. [1993, p.1074-1082, eng] 47-4081
Signatures of antarctic firn by means of ERS-1 AMI and by field measurements. Rott, H., et al. [1993, p.227-233, eng] 47-4417
Investigations of arctic ice-sheets and glaciers using ERS-1 SAR. Rees, W.G., et al. [1993, p.263-268, eng] 47-4423
Spatial patterns in backscatter strength across the Greenland ice sheet. Jezek, K.C., [1993, p.269-272, eng] 47-4424
Arctic sea ice microwave signature and geophysical processes study. Onstott, R.G., et al. [1993, p.329-332, eng] 47-4434
C-band SAR backscatter from ice on shallow tundra lakes: observations and modelling. Wakabayashi, H., et al. [1993, p.333-337, eng] 47-4435
Sea ice radar signatures from ERS-1 SAR during late summer and fall in the Beaufort and Chukchi Seas. Holt, B., et al. [1993, p.339-342, eng] 47-4436
Sea ice feature and type identification in merged ERS-1 SAR and Landsat Thematic Mapper imagery. Steffen, K., et al. [1993, p.361-365, eng] 47-4440
Summer arctic ice concentrations and characteristics from SAR and SSM/I data. Comiso, J.C., et al. [1993, p.367-372, eng] 47-4441
Validating the UK-PAF land ice product surface elevation. Mantripp, D.R., et al. [1993, p.483-488, eng] 47-4444
Snow and glacier investigations by ERS-1 SAR—first results. Rott, H., et al. [1993, p.577-582, eng] 47-4445
Application of ERS-1 SAR data to snow mapping. Hallikainen, M., et al. [1993, p.589-594, eng] 47-4447
Scattering indices for water drops and ice particles in clouds. Ajvazyan, H.M., [1993, p.1137-1154, eng] 47-4509
Radar backscatter measurements from arctic sea ice during the fall freeze-up. Beaven, S.G., et al. [1993, 66p., eng] 47-4621
Polarimetric measurements in a severe hailstorm. Zrnić, D.S., et al. [1993, p.2223-2238, eng] 47-4706

Bacteria

Microorganism survival in ice-covered marine environment. Stanley, S.J., et al. [1992, p.58-72, eng] 47-2
Structure-forming ability of the cold-tolerant soil bacteria Pseudomonas. Mosolova, A.I., et al. [1987, p.29-33, eng] 47-597
Marine bacterioplankton at the Weddell Sea ice edge. Delille, D., [1992, p.205-210, eng] 47-1327
Soil microbial communities under cryptogamic plants in tundra and arctic deserts. Parinkina, O.M., et al. [1992, p.185-189, eng] 47-1727
Microorganisms in permafrost. Zviagintsev, D.G., [1992, p.229-232, eng] 47-1735
Purple non-sulphur bacterium from ancient cryogenic rocks of the Kolyma Lowland. Burashnikova, E.N., et al. [1992, p.232-240, eng] 47-1736
Sulfate-reducing bacteria in constant-frozen soils. Vainshtein, M.B., et al. [1992, p.243-247, eng] 47-1738
Isolation of mercury resistant bacteria from permafrost samples of Kolyma Lowland. Petrova, M.A., et al. [1992, p.247-251, eng] 47-1739
Role of organic matter on nitric and nitrous oxide formation of Nitrosomonas and Nitrobacter. Ehrich, S., et al. [1992, p.251-259, eng] 47-1740
Expression of a bacterial ice nucleation gene in plants. Baertlein, D.A., et al. [1992, p.1730-1736, eng] 47-2249
Distribution of enteric bacteria in antarctic seawater surrounding a sewage outfall. McFeters, G.A., et al. [1993, p.645-650, eng] 47-3678
Cretaceous chemosynthetic carbonate mounds in the Canadian Arctic. Beauchamp, B., et al. [1992, p.434-450, eng] 47-3987

Bacteria *(cont.)*
Sea ice bacteria between Elephant I. and the South Orkneys. Zdanowski, M.K., et al. [1993, p.245-254, eng] 47-4394
Mixotrophic algae in three ice-covered lakes of the Pocono Mountains, U.S.A. Berninger, U.G., et al. [1992, p.263-272, eng] 47-4517
Evaluation of bacterial ice nucleation. Watabe, S., et al. [1993, p.603-606, eng] 47-4734
Nitrifying bacteria from frozen deposits in the Kolyma lowlands. Soina, V.S., et al. [1991, p.92-97, rus] 47-4816

Baffin Bay
Last interglacial-glacial transition in Baffin Bay. Miller, G.H., et al. [1992, p.223-231, eng] 47-2694
Atmospheric circulation and sea-ice cover off northeast Canada. Wang, J., et al. [1991, p.358-361, eng] 47-4490

Baltic Sea
Radar backscatter signatures of Baltic Sea ice. Toikka, M., et al. [1992, p.1527-1529, eng] 47-680
Geoacoustic model of bottom sediments in the Baltic and Barents Seas. Il'in, A.V., et al. [1992, p.953-956, rus] 47-1498
Statistical properties of sea ice surface topography in the Baltic Sea. Lewis, J.E., et al. [1993, p.127-142, eng] 47-2889
Microwave remote sensing of low-salinity sea ice. Hallikainen, M., [1992, p.361-373, eng] 47-3034
Classification of the maximum annual Baltic Sea ice cover extent—1720-1992. Seinä, A., et al. [1993, p.5-20, fin] 47-4995
Temporal evolution of artificial radioactivity in the North and Baltic Sea . Nies, H., et al. [1993, p.225-236, eng] 47-5033
Radioactive contamination of the northern seas: approaches to the assessment of the impact on the *marine environment and man.* Kuznetsov, IU.V., et al. [1993, p.379-394, eng] 47-5044

Banks (waterways)
Thermal regime of filtrating taliks in the foundation of a hydraulic power system and reservoir banks. Sobol', S.V., et al. [1992, p.106-110, rus] 47-366
Bank recession of Lake Sakakawea, North Dakota. Reid, J.R., [1992, 67p., eng] 47-1324
Cryogenic phenomena on the banks of the Angara water reservoirs. Shul'gin, M.V., et al. [1992, p.99-102, rus] 47-3270
Ice-scoured river bank near Keele River confluence. Brooks, G.R., [1993, p.39-43, eng] 47-3704
Free meandering in the conditions of a cryolithic zone of the Yamal Peninsula. Savitskiĭ, V.A., [1992, p.27-33, eng] 47-3990
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Barents Sea
Trend analysis of the Barents Sea ice cover. Vefsnmo, S., et al. [1992, p.325-335, eng] 47-1039
Geoacoustic model of bottom sediments in the Baltic and Barents Seas. Il'in, A.V., et al. [1992, p.953-956, rus] 47-1498
Russian iceberg observations in the Barents Sea, 1933-1990. Abramov, V.A., [1992, p.93-97, eng] 47-2354
Air-ice-ocean processes in the seasonal ice zone. Johannessen, O.M., et al. [1992, p.261-289, eng] 47-3027
Barents Sea ice conditions as observed by passive microwave and other techniques. Lövas, S.M., et al. [1991, p.101-115, eng] 47-3379
Statistical analysis of sea ice for the eastern Barents Sea. Vefsnmo, S., et al. [1991, p.61-80, eng] 47-3399
Effect of deep Atlantic waters on the ice-hydrological processes in the northern Barents Sea. Lebedev, I.A., [1992, p.145-156, rus] 47-3813
Some results of a statistical analysis of synoptic meso-scale variabilities in the water temperature of the Barents Sea. Lebedev, I.A., [1992, p.169-181, rus] 47-3816
Large-scale oceanographic surveys and their methodological significance in a comprehensive investigation of the Barents Sea. Denisov, V.V., et al. [1991, p.121-132, rus] 47-3963
Ecological situation and protection of flora and fauna of the Barents Sea. Matishov, G.G., ed. [1991, 211p., rus] 47-4660
Tidal motions derived from ice buoy data. Turet, P., et al. [1993, 63p., eng] 47-4908
Frontal zones of the Barents Sea. Chvilev, S.V., [1991, p.89-95, eng] 47-4928
Proceedings. [1993, 647p., eng] 47-5013
Radioactivity and environmental problems for the seas and oceans. Israel, IU.A., et al. [1993, p.65-78, eng] 47-5021
Radioecology of the Barents and Kara Sea: level of apprehension and research strategy. Ivanov, G.I., et al. [1993, p.79-89, eng] 47-5022
Sellafield as a source of radioactivity to the Barents Sea. Kershaw, P., et al. [1993, p.91-104, eng] 47-5023
Radioactive contamination of the Barents and Kara seas. Vakulovskiĭ, S.M., et al. [1993, p.157-168, eng] 47-5028
Radioactivity in the Barents Sea, past and present status, and its impact on fisheries. Föyn, L., [1993, p.201-211, eng] 47-5031
Potential transport of radionuclides and other pollutants by arctic sea ice. Pfirman, S.L., et al. [1993, p.267-284, eng] 47-5036
Large-scale circulation of the Arctic Ocean: implications for pollutant transport. Schlosser, P., et al. [1993, p.285-309, eng] 47-5037
Destruction of the ecological food-chain in the Barents Sea. Vorontsov, N.N., [1993, p.325-327, eng] 47-5039
Non-local radiological consequences of nuclear waste *dumping in the Arctic seas: a preliminary assessment.* Baxter, M.S., et al. [1993, p.329-341, eng] 47-5040
Radioecological risk assessment for solid radioactive waste (SRW) dumped into the Kara Sea by the former USSR. Lystsov, V.N., [1993, p.395-414, eng] 47-5045
International Arctic Seas Assessment Project IASAP (1993-1996). Sjoeblom, K.-L., et al. [1993, p.443-447, eng] 47-5048
Radiological assessment for the dumping of radioactive wastes in the oceans. Templeton, W.L., [1993, p.480-496, eng] 47-5050

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Basal sliding
Hydrologic control of sliding velocity in two Alaskan *glaciers: observation and theory.* Fahnestock, M.A., [1992, 120p., eng] 47-283
Basal deformation of Ürümqi Glacier No.1, Tien Shan mountains, China. Jing, X.P., et al. [1992, p.123-126, eng] 47-1096
Characteristics of the bed of the lower Columbia Glacier, Alaska. Humphrey, N.F., et al. [1993, p.837-846, eng] 47-2660
Internal melting and ice accretion at the bottom of temperate glaciers. Lliboutry, L.A., [1993, p.50-64, eng] 47-3940
Thermo-mechanically coupled ice-sheet response—cold, polythermal, temperate. Hutter, K., [1993, p.65-86, eng] 47-3941
Tutorial on the use of control methods in ice-sheet *modeling.* MacAyeal, D.R., [1993, p.91-98, eng] 47-3943
TV-video observations of bed and basal sliding on Storglaciären, Sweden. Pohjola, V.A., [1993, p.111-118, eng] 47-3945
*Steady flow of a viscous ice stream across a no-slip/free-*slip transition at the bed. Barcilon, V., et al, [1993, p.167-185, eng] 47-3950
Ice sheet dynamics. Lliboutry, L.A., [1993, p.399-416, eng] 47-4846

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Bearing strength
Forecasting the bearing strength of a thawing railroad embankment. Prokudin, I.V., et al. [1991, p.76-83, rus] 47-190
Ice plates as laminated composite structures. Vinogradov, A.M., [1992, p.65-75, eng] 47-1019
Effect of the freezing of a foundation on the bearing capacity of a rigid airfield pavement. Onopa, I.A., et al. [1990, p.96-101, rus] 47-2759
Support standard for implement. Schoessow, J., [1988, 4 col., eng] 47-3416
Multifunctional combined foundations on permafrost soils. Nekliudov, V.S., et al. [1993, p.164-167, eng] 47-3576
Foundation improvement by artificial freezing. Spalding, A.V., et al. [1988, 6 col., eng] 47-3769
Elastohydrodynamic response of an ice sheet to forced sub-surface uplift. Dempsey, J.P., et al. [1993, p.487-506, eng] 47-3827
Effect of fatigue on the bearing capacity of floating ice sheets. Haynes, F.D., et al. [1993, p.257-263, eng] 47-3929
Arctic structure of composite wall construction. Birdy, J.N., et al. [1987, 14 col., eng] 47-4007
Pile behavior in saline frozen soils. Biggar, K.W., et al. [1993, p.319-337, eng] 47-4514
Transport concept at the antarctic stations and for field operations of the Alfred Wegener Institute. Kohnen, H., et al. [1993, p.267-273, eng] 47-5115
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Bearing tests
Bearing capacity tests on ice reinforced with Geogrid. Haynes, F.D., et al. [1992, 12p., eng] 47-2925

Beaufort Sea
Beaufort Sea Ice-1: selected SAR results. Lukowski, T.I., et al. [1992, p.131-133, eng] 47-641
Polarimetric remote sensing of sea ice in the Beaufort Sea. Nghiem, S.V., et al. [1992, p.972-974, eng] 47-668
Some aspects of the behavior of Beaufort Sea clays. Jefferies, M.G., et al. [1985, p.487-514, eng] 47-1617
Landfast ice pressure measurements in the Beaufort Sea. Sayed, M., et al. [1992, p.656-661, eng] 47-1854
Beaufort Sea ice design features: acquisition of data on EIFs. Pilkington, G.R., et al. [1992, Var. p., eng] 47-2227
Air ice drag coefficients during high wind over the Beaufort Sea. Walter, B.A., et al. [1992, p.48-49, eng] 47-2377
Characteristics of the lower troposphere during LEADEX 92. Persson, P.O.G., et al. [1992, p.50-53, eng] 47-2378
Mesoscale meteorological modeling support for LEADEX. Thompson, W.T., et al. [1992, p.58-61, eng] 47-2380
Sea ice deformation in the Beaufort Sea. Overland, J.E., et al. [1992, p.64-67, eng] 47-2382
Acoustic Doppler current profiler observations of currents adjacent to refreezing leads. Muench, R.D., et al. [1992, p.J56-J59, eng] 47-2416
Considerations in the design of effects monitoring strategies: Beaufort Sea case study. Thomas, D.J., [1992, 54p. + append., eng] 47-2621
Beaufort Sea extreme waves study. Eid, B.M., et al. [1992, Var. p., eng] 47-2622
Diatoms from ice-rafted sediment collected from the Beaufort Sea, arctic Alaska. Barron, J.A., [1992, 16p., eng] 47-2773
Beaufort Sea Ice-1: an overview. Livingstone, C.E., et al. [1991, p.189-205, eng] 47-3386
Sediment export by ice rafting from a coastal polynya, arctic Alaska, U.S.A. Reimnitz, E., et al. [1993, p.83-98, eng] 47-4741
Storm-generated currents and offshore sediment transport in the Beaufort Sea. Héquette, A., et al. [1993, p.283-304, eng] 47-5201

Bedrock
Periglacial shoreline erosion of a rocky coast: George River estuary, northern Quebec. Fournier, A., et al. [1992, p.926-942, eng] 47-443
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Sulfate sources in the Glacier Lakes catchment, Snowy Range, Wyoming, U.S.A. Finley, J.B., et al. [1993, p.185-188, eng] 47-2851
Review of the Late Pleistocene stratigraphy of Reykjavík, Iceland. Eiríksson, J., et al. [1991, p.143-150, eng] 47-3486
Late Quaternary glacial marine sediment record. Praeg, D., et al. [1992, p.133-150, eng] 47-3787
Glacially deformed bedrock at Wylfa Head, Anglesey, North Wales. Harris, C., [1991, p.135-142, eng] 47-3873
Modelling of rock mass responses to glaciation at Finnsjön, *central Sweden.* Rosengren, L., et al. [1993, p.75-82, eng] 47-3920
Erosion of bedrock by subglacial meltwater, Georgian Bay, Ontario: a regional view. Kor, P.S.G., et al. [1991, p.623-642, eng] 47-4155
Reconstruction of glacial events in southeastern New Brunswick. Foisy, M., et al. [1991, p.1594-1612, eng] 47-4159
Test of airborne, side-looking synthetic aperture radar. Graham, D.F., et al. [1991, p.257-265, eng] 47-4161
Subglacial meltwater channel systems and ice sheet overriding, Asgard Range, Antarctica. Sugden, D.E., et al. [1991, p.109-121, eng] 47-4310
Glacial ice-flows on the islands of Bornholm and Christiansö, Denmark. Lindström, E., [1991, p.17-35, eng] 47-4317
Marine sediment records of Pleistocene climate. Birchfield, G.E., et al. [1993, p.10,385-10,399, eng] 47-4392
Ice sheet dynamics and the Pleistocene ice ages. Birchfield, G.E., [1987, p.381-398, eng] 47-4454
Late Wisconsin subglacial megaflood paths in Alberta. Rains, B., et al. [1993, p.323-326, eng] 47-4594
Till stratigraphy and glacial history of the Vestfold Hills area, East Antarctica. Hirvas, H., et al. [1993, p.81-95, eng] 47-4753
Influence of snow upon rates of granodiorite weathering, Colorado Front Range, USA. Benedict, J.B., [1993, p.87-92, eng] 47-4850
Bedrock water erosion typified by subglacial flutes. Dreimanis, A., [1993, p.110-112, eng] 47-4852
Mechanics of bedrock frost heaving in permafrost regions. Michaud, Y., [1991, 128p., eng] 47-4900
Bedrock weathering associated with antarctic snowpatches. Hall, K., [1993, p.121-129, eng] 47-5270

Bentonite
See also: Clay minerals
Bering Sea
Topside icing probabilities for naval combatants in the Bering Sea. Thomas, W.L., III. [1992, p.51-63, eng] 47-1018
Variability of area of ice cover in Far East seas. Petrova, V.A., et al. [1989, p.77-81, eng] 47-1226
Changeability of ice cover and navigation conditions in the Bering Sea. [Akunin, L.P., [1992, p.795-796, eng] 47-1877
Case study of the Jan. 9-10, 1992 polar low in the Bering Sea. Hefner, D.B., [1992, p.33-36, eng] 47-2372
Ship superstructure icing: data collection and instrument performance on USCGC *Midgett* research cruise. Ryerson, C.C., et al, [1992, 133p., eng] 47-2924
Results of the Third Joint US-USSR Bering & Chukchi Seas Expedition (BERPAC), Summer 1988. Nagel, P.A., ed, [1988, 415p., eng] 47-3864
Forecasters handbook for the Bering Sea, Aleutian Islands, and Gulf of Alaska. Fett, R.W., et al, [1993, Var. p., eng] 47-4886
Bomb radiocarbon in arctic Alaskan aquatic and terrestrial biota. Schell, D.M., [1993, p.135-144, eng] 47-5026
Marine humic acids in Bering and Chukchi sea ecosystems. Perminova, I.V., et al, [1993, p.43-49, eng] 47-5227
Sea ice edge forecast verification program for the Bering Sea. Wohl, G.M., [1991, p.6-12, eng] 47-5260
Bibliographies
Sixtieth birthday of Vladimir Mikhailovich Kotliakov. Grosval'd, M.G., et al, [1991, p.201-227, rus] 47-344
International sharing of polar information resources. [1992, 371p., eng] 47-1393
Implementation of a U.S. polar bibliographic information system. McCarthy, P., et al, [1992, p.29-40, eng] 47-1394
Analysis of the content of the PolarPac database using the WLN collection analysis service. West, S.M., [1992, p.41-55, eng] 47-1395
Data bases on the NISC Arctic and Antarctic Regions CD-ROM. Mills, W., [1992, p.56-78, eng] 47-1396
Modernization of the Cold Regions bibliographies at the Library of Congress. Hibben, S.G., [1992, p.81-87, eng] 47-1397
Building a Canadian Polar Information System. Minion, R., et al, [1992, p.88-94, eng] 47-1398
BIBSYS as a polar literature database. Sveum, T., [1992, p.95-101, eng] 47-1399
Bibliography of studies in Finland and the Kola Peninsula. Saarinen, H., et al, [1992, p.102-107, eng] 47-1400
Contract indexing of industry and government gray literature at ASTIS. Goodwin, R., [1992, p.112-118, eng] 47-1401
Permafrost information in the National Snow and Ice Data Center. Brennan, A.M., et al, [1992, p.119-124, eng] 47-1402
WLN and PolarPac. Miller, R.F., [1992, p.130-133, eng] 47-1403
Polar archival records: a modest proposal. Cronenwett, P.N., [1992, p.195-207, eng] 47-1404
Contribution of SCAR to antarctic research. Walton, D.W.H., [1992, p.217-228, eng] 47-1405
Environmental management in Antarctica: a guide to the literature resources. Meadows, J., [1992, p.229-241, eng] 47-1406
NSF's role in polar information. Guthridge, G.G., [1992, p.243-249, eng] 47-1407
I suppose you haven't got this, but—some thoughts on building up a glaciological collection. Macqueen, A.D., [1992, p.307-316, eng] 47-1408
Information sources used by antarctic scientists. Phillips, C., [1992, p.317-324, eng] 47-1409
Information resources of the northern regions of Russia: status and availability problems. Vinogradov, A., [1992, p.325-329, eng] 47-1410
Annual report 1992. [1992, 45p., eng] 47-1494
Ice and fog: detection and warning systems (Nov 83-present). Whitney, C.M., [1992, n.p., eng] 47-1495
Polar hydrology—data bases. Sand, K., [1989, 13p. + appends., nor] 47-1683
Bibliography of ice and snow research at Trent University, up to December 1991. Adams, P., [1992, 16p., eng] 47-1910
Ice cores: a bibliography. Macqueen, A.D., [1992, 48p., eng] 47-3152
Permafrost bibliography update 1988-1992. Brennan, A.M., ed, [1993, 401p., eng] 47-3672
Natural hazards data resources directory. Hennig, L.M., ed, [1990, 247p. (Pertinent p.7-8,82-84), eng] 47-3821
Bibliography on snow and ice friction. Colbeck, S.C., [1993, 17p., eng] 47-4869
Bioenvironment
See also: Ecology; Ecosystems
Biogeography
Natural revegetation of coal mine spoils in an alpine landscape. Baig, M.N., [1992, p.285-300, eng] 47-422
On the new and rare in the West Siberian arctic species of the genus *Carex (Cyperaceae)*. Rebristaia, O.V., [1991, p.1772-1775, rus] 47-2571
Study of the morphological variability of *Poa argunensis (Poaceae)*. Olonova, M.V., [1992, p.76-85, rus] 47-2572
Analysis of spermatophytes flora of Sakha SSR (Yakutskaya), eastern Siberia. Takahashi, H., [1993, p.82-86, eng] 47-3978
Zonality of macrolichens in British Columbia. Goward, T., et al, [1992, 60p., eng] 47-4516
Forest development in cold climates. Alden, J., ed, [1993, 566p., eng] 47-4525
Treeline in relation to climate, with special reference to oceanic areas. Tuhkanen, S., [1993, p.115-134, eng] 47-4534
Pliocene fossil *Nothofagus* (southern beech) from Antarctica. Webb, P.N., et al, [1993, p.135-165, eng] 47-4535
Genetic diversity of tree populations at their arctic limits. Tigerstedt, P.M.A., [1993, p.241-250, eng] 47-4540
Potential species and provenances for forest development in cold climates. Hagman, M., [1993, p.251-263, eng] 47-4541
Species and provenance choice at northern tree limits in maritime climates. Lines, R., [1993, p.265-276, eng] 47-4542
Seed collections from North American trees for marginal sites in the Nordic countries. Skaret, G., et al, [1993, p.277-291, eng] 47-4543
Provenance and individual variation in climatic hardiness of Scots pine in northern Finland. Mikola, J., [1993, p.333-342, eng] 47-4547
Hybridization among provenances of lodgepole pine. Fries, A., [1993, p.343-356, eng] 47-4548
Chloroplast DNA diversity, phylogenetics, and hybridization in *Picea*. Sigurgeirsson, A., et al, [1993, p.369-382, eng] 47-4550
Alpine timberline of Tibet. Li, B.S., [1993, p.511-527, eng] 47-4559
Occurrence of algae on tundra soils in Oscar II Land, Spitsbergen. Oleksowicz, A.S., et al, [1992, p.131-147, eng] 47-4652
Spatial heterogeneity of high mountain vegetation in the Andean desert zone of Chile. Squeo, F.A., et al, [1993, p.203-209, eng] 47-4712
Taxonomic revision of a herb distribution in arctic landscapes. Bayer, R.J., [1993, p.150-159, eng] 47-4747
Circumantarctic benthic foraminifers. Ishman, S.E., [1993, p.105-133, eng] 47-4822
Biology
See also: Cryobiology; Marine biology; Microbiology
Biomass
In situ spectroradiometric estimation of microalgal biomass in first-year sea ice. Legendre, L., et al, [1991, p.113-115, eng] 47-5
Structure, productivity and energy flow in an alpine grassland in the Garhwal Himalaya. Sundriyal, R.C., [1992, p.15-20, eng] 47-511
Annual nutrient budget for an alpine grassland in the Garhwal Himalaya. Sundriyal, R.C., et al, [1992, p.21-26, eng] 47-512
Seasonal changes in the sea ice brine community, McMurdo Sound. Stoecker, D.K., et al, [1992, p.265-278, eng] 47-520
O2 and CO2 concentrations in the Weddell Sea in the spring of 1988. Bouquegneau, J.M., et al, [1992, p.163-170, eng] 47-1326
Spring phytoplankton in relation to sea ice, hydrography and nutrients in Weddell Sea. Bianchi, F., et al, [1992, p.225-235, eng] 47-1328
Nitrogen uptake in the Weddell Sea during late winter and spring. Kristiansen, S., et al, [1992, p.245-251, eng] 47-1330
Organic carbon during ice retreat period in the Scotia and Weddell seas. Cadée, G.C., [1992, p.253-259, eng] 47-1331
Photosynthetic capacity in microalgae associated with antarctic pack ice. Lizotte, M.P., et al, [1992, p.497-502, eng] 47-1337
Sea ice algae growth related to a salinity gradient in Hudson Bay. Legendre, L., et al, [1992, p.445-453, eng] 47-1469
Bio-optical variability across the Arctic Front. Trees, C.C., et al, [1992, p.455-461, eng] 47-1470
Phytomass and primary productivity in several communities of a central Himalayan alpine meadow, India. Rikhari, H.C., et al, [1992, p.344-351, eng] 47-1591
Silicon budget for an Alaskan arctic lake. Cornwell, J.C., et al, [1992, p.37-44, eng] 47-1602
Brine investigations. Bianchi, F., et al, [1991, p.81-83, eng] 47-1629
Phytoplankton communities. Bianchi, F., et al, [1991, p.84-91, eng] 47-1630
Soil microbial communities under cryptogamic plants in tundra and arctic deserts. Parinkina, O.M., et al, [1992, p.185-189, eng] 47-1727
Microorganisms in permafrost. Zviagintsev, D.G., [1992, p.229-232, eng] 47-1735
Dynamics of ice algae and phytoplankton in Frobisher Bay. Hsiao, S.I.C., [1992, p.645-651, eng] 47-1790
Tyrol's ice-man. Ambach, W., et al, [1992, p.1471, eng] 47-1902
Discovery of human bones in the Prägratkees (Tyrolean Alps) in 1953 and 1990. Ambach, E., et al, [1992, p.37-41, ger] 47-1905
Corpses released from glacier ice: glaciological and forensic aspects. Ambach, W., et al, [1992, p.372-376, eng] 47-1906
Homo tirolensis, a mummy frozen in time. Ambach, E., et al, [1992, p.296, eng] 47-1907
Fatal accidents on glaciers: forensic, criminological, and glaciological conclusions. Ambach, E., et al, [1991, p.1469-1473, eng] 47-1908
Is mummification possible in snow. Ambach, E., et al, [1992, p.191-192, eng] 47-1909
Black carbon concentration in Byrd Station ice core: from 13,000 to 700 years before present. Chylek, P., et al, [1992, p.625-629, eng] 47-2005
Light attenuation of Lake Bonney's ice cap. Priscu, J.C., [1991, p.223-224, eng] 47-2191
Primary production and organic matter destruction in Spitsbergen tundra. Opaliński, K.W., [1991, p.419-432, eng] 47-2198
Plankton primary productivity in an arctic lake: 71.2 deg N—diurnal variations of productivity under the midnight sun. Berge, D., et al, [1988, 85p., nor] 47-2247
Southern ocean phytoplankton pigment concentrations. Comiso, J.C., et al, [1993, p.2419-2451, eng] 47-2625
Southern ocean phytoplankton pigment concentrations. Comiso, J.C., et al, [1993, p.2419-2451, eng] 47-2625
Environmental effects on CO2 tundra efflux. Oberbauer, S.F., et al, [1992, p.568-577, eng] 47-2710
Sea ice and wind: effects on primary productivity in the Barents Sea. Sakshaug, E., et al, [1992, p.579-591, eng] 47-2879
Measurement of microbial biomass in arctic tundra. Cheng, W.X., et al, [1993, p.135-141, eng] 47-3347
Modeling of tussock phosphatase activity. Moorhead, D.L., et al, [1993, p.50-55, eng] 47-3428
Ice algae during EPOS, leg 1. Syvertsen, E.E., et al, [1993, p.61-65, eng] 47-3440
Variations in mercury deposition to Antarctica over the past 34,000 years. Vandal, G.M., et al, [1993, p.621-623, eng] 47-3445
Remote sensing of phytoplankton chlorophyll concentrations. Yoder, J.A., et al, [1993, p.181-193, eng] 47-3462
Winter plankton assemblages at the Weddell and Scotia Seas ice edge. Garrison, D.L., et al, [1993, p.311-338, eng] 47-3628
Methanesulfonic acid in coastal antarctic snow related to sea-ice extent. Welch, K.A., et al, [1993, p.443-446, eng] 47-3728
Results of the Third Joint US-USSR Bering & Chukchi Seas Expedition (BERPAC), Summer 1988. Nagel, P.A., ed, [1988, 415p., eng] 47-3864
Effects of a straw mulch on the thermal conditions in soil after snow-cover loss. Gusev, E.M., et al, [1993, p.12-23, eng] 47-4012
Cod schooling behavior in relation to drifting pack ice. Crawford, R.E., et al, [1993, p.345-357, eng] 47-4061
Green iceberg formation on antarctic ice shelf bases. Warren, S.G., et al, [1993, p.6921-6928, eng] 47-4138
Simulated antarctic fast ice ecosystem. Arrigo, K.R., et al, [1993, p.6929-6946, eng] 47-4139
Bio-optical observations of first-year arctic sea ice. Perovich, D.K., et al, [1993, p.1059-1062, eng] 47-4266
Nitrogen uptake and new production in the Greenland Sea: the spring *Phaeocystis* bloom. Smith, W.O., Jr., [1993, p.4681-4688, eng] 47-4390
Mixotrophic algae in three ice-covered lakes of the Pocono Mountains, U.S.A. Berninger, U.G., et al, [1992, p.263-272, eng] 47-4517
Seasonal changes in the sea ice brine community, McMurdo Sound. 2. Stoecker, D.K., et al, [1993, p.103-113, eng] 47-4725
Estimating carbon budgets of Canadian forest ecosystems using a national scale model. Apps, M.J., et al, [1993, p.243-252, eng] 47-5240
Framework to quantify the natural terrestrial carbon cycle of the former Soviet Union. Kolchugina, T.P., et al, [1993, p.259-275, eng] 47-5242
Biota
See also: Ecology
Bitumens
Traffic safety of porous asphalt surface layers during winter —results of a study on highways. Ferrero, T., et al, [1992, p.359-362, ger] 47-50
Evaluation of polymer-modified asphalts in Ontario. Joseph, P., et al, [1992, p.243-269, eng] 47-1137
Reuse of converted asphalt in asphalt binders and asphalt deck layers—examination of long-term reactions. Charif, K., [1992, p.97-104, ger] 47-2002
Polymer-modified asphalts—international research results on possible modifications and properties. Schneider, U., [1992, p.14-20, ger] 47-2003
Bitumen-vermiculite as thermal insulation beneath a roll roof. Antsiferov, IU.M., et al, [1991, p.82-85, rus] 47-2936
Optical characteristics of arctic-source bitumens. Goodarzi, F., et al, [1993, p.359-376, eng] 47-4829

Bituminous concretes

Proceedings of the 37th Annual Conference. [1992, 307p. + appends., eng] 47-1133

Performance of asphalt concrete airport pavements during thaw weakening periods. Janoo, V.C., et al. [1992, p.167-183, eng] 47-1135

Statistical analysis of low temperature thermal stress restrained specimen test results. Jung, D.H., et al. [1992, p.200-223, eng] 47-1136

Low temperature cracking experiment at USACRREL Frost Effects Research Facility. Kanerva, H.K., et al. [1992, p.289-307, eng] 47-1139

Energy criterion for low temperature failure of asphalt concrete. Gubach, L.S., et al. [1992, p.50-52, rus] 47-2031

Black Sea

Caspian transgression as an indicator of the interglacial-glacial transition. Zubakov, V.A., [1992, p.253-271, eng] 47-2839

Blasting

Effects of explosives on the mountain snowpack. Ueland, J., [1993, p.4-5, eng] 47-2820

See also: Explosion effects; Ice blasting

Blowing snow

Visibility reduced by snow in the wake of vehicles on highways. Ishimoto, K., et al. [1992, 15p., eng] 47-963

Transport and sublimation of snow in wind-scoured alpine terrain. Pomeroy, J.W., [1991, p.131-140, eng] 47-1300

Snow fence guide. [1992, p.57-59, eng] 47-1924

Radar precipitation gages for blowing snow. Isobe, K., et al. [1991, p.121-124, jpn] 47-2521

Automating the observation of blowing snow. Lewis, R., [1993, p.86-90, eng] 47-3066

Pneumatic process and device for conveying snow. Pasquier, A., [1989, 10 col., eng] 47-3331

Paleoclimatic implications of a South Wales moraine. Shakesby, R.A., et al, [1993, p.69-79, eng] 47-3471

Swing wheel snowthrower. Friberg, N.J., et al, [1988, 10 col., eng] 47-3636

How to design snow fences. Shelquist, K., [1993, p.22, eng] 47-3681

Prairie Blowing Snow Model: characteristics, validation, operation. Pomeroy, J.W., et al, [1993, p.165-192, eng] 47-3801

Measuring blowing snow in Adélie Land, eastern *Antarctica. Wendler, G., [1988, p.93-96, eng]* 47-4191

Use of trees and shrubs for control of blowing snow in select locations along Wyoming highways. Powell, K., et al, [1992, 30p., eng] 47-4214

Modelling of snowdrift around prismatic buildings for antarctic environment. Kim, D.H., et al, [1992, p.73-79, eng] 47-4281

Published research papers. [1990, 37p. + panel discussion, jpn] 47-4678

Using blowing snow observations in traffic management. Fukuzawa, Y., et al, [1990, p.30-33, jpn] 47-4686

Research summaries. [1990, 78p., jpn] 47-4688

New snow protection engineering handbook. [1988, 527p., jpn] 47-4724

Study on blowing snow and snowdrift countermeasures. Tsunaki, R., et al, [1993, p.1-4, jpn] 47-4783

Research summaries. [1993, 107p., jpn] 47-4794

Review of a wind tunnel experimental facility. Kokubun, M., et al, [1981, p.45-62, jpn] 47-4937

Wind tunnel experiments on the snow shelter facility on National Highway 231. Ishizuka, Y., [1982, p.67-72, jpn] 47-4942

Wind tunnel experiments on snowbreak forest planting. Ishizuka, Y., [1983, p.17-32, jpn] 47-4943

Wind tunnel experiments on the snow shelter at Nita. Ishizuka, Y., et al, [1985, p.53-62, jpn] 47-4951

Wind tunnel experiments on highway snow countermeasures. Ishizuka, Y., et al, [1986, p.55-64, jpn] 47-4952

Wind tunnel experiments on highway snow countermeasures. Nakano, T., et al, [1987, p.17-28, jpn] 47-4955

Wind tunnel experiments on construction of a highway interchange. Takabe, N., et al, [1987, p.29-34, jpn] 47-4956

Wind tunnel experiments on highway snow countermeasures. Nakano, T., et al, [1988, p.56-71, jpn] 47-4960

Wind tunnel experiments on snow fences. Takabe, N., et al, [1988, p.72-81, jpn] 47-4961

Wind tunnel experiments on highway snow countermeasures. Takabe, N., [1990, p.31-35, jpn] 47-4965

Wind tunnel experiments on road improvement at Mineoka on National Highway 238. Takabe, N., et al, [1991, p.57-68, jpn] 47-4970

Wind tunnel experiments on highway snow countermeasures. Takabe, N., et al, [1991, p.69-73, jpn] 47-4971

Wind tunnel experiments on innovations at the Toyono bypass on National Highway 40. Takabe, N., et al, [1992, p.70-91, jpn] 47-4975

Study on snow fences. Takeuchi, M., et al, [1984, p.96-100, jpn] 47-5075

Study and design of countermeasures for blowing snow. Katayama, O., et al, [1985, p.96-101, jpn] 47-5090

Saltating particles over flat beds. Nalpanis, P., et al, [1993, p.661-685, eng] 47-5195

Effects of drifting on snow loads on large roofs. Irwin, P.A., et al, [1993, p.508-513, eng] 47-5262

See also: Snowdrifts

Boats

See also: Ships

Bogs

See also: Swamps

Bombing

Bomb radiocarbon in arctic Alaskan aquatic and terrestrial biota. Schell, D.M., [1993, p.135-144, eng] 47-5026

Booms (equipment)

See also: Ice booms

Borehole instruments

Equipment for drilling boreholes in rocky and coarse-grained ground. Golkhman, I.A.A., et al, [1990, p.3-5, rus] 47-1412

Boreholes

Numerical studies of the temperature, ice age and conditions of a glacier bed. Larina, T.B., [1991, p.123-131, rus] 47-329

Determining the intrinsic permeability of frazil ice. Part 2: field investigations. White, K.D., et al, [1992, 15p., eng] 47-695

Canada-Russia geotechnical studies of permafrost: Bovanenkovo test site. Kurfurst, P.J., ed, [1992, 402p., eng] 47-977

Shaft construction by raise boring through artificially frozen ground. Walsh, A.R., et al, [1991, p.705-719, eng] 47-993

Study of ice borehole closure by finite element method. Li, F., et al, [1992, p.77-89, eng] 47-1020

Intra-seasonal changes in deformation profiles revealed by borehole studies, Storglaciären, Sweden. Hooke, R.L., et al, [1992, p.348-358, eng] 47-1387

Borehole logging in alpine permafrost, Upper Engadin, Swiss Alps. Vonder Mühll, D.S., et al, [1992, p.125-132, eng] 47-1751

Creep of alpine permafrost, investigated on the Murtel rock glacier. Wagner, S., [1992, p.157-162, eng] 47-1756

Evidence of intrapermafrost groundwater flow beneath an active rock glacier in the Swiss Alps. Vonder Mühll, D.S., [1992, p.169-173, eng] 47-1758

Influence of terrain on bedrock temperatures. Lewis, T.J., et al, [1992, p.87-100, eng] 47-2019

Climatic changes in central and eastern Canada inferred from deep borehole temperature data. Wang, K., et al, [1992, p.129-141, eng] 47-2020

Paleoclimate change and heat flow density inferred from temperature data in the Superior Province of the *Canadian Shield.* Shen, P.Y., et al, [1992, p.143-165, eng] 47-2021

Evidence of climatic changes from Canadian borehole measurements. Beltrami, H., et al, [1992, p.167-184, eng] 47-2022

Alaskan borehole temperature for the last 1000 years. Kakuta, S., [1992, p.225-244, eng] 47-2023

Toward using borehole temperatures to calibrate an isotopic paleothermometer in central Greenland. Cuffey, K.M., et al, [1992, p.265-268, eng] 47-2026

Numerical solution to the problem of heat transfer during borehole drilling. Starovoitova, E.R., [1988, p.120-126, rus] 47-2233

Solid wastes from the drilling of boreholes in the Far North: means of reduction. Kashkarov, N.G., et al, [1991, p.26, rus] 47-2489

Bore-hole survey at Camp Century, 1989. Gundestrup, N.S., et al, [1993, p.187-193, eng] 47-2649

Studies of the relationship of thermophysical properties of ice to hydrostatic pressure and temperature. Zotikov, I.A., et al, [1991, p.22-27, rus] 47-2784

Drilling boreholes in glacial and subglacial rocks, with core selection by an electromechanical drill on a load-bearing cable. Kudriashov, B.B., et al, [1991, p.165-170, rus] 47-2808

Composition and properties of glacigenic sediments in the southwestern Barents Sea. Saettem, J., et al, [1991, p.229-255, eng] 47-3175

Determination of sea ice acoustical properties by tomography. Rajan, S.D., et al, [1993, p.721-738, eng] 47-3431

Borehole measurements in a Greenland glacier. Iken, A., et al, [1993, p.15-25, eng] 47-3937

TV-video observations of bed and basal sliding on Storglaciären, Sweden. Pohjola, V.A., [1993, p.111-118, eng] 47-3945

Permafrost distribution changes in Pleistocene Soviet Union. Kondratieva, K.A., et al, [1993, p.113-119, eng] 47-4147

Determination of creep properties of frozen soils by means of the borehole stress relaxation test. Ladanyi, B., et al, [1993, p.170-186, eng] 47-4164

Effect of boundary conditions on borehole indentor test results. Sinha, N.K., et al, [1993, p.65-72, eng] 47-4232

Stabilization of snow temperature in Dronning Maud Land, Antarctica, January 1989. Seppälä, M., [1992, p.227-230, eng] 47-4331

Climate change inferred from borehole temperatures. Pollack, H.N., [1993, p.173-179, eng] 47-4589

Bore-hole survey at dome *GRIP 1991.* Gundestrup, N.S., et al, [1993, p.399-402, eng] 47-5209

Boring

See also: Drilling

Botany

See also: Geobotanical interpretation; Paleobotany; Plants (botany); Vegetation

Bothnia, Bay

Petrographic and salinity characteristics of brackish water *ice in the Bay of Bothnia.* Gow, A.J., et al, [1992, 36p., eng] 47-706

Field measurements of northern Baltic pressure ridges. Reynolds, E., et al, [1992, 21p. + appends., eng] 47-2587

Bothnia, Gulf

Radar backscatter signatures of Baltic Sea ice. Toikka, M., et al, [1992, p.1527-1529, eng] 47-680

Bottom friction

See also: Basal sliding

Bottom ice

Determining parameters of ice jams and accumulation of bottom ice based on *field studies of the Amgun' River.* Kiselev, A.A., et al, [1991, p.24-29, rus] 47-1045

Interactions of frazil and anchor ice with sedimentary particles in a flume. Kempema, E.W., et al, [1993, p.137-149, eng] 47-2646

Laboratory studies of the porosity of bottom ice, formed during static ice formation. Tyshko, K.P., et al, [1990, p.155-159, rus] 47-3602

Basal ice accretion and debris entrainment within the coastal ice margin, Law Dome, Antarctica. Goodwin, I.D., [1993, p.157-166, eng] 47-3949

Bottom sediment

Early diagenesis and biogeochemistry of iodine in west antarctic ocean. Cheng, X.H., et al, [1992, p.115-123, chi] 47-219

Recent sedimentary processes in Scoresby Sund, East Greenland. Marienfeld, P., [1992, p.169-186, eng] 47-227

Suspension freezing of bottom sediment in the Northwest Passage. Reimnitz, E., et al, [1992, p.693-703, eng] 47-379

Sub-bottom profiling: a comparison of short-pulse radar and acoustic data. Delaney, A.J., et al, [1992, p.149-157, eng] 47-634

Cenozoic sedimentary processes on the antarctic continental margin and the record from deep drilling. Hambrey, M.J., et al, [1992, p.77-103, eng] 47-1007

Hydrocarbon pollution of ocean sediments. Steinhauer, M.S., et al, [1992, p.223-253, eng] 47-1170

Origin of sediment pellets from the arctic seafloor: sea ice or icebergs?. Goldschmidt, P.M., et al, [1992, p.S539-S565, eng] 47-1278

Stratigraphy of Quaternary sediments in the Arctic Ocean. Nowaczyk, N.R., et al, [1992, p.S567-S601, eng] 47-1279

Radiocarbon date list VII: Baffin Island, N.W.T., Canada. Kaufman, D.S., ed, [1992, 82p., eng] 47-1433

Sediment facies and bottomwater current on the continental slope in the northwestern Weddell Sea. Brehme, I., [1992, 127p., ger] 47-1435

Late Quaternary sedimentation at the continental margin of the southeastern Weddell Sea, Antarctica. Weber, M., [1992, 165p., ger] 47-1436

Geoacoustic model of bottom sediments in the Baltic and Barents Seas. Il'in, A.V., et al, [1992, p.953-956, rus] 47-1498

Biogeochemistry of manganese- and iron-rich sediments in Toolik Lake, Alaska. Cornwell, J.C., et al, [1992, p.45-59, eng] 47-1603

Strength testing of marine sediments: laboratory and in-situ measurements. Chaney, R.C., ed, [1985, 558p., eng] 47-1614

Liquefaction potential of sediment in the northern Bering Sea. Winters, W.J., [1985, p.454-472, eng] 47-1615

Some aspects of the behavior of Beaufort Sea clays. Jefferies, M.G., et al, [1985, p.487-514, eng] 47-1617

Spatial and seasonal patterns of streambed water temperatures in an Alaskan subarctic stream. Irons, J.G., III, et al, [1989, p.381-390, eng] 47-2581

Geochemistry of an offshore well in northeast Alaska. Banet, A.C., Jr., [1993, 51p. + maps., eng] 47-2618

Sediment descriptions, western side of the Antarctic Peninsula during Deep Freeze 1985. Bryan, J.R., ed, [1992, 179p., eng] 47-2627

Labrador Sea bottom sediments related to iceberg rafting. Andrews, J.T., et al, [1992, p.1087-1090, eng] 47-2631

Diatoms from ice-rafted sediment collected from the Beaufort Sea, arctic Alaska. Barron, J.A., [1992, 16p., eng] 47-2773

Submarine cryolithogenesis in the Arctic. Shpolianskaia, N.A., [1991, p.65-70, rus] 47-2790

Methane hydrate layers in deep sea mud. Hyndman, R.D., [1992, p.21-26, eng] 47-2821

Marine palynology of interglacial-glacial transitions. Dupont, L.M., [1992, p.137-155, eng] 47-2834

Norwegian Sea record of the last interglacial to glacial transition. Duplessy, J.C., et al, [1992, p.173-183, eng] 47-2835

Evidence of rapid climate change in North Atlantic deep sea cores. Bond, G., et al. [1992, p.185-205, eng] 47-2836

Global climate change: a three million year perspective. Raymo, M.E., [1992, p.207-223, eng] 47-2837

Fossil evidence of ice-free conditions in Arctic Ocean sediment. Gard, G., [1993, p.227-230, eng] 47-2848

Contributions to antarctic research III. Elliot, D.H., ed. [1992, 155p., eng] 47-2867

Antarctic scallop shell proxy records. Berkman, P.A., et al. [1992, p.27-38, eng] 47-2870

Late Pleistocene ice sheet grounding in the Ross Sea. Anderson, J.B., et al. [1992, p.39-62, eng] 47-2871

Glacial history of the Antarctic Peninsula's continental shelf. Pope, P.G., et al. [1992, p.63-91, eng] 47-2872

Pliocene-Pleistocene seismic stratigraphy of the Ross Sea. Alonso, B., et al. [1992, p.93-103, eng] 47-2873

Investigation of Arctic Ocean bottom sediments. Danilov, I.D., et al. [1991, p.77-82, eng] 47-2888

Composition and properties of glacigenic sediments in the southwestern Barents Sea. Saettem, J., et al. [1991, p.229-255, eng] 47-3175

Organic contaminants in Canadian lake sediments. Mudroch, A., et al. [1992, p.10-19, eng] 47-3349

Proceedings. [1992, 344p., eng] 47-3555

Reconstructed paleoclimatic meltwater anomalies. Sarnthein, M., et al. [1992, p.183-200, eng] 47-3558

Reconstruction of paleoclimatic sea surface salinity. Duplessy, J.-C., et al. [1992, p.201-217, eng] 47-3559

Glaciomarine sediment indicators of Weddell Sea depositional processes. Kuhn, G., et al. [1993, p.477-487, eng] 47-3644

Geology of bay after breakup of Hubbard Glacier ice dam. Carlson, P.R., et al. [1992, 41p., eng] 47-3708

Late Quaternary glacial marine sediment record. Praeg, D., et al. [1992, p.133-150, eng] 47-3787

Ice scours in the sediments of glacial Lake Iroquois, Prince Edward County, eastern Ontario. Gilbert, R., et al. [1992, p.189-194, eng] 47-3789

Quaternary stratigraphy of offshore Scotland. Bone, B.D., et al. [1991, p.119-126, eng] 47-3871

Multidisciplinary offshore site investigations. Butenko, G., et al. [1991, p.195-202, eng] 47-3876

Identification of features due to former permafrost in the North Sea. Long, D., [1991, p.369-372, eng] 47-3888

Onshore and offshore investigations of relict glaciated areas. Stewart, F.S., [1991, p.573-578, eng] 47-3897

Sapropel of Don-ty Lake. Kazakov, V.G., [1991, p.114-121, rus] 47-4113

Paleoclimate record for Northwind Ridge, western Arctic Ocean. Poore, R.Z., et al. [1993, p.149-159, eng] 47-4152

Expedition to Novaja Zemlja and Franz Josef Land with RV "Dalnie Zelentsy". Nürnberg, D., et al. [1993, p.49-74, eng] 47-4221

Glacial lake bathymetry at Bering Piedmont Glacier, AK. Fleisher, P.J., et al. [1993, p.267-274, eng] 47-4566

Sediment descriptions, western Ross Sea 1987. Bryan, J.R., ed. [1993, 75p., eng] 47-4826

Isotopic geochemistry of an ice-covered antarctic lake. Wharton, R.A., Jr., et al. [1993, p.159-172, eng] 47-4906

Radioecology of the Barents and Kara Sea: level of apprehension and research strategy. Ivanov, G.I., et al. [1993, p.79-89, eng] 47-5022

Hydrocarbon gas traces in snow cover. Vyshemirskii, V.S., et al. [1993, p.1-4, eng] 47-5194

Bottom topography

Coherent Antarctic Radar Depth Sounder (CARDS) design, development and results. Garudachar, R., [1989, 169p., eng] 47-349

Analysis of gravity measurements on the Ross Ice Shelf, Antarctica. Greischar, L.L., et al. [1992, p.105-155 + 1 microfiche, eng] 47-2874

Atlantic circulation simulation with sea ice interface model, pt.2. Oberhuber, J.M., [1993, p.830-845, eng] 47-3569

Geology of bay after breakup of Hubbard Glacier ice dam. Carlson, P.R., et al. [1992, 41p., eng] 47-3708

Effect of bottom relief on the circulation of water in the northern European basin. Semenov, G.A., [1991, p.133-144, rus] 47-3964

See also: Ocean bottom

Boulders

See also: Rocks

Bound water

See also: Hygroscopic water

Boundary layer

Case studies of the atmospheric boundary layer structure over sea ice for weakly unstable conditions. Myrhaug, D., [1992, p.93-99, eng] 47-266

Evidence of ascent in a sloped barrier jet and an associated heavy-snow band. Dunn, L.B., [1992, p.914-924, eng] 47-590

Cold air outbreak near Spitsbergen in springtime—boundary-layer modification and cloud development. Brümmer, B., et al. [1992, p.13-46, eng] 47-900

Arctic Boundary Layer Expedition (ABLE 3A): July-August 1988. Harriss, R.C., et al. [1992, p.16,383-16,394, eng] 47-1444

Large-scale variability of ozone and aerosols in the summertime arctic and sub-arctic troposphere. Browell, E.V., et al. [1992, p.16,433-16,450, eng] 47-1447

Measurement of organic nitrates in high latitude atmospheres. Singh, H.B., et al. [1992, p.16,511-16,522, eng] 47-1451

Nitrate proportions in northern high latitude atmospheres. Singh, H.B., et al. [1992, p.16,523-16,530, eng] 47-1452

Carbon monoxide and methane in the North American arctic and subarctic troposphere: July-August 1988. Harriss, R.C., et al. [1992, p.16,589-16,599, eng] 47-1456

Airborne flux measurements of trace species in an arctic boundary layer. Ritter, J.A., et al. [1992, p.16,601-16,625, eng] 47-1457

Micrometeorological measurements of CH4 and CO2 exchange between the atmosphere and subarctic tundra. Fan, S.M., et al. [1992, p.16,627-16,643, eng] 47-1458

Space and time variability of temperature inversion in the lower troposphere of the Arctic. Nagurnyi, A.P., et al. [1991, p.1110-1113, rus] 47-2034

Remote sensing of the arctic boundary layer. Wolfe, D.E., et al. [1992, p.J33-J36, eng] 47-2411

Meteorological research using a high mast on an antarctic ice shelf. Belitz, H.-J., et al. [1987, p.5-10, eng] 47-2912

Climatic regime of the Arctic at the transition from the 20th to the 21st century. Krutskikh, B.A., ed. [1991, 200p., rus] 47-3334

Liquid freezing during laminar flow. Weigand, B., et al. [1993, p.294-301, eng] 47-3838

Dynamic observations of dislocation generation at grain boundaries in ice. Liu, F., et al. [1993, p.1261-1276, eng] 47-3986

Drag reduction of a cylinder/endwall junction using the ice formation method. LaFleur, R.S., et al. [1993, p.26-32, eng] 47-4021

See also: Interfaces; Turbulent boundary layer

Boundary value problems

Large amplitude sea/ice coupling. Fox, C., [1992, p.293-304, eng] 47-1036

Sea ice and atmospheric forcing interacting models. Stössel, A., [1992, p.395-413, eng] 47-1900

Application of infinite elements to phase change situations on deforming meshes. Sullivan, J.M., Jr., et al. [1992, p.1861-1874, eng] 47-1915

Solution of solidification problem using a microcomputer. Rabin, Y., et al. [1993, p.673-683, eng] 47-2653

Comparison of the mass-loading and elastic plate models of an ice field. Squire, V.A., [1993, p.219-229, eng] 47-3926

Brakes (motion arresters)

Fluid line deicer. Wilson, D.W., [1989, 6 col., eng] 47-3112

Test record for the retest of the Heavy Equipment Transport System (HETS) M1000 trailer. Reagan, J.E., [1993, 3p. + appends., eng] 47-3446

Breakup

See also: Ice breakup

Bricks

Alternative test for determining the frost resistance of bricks. Arnott, M.R., et al. [1990, p.105, eng] 47-824

Tunnel kiln adapted for firing frost-resistant bricks in a reducing atmosphere. Mueller, M., [1988 6 col., eng] 47-3420

Bridges

Ice loads on vertical bridge pier at two different model scales. Christensen, F.T., et al. [1992, p.93-110, eng] 47-585

Extreme values of thermal loading parameters in concrete bridges. Maes, M.A., et al. [1992, p.935-946, eng] 47-3341

Silica fume-polymer mortars for rehabilitation of bridge decks. Bürge, T.A., [1993, p.1273-1286, eng] 47-3615

Ways to help bridges and deicers coexist. Miller, W.L., [1993, p.18-19, eng] 47-3680

Anticorrosive deicer used on bridges. [1993, p.36, eng] 47-4623

See also: Ice crossings; Pontoon bridges; River crossings

Brightness

Brightness temperature properties of a cloud radiation model. Smith, E.A., et al. [1992, p.506-531, eng] 47-354

Rainfall estimation over oceans from SMMR and SSM/I microwave data. Prabhakara, C., et al. [1992, p.532-552, eng] 47-355

Retrieval of total precipitable water over high-latitude regions using radiometric measurements near 90 and 183 GHz. Wang, J.R., et al. [1992, p.1368-1378, eng] 47-1581

Precipitation retrieval from a cloud radiation model. Mugnai, A., et al. [1993, p.17-39, eng] 47-1995

Satellite radiometric data related to land surface features. Rao, K.S., et al. [1993, p.451-465, eng] 47-2662

Calculation of microwave brightness temperatures over a thunderstorm. Muller, B.M., et al. [1993, p.1006-1013, eng] 47-3567

Observations and theoretical studies of microwave emission from thin saline ice. Wensnahan, M.R., et al. [1993, p.8531-8545, eng] 47-3983

Infrared emissivities of arctic land cover types. Rees, W.G., [1993, p.1013-1017, eng] 47-4070

Arctic sea ice signatures for passive microwave algorithms Thomas, D.R., [1993, p.10,037-10,052, eng] 47-4375

Radiometric sea ice features from aircraft images. Farmer, L.D., et al. [1993, p.4645-4665, eng] 47-4387

Brightness temperature of snow-covered saline ice. Lohanick, A.W., [1993, p.4667-4674, eng] 47-4388

Determination of dielectric constant of young sea ice using *microwave spectral radiometry.* St. Germain, K.M., et al. [1993, p.4675-4679, eng] 47-4389

Passive microwave remote sensing of thin sea ice using *principal component analysis.* Wensnahan, M.R., et al. [1993, p.12,453-12,468, eng] 47-4522

Detectability of arctic leads using thermal imagery under varying atmospheric conditions. Stone, R.S., et al. [1993, p.12,469-12,482, eng] 47-4523

Theoretical and experimental studies of snow covers' microwave emissivity. Boyarskii, D.A., et al. [1993, p.959-970, eng] 47-4828

Observation of flooded ice in arctic regions. Goroch, A.K., et al. [1993, p.1305-1324, eng] 47-4905

Satellite retrieval of lower-tropospheric ice crystal clouds in the polar regions. Wilson, L.D., et al. [1993, p.1467-1472, eng] 47-5214

Advances in sea-ice research based on remotely sensed passive microwave data. Barry, R.G., et al. [1993, p.4-12, eng] 47-5271

Brines

Seasonal changes in the sea ice brine community, McMurdo Sound. Stoecker, D.K., et al. [1992, p.265-278, eng] 47-520

Distribution of aluminium in the Greenland Sea and its relationship to ventilation processes. Measures, C.I., et al. [1992, p.17,787-17,800, eng] 47-1065

Environment of the antarctic sea ice brine channels. Weissenberger, J., [1992, 159p., ger] 47-1598

Brine investigations. Bianchi, F., et al. [1991, p.81-83, eng] 47-1629

Fractionation of sea salt and acids during transport across an antarctic ice shelf. Mulvaney, R., et al. [1993, p.179-187, eng] 47-3535

Seasonal changes in the sea ice brine community, McMurdo Sound. 2. Stoecker, D.K., et al. [1993, p.103-113, eng] 47-4725

Potential transport of radionuclides and other pollutants by arctic sea ice. Pfirman, S.L., et al. [1993, p.267-284, eng] 47-5036

Brittleness

Relationship between creep and fracture of ice. Rist, M.A., et al. [1991, p.355-369, eng] 47-2309

Ductile ice. Schulson, E.M., et al. [1993, p.151-157, eng] 47-3564

Compressive strength of ice cubes of different sizes. Kuehn, G.A., et al. [1993, p.142-148, eng] 47-4060

Effect of confining stress on brittle indentation failure of *columnar ice.* Grape, J.A., et al. [1992, p.212-221, eng] 47-4305

On the ductile-to-brittle transition in ice under compression. Batto, R.A., et al. [1993, p.2219-2225, eng] 47-4731

Toughness indices of steel fiber reinforced concrete at subzero temperatures. Banthia, N., et al. [1993, p.863-873, eng] 47-5107

Bubbles

Underwater sounds of precipitation. Crum, L.A., et al. [1992, p.2-12, eng] 47-513

Bubble-formation damage to plant xylem due to freeze thaw cycling. Sperry, J.S., et al. [1992, p.605-613, eng] 47-903

Air inclusions as an index of ice formation conditions on polar glaciers. Samoilov, O.IU., [1991, p.118-121, rus] 47-2799

Statistics of firn closure: a simulation study. Enting, I.G., [1993, p.133-142, eng] 47-3947

Ice mill for chemical analysis of trace gases in ice bubbles. Fuchs, A., et al. [1993, p.199-203, eng] 47-3952

Air containing propeller stream and its application in ice clearance. Wang, S.L., et al. [1993, p.53-58, eng] 47-4230

C-band SAR backscatter from ice on shallow tundra lakes: observations and modelling. Wakabayashi, H., et al. [1993, p.333-337, eng] 47-4435

Microbubble mediated surface probe and the ice-antifreeze glycoprotein solution system. Vesenka, J.P., et al. [1993, p.67-74, eng] 47-4757

See also: Gas inclusions

Bubbling

Using the air containing stream for channel ice clearance. Hsiung, C.C., et al. [1992, 94p., eng] 47-1361

Control of sea ice by the air bubbling method. Yamanaka, K., et al. [1991, p.277-282, jpn] 47-2500

Immersed tube heat transfer in a melting ice bed. Fukusako, S., et al. [1993, p.353-359, eng] 47-4064

Investigation of air containing propeller stream. Wang, S.L., et al. [1993, 4p., eng] 47-4863

Building

See also: Construction

Building codes
Proceedings. [1992, 485p., eng] 47-3182
ASCE Standard 7 snow loads. Sack, R.L., et al. [1992, p.381-391, eng] 47-3216
Overview of snow loads for Fairbanks, Alaska. Tobiasson, W., et al. [1992, p.393-404, eng] 47-3217
Standardization of snow loads on roofs—DIS 4355: revision of ISO Standard 4355. Apeland, K., [1992, p.411-437, eng] 47-3219
Effectiveness of code provisions for snow accumulations on stepped roofs. Kennedy, D.J.L., et al. [1992, p.439-452, eng] 47-3220
Codification of European snow loading. Tory, J.R., [1992, p.453-464, eng] 47-3221
Perspective: Codes and standards. Apeland, K., [1992, p.485, eng] 47-3229
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Buildings
Masonry wall and window system leakage investigation for university building. Frauenhoffer, J., [1992, p.107-115, eng] 47-409
Gas-filled panels: a thermally improved building insulation. Griffith, B.T., et al. [1992, p.96-102, eng] 47-1149
Snowdrift around antarctic building—effects of corner geometry and wind incidence. Kwok, K.C.S., et al. [1992, p.587-591, eng] 47-1845
Expert system approach to establish design snow and wind loads. Embleton, K.M., [1990, 263p., eng] 47-2103
Thermal analysis of buildings—verification and further development of the TASE program. Kalema, T., [1992, 185p., eng] 47-2590
Snowdrift around buildings for antarctic environment. Kwok, K.C.S., et al. [1992, p.2797-2808, eng] 47-2643
Buildings for harsh environments. Wallhead, M., [1989, 8 col., eng] 47-3107
Prediction of building energy consumption. Pakanen, J., [1992, 32p. + appends., eng] 47-3134
Research and development in building physics during the last 25 years. [1992, 165p., eng] 47-3447
Thermal performance of insulation materials and systems: a retrospective review. Tye, R.P., [1992, p.17-27, eng] 47-3448
Thermal insulation and research in heat transfer. Bankvall, C., [1992, p.29-35, eng] 47-3449
Validation of mass transfer calculations. Nielsen, A., [1992, p.37-47, eng] 47-3450
Moisture research in North America. Bomberg, M.T., et al. [1992, p.57-93, eng] 47-3451
Capillary suction fabric to prevent moisture accumulation. Korsgaard, V., [1992, p.95-110, eng] 47-3452
National and international standardization in the field of thermal insulation. Tammes, E., [1992, p.127-131, eng] 47-3454
Cryogenic deformations of Suluk BAM station building. Rubinchik, S.B., [1993, p.167-169, eng] 47-3577
Modelling of snowdrift around prismatic buildings for antarctic environment. Kim, D.H., et al. [1992, p.73-79, eng] 47-4281
Snowdrift around antarctic buildings—effects of corner geometry and wind incidence. Kwok, K.C.S., et al. [1993, p.61-65, eng] 47-4302
Transparent insulations. Cold-region application. Kouhia, I., et al. [1992, 32p., eng] 47-4619
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Buoyancy
Crystallizing apparatus. Connery, C.A., [1989, 12 col., eng] 47-3333
Removable bottom founded structure. Beskow, R.H., et al. [1988, 16 col., eng] 47-3763
Solidification of a binary mixture in a rectangular cavity. Zampino, M.A., et al. [1992, p.629-639, eng] 47-4361
Numerical study of haline convection beneath leads in sea ice. Smith, D.C., IV, et al. [1993, p.10,069-10,083, eng] 47-4377

Cables (power lines)
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Cables (ropes)
Continuous snow chain. Lew, H.S., [1989, 8 col., eng] 47-3110
Ice breaker. Hellmann, J.H., et al. [1989, 8 col., eng] 47-3325
Method for thawing out road culverts choked with ice. Olsson, L.U., [1988, 8 col., eng] 47-3501
Reliability of guyed masts with special reference to arctic conditions. Johansson, B., et al. [1991, 18p., eng] 47-5011
Nonsymmetric icing of guyed masts. Peil, U., et al. [1991, 10p., eng] 47-5012

Calcium chloride treatment
See also: Salting

Calorimetry
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Calving
Probing an iceberg barrier. Carroll, M., [1992, p.24-33, eng] 47-177
Boulder beach formed by waves from a calving glacier, Eqip Sermia, West Greenland. Nielsen, N., [1992, p.159-168, eng] 47-226
Iceberg calving and the glacioclimatic record. Warren, C.R., [1992, p.253-282, eng] 47-424
Theoretical calving rates from glaciers along ice walls grounded in water of variable depths. Hughes, T., [1992, p.282-294, eng] 47-469
Dynamics of arctic ice shelves and ice islands. Jeffries, M.O., [1992, p.245-267, eng] 47-827
Reactions of a calving glacier to large changes in water level. Laumann, T., et al. [1992, p.158-162, eng] 47-1104
Melting of ice shelves and the mass balance of Antarctica. Jacobs, S.S., et al. [1992, p.375-387, eng] 47-1389
Chasing the rogue icebergs. Vaughan, D., [1993, p.24-27, eng] 47-1570
Asthenospheric ice-load effects in a global dynamical-system model of the Pleistocene climate. Saltzman, B., et al. [1992, p.1-11, eng] 47-1791
Seismicity associated with icebergs calving from glaciers near Mawson, East Antarctica. Gaull, B.A., et al. [1992, p.473-480, eng] 47-1883
Iceberg production in the Prince William Sound area. Long, W.E., [1992, 5p., eng] 47-2774
Iceberg scouring in Scoresby Sund and on the East Greenland continental shelf. Dowdeswell, J.A., et al. [1993, p.37-53, eng] 47-4297
Thermal energy conservation in icebergs and tracking by temperature. Löset, S., [1993, p.10,001-10,012, eng] 47-4372
Dendrochronology of an iceberg-calving glacier. Wiles, G.C., et al. [1993, p.35-42, eng] 47-4750

Canada
Surface-based radar remote sensing of ice in Canada. Lewis, E.O., et al. [1992, p.259-266, eng] 47-146
Rhizobia from legumes in the Canadian Arctic. Prévost, D., et al. [1987, p.313-324, eng] 47-253
Canada's northern stations: a directory of Canadian northern field research stations 1991. Adams, P., [1992, 52p., eng] 47-602
Canada north of sixty. Boden, J.F., ed. [1991, 336p., eng] 47-789
Synopsis of research conducted under the 1991/1992 northern contaminants program. Murray, J.L., ed. [1992, 213p., eng] 47-1147
Building a Canadian Polar Information System. Minion, R., et al. [1992, p.88-94, eng] 47-1398
Contract indexing of industry and government gray literature at ASTIS. Goodwin, R., [1992, p.112-118, eng] 47-1401
Historical and instrumental evidence of climate: western Hudson Bay, Canada, 1714-1850. Ball, T.F., [1992, p.40-73, eng] 47-2081
Synoptic scale ice-atmosphere interaction off the east coast of Canada. Nazarenko, D.M., [1990, 158p., eng] 47-2105
Verification of CSA code for fixed offshore concrete structures. Allyn, N., et al. [1992, 62p., eng] 47-2119
NWRI digest. Cooley, J., ed. [1993, 8p., eng] 47-2199
AMOP—the Arctic and Marine Oilspill Program. Thornton, D.E., et al. [1992, 9p., eng] 47-2330
Development of a national directory of Canadian marine oilspill specialists. Harper, J.R., et al. [1991, 62p., eng] 47-2334
Beaufort Region Environmental Assessment and Monitoring Program (BREAM). Final report for 1991/1992. [1992, 359p. + appends., eng] 47-2623
Data acquisition strategy for AES' ice services program. Champ, D.H., [1991, p.19-20, eng] 47-3371
Predicting annual variability of sea ice and icebergs. Fissel, D.B., et al. [1991, p.19-32, eng] 47-3395
Anthropogenic tundra disturbance and patterns of response in the eastern Canadian Arctic. Forbes, B.C., [1993, 333p. + appends., eng] 47-3914
Carbon budget and succession dynamics of Canadian vegetation. Cihlar, J., et al. [1993, p.215-220, eng] 47-5238
Estimating carbon budgets of Canadian forest ecosystems using a national scale model. Apps, M.J., et al. [1993, p.243-252, eng] 47-5240

—Alberta
Hydrological interactions in the Mistaya basin, Alberta, Canada. Young, G.J., [1991, p.237-244, eng] 47-1311

—Alberta—Boundary Glacier
Mass wasting on valley-side ice-cored moraines, Boundary Glacier, Alberta Canada. Mattson, L.E., et al. [1991, p.123-128, eng] 47-4335

—Alberta—Kananaskis Valley
Satellite remote sensing of subalpine forest types. Franklin, S.E., [1992, p.25-35, eng] 47-4827

—Alberta—Peyto Glacier
Neoglacial glacier fluctuations in the Canadian Rockies. Luckman, B.H., et al. [1993, p.144-153, eng] 47-5122

—Arctic Archipelago
Sangamonian and early Wisconsinan glacial record in the western Canadian Arctic. Vincent, J.S., [1992, p.233-252, eng] 47-2695

—Beaver Lake
Hydrodynamics of lakes. Filatov, N.N., [1991, 196p., rus] 47-2283

—British Columbia
Stochastic model of flow duration curves for rivers in British Columbia, Canada. Leboutillier, D.W., [1991, 148p., eng] 47-302
Sangamonian and early Wisconsinan stages in western Canada and northwesterr United States. Clague, J.J., et al. [1992, p.253-268, eng] 47-2696
Experience with probabilistic forecasts for cumulative stochastic optimization. Howard, C.D.D., [1992, p.119-128, eng] 47-2722

—British Columbia—Seatinel Glacier
Scale dependent albedo variations and runoff from a glacierized alpine basin. Brugman, M.M., [1991, p.61-71, eng] 47-1293

—British Columbia—Vancouver
How Vancouver uses thermal mapping. [1992, p.23,25-27, eng] 47-2329

—Hudson Bay
Sea ice microalgae in Hudson Bay. Legendre, L., et al. [1992, p.206-210, eng] 47-140
Hudson Bay lowland Quaternary stratigraphy. Thorleifson, L.H., et al. [1992, p.207-221, eng] 47-2693
Atmospheric circulation and sea-ice cover off northeast Canada. Wang, J., et al. [1991, p.358-361, eng] 47-4490
Paleoclimatic variables derived from subarctic treeline dendrochronology. Yamaguchi, D.K., et al. [1993, p.256-262, eng] 47-5123

—Labrador
Coastal influences on winter precipitation events in southeast Labrador. Newell, J.P., [1992, p.107-114, eng] 47-4039

—Manitoba
Preliminary study of the surficial geology of Virden area, southwestern Manitoba. Sun, S., [1993, p.57-61, eng] 47-3705
Quaternary geology and prospecting in Manitoba. Henderson, P.J., [1993, p.63-69, eng] 47-3706

—Newfoundland—Grand Banks
Recent iceberg groundings and scours on the Grand Banks of Newfoundland. [1989, 80p. + appends., eng] 47-429
Experiment to monitor four iceberg scours on the Grand Banks of Newfoundland. Davidson, S.H., et al. [1991, 110p., eng] 47-2115
Iceberg trajectory model—real-time verification. Finlayson, D.J., et al. [1992, 47p. + appends., eng] 47-2335
Submersible video of iceberg scours on the Grand Banks. Cameron, G., et al. [1992, 44p., eng] 47-2340

—Northwest Territories
Hydrometric network evaluation: an assessment of user needs. Wedel, J.H., et al. [1991, 110p., eng] 47-434
Late Proterozoic glaciation in the Mackenzie Mountains. Aitken, J.D., [1991, 43p., eng] 47-435

—Northwest Territories—Alert
Partitioning of nitrogen oxides in the lower arctic troposphere during spring 1988. Bottenheim, J.W., et al. [1993, p.15-27, eng] 47-5144

—Northwest Territories—Arctic Archipelago
Geology of the Innuitian orogen and arctic platform of Canada and Greenland. Trettin, H.P., ed. [1991, 569p. + maps in separate book jacket (Pertinent p.27-56,497-553), eng] 47-766

—Northwest Territories—Axel Heiberg Island
Glacimarine sediments on Axel Heiberg I. Gilbert, R., et al. [1993, p.257-273, eng] 47-3103

—Northwest Territories—Baffin Island
Radiocarbon date list VII: Baffin Island, N.W.T., Canada. Kaufman, D.S., ed. [1992, 82p., eng] 47-1433
Optical characteristics of arctic-source bitumens. Goodarzi, F., et al. [1993, p.359-376, eng] 47-4829

—Northwest Territories—Ellesmere Island
Active-layer detachment slides on Ellesmere Island. Lewkowicz, A.G., [1992, p.223-250, eng] 47-854
Silurian pinnacle reefs of the Canadian Arctic. De Freitas, T.A., et al. [1993, p.172-182, eng] 47-4912

—Northwest Territories—Fort Norman
Human-induced permafrost degradation and thermokarst. Gallinger, B.J., et al. [1991, 228p., eng] 47-2106
Shale compaction and stratigraphic restoration. Issler, D.R., [1992, p.1170-1189, eng] 47-2775

—Northwest Territories—Lancaster Sound
1985/86 season analysis: Lancaster Sound winter ice regime. Volume II. [1986, 164p. + appends bound separately, eng] 47-522

—Northwest Territories—Mackenzie River
Ice-scoured river bank near Keele River confluence. Brooks, G.R., [1993, p.39-43, eng] 47-3704

—Northwest Territories—Mackenzie River Delta
Mathematical modelling of near-shore permafrost thermal regimes, western Canadian Arctic. Wang, B.L., [1992, p.202-209, chi] 47-1659
Pipeline channel crossings in the Mackenzie Delta. Traynor, S., et al. [1992, 90p. + append., eng] 47-2620

Sangamonian and early Wisconsinan glacial record in the western Canadian Arctic. Vincent, J.S., [1992, p.233-252, eng] 47-2695

Shale compaction and stratigraphic restoration. Issler, D.R., [1992, p.1170-1189, eng] 47-2775

Radar stratigraphy of massive ground ice at Yaya Lake. Robinson, S.D., et al, [1993, p.23-32, eng] 47-3703

Recent developments of the Mackenzie Delta Pipeline Project. Kaustinen, O.M., [1993, p.101-115, eng] 47-4276

—Northwest Territories—Queen Elizabeth Islands

Arctic automatic weather station field data 1990-91. Alt, B.T., et al, [1992, 54p. + append., eng] 47-2339

—Northwest Territories—Resolute

Anomalies in the intra-annual ozone variability in polar regions from ozone sounding area. Gruzdev, A.N., et al, [1991, p.272-279, eng] 47-2897

—Nova Scotia

Structure of a winter storm producing heavy precipitation over Nova Scotia. Stewart, R.E., et al, [1990, p.411-426, eng] 47-627

Pre-late Wisconsinan chronology of Nova Scotia, Canada. Stea, R.R., et al, [1992, p.185-206, eng] 47-2692

—Ontario

Calcium magnesium acetate deicer on highways in Ontario. Manning, D.G., et al, [1992, 18p., eng] 47-937

Influence of recent climate patterns on runoff in the Missinaibi River. Camacho, F., et al, [1992, p.567-577, eng] 47-2738

Glacial geology and glacial sediment geochemistry in the Clyde Forks-Westport area of Ontario. Kettles, I.M., [1992, 34p. + maps, eng] 47-3148

Waste disposal site selection techniques in Quaternary terraine Ontario, Canada. Cooper, A.J., [1991, p.211-217, eng] 47-3878

Assessing climate controls of northern forest soils and tree growth. Arp, P.A., et al, [1993, p.187-192, eng] 47-5237

—Ontario—Toronto

Sedimentary and biological record of the last interglacial-glacial transition at Toronto, Canada. Eyles, N., et al, [1992, p.119-137, eng] 47-2688

Sunnybrook drift in the Toronto area, Canada: reinvestigation and reinterpretation. Hicock, S.R., et al, [1992, p.139-161, eng] 47-2689

—Ontario, Lake

Hydrodynamics of lakes. Filatov, N.N., [1991, 196p., rus] 47-2283

—Quebec

Early Wisconsinan events in southern Quebec. Lamothe, M., et al, [1992, p.171-184, eng] 47-2691

—Rocky Mountains

Long-term rates of contemporary solifluction in the Canadian Rocky Mountains. Smith, D.J., [1992, p.203-221, eng] 47-853

Rainfall-snowmelt peaks in a warmer climate. Martinec, J., et al, [1992, p.195-202, eng] 47-2728

—St. Lawrence River

Mathematical model for river ice processes. Lal, A.M.W., et al, [1993, 80p., eng] 47-4871

—Yukon Territory

Wetlands sewage treatment tested in the north. [1991, p.9-10, eng] 47-221

Hydrometric network evaluation: an assessment of user needs. Wedel, J.H., et al, [1991, 110p., eng] 47-434

Parameters which influence the air content in polar ice. Martinerie, P., et al, [1992, p.1-13, eng] 47-458

Recent warming of permafrost in the Yukon Territory. Burn, C.R., [1992, p.327-350, eng] 47-858

Yukon Territory snow survey bulletin and water supply forecast, March 1, 1992. [1992, 27p., eng] 47-859

Sangamonian and early Wisconsinan stages in western Canada and northwestern United States. Clague, J.J., et al, [1992, p.253-268, eng] 47-2696

Yukon Territory snow survey bulletin and water supply forecast, March 1, 1993. [1993, 27p., eng] 47-2818

Yukon Territory snow survey bulletin and water supply forecast, May 15, 1993. [1993, 27p., eng] 47-3711

Taxonomic revision of a herb distribution in arctic landscapes. Bayer, R.J., [1993, p.150-159, eng] 47-4747

—Yukon Territory—Barn Mountains

Pediments and cold-climate conditions, Barn Mountains, unglaciated northern Yukon, Canada. French, H.M., et al, [1992, p.145-157, eng] 47-4324

—Yukon Territory—Dawson City

Ice jam flood assessment—Yukon River at Dawson. Gerard, R., et al, [1992, 145p., eng] 47-1244

—Yukon Territory—Firth River

Glacier, river and sea ice blister observations. Kovacs, A., [1992, 14p., eng] 47-785

—Yukon Territory—Logan, Mount

Ice core climate signals from Mount Logan, Yukon, A.D. 1700-1897. Holdsworth, G., et al, [1992, p.483-504, eng] 47-2097

—Yukon Territory—MacMillan Pass

Palsa formation in floating peat and related vegetation cove, as illustrated by a fen bog in the MacMillan Pass, Yukon Territory, Canada. Harris, S.A., et al, [1992, p.349-362, eng] 47-4344

—Yukon Territory—St. Elias Mountains

Stagnant glacier ice, St. Elias Mountains, Yukon. Johnson, P.G., [1992, p.13-19, eng] 47-4319

—Yukon Territory—St. Elias Range

Debris flow in Canadian continuous permafrost area Harris, S.A., et al, [1993, p.41-56, eng] 47-4984

Capillarity

Soil-fabric measurement using phase transition porosimetry. Gunnink, B.W., et al, [1993, p.1019-1036, eng] 47-5105

Simplified numerical solution of the Miller model of secondary frost heave. Fowler, A.C., et al, [1993, p.327-336, eng] 47-5204

Carbon

Carbon cycling in boreal forest and sub-arctic ecosystems: biospheric responses and feedbacks to global climate change. Vinson, T.S., ed, [1993, 282p., eng] 47-5222

Marine humic acids in Bering and Chukchi sea ecosystems. *Perminova, I.V., et al,* [1993, p.43-49, *eng*] 47-5227

Residence time of carbon in soils of the boreal zone. Kobak, K., et al, [1993, p.51-57, eng] 47-5228

Distribution and renovation time of soil carbon in boreal and subarctic ecosystems of European Russia. *Cherkinskii, A.E., et al,* [1993, *p.65-69, eng*] 47-5230

Carbon storage in peat based on regionality of Russian mires. Botch, M.S., [1993, p.101-107, eng] 47-5232

Boreal forests, the carbon cycle and global change: a challenge for ecologists. Bonan, G.B., [1993, p.139-153, eng] 47-5235

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Estimating carbon budgets of Canadian forest ecosystems *using a national scale model.* Apps, M.J., et al, [1993, p.243-252, eng] 47-5240

Regionalization as a tool for studying carbon cycling in the former Soviet Union. Blanutsa, V., [1993, p.253-258, eng] 47-5241

Framework to quantify the natural terrestrial carbon cycle of the former Soviet Union. Kolchugina, T.P., et al, [1993, p.259-275, eng] 47-5242

Carbon black

Black carbon concentration in Byrd Station ice core: from 13,000 to 700 years before present. Chýlek, P., et al, [1992, p.625-629, eng] 47-2005

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Carbon dioxide

Do glaciers tell a true atmospheric CO2 story. Jaworowski, Z., et al, [1992, p.227-284, eng] 47-235

Tectonic forcing of late Cenozoic climate. Raymo, M.E., et al, [1992, p.117-122, eng] 47-373

Paleoclimatology of continental ice sheet in response to *CO2 variations.* Gallée, H., et al, [1992, p.15,713-15,740, eng] 47-998

Physical variation of water vapor, and the relation with carbon dioxide. Egan, W.G., et al, [1992, p.2245-2248, eng] 47-1145

Reduced solar luminosity and atmospheric carbon dioxide. Kasting, J.F., [1992, p.676-677, eng] 47-1220

Relationship between the Earth's thermal regime and snow-ice cover during climate warming and cooling. Balkova, I.M., [1989, p.21-27, eng] 47-1229

Greenhouse gas-induced climate change simulated with the CCC second-generation general circulation model. Boer, G.J., et al, [1992, p.1045-1077, eng] 47-1270

CO2 exchange in tundra ecosystems. Whiting, G.J., et al, [1992, p.16,671-16,680, eng] 47-1461

Anomalous 11-year deltaC-14 cycle at high latitudes?. Damon, P.E., et al, [1992, p.235-238, eng] 47-1479

Flux of CO2 and CH4 from lakes and rivers in arctic Alaska. Kling, G.W., et al, [1992, p.23-36, eng] 47-1601

Emission of CO2 and CH4 from northern wetlands to atmosphere. Panikov, N.S., et al, [1992, p.208-216, eng] 47-1731

Carbon dioxide changes in Arctic tundra ecosystems. Oechel, W.C., et al, [1993, p.520-523, eng] 47-1942

Global carbon dioxide budget. Sundquist, E.T., [1993, p.934-941, eng] 47-2045

Atmospheric CO2 and global warming: a critical review. Jaworowski, Z., et al, [1992, 76p., eng] 47-2289

CO2-gas exchange and annual production in plant communities of the Khibiny mountain tundra. Politova, N.IU., [1991, p.217-225, rus] 47-2359

Sandstones and conglomerates formed by precipitation of *CaCO3* under stagnant ice sheet. Drozdowski, E., [1991, p.253-266, eng] 47-2570

Carbonate chemistry of the wintertime Bering Sea marginal ice zone. Chen, C.T.A., [1993, p.67-87, eng] 47-2632

Martian atmospheric circulation simulation. Pollack, J.B., et al, [1993, p.3149-3181, eng] 47-2669

Hemispherical asymmetry in the Martian polar caps. Lindner, B.L., [1993, p.3339-3344, eng] 47-2671

Environmental effects on CO2 tundra efflux. Oberbauer, S.F., et al, [1992, p.568-577, eng] 47-2710

Inconsistencies in modern notions about the greenhouse effect and future environmental conditions. Reznikov, A.P., [1992, p.165-170, rus] 47-3268

Climatic regime of the Arctic at the transition from the 20th to the 21st century. Krutskikh, B.A., ed, [1991, 200p., rus] 47-3334

C4 photosynthesis in alpine species of the Pamirs. P'iankov, V.I., et al, [1992, p.421-430, eng] 47-3472

CO2 emissions in Siberian soils as greenhouse effect factor. Zimov, S.A., et al, [1993, p.5017-5023, eng] 47-3782

Prospects for the development of methods for forecasting climatic changes in polar regions. Alekseev, G.V., [1992, p.5-21, rus] 47-3803

Changes of characteristics of arctic sea ice in case of a doubling of carbon dioxide. Kolomeev, M.P., et al, [1992, p.34-40, eng] 47-3991

Effects of increased atmospheric CO2 on the ocean-atmosphere system. Manabe, S., et al, [1993, p.215-218, eng] 47-4571

Isotopic analysis of carbon dioxide from air trapped in polar ice. Lang, S.J., [1991, 148p., *eng*] 47-4604

Effects of CO2 increase on climate dynamics. Saltzman, B., et al, [1993, p.1051-1054, eng] 47-4630

Carbon cycling in boreal forest and sub-arctic ecosystems: biospheric responses and feedbacks to global climate change. *Vinson, T.S., ed,* [1993, 282p., *eng*] 47-5222

Boreal carbon pools: approaches and constraints in global extrapolations. Chapin, F.S., III, et al, [1993, p.9-20, eng] 47-5224

Planetary maximum CO2 and ecosystems of the North. Zimov, S.A., et al, [1993, p.21-34, eng] 47-5225

Arctic atmospheric CO2 bimodal distribution. Semiletov, I.P., et al, [1993, p.35-42, eng] 47-5226

Marine humic acids in Bering and Chukchi sea ecosystems. *Perminova, I.V., et al,* [1993, p.43-49, eng] 47-5227

Equilibrium analysis of projected climate change effects on the global soil organic matter pool. Turner, D.P., et al, [1993, p.59-63, eng] 47-5229

Characteristics of forest biogeocenoses. Pervova, N., [1993, p.79-85, *eng*] 47-5231

Carbon storage in peat based on regionality of Russian mires. Botch, M.S., [1993, p.101-107, eng] 47-5232

Methane and carbon dioxide production and uptake in some boreal ecosystems of Russia. Panikov, N.S., et al, [1993, p.125-138, eng] 47-5234

Boreal forests, the carbon cycle and global change: a challenge for ecologists. Bonan, G.B., [1993, p.139-153, eng] 47-5235

Greenhouse gases from forest fires in Russia. Krankina, O.N., [1993, p.179-186, eng] 47-5236

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Kinetic enrichment of stable isotopes in cryogenic calcites. Clark, I.D., et al, [1992, p.217-228, eng] 47-3159

Bomb radiocarbon in arctic Alaskan aquatic and terrestrial biota. Schell, D.M., [1993, p.135-144, eng] 47-5026

Cargo

Cargo container lift device. Hatley, J.F., [1987, 6 col., eng] 47-3852

Use of the C-5 Galaxy in support of the United States Antarctic Program. Bresnahan, D.M., [1993, p.238-245, eng] 47-5113

Transport concept at the antarctic stations and for field operations of the Alfred Wegener Institute. Kohnen, H., et al, [1993, p.267-273, eng] 47-5115

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Caspian transgression as an indicator of the interglacial-glacial transition. Zubakov, V.A., [1992, p.253-271, eng] 47-2839

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Freeze-thaw durability of lightweight carbon fiber reinforced cement composites. Soroushian, P., et al, [1992, p.491-494, eng] **47-2548**

Freeze-thaw resistance of mortar-polymer admixtures. Atzeni, C., et al, [1993, p.301-308, eng] **47-3421**

Proceedings. [1993, 1681p. (2 vols.), eng] **47-3605**

Scaling resistance of concrete fly ash aggregates. Bilodeau, A., et al, [1993, p.319-349, eng] **47-3608**

Comparative study of natural pozzolans used in blended cement production. Akman, M.S., et al, [1993, p.471-494, eng] **47-3609**

Evaluation of pozzolanic activity of rice husk ash. Sugita, S., et al, [1993, p.495-512, eng] **47-3610**

Silica fume in concrete—an overview. Khayat, K.H., et al, [1993, p.835-872, eng] **47-3611**

Silica fume composition influence on concrete properties. Batrakov, V.G., et al, [1993, p.943-963, eng] **47-3612**

Properties of granulated blast-furnace slag cement concrete. Sakai, K., et al, [1993, p.1367-1383, eng] **47-3617**

Freeze thaw resistance of underwater concrete aggregates. Fukudome, K., et al, [1993, p.1565-1582, eng] **47-3618**

Cements

Low temperature cracking experiment at USACRREL Frost Effects Research Facility. Kanerva, H.K., et al, [1992, p.289-307, eng] **47-1139**

Concrete hardening with low water requirement cements at subfreezing temperatures. Krasnovskii, B.M., et al, [1991, p.17-18, rus] **47-2155**

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Experiments with frost-heave prevention in concrete troughs. Kubo, H., et al, [1993, p.89-96, eng] **47-4126**

Channels (waterways)

Simulation of oil slick transport in Great Lakes connecting channels: user's manual. Shen, H.T., et al, [1991, 69p., eng] **47-693**

Laboratory investigation of trash rack freezeup by frazil ice. Andersson, A., et al, [1992, 11p., eng] **47-1896**

Winter temperature regime of culverts in channels with naleds. Kuz'minykh, A.I., et al, [1991, p.205-210, rus] **47-2448**

Mathematical modeling of the thermoerosion process and its use in the study of various regions of the cryolithozone. Baranova, N.A., [1992, p.29-36, rus] **47-2456**

Causes of variability of ice appearance dates in the lower reaches of the Volga. Soldatova, I.I., [1992, p.62-66, eng] **47-2714**

Method of carrying out profiling observations of currents with the aid of moored, heated buoy stations (PPBS). Pavlov, V.K., et al, [1991, p.107-116, rus] **47-3697**

Air containing propeller stream and its application in ice clearance. Wang, S.L., et al, [1993, p.53-58, eng] **47-4230**

Thresholds for channel change on two contrasting proglacial river fans, West Greenland. De Jong, C., [1992, p.1-12, eng] **47-4318**

Evolution of large roches moutonnées. Sugden, D.E., et al, [1992, p.253-264, eng] **47-4334**

Flow regulation for controlled river-ice formation. Jain, S.C., et al, [1993, 50p., eng] **47-4662**

Charge transfer

Geometry of OH- defect in condensed water phase. Defect localization and cooperative interaction of H-bonds. Isaev, A.N., et al, [1992, p.14-19, eng] **47-203**

Study of proton transfer in ice. Isaev, A.N., et al, [1992, p.19-25, eng] **47-204**

Effects of high liquid water content on thunderstorm charging. Saunders, C.P.R., et al, [1992, p.14,671-14,676, eng] **47-252**

Charge separation by ice and water drops during growth and evaporation. Dong, Y.Y., et al, [1992, p.20,361-20,371, eng] **47-2050**

DC flashover performance of iced insulators under pressure and pollution conditions. Zhang, J.H., et al, [1991, p.957-960, eng] **47-2177**

Effect of internal charge distribution in ice crystals on scavenging of aerosol particles. Zhang, R.Y., et al, [1991, p.97-108, eng] **47-2211**

Polarization of electromagnetic emissions from cracking ice. Petrenko, V.F., [1993, p.301-305, eng] **47-3168**

Review of thunderstorm electrification processes. Saunders, C.P.R., [1993, p.642-655, eng] **47-3507**

Collision between graupel particles: a field observation and theory. Mizuno, H., et al, [1992, p.1037-1043, eng] **47-4019**

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Chemical analysis

Chemical constituents of two snow falls around Manali District, Kulu, Himachal Pradesh. Krishnan, V., et al, [1985, p.151-156, eng] **47-534**

Ozone hole chemistry. Crutzen, P.J., et al, [1992, p.1113-1116, eng] **47-1566**

Heterogeneous reactions in the antarctic autumn stratosphere. Keys, J.G., et al, [1993, p.49-51, eng] **47-1594**

Sea salt dependent electrical conduction in polar ice. Moore, J.C., et al, [1992, p.19,803-19,812, eng] **47-2187**

Comparison of cartridge and membrane solid-phase extraction with salting-out solvent extraction. Jenkins, T.F., et al, [1992, 31p., eng] **47-2232**

Solvent/water partitioning of dimethylmethylphosphonate (DMMP) as a probe of solvent acidity. Leggett, D.C., [1993, p.289-296, eng] **47-2624**

Total organic carbon and polar organic compounds in ice core from Greenland. Kawamura, K., et al, [1992, p.99-105, eng] **47-3010**

Ozone loss in Antarctica: the implications for global change. Pyle, J.A., et al, [1992, p.219-226, eng] **47-3141**

Nature of lakes in the West Siberian subarctic. Savchenko, N.V., [1992, p.85-92, rus] **47-3274**

NO2 measurements in the polar stratosphere. Roscoe, H.K., et al, [1993, p.257-276, eng] **47-3464**

Groundwater discharge in Boggy Creek catchment, Manitoba. Stephenson, M., et al, [1992, p.2640-2652, eng] **47-3714**

Ice mill for chemical analysis of trace gases in ice bubbles. Fuchs, A., et al, [1993, p.199-203, eng] **47-3952**

Spectroscopic determination of aviation fuel freezing point. Lysaght, M.J., et al, [1993, p.623-631, eng] **47-3985**

Effects of deicing salt on roadside Scots pine foliage. Hautala, E.L., et al, [1992, p.179-185, eng] **47-3995**

Time- and temperature-dependent solute loading of isolated thylakoids during freezing. Bakaltcheva, I., et al, [1992, p.607-615, eng] **47-4370**

Corrosion of aircraft fuel tanks by antifreezes. Likhterova, N.M., et al, [1993, p.563-566, eng] **47-4386**

Nitrogen uptake and new production in the Greenland Sea: the spring *Phaeocystis* bloom. Smith, W.O., Jr., [1993, p.4681-4688, eng] **47-4390**

Geochemistry of Mackenzie river sediments. Yunker, *M.B., et al,* [1993, p.3041-3061, eng] **47-4458**

Thermodynamics of fuel oil cloud-point depressant additives. Claudy, P., et al, [1993 p.821-827, eng] **47-4518**

GRIP ice core record of climate instability. [1993, p.203-207, eng] **47-4570**

Selective accumulation of polychlorocamphenes in aquatic biota from the Canadian Arctic. Bidleman, T.F., et al, [1993, p.701-709, eng] **47-4629**

Late Proterozoic anthracite coals from the Hornsund area, south Spitsbergen. Birkenmajer, K., et al, [1992, p.71-90, eng] **47-4648**

Ion chromatography of Greenland ice cores. Legrand, M.R., et al, [1993, p.251-258, eng] **47-4754**

Determination of salting frequency through examination of salt residue amounts. Dirnböck, G., [1990, 38p., ger] **47-4985**

Effects of thawing salts on biological sewage treatment plants. Washüttl, J., [1983, p.1-19, ger] **47-5000**

Partitioning of nitrogen oxides in the lower arctic troposphere during spring 1988. Bottenheim, J.W., et al, [1993, p.15-27, eng] **47-5144**

Aluminium solubility in rainwater and molten snow. Losno, R., et al, [1993, p.29-43, eng] **47-5145**

Chemical composition of snow near a mining plant. Lazareva, I.P., et al, [1993, p.79-86, eng] **47-5193**

See also: Frozen ground chemistry; Isotope analysis; Soil analysis

Chemical composition

Principles of development of diesel fuel composition with pour-point depressants. Mitusova, T.N., et al, [1992, p.3-7, eng] **47-205**

Sources and spatial variation of the chemical composition of snow in the Tien Shan, China. Williams, M.W., et al, [1992, p.25-32, eng] **47-1082**

Nonmethane hydrocarbons in the arctic boundary layer. Blake, D.R., et al, [1992, p.16,559-16,588, eng] **47-1455**

Atmospheric chemistry in the Arctic and subarctic. Wofsy, S.C., et al, [1992, p.16,731-16,746, eng] **47-1467**

Phytoplankton communities. Bianchi, F., et al, [1991, p.84-91, eng] **47-1630**

Determinations of methyl iodide in the antarctic atmosphere and the south polar sea. Reifenhäuser, W., et al, [1992, p.2905-2912, eng] **47-1948**

Dew and frost chemistry at a midcontinent site, United States. Wagner, G.H., et al, [1992, p.20,591-20,597, eng] **47-2052**

Spatial considerations of snow chemistry as a non-point contamination source in alpine watersheds. Elder, K., et al, [1991, p.31-38, eng] **47-2076**

Seasonality in the mineral stability of a subalpine spodosol. Zabowski, D., et al, [1992, p.497-507, eng] **47-2189**

Investigations of the relationship between cloudwater and precipitation chemistry using Doppler radar. Collett, J.L., Jr., et al, [1991, p.381-392, eng] **47-2213**

Scavenging ratios in precipitation studies. Barrie, L.A., [1991, p.403-419, eng] **47-2214**

Polar precipitation chemistry. Delmas, R.J., [1991, p.1669-1691, eng] **47-2218**

Sulfate in the air, surface snow and snowpits at Dye 3, Greenland. Jaffrezo, J.L., et al, [1991, p.1693-1704, eng] **47-2219**

Wet deposition influence on ice sheet chemistry Borys, R.D., et al, [1991, p.1705-1718, eng] **47-2220**

Solvent/water partitioning of dimethylmethylphosphonate (DMMP) as a probe of solvent acidity. Leggett, D.C., [1993, p.289-296, eng] **47-2624**

Carbonate chemistry of the wintertime Bering Sea marginal ice zone. Chen, C.T.A., [1993, p.67-87, eng] **47-2632**

Dependence of cloud chemistry on drop size. Collett, J.L., Jr., et al, [1993, p.33-42, eng] **47-2705**

Spring measurements of tropospheric bromine at Barrow, Alaska. Sturges, W.T., et al, [1993, p.201-204, eng] **47-2858**

Compositional state detection system and method. Sinnar, A.M., [1989, 12 col., eng] **47-3113**

Hydrogen and oxygen isotopes and the origin of the ice in peat plateaus. Harris, S.A., et al, [1992, p.19-27, eng] **47-3123**

Permafrost methane content: Experimental data from sites in northern Alaska. [illegible]ussen, R.A., et al, [1993, p.591-594, eng] **47-3437**

Variations in mercury deposition to Antarctica over the past 34,000 years. Vandal, G.M., et al, [1993, p.621-623, eng] **47-3445**

Arctic haze: patterns and relationships to regional signatures of trace gases. Khalil, M.A.K., et al, [1993, p.27-36, eng] **47-3461**

Use of silicone masses to prevent the formation of ice on substrates. Achtenberg, T., et al, [1988, 8 col., eng] **47-3494**

Bromoalkane production by antarctic ice algae. Sturges, W.T., et al, [1993, p.120-126, eng] **47-3533**

Proceedings. [1993, 1681p. (2 vols.), eng] **47-3605**

Silica fume composition influence on concrete properties. Batrakov, V.G., et al, [1993, p.943-963, eng] **47-3612**

Performance of portland and blast furnace slag cement concretes in marine environments. Osborne, G.J., [1993, p.1303-1323, eng] **47-3616**

Identification and yield of carbonic acid and formaldehyde in irradiated ices. DelloRusso, N., et al, [1993, p.5505-5510, eng] **47-3650**

Sludges from cold regions lagoons. Schneiter, R.W., et al, [1993, p.146-155, eng] **47-3675**

Urban snow dump quality and pollutant reduction in snowmelt by sedimentation. Droste, R.L., et al, [1993, p.9-21, eng] **47-3719**

Silicone emulsion having improved freeze/thaw resistance. Bakken, K.L., [1987, 8 col., eng] **47-3851**

Spectroscopic determination of aviation fuel freezing point. Lysaght, M.J., et al, [1993, p.623-631, eng] **47-3985**

Frost resistance of roller compacted concrete. Osipov, A.D., et al, [1993, p.400-404, eng] **47-4013**

Chemical composition of precipitation in Uzbekistan. Kulmatov, R.A., et al, [1993, p.413-419, eng] **47-4068**

Sapropel of Don-ty Lake. Kazakov, V.G., [1991, p.114-121, rus] **47-4113**

Atactic polypropylene as a viscosity index improver for low-temperature oils. Alekseev, A.P., et al, [1993, p.509-512, eng] **47-4385**

Atmospheric pollution related to antarctic snow and ice chemistry. Wolff, E., [1992, p.274-280, eng] **47-4507**

Evaluation of bacterial ice nucleation. Watabe, S., et al, [1993, p.603-606, eng] **47-4734**

Development of a new de-icing agent. Washüttl, J., et al, [1985, 34p., ger] **47-5009**

Decrease in growth rates of atmospheric CFCs 11 and 12. Elkins, J.W., et al, [1993, p.780-783, eng] **47-5126**

Ices on the surface of Triton. Cruikshank, D.P., et al, [1993, p.742-745, eng] **47-5128**

Probing stratospheric ozone. Rodriguez, J.M., [1993, p.1128-1129, eng] **47-5132**

Chlorine chemistry on polar stratospheric cloud particles in the Arctic winter. Webster, C.R., et al, [1993, p.1130-1134, eng] **47-5133**

Seasonal evolution of reactive chlorine in the Northern Hemisphere stratosphere. Toohey, D.W., et al, [1993, p.1134-1136, eng] **47-5134**

Characteristics of cold volcanic aerosols. Toon, O., et al, [1993, p.1136-1140, eng] **47-5135**

In Situ observations of aerosols and ClO after Pinatubo eruption. Wilson, J.C., et al, [1993, p.1140-1143, eng] **47-5136**

Stratospheric meteorological conditions in the Arctic polar vortex, 1991-1992. Newman, P., et al, [1993, p.1143-1146, eng] **47-5137**

Chemical loss of ozone in the Arctic polar vortex in the winter of 1991-1992. Salawitch, R.J., et al, [1993, p.1146-1149, eng] **47-5138**

Ozone loss inside the northern polar vortex during the 1991-1992 winter. Proffitt, M.H., et al, [1993, p.1150-1154, eng] **47-5139**

Ozone and aerosol changes during the 1991-1992 Airborne Arctic Stratospheric Expedition. Browell, E.V., et al. [1993, p.1155-1158, eng] 47-5140

See also: Atmospheric composition; Frozen ground chemistry; Geochemistry; Ice composition; Snow composition; Soil chemistry; Soil composition; Water chemistry

Chemical ice prevention

Prepri [1992, Var. p. (2 vols.), eng] 47-925

SHRP H-208: development of anti-icing technology. Blackburn, R.R., et al. [1992, 23p., eng] 47-932

West Virginia oil and gas well brines for highway deicing. Eck, R.W., et al. [1992, 16p., eng] 47-933

Anti-icing activities in Finland: field tests with liquid and prewetted chemicals. Raukola, T.J., et al. [1992, 11p., eng] 47-934

Experiments with corrosion inhibited deicers in Washington State. Conrad, J.F., et al. [1992, 11p., eng] 47-935

Non-environmental effects of alternative deicers in Illinois. Gingrich, C.D., et al. [1992, 12p., eng] 47-936

Calcium magnesium acetate deicer on highways in Ontario. Manning, D.G., et al. [1992, 18p., eng] 47-937

Effects of CMA deicers on biochemical oxygen demand in streams. Eheart, J.W., et al. [1992, 12p., eng] 47-941

Sp[illegible]der equipment for anti-icing. Fleege, E.J., et al. [1992, 14p., eng] 47-952

Proceedings. [1989, 272p., eng] 47-1681

Handbook of test methods for e[illegible]aluating chemical deicers. Chappelow, C.C., et al. [1992, 283p., eng] 47-1682

Influence of wind, temperature and deicing chemicals on snow accretion. Adams, E.E., et al. [1991, p.182-187, eng] 47-1801

Nevada takes close look at CMA efficacy. Nelson, R.J., [1992, p.32-34, eng] 47-1945

Aerodynamic acceptance testing of aircraft ground de/anti-icing fluids. Laforte, J.L., et al. [1992, 41p. + appends., eng] 47-2226

Aircraft ground de/anti-icing fluid holdover time field testing program for the 1991-1992 winter. D'Avirro[illegible], et al. [1992, 83p. + append., eng] 47-2231

Washington State OKs six anti-corrosion deicers. [1992, p.24-25, eng] 47-2326

How to evaluate deicers. [1992, p.23,25-26, eng] 47-2327

Application of chemicals for snowy and icy road surfaces in Hokkaido. Miyamoto, S., et al. [1991, p.131-136, jpn] 47-2540

Contaminants in the Gardermoen areal. Snekkerbakken, A.M., [1992, p.6/1-6/5, eng] 47-2825

Pollution from deicing chemicals at airports. Breedveld, G.D., et al. [1992, p.7/1-7/14, eng] 47-2826

Critical cooling rates for aqueous cryoprotectants. Sutton, R.L., [1992, p.585-598, eng] 47-2875

Aerodynamic effects of deicing and anti-icing fluids. Reinmann, J.J., et al. [1993, p.8-9, eng] 47-3310

Contrasting requirements for Type II de anti-icing fluids. Ross, J.F., et al. [1993, p.10-13, eng] 47-3311

Development of an international standard for safe winter operation. Hornig, R., [1993, p.14-18, eng] 47-3312

Aircraft ground deicing, a flight crew perspective. Haase, D.J., [1993, p.19-23, eng] 47-3313

Aerodynamic effects of aircraft ground deicing anti-icing fluids. Hill, E.G., et al. [1993, p.24-34, eng] 47-3314

Aerodynamic effects of ground de anti-icing fluids on Fokker 50 and Fokker 100. van Hengst, J., [1993, p.35-40, eng] 47-3315

Some experiences in assessing aircraft anti-icing fluid under various snow conditions. Stamm, A., et al. [1992, p.31-37, eng] 47-4030

Environmental impacts of three runway de-icers. John, R.D., et al. [1993, p.323-330, eng] 47-4473

Emissions from antiskid materials applied to icy roadways. Kinsey, J.S., [1993, Var. p., eng] 47-4617

Effects of thawing salts on biological sewage treatment plants. Washüttl, J., [1983, p.1-19, ger] 47-5000

Effects of road salt reduction on salting efficiency. Augustin, H., et al. [1983, p.21-78, ger] 47-5001

Tests on the basic characteristics of road surface freezing deicers. Murakuni, M., [1985, p.69-74, jpn] 47-5157

Measures against coagulation of sodium chloride deicers for roads. Suzuki, M., [1986, p.70-74, jpn] 47-5183

See also: Salting

Chemical properties

Chemical resistance of alkali-activated concrete. Talling, B., [1989, p.252-257, eng] 47-18

Cloud acidity, lower troposphere and stratospheric ozone depletion. Lin, N.H., [1991, 190p., eng] 47-47

Resistance of microsilica concrete to steel corrosion, erosion, and chemical attack. Berke, N.S., [1989, p.861-886, eng] 47-58

On the age of stratospheric air and ozone depletion potential in polar regions. Pollock, W.H., et al. [1992, p.12,993-12,999, eng] 47-77

Stratospheric composition and temperatures poleward of 60N. Remsberg, E.E., et al. [1992, p.13,001-13,014, eng] 47-78

Reactive nitrogen, ozone, and nitrate aerosols observed in the arctic stratosphere in January 1990. Kondo, Y., et al. [1992, p.13,025-13,038, eng] 47-80

Influence of soluble alkalies on air-entrainment in concrete admixtures. Pigeon, M., et al. [1992, p.24-31, eng] 47-82

Model of heterogeneous nucleation on polar stratospheric clouds. Nelson, C.M., et al. [1992, p.6112-6115, eng] 47-248

Measurement on the dielectric properties of acid-doped ice at 9.7 GHz. Fujita, S., et al. [1992, p.799-803, eng] 47-359

Elements of the material balance under conditions of an alpine lichen heath of the North Caucasus. Makarov, M.I., [1983, p.58-61, eng] 47-799

Interaction of HCl vapor with water-ice: implications for the stratosphere. Abbatt, J.P.D., et al. [1992, p.15,819-15,826, eng] 47-999

Summertime tropospheric composition over Alaska. Sandholm, S.T., et al. [1992, p.16,481-16,509, eng] 47-1450

Measurement of organic nitrates in high latitude atmospheres. Singh, H.B., et al. [1992, p.16,511-16,522, eng] 47-1451

Nitrate proportions in northern high latitude atmospheres. Singh, H.B., et al. [1992, p.16,523-16,530, eng] 47-1452

Simulation of natural acid sulfate weathering in an alpine watershed. Bassett, R.L., et al. [1992, p.2197-2209, eng] 47-1506

Effects of acidic water vapor on spruce seedling frost hardiness. L'Hirondelle, S.J., et al. [1992, p.611-622, eng] 47-1558

Environment of the antarctic sea ice brine channels. Weissenberger, J., [1992, 159p., ger] 47-1598

Comment on "The episodic acidification of Adirondack Lakes during snowmelt" by Douglas A. Schaefer et al. Eshleman, K.N., et al. [1992, p.2869-2878, eng] 47-1788

Dew and frost chemistry at a midcontinent site, United States. Wagner, G.H., et al. [1992, p.20,591-20,597, eng] 47-2052

Seasonal cycle of nitrogen oxides in the arctic troposphere at Barrow, Alaska. Honrath, R.E., Jr., et al. [1992, p.20,615-20,630, eng] 47-2054

Measurements of HCl column amounts over McMurdo in 1989. Liu, X., et al. [1992, p.20,795-20,804, eng] 47-2055

Removal of atmospheric aerosols in the sub-arctic region. Selin, E., et al. [1992, p.S965-S968, eng] 47-2074

Homogeneous freezing of sulfuric acid droplets. 1. Formation of *H2SO4 x 4H2O (SAT).* Luo, B.P., et al. [1992, p.225-228, eng] 47-2254

Homogeneous freezing of sulfuric acid droplets. 2. Implications for PSCs and heterogeneous chemistry. Peter, T., et al. [1992, p.229-232, eng] 47-2255

Modification of aerosol chemistry by reactions in atmospheric ice crystals. Finnegan, W.G., et al. [1992, p.399-402, eng] 47-2280

Laboratory observational and theoretical studies of interstellar ices. Tielens, A.G.G.M., et al. [1991, p.29-58, eng] 47-2311

Geochemistry of salmon rivers during snowmelt. Campbell, P.G.C., et al. [1992, p.1938-1952, eng] 47-2659

Fundamentals of amplitude-phase measurements using induced polarization. Mel'nikov, V.P., et al. [1974, 222p., rus] 47-2911

Uptake of HNO3 onto ice, NAT, and frozen sulfuric acid. Hanson, D.R., [1992, p.2063-2066, eng] 47-3319

HNO3 variations in volcanic layers of polar ice. Laj, P., et al. [1993, p.219-230, eng] 47-3463

NO2 measurements in the polar stratosphere. Roscoe, H.K., et al. [1993, p.257-276, eng] 47-3464

Atmospheric scavenging during surface frost formation. Georgiadis, T., et al. [1993, p.267-276, eng] 47-3474

Evaluation of pozzolanic activity of rice husk ash. Sugita, S., et al. [1993, p.495-512, eng] 47-3610

Stratospheric denitrification indicated by firn core chemistry. Mulvaney, R., et al. [1993, p.5213-5220, eng] 47-3785

Modeling of trace species in the arctic stratosphere. Chipperfield, M.P., et al. [1993, p.7199-7218, eng] 47-3828

Acidification potential of snowpack in Sierra Nevada—discussion. Bales, R.C., et al. [1993, p.399-403, eng] 47-4010

Effect of competitive adsorption on polar stratospheric cloud reactions. Mozurkewich, M., [1993, p.355-358, eng] 47-4140

Laboratory simulations of PSC particle formation. Marti, J., et al. [1993, p.359-362, eng] 47-4141

Ammonium to sulphate ratio in aerosol and snow of Greenland and antarctic regions. Silvente, E., et al. [1993, p.687-690, eng] 47-4167

Snowmelt-induced stream acidity in a subarctic catchment. Davies, T.D., et al. [1993, p.267-300, eng] 47-4171

Spectroscopic probe of *model polar stratospheric cloud* films. Koehler, B.G., et al. [1993, p.10,563-10,571, eng] 47-4294

Antarctic polar stratospheric cloud chemistry. Drdla, K., et al. [1993, p.8965-8981, eng] 47-4382

Atmospheric NO3. 4. Vertical profiles at middle and polar latitudes at sunrise. Smith, J.P., et al. [1993, p.8983-8989, eng] 47-4383

Acid snow over coastal Japan, pt.1. Kitada, T., et al. [1993, p.1061-1076, eng] 47-4581

Acid snow over coastal Japan, pt.2. Kitada, T., et al. [1993, p.1077-1090, eng] 47-4582

Seed bank composition in a subarctic forest. Vieno, M., et al. [1993, p.379-384, eng] 47-4583

Ion chromatography of Greenland ice cores. Legrand, M.R., et al. [1993, p.251-258, eng] 47-4754

Identifying sources of snowmelt acidification with a watershed mixing model. Schaefer, D.A., et al. [1993, p.345-365, eng] 47-4758

Isotope tracing of sulfate trends in Colorado lakes. Turk, J.T., et al. [1993, p.415-431, eng] 47-4759

Partitioning of nitrogen oxides in the lower arctic troposphere during spring 1988. Bottenheim, J.W., et al. [1993, p.15-27, eng] 47-5144

Chemical reactions

See also: Photochemical reactions

Chemistry

Ice crystal growth and lectins. Rubinsky, B., et al. [1992, p.113-114, eng] 47-906

Impact of heterogeneous chemistry on model predictions of ozone changes. Granier, C., et al. [1992, p.18,015-18,033, eng] 47-1565

See also: Composition; Frozen ground chemistry; Geochemistry; Hydrogeochemistry; Soil chemistry; Water chemistry

Chernozem

Effect of prolonged freezing on chemical properties of soils and clays. Polubesova, T.A., et al. [1992, p.140-145, eng] 47-1719

Cryogenesis and functioning of microbial communities in soil of Zabaikalye areas. Kulikov, A.I., et al. [1992, p.199-203, eng] 47-1729

Effect of soil freezing on the composition and properties of humus. Plotnikova, T.A., et al. [1992, p.203-208, eng] 47-1730

Eroded chernozems in southern Western Siberia. Tanasienko, A.A., [1992, 150p., rus] 47-2938

Micromorphological features of the USSR zonal soils. Gerasimova, M.I., et al. [1992, 214p. (Pertinent p.66-107), rus] 47-4661

Residence time of carbon in soils of the boreal zone. Kobak, K., et al. [1993, p.51-57, eng] 47-5228

China

Satellite snow cover monitoring and snowmelt runoff prediction. Chen, X.Z., et al. [1991, p.161-168, eng] 47-1303

Characteristics of hydrological processes in a small high mountain basin. Yang, Z.N., et al. [1991, p.229-236, eng] 47-1310

Analysis of the relationship between lakes' melting regimes and stream runoff. Zhang, S.Y., et al. [1991, p.245-250, eng] 47-1312

Dendroclimatic studies in China. Wu, X.D., [1992, p.432-445, eng] 47-2095

—Bohai Sea

Operational system of numerical sea ice prediction in Bohai Sea. Cheng, B., et al. [1992, p.295-299, eng] 47-153

—Dunde Ice Cap

"Recent warming": ice core evidence from tropical ice cores with emphasis on Central Asia. Thompson, L.G., et al. [1993, p.145-156, eng] 47-4588

—Greater Khingan Range

Snow cover distribution in a burned forest. Liang, L.H., et al. [1992, p.134-140, chi] 47-1650

—Heilongjiang Province

Freeze-up and break-up of ice cover on the Shengli Reservoir, Heilongjiang Province. Xie, Y.G., [1992, p.168-173, chi] 47-1654

—Jilin Province

Glacial landforms on an extinct volcano in Jilin Province. Li, B.L., [1992, p.431-438, chi] 47-2224

—Kunlun Mountains

Glaciologic studies on Guliya Ice Cap. Yao, T.D., et al. [1992, p.233-241, chi] 47-1663

—Liaodong Gulf

Ice features in Liaodong Gulf in the winter of 1988-1989. Li, Z.J., et al. [1992, p.317-320, eng] 47-158

—Qilian Mountains

Features of physical geography and glacial resources in Qilian Mountains. Wu, G.H., [1985, p.1-8, chi] 47-1513

Climatic effects on the development of Qilian glaciers. Ding, L.F., et al. [1985, p.9-15, chi] 47-1514

Thickness measurement of a Qilian glacier. Su, Z., [1985, p.16-21, chi] 47-1515

Seismic survey in thickness of Glacier No.1 of Yanglong River. Zeng, Z.G., et al. [1985, p.22-26, chi] 47-1516

Ice formation of glaciers in Qilian Mountains. Xie, Z.C., et al. [1985, p.27-40, chi] 47-1517

Mass balance of glaciers in Qilian Mountains. Wang, Z.X., et al. [1985, p.41-53, chi] 47-1518

Temperature regime of No.5 Glacier, Yanglong River in Qilian Mountains. Huang, M.H., et al. [1985, p.54-60, chi] 47-1519

General features of glacier motion in Qilian Mountains. Sun, Z.Z., et al. [1985, p.61-72, chi] 47-1520

China

—Qilian Mountains *(cont.)*

Preliminary research of sedimentary fabric of modern till in Qilian Mountains. Wu, A.B., [1985, p.73-81, chi] 47-1521

Recent advance and retreat of glaciers in Qilian Mountains. Xie, Z.C., et al. [1985, p.82-90, chi] 47-1522

Climatic and glacier changes in the Qilian Mountains. Ding, L.F., et al. [1985, p.91-96, chi] 47-1523

Tree ring climatology as reflected in Qilian glaciers. Liu, G.Y., et al. [1985, p.97-108, chi] 47-1524

Cold desert soils and glacier variation in the Qilian Mountains. Hu, S.X., [1985, p.109-115, chi] 47-1525

On problems of Quaternary Ice Age in Qilian Mountains. Wu, G.H., [1985, p.116-123, chi] 47-1526

Variations of runoff supply and discharge of rivers with elevation in Qilian Mountains. Lai, Z.M., [1985, p.124-130, chi] 47-1527

Features of interior rivers and feeding of glacial meltwater in the Hexi region, Gansu Province. Gao, Q.Z., et al. [1985, p.131-141, chi] 47-1528

Analysis and reasonable utilization of runoff in the Shiyang River. Zhou, B.C., [1985, p.142-149, chi] 47-1529

Artificial melting of glaciers in the Qilian Mountains. Bai, C.Y., et al. [1985, p.150-162, chi] 47-1530

Artificial dusting of glaciers in the Qilian Mountains. Bai, C.Y., [1985, p.163-171, chi] 47-1531

Formation and utilization of "stream icing" in the mountainous regions. Bai, C.Y., et al. [1985, p.172-185, chi] 47-1532

Recent change and trend prediction of glaciers in Qilian Mountain. Liu, C.H., et al. [1992, p.1-9, chi] 47-1533

Glacier water resources and effect of glacier water in stream runoff in Qilian Mountain. Yang, Z.N., [1992, p.10-20, chi] 47-1534

Mass balance of a Qilian glacier. Liu, C.H., et al. [1992, p.21-33, chi] 47-1535

Air temperature at the surface of Qilian glaciers. Liu, C.H., [1992, p.34-39, chi] 47-1536

Surface movement velocity of the Qiyi Glacier in Qilian Mountain. Song, G.P., et al. [1992, p.40-44, chi] 47-1537

Characteristics of the recent climatic variations over the Qilian Mountain area. Kang, X.C., [1992, p.45-53, chi] 47-1538

Study on the climatic variation in the Qilian Mountain region for the historical period. Kang, X.C., [1992, p.54-63, chi] 47-1539

Runoff variation of the inland rivers in Gansu Province and its climate dependence. Lai, Z.M., [1992, p.64-70, chi] 47-1540

Analysis and simulation of annual runoff processes for some rivers in Hexi region. Hu, X.G., [1992, p.71-83, chi] 47-1541

Analysis of temperature-runoff relationship in the eastern section of Qilian Mountain. Lai, Z.M., [1992, p.84-90, chi] 47-1542

Runoff and its generation model of cold region in Binggou basin of Qilian Mountain. Yang, Z.N., et al. [1992, p.91-100, chi] 47-1543

Runoff and meteorological factors in the Qilian Mountains. Cao, Z.T., et al. [1992, p.101-110, chi] 47-1544

Hydrochemical characteristics in Binggou basin of Heihe River in Qilian Mountain. Sheng, W.K., et al. [1992, p.111-120, chi] 47-1545

Distribution of precipitation in the Qilian Mountains. Yang, Z.N., et al. [1992, p.121-132, chi] 47-1546

Water balance and water resources of Heihe Basin in Qilian Mountain. Yang, Z.N., [1992, p.133-147, chi] 47-1547

Runoff analysis and estimation of the Binggou Basin in the Qilian Mountain. Yang, Z.H., et al. [1992, p.251-257, chi] 47-1665

—Qinghai-Xizang Plateau

Quaternary glaciation in the Qinghai-Xizang Plateau. Deng, X.F., et al. [1992, p.153-160, chi] 47-1652

Ice core evidence from Peru and China. Thompson, L.G., [1992, p.517-548, eng] 47-2099

Alpine timberline of Tibet. Li, B.S., [1993, p.511-527, eng] 47-4559

—Sichuan Province

Extreme heavy debris flow in Mt. Gongga. Lu, R.R., [1992, p.174-177, chi] 47-1655

—Tian Shan

Physical properties of snow cover and estimation of snowmelt. Yang, D.Q., et al. [1991, p.169-177, eng] 47-1304

Relationship between runoff and meteorological factors. Kang, E.S., [1991, p.189-202, eng] 47-1306

Snow sublimation in the Urumqi River Basin. Yang, D.Q., et al. [1992, p.122-128, chi] 47-1648

Characteristics of seasonal snow cover in Urumqi River Basin. Zhang, Z.Z., et al. [1992, p.129-133, chi] 47-1649

Simultaneous monitoring of mass balance fluctuations and runoff of the Tianshan glaciers. Diurgerov, M.B., et al. [1992, p.226-232, chi] 47-1662

Characteristics of precipitation in the source area of the Urumqi River Basin. Yang, D.Q., et al. [1992, p.258-266, chi] 47-1666

Basic characteristics of river ice in the Urumqi River Basin. Zhang, Z.Z., [1992, p.267-270, chi] 47-1667

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Sea ice algae growth related to a salinity gradient in Hudson Bay. Legendre, L., et al. [1992, p.445-453, eng] 47-1469

Bio-optical variability across the Arctic Front. Trees, C.C., et al. [1992, p.455-461, eng] 47-1470

Chukchi Sea

Meso-scale characteristics of the distribution of water *masses in the Chukchi Sea.* Abramov, V.A., et al. [1990, p.126-132, rus] 47-3599

Analysis of factors determining the circulation of waters in the Chukchi Sea. Kulakov, M.IU., et al. [1991, p.59-64, rus] 47-3691

Estimates of parameters of vertical turbulent exchange in the Chukchi Sea based on observational data. Pavlov, V.K., et al. [1991, p.101-106, rus] 47-3696

Results of the Third Joint US-USSR Bering & Chukchi Seas Expedition (BERPAC), Summer 1988. Nagel, P.A., ed. [1988, 415p., eng] 47-3864

Sediment inventory of Cs-137 in the Eastern Chukchi Sea, Northwest Alaskan Arctic. Baskaran, M., et al. [1993, p.37-47, eng] 47-5019

Radioactivity and *environmental problems for the seas and* oceans. Israel, IU.A., et al. [1993, p.65-78, eng] 47-5021

Marine humic acids in Bering and Chukchi sea ecosystems. Perminova, I.V., et al. [1993, p.43-49, eng] 47-5227

Circulation

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Cirque glaciers

Equilibrium line altitude variations with latitude, today and during the late Wisconsin. Pelto, M.S., [1992, p.41-46, eng] 47-198

Freeze thaw at a glacier headwall. Gardner, J.S., [1992, p.89-102, eng] 47-848

Mass balance of a cirque glacier in the Italian Alps. Catasta, G., et al. [1993, p.87-90, eng] 47-3942

Glaciers. Hambrey, M.J., et al. [1992, 207p., eng] 47-4009

Multiple glaciation in Scandinavia—seen in gross morphology or not?. Rudberg, S., [1992, p.231-243, eng] 47-4332

Cirques

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Classifications

Bothnian Experiment in Preparation for ERS-1, 1988 (BEPERS-88)—an overview. Askne, J., et al. [1992, p.2377-2398, eng] 47-254

Classification of low-salinity sea ice types by ranging scatterometer. Hyyppä, J., et al. [1992, p.2399-2413, eng] 47-255

SAR image classification of ice in the Gulf of Bothnia. Sun, Y., et al. [1992, p.2489-2514, eng] 47-260

Unsupervised segmentation of polarimetric SAR data using the covariance matrix. Rignot, E.J., et al. [1992, p.697-705, eng] 47-356

Snow avalanches of Himalaya—an analysis. Rao, N.M., *et al. [1985, p.327-340, eng]* 47-550

Snow avalanches—classification, detection and search of *victims.* Bhandari, R.K., et al. [1985, p.341-346, eng] 47-551

Glaciers and glacial geomorphology in China. Shi, Y.F., [1992, p.51-63, eng] 47-1005

Application of nonlinear colour enhancement on transparencies for interpretation of glacier surface characteristics. Cao, M.S., et al. [1992, p.190-192, eng] 47-1110

Classification of snow cover and precipitation using SSM/I measurements: case studies. Fiore, J.V., Jr., et al. [1992, p.3349-3361, eng] 47-1442

Multisource evidential classification of surface cover and frozen ground. Peddle, D.R., et al. [1992, p.3375-3380, eng] 47-1443

Observations on the rock glaciers of Monte Emilius (Valle d'Aosta, Italy). Smiraglia, C., [1992, p.163-168, eng] 47-1757

Glaciological mapping and global seasonal snow storage. Kotliakov, V.M., et al. [1992, p.123-147, eng] 47-1764

Large-scale characteristics of the global distribution of *snow cover.* Loktionova, E.M., [1992, p.148-159, eng] 47-1765

Registration of vehicular tracks on the Svalbard archipelago. Raheim, E., [1992, 51p., eng] 47-1890

Unsurfaced road management rating system. Eaton, R.A., et al. [1993, p.25, eng] 47-1911

Designing for ice conditions in marinas. Wortley, C.A., [1992, p.48-50, eng] 47-1921

Recent microweathering *phenomena in southern and* central Sweden. Swantesson, J.O.H., [1992, p.275-292, eng] 47-2237

Cavity development in ice-rich permafrost, Pangnirtung, Baffin Island, Northwest Territories. Hyatt, J.A., [1992, p.293-313, eng] 47-2238

Mathematical approach to the segmentation of sea-ice SAR images. Korsnes, R., [1993, p.313-332, eng] 47-2753

Rock glacier geomorphology in the Canadian Arctic. Evans, D.J.A., [1993, p.17-35, eng] 47-3115

Cirrus identification from multichannel satellite data. Sterliadkina, E.A., et al. [1992, p.729-733, eng] 47-3158

Crystal structure of typical snow crystals of low temperature types. Sato, N., et al. [1989, p.521-528, eng] 47-3467

Polarimetric signatures in the stratiform region of a mesoscale convective system. Zrnic, D.S., et al. [1993, p.678-693, eng] 47-3508

Precipitation detection with a scintillation device. Wang, T.I., [1988, 14 col., eng] 47-3637

Glaciomarine sediment indicators of Weddell Sea *depositional processes.* Kuhn, G., *et al. [1993, p.477-*487, eng] 47-3644

Algorithms for alpine land cover classification. Peddle, D.R., [1993, p.31-44, eng] 47-3723

Scale and remotely sensed data for change detection in the James Bay, Ontario, coastal wetlands. McNairn, H., et al. [1993, p.45-49, eng] 47-3724

Mapping partial snowcover during the melt season using C-band SAR imagery. Donald, J.R., et al. [1993, p.68-76, eng] 47-3725

Intercomparison of artificial intelligence approaches for polar scene identification. Tovinkere, V.R., et al. [1993, p.5001-5016, eng] 47-3781

Enhancement of microwave images of sea ice. Full, W.E., et al. [1993, p.1-23, eng] 47-3917

Classification of permafrost active layer depth from *remotely sensed and topographic evidence.* Peddle, D.R., et al. [1993, p.67-80, eng] 47-3918

Mega-scale glacial lineations and cross-cutting ice-flow landforms. Clark, C.D., [1993, p.1-29, eng] 47-4250

Analysis of glacial landforms from relief maps. Lidmar-Bergström, K., et al. [1991, p.61-91, eng] 47-4308

Scattering of light by polyhedral ice crystals. Macke, A., *[1993, p.2780-2788, eng]* 47-4348

Form of cyclonic precipitation and its thermal impact. *Gedzelman, S.D., et al. [1993, p.1957-1978, eng]* 47-4355

Arctic sea ice signatures for passive microwave algorithms. Thomas, D.R., [1993, p.10,037-10,052, eng] 47-4375

Reflectance characteristics of arctic tundra vegetation from airborne radiometry. Stow, D.A., et al. [1993, p.1239-1244, eng] 47-4403

Proceedings. [1993, 2 vol., eng] 47-4415

Ice studies in the Barents Sea by ERS-1 SAR during SIZEX 92. Johannessen, O.M., et al. [1993, p.277-282, eng] 47-4425

Validation of ERS-1 SAR measurements of sea ice during ARCTIC-91. Askne, J., et al. [1993, p.289-294, eng] 47-4427

Arctic coastal polynya observations with ERS-1 SAR and DMSP SSM/I. Cavalieri, D.J., et al. [1993, p.295-299, eng] 47-4428

Arctic sea ice microwave signature and geophysical processes study. Onstott, R.G., et al. [1993, p.329-332, eng] 47-4434

Sea ice radar signatures from ERS-1 SAR during late summer and fall in the Beaufort and Chukchi Seas. Holt, B., et al. [1993, p.339-342, eng] 47-4436

ERS-1 SAR *use in the Canadian sea ice monitoring* program. Shokr, M.E., et al. [1993, p.355-360, eng] 47-4439

Sea ice feature and type identification in merged ERS-1 SAR and Landsat Thematic Mapper imagery. Steffen, K., et al. [1993, p.361-365, eng] 47-4440

Evaluating ERS-1 ice motion and classification products. Fetterer, F.M., et al. [1993, p.373-375, eng] 47-4442

Monitoring of snowcover in high mountain terrain with ERS-1 SAR. Haefner, H., et al. [1993, p.583-588, eng] 47-4446

Zonality of macrolichens in British Columbia. Goward, T., et al. [1992, 60p., eng] 47-4516

Roughness of Weddell Sea ice and estimates of the air-ice *drag coefficient.* Andreas, E.L., et al. [1993, p.12,439-12,452, eng] 47-4521

Passive microwave remote sensing of thin sea ice using principal component analysis. Wensnahan, M.R., et al. [1993, p.12,453-12,468, eng] 47-4522

Seed and vegetation dynamics in an alpine herb field: effects of disturbance type. Chambers, J.C., [1993, p.471-485, eng] 47-4584

Occurrence of algae on tundra soils in Oscar II Land, Spitsbergen. Oleksowicz, A.S., et al. [1992, p.131-147, eng] 47-4652

Polarimetric measurements in a severe hailstorm. Zrnić, D.S., et al. [1993, p.2223-2238, eng] 47-4706

Discovery of a new sea ice diatom genus. Poulin, M., [1993, p.223-233, eng] 47-4735

Taxonomic revision of a herb distribution in arctic landscapes. Bayer, R.J., [1993, p.150-159, eng] 47-4747

Satellite remote sensing of subalpine forest types. Franklin, S.E., [1992, p.25-35, eng] 47-4827

Optical characteristics of arctic-source bitumens. Goodarzi, F., et al, [1993, p.359-376, eng] 47-4829

Ice conditions offshore West Greenland. Thomsen, H.H., [1993, p.43-47, eng] 47-4916

Manual for planning and implementing road surface condition studies in wintertime—vol.1 and 2. Gabestad, K.O., [1988, 2 vols., nor] 47-4991

Classification of the maximum annual Baltic Sea ice cover extent—1720-1992. Seinä, A., et al, [1993, p.5-20, fin] 47-4995

Antarctic sea ice mapping using the AVHRR. Zibordi, G., et al, [1993, p.155-163, eng] 47-5060

Identification of clear and cloudy pixels at high latitudes from AVHRR radiances. Sakellariou, N.K., et al, [1993, p.2005-2024, eng] 47-5106

Satellite retrieval of lower-tropospheric ice crystal clouds in the polar regions. Wilson, L.D., et al, [1993, p.1467-1472, eng] 47-5214

Avalanche prediction in Scotland: I. A survey of avalanche activity. Ward, R.G.W., [1984, p.91-108, eng] 47-5254

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Structure and thermodynamic properties of water-methanol mixtures: role of the water-water interaction. Tanaka, H., et al, [1992, p.2626-2634, eng] 47-208

Hydrate dissociation enthalpy and guest size. Sloan, E.D., et al, [1992, p.123-140, eng] 47-588

Calculation of phase diagrams of gas-hydrates. Lundgaard, L., et al, [1992, p.141-149, eng] 47-589

Crystallographic analyses of clathrate hydrates included in Vostok ice cores. Hondoh, T., et al, [1992, p.268-278, jpn] 47-976

On the thermodynamic stability of clathrate hydrate. I. Tanaka, H., et al, [1993, p.4098-4109, eng] 47-2673

Thermodynamic stability of clathrate, pt.2. Tanaka, H., et al, [1993, p.8110-8118, eng] 47-3582

Thermodynamic properties of ice and of tetrahydrofuran hydrate in confined geometries. Zakrzewski, M., et al, [1993, p.631-637, eng] 47-4738

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Detecting organic chemical contaminants by spectral-*induced polarization method in glacial till environment.* Vanhala, H., et al, [1992, p.1014-1017, eng] 47-779

Mineralogic and microsonde analysis of volcanic ash in the vicinity of Juan Carlos I Station. Eraso, A., et al, [1989, p.80-88, spa] 47-815

Specific features of mineral changing *in cryogenic* soils under gleyformation process. Zvereva, T.S., [1992, p.145-148, eng] 47-1720

Mineral criterion for evaluating the frost-susceptibility of pavement structures and soils. Brandl, H., [1992, *p.3034-3035, eng*] 47-1818

Seasonality in the *mineral* stability of a subalpine spodosol. Zabowski, D., et al, [1992, p.497-507, eng] 47-2189

Bitumen-vermiculite as thermal insulation beneath a roll roof. Antsiferov, IU.M., et al, [1991, p.82-85, rus] 47-2936

Economic effectiveness of the production and use of lignovermiculite as thermal insulation products. Rabcheniuk, G.P., et al, [1991, p.85-95, rus] 47-2937

Clay soils

Hydraulic conductivity of compacted clay frozen and thawed *in situ.* Benson, C.H., et al, [1993, p.276-294, *eng*] 47-2545

Field and laboratory tests of clay tills at Hertfordshire. Marsland, A., et al, [1991, p.229-238, eng] 47-3880

Solifluction shears at Carsington, Derbyshire. Skempton, A.W., et al, [1991, p.381-387, eng] 47-3890

Periglacial discontinuities in Eocene clays near Denham. Buckinghamshire. Spink, T.W., [1991, p.389-396, eng] 47-3891

Basic genetic patterns of peaty-podzolic-gleyey soils. Zaboeva, I.V., [1991, p.4-12, rus] 47-4103

Frost process and thermal degradation of *frozen soils.* Thimus, J.F., [1993, p.51-57, eng] 47-4120

Swelling of frozen clay soils contaminated by *sodium* chloride. Kumor, M.K., [1993, p.97-102, eng] 47-4127

Preconsolidation pressures in the Battleford Formation, southern Saskatchewan, Canada. Sauer, E.K., et al, [1991, p.1613-1623, eng] 47-4257

Clays

Ground moraines in European northeastern Russia and their lithostratigraphic significance. Andreicheva, L.N., [1992, 124p., rus] 47-1499

Effect of prolonged freezing on chemical properties of soils and clays. Polubesova, T.A., et al, [1992, p.140-145, eng] 47-1719

Shale compaction and stratigraphic restoration. Issler, D.R., [1992, p.1170-1189, eng] 47-2775

Effect of freeze-thaw on the hydraulic conductivity and morphology of compacted clay. Othman, M.A., et al, [1993, p.236-246, eng] 47-4512

Climate

Aerosol and general atmospheric circulation models. Genthon, C., [1992, p.371-389, eng] 47-836

Tropospheric aerosol and climate: results from numerical experiments. Kolomeev, M.P., et al, [1991, p.253-257, eng] 47-2896

Effect of a meridional profile of surfaces on the characteristics of large-scale atmospheric waves. Bekriaev, R.V., et al, [1992, p.75-86, rus] 47-3807

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Anticipated human modifications of global climate. Budyko, M.I., et al, [1990, p.11-23, eng] 47-171

Prediction of building energy consumption. Pakanen, J., [1992, 32p. + appends., eng] 47-3134

Climatic changes

Lichenometric and radiocarbon dating of Holocene glaciation, Cordillera Blanca, Peru. Rodbell, D.T., [1992, p.19-29, eng] 47-52

What were the primary forcing mechanisms of high-frequency Holocene climate and glacier variations. Nesje, A., et al, [1992, p.79-84, eng] 47-53

Behaviour of New Zealand glaciers and atmospheric circulation changes over the past 130 years. Fitzharris, B.B., et al, [1992, p.97-106, eng] 47-54

Geomorphological evidence of Holocene climatic change from northwest Ellesmere Island, Canadian high arctic. Evans, D.J.A., et al, [1992, p.148-158, eng] 47-55

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Glaciers of Novaya Zemlya and the climate. Koriakin, V.S., [1990, p.23-29, rus] 47-172

How to measure a glacier. [1991, p.6-7, eng] 47-179

Recent tendencies in climatic changes in the *Arctic.* Aleksandrov, E.I., et al, [1992, p.865-868, rus] 47-237

Severe winters and droughts. Sazonov, B.I., [1991, 239p., rus] 47-363

Tectonic forcing of late Cenozoic climate. Raymo, M.E., et al, [1992, p.117-122, eng] 47-373

Iceberg calving and the glacioclimatic record. Warren, C.R., [1992, p.253-282, eng] 47-424

Significance of global snow and ice cover for global change studies. Barry, R.G., [1992, p.293-297, eng] 47-448

Use of energy-balance model to reflect climate sensitivity of glaciers. Oerlemans, J., [1992, p.223-232, eng] 47-463

Recent fluctuations of glaciers in Valtellina (Italian Alps) and climatic variations. Pelfini, M., et al, [1992, p.309-313, eng] 47-472

Growing season trends in the Alaskan climate record. Sharratt, B.S., [1992, p.124-127, eng] 47-518

Arctic insects as indicators of environmental change. Danks, H.V., [1992, p.159-166, eng] 47-519

Revision of Kuhle's ice sheet hypothesis related to Tibetan glaciation. Shi, Y.F., et al, [1992, p.19-35, eng] 47-777

Defining the boundaries of the *Late-Glacial isotope* episodes. Broecker, W.S., [1992, p.135-138, eng] 47-986

Paleoclimatology of continental ice sheet in response to CO2 variations. Gallée, H., et al, [1992, p.15,713-15,740, eng] 47-998

Climate and glacier change: the dilemma of the representative station. Marcus, M.G., et al, [1992, p.1-14, eng] 47-1002

Computational modeling of antarctic lake ice. Lindner, B.L., et al, [1992, p.105-116, eng] 47-1022

Relation between recent glacier variations and climate in *the Tien Shan mountains,* central Asia. Liu, C.H., et al, [1992, p.11-16, eng] 47-1079

Trends and features of climatic changes in the past 5000 years recorded by the Dunde ice core. Yao, T.D., et al, [1992, p.21-24, eng] 47-1081

Dramatic retreat of *Mount Kenya's glaciers between* 1963 and 1987: greenhouse forcing. Hastenrath, S., et al, [1992, p.127-133, eng] 47-1097

Relationship between the Earth's thermal regime and snow-ice cover during climate warming and cooling. Balkova, I.M., [1989, *p.21-27, eng*] 47-1229

Global changes in the environment as "mirrored" in an ice core. Kotliakov, V.M., [1992, p.59-68, rus] 47-1250

Global warming and future agroclimatic resources of the Russian Plain. Sirotenko, O.D., et al, [1991, p.83-88, rus] 47-1253

Temperature-precipitation relationships for Canadian *stations.* Isaac, G.A., et al, [1992, p.822-830, eng] 47-1268

Greenhouse gas-induced climate change simulated with the CCC second-generation general circulation model. Boer, G.J., et al, [1992, p.1045-1077, eng] 47-1270

Review of greenhouse gases in the Vostok ice core. Raynaud, D., et al, [1992, p.381-386, eng] 47-1282

Impacts of summer warming on the energy and water balance of wetland tundra. Rouse, W.R., et al, [1992, p.305-326, eng] 47-1375

Climate at the equilibrium *line* of glaciers. Ohmura, A., et al, [1992, p.397-411, eng] 47-1391

Asian snow cover-monsoon-ENSO connection. Barnett, T.P., et al, [1991, p.191-225, eng] 47-1503

Snow hydrology. Marshall, S., et al, [1991, p.149-154, eng] 47-1504

Observational evidence of changes in global snow and ice *cover. Barry, R.G., [1991, p.329-345, eng]* 47-1505

Global climatic changes in water and heat transfer – accumulation processes. Dobrovol'skii, S.G., [1992, 265p., eng] 47-1512

Characteristics of the recent climatic variations over the Qilian Mountain area. Kang, X.C., [1992, p.45-53, chi] 47-1538

Study on the climatic variation in the Qilian Mountain region for the historical period. Kang, X.C., [1992, p.54-63, chi] 47-1539

Influence of glacier hydrology on the dynamics of *a large* Quaternary ice sheet. Arnold, N., et al, [1992, p.109-124, eng] 47-1559

Radiative climate forcing from stratospheric ozone loss. Ramaswamy, R., et al, [1992, p.810-812, eng] 47-1593

Variation features of large-scale snow cover in Northern Hemisphere. Wang, G.Y., et al, [1992, p.115-121, chi] 47-1647

Mountain glacier fluctuations and climatic change during the last 100 years. Wang, N.L., et al, [1992, p.242-250, chi] 47-1664

Climate, history and the modern world. Lamb, H.H., [1982, 387p., eng] 47-1680

Emission of CO2 and CH4 from northern wetlands to atmosphere. Panikov, N.S., et al, [1992, p.208-216, eng] 47-1731

High latitude environments and environmental change. Kullman, L., [1992, p.478-488, eng] 47-1744

Global changes during the latest glacial-interglacial cycle. Kotliakov, V.M., et al, [1992, p.89-113, eng] 47-1762

Reflection of twentieth-century climatic warming in glacier cores from *Nordaustlandet.* Sin'kevich, S.A., [1992, p.114-122, eng] 47-1763

Asthenospheric ice-load effects in a global dynamical-system model of the Pleistocene climate. Saltzman, B., et al, [1992, p.1-11, eng] 47-1791

Postglacial emergence in the Canadian High Arctic: integrating glacioisostasy, eustasy, and late deglaciation. England, J., [1992, p.984-999, eng] 47-1796

Peatland development in relation to Holocene climatic change in Manitoba and Saskatchewan (Canada). Kuhry, P., et al, [1992, p.1070-1090, eng] 47-1798

Evaporation and ice growth in Mackenzie Delta lakes. Marsh, P., [1991, p.257-266, eng] 47-1812

Temperature and precipitation series at Norwegian arctic meteorological stations. Nordli, P.Ø., [1990, 14p., eng] 47-1917

'Flickering switch' of Late Pleistocene climate change. *Taylor, K.C., et al, [1993, p.432-436, eng]* 47-1938

Carbonate isotopic composition of the loess-paleosol sequence and its implication of paleoclimatic change. Gu, Z.Y., [1991, p.1979-1983, eng] 47-1951

Climate change and energy production: status and plans. *Saelthun,* N.R., [1992, p.37-46, nor] 47-1955

Frequency of extremes and its relation to climate fluctuations. Krasovskaia, I., et al, [1992, p.47-58, eng] 47-1956

Floods in Sweden—occurrence and trends. Lindström, *G., [1992, p.65-74, eng]* 47-1957

Black carbon concentration in Byrd Station ice core: from 13,000 to 700 years before present. Chýlek, P., et al, [1992, p.625-629, eng] 47-2005

Response of the Canadian permafrost environment to climatic change. Woo, M.K., et al, [1992, p.287-317, eng] 47-2018

Influence of terrain on bedrock temperatures. Lewis, T.J., et al, [1992, p.87-100, eng] 47-2019

Climatic changes in central and eastern Canada inferred from deep borehole temperature data. Wang, K., et al, [1992, p.129-141, eng] 47-2020

Paleoclimate change and heat flow density inferred from temperature data in the Superior Province of the Canadian Shield. Shen, P.Y., et al, [1992, p.143-165, eng] 47-2021

Evidence of climatic changes from Canadian borehole measurements. Beltrami, H., et al, [1992, p.167-184, eng] 47-2022

Reduced geothermal gradients in the shallow West-Siberian Platform. Duchkov, A.D., et al, [1992, p.245-250, eng] 47-2024

Ice record of greenhouse gases. Raynaud, D., et al, [1993, p.926-934, eng] 47-2028

Estimating permafrost zone dynamics in northern Eurasia under global climatic warming. Velichko, A.A., et al, [1992, p.667-671, rus] 47-2037

International environmental politics and ozone depletion. Litfin, K.T., [1992, 474p., eng] 47-2046

Climate since A.D. 1500. Bradley, R.S., ed, [1992, 679p., eng] 47-2078

Climate since A.D. 1500: introduction. Bradley, R.S., et al, [1992, p.1-16, eng] 47-2079

Historical and instrumental evidence of climate: western Hudson Bay, Canada, 1714-1850. Ball, T.F., [1992, p.40-73, eng] 47-2081

Historical climate records from the northeastern United States, 1640-1900. Baron, W.R., [1992, p.74-91, eng] 47-2082

Documentary evidence for changes in the climate of Iceland, A.D. 1500 to 1800. Ogilvie, A.E.J., [1992, p.92-117, eng] 47-2083

Monthly temperature and precipitation in central Europe 1525-1979. Pfister, C., [1992, p.118-142, eng] 47-2084

Climatic changes *(cont.)*

Reconstructing the climate of northern Italy from archive sources. Camuffo, D., et al. [1992, p.143-154, eng] **47-2085**

Three historical data series on floods and anomalous climatic events in Italy. Pavese, M.P., et al. [1992, p.155-170, eng] **47-2086**

Documentary evidence from the U.S.S.R. Borisenkov, E.P., [1992, p.171-183, eng] **47-2087**

Climatic variations in the longest instrumental records. Jones, P.D., et al. [1992, p.246-268, *eng*] **47-2088**

Mapping climate using tree-rings from western North America. Fritts, H.C., et al. [1992, p.269-295, eng] **47-2089**

Dendroclimatic evidence from northern North America. D'Arrigo, R.D., et al. [1992, p.296-311, eng] **47-2090**

Dendroclimatic evidence from the Great Plains of the United States. Meko, D.M., [1992, p.312-330, eng] **47-2091**

Dendroclimatic evidence from eastern North America. Cook, E.R., et al. [1992, p.331-348, eng] **47-2092**

Dendroclimatic evidence from the northern Soviet Union. Graybill, D.A., et al. [1992, p.393-414, eng] **47-2093**

Dendroclimatic evidence from the western Himalaya. Hughes, M.K., [1992, p.415-431, *eng*] **47-2094**

Dendroclimatic studies in China. Wu, X.D., [1992, p.432-445, eng] **47-2095**

South American dendroclimatological records. Boninsegna, J.A., [1992, p.446-462, eng] **47-2096**

Ice core climate signals from Mount Logan, Yukon, A.D. 1700-1897. Holdsworth, G., et al. [1992, p.483-504, eng] **47-2097**

Arctic from Svalbard to Severnaya Zemlya: climatic reconstructions from ice cores. Tarussov, A.V., [1992, p.505-516, eng] **47-2098**

Ice core evidence from Peru and China. Thompson, L.G., [1992, p.517-548, *eng*] **47-2099**

Ice core evidence from the Antarctic Peninsula region. Peel, D.A., [1992, p.549-571, eng] **47-2100**

Paleoenvironmental conditions in Antarctica since A.D. 1500: ice core evidence. Mosley-Thompson, E., [1992, p.572-591, eng] **47-2101**

Climatic variations over the last 500 years. Jones, P.D., et al. [1992, p.649-665, eng] **47-2102**

Climate change and evapotranspiration modelling. [1992, 160p., eng] **47-2122**

Modelling hydrological effects of climate change. Saelthun, N.R., *[1992, p.73-80, eng]* **47-2123**

Remote sensing and polar climate. Crane, R.G., [1986, p.38-41, eng] **47-2195**

Ice sheets and climate. Alley, R.B., [1989, p.41-45, *eng*] **47-2196**

Origin of dust in polar regions. Gillette, D.A., [1991, p.1719-1732, eng] **47-2221**

Nature and causes of climate change: assessing the long-term future. Goodess, C.M., et al. [1992, 248p., eng] **47-2223**

Long-term response of an arctic sedge to climate change: a simulation study. Leadley, P.W., et al. [1992, p.323-340, eng] **47-2288**

Atmospheric CO2 and global warming: a critical review. Jaworowski, Z., et al. [1992, 76p., eng] **47-2289**

Multiyear surface climatology of a regional atmospheric model over the western United States. Giorgi, F., et al, [1993, p.75-95, eng] **47-2460**

MSA and non-seasalt sulfate in the Vostok ice core. Saltzman, E.S., et al. [1991, p.88-89, eng] **47-2473**

Effect of climatic changes on water balance of a lake/ground water system. Crowe, A.S., [1993, p.33-73, eng] **47-2635**

Observed climate variations and change. Folland, C.K., *et al. [1990, p.198-238, eng]* **47-2652**

Evidence of periglacial processes in Virginia mountains. Whittecar, G.R., et al. [1992, p.487-494, eng] **47-2704**

Reflection of 20th-century climatic warming in the glacier cores of Nordauslandet. Sin'kevich, S.A., [1991, p.53-59, rus] **47-2788**

Dendro-indication of climatic conditions in the areas of glaciation in the polar Urals and southern Tien-Shan. Adamenko, V.N., *et al. [1991, p.159-164, rus]* **47-2807**

Climatic change effects on Swedish periglacial environment. Akerman, H.J., [1991, p.176-187, eng] **47-2854**

Reassessment of Crete (Greenland) ice core acidity/volcanism link to climate change. Crowley, T.J., et al. [1993, p.209-212, eng] **47-2856**

Sea-ice interaction with the thermohaline circulation. Yang, J.Y., et al. [1993, p.217-220, eng] **47-2859**

Last deglaciation event in Antarctica. Jouzel, J., et al. *[1993, p.229-266, eng]* **47-2866**

Abrupt increase in Greenland snow accumulation. Alley, *R.B., et al. [1993, p.527-529, eng]* **47-2892**

Homogeneity problems in Danish and Greenlandic temperature time series. Frich, P., [1993, p.139-142, eng] **47-3081**

Towards unbiased estimates of North American precipitation. Groisman, P.IA., [1993, p.143-147, eng] **47-3082**

Periglacial processes in Mongolian mountains. Cui, Z.J., et al. [1992, p.55-62, eng] **47-3127**

Antarctica and the detection of environmental change. Weller, G., [1992, p.201-208, eng] **47-3139**

Antarctic climate and general circulation model experiments. Cattle, H., et al. [1992, p.209-218, eng] **47-3140**

Ice core record for past and future climate studies. Lorius, C.J., et al. [1992, *p.227-234, eng*] **47-3142**

Response of large ice sheets to climatic change. Drewry, D.J., *et al. [1992, p.235-242, eng]* **47-3143**

Sedimentary record of antarctic climate change. Barker, P.F., [1992, p.259-267, eng] **47-3145**

Rock weathering, soil development and colonization under a changing climate. Hall, K.J., et al. [1992, p.269-277, eng] **47-3146**

Inconsistencies in modern notions about the greenhouse effect and future environmental conditions. Reznikov, A.P., [1992, p.165-170, rus] **47-3268**

Atmospheric and climatic changes. Golitsyn, G.O., et al, [1992, p.33-43, rus] **47-3285**

Landfast ice thickness variations in the Canadian High Arctic. Brown, R.D., et al. [1992, p.273-284, eng] **47-3321**

Climatic regime of the Arctic at the transition from the 20th to the 21st century. Krutskikh, B.A., ed. [1991, 200p., rus] **47-3334**

Pine tree-limit surveillance in Sweden. Kullman, L., [1993, p.24-31, eng] **47-3424**

Effect of site disturbance on the soil thermal regime near Fort Simpson, Northwest Territories, Canada. Hayhoe, H.N., et al. [1993, p.37-44, eng] **47-3426**

Design of greenhouses for the manipulation of temperature in tundra plant communities. Debevec, E.M., et al, *[1993, p.56-62, eng]* **47-3429**

Early Pleistocene paleoclimate indicated by Greenland sediments. Penney, D.N., [1993, p.49-66, eng] **47-3460**

Pleistocene glaciation in Iceland. Eirîksson, J., et al, [1992, p.733-757, eng] **47-3473**

Late Pleistocene ice age scenarios based on observational evidence. Deblonde, G., et al. [1993, p.709-727, eng] **47-3475**

Recent variations of sea ice and air temperature in high latitudes. Chapman, W.L., et al. [1993, p.33-47, eng] **47-3477**

Last interglacial evidence in Northern Hemisphere high latitudes. Anderson, P., et al, [1991, p.9-28, eng] **47-3478**

Land-ocean-atmosphere relationships during last interglacial. Anderson, P., et al. [1991, p.29-48, eng] **47-3479**

Last interglaciation in Alaska: stratigraphy and paleoecology of potential sites. Hamilton, T.D., et al, *[1991, p.49-71, eng]* **47-3480**

Framework for interpreting paleoclimatic variations in eastern Beringia. Bartlein, P.J., et al. [1991, p.73-83, eng] **47-3481**

Interglaciation palynology in the Yukon. Schweger, C.E., et al. [1991, p.85-94, eng] **47-3482**

Paleoenvironments in the northwest North Atlantic. De Vernal, A., et al. [1991, p.95-106, eng] **47-3483**

Isotope stage 5 (130-74 ka) in Greenland—a review. Funder, S., et al. [1991, p.107-122, eng] **47-3484**

Last interglacial as recorded in the Greenland ice sheet and Canadian arctic ice caps. Reeh, N., [1991, p.123-142, eng] **47-3485**

Eemian-Early Weichselian N-S temperature gradients: North Atlantic-NW Europe. Sejrup, H.P., et al. [1991, p.161-166, eng] **47-3488**

Climatic rhythm of the last interglacial in northern Eurasia. Velichko, A.A., et al. [1991, p.191-213, eng] **47-3490**

Problems of the last interglacial in arctic Siberia. Sher, A.V., [1991, p.215-222, eng] **47-3491**

Insolation effects on last interglacial climate. Kutzbach, J.E., et al. [1991, p.223-229, eng] **47-3492**

General circulation models, palaeoclimatic data and last *interglacial climates.* Harrison, S.P., *et al, [1991,* p.231-242, eng] **47-3493**

Proceedings. [1992, 344p., eng] **47-3555**

Strength of the Nordic heat pump. Broecker, W.S., [1992, p.173-181, eng] **47-3557**

Reconstructed paleoclimatic meltwater anomalies. Sarnthein, M., et al. [1992, p.183-200, eng] **47-3558**

Reconstruction of paleoclimatic sea surface salinity. Duplessy, J.-C., et al. [1992, p.201-217, eng] **47-3559**

Ice-core evidence for a Holocene meltwater cap. Fisher, D.A., [1992, p.267-293, eng] **47-3560**

Palynological correlation of paleoclimatic changes. Peteet, D.M., [1992, p.327-344, eng] **47-3561**

Mass balance simulation of the *antarctic ice sheet.* Fortuin, J.P.F., et al. [1990, p.31-56, eng] **47-3572**

Astronomical theory of glaciation cycles. Grieger, B., [1990, p.81-96, eng] **47-3575**

Calculating the circulation and thermobarometric background in long range meteorological forecasts. Vinogradov, N.D., [1989, p.6-11, rus] **47-3653**

Scale and remotely sensed data for change detection in the James Bay, Ontario, coastal wetlands. McNairn, H., et al, [1993, p.45-49, eng] **47-3724**

Methanesulfonic acid in coastal antarctic snow related to sea-ice *extent.* Welch, K.A., *et al, [1993, p.443-446,* eng] **47-3728**

New parameterizations and sensitivities for simple climate models. Graves, C.E., et al. [1993, p.5025-5036, eng] **47-3783**

Interactive coupling of a lake thermal model with a *regional climate model.* Hostetler, S.W., et al. [1993, p.5045-5057, eng] **47-3784**

Sensitivity of streamflow simulation to changes in climatic inputs. Ng, H.Y.F., et al, [1992, p.257-272, eng] **47-3802**

Prospects for the development of methods for forecasting climatic changes in polar regions. Alekseev, G.V., [1992, p.5-21, rus] **47-3803**

Paleoclimate sensitivity to glacial ice cover. deMenocal, P.B., et al. [1993, p.7265-7287, eng] **47-3831**

Effects of climatic perturbations on the equilibrium-line altitude, West Greenland. Ambach, W., [1993, p.5-9, eng] **47-3935**

*Glaciation and deglaciation mechanisms in a coupled two-*dimensional climate—ice-sheet model. Berger, A., et al, [1993, p.45-49, eng] **47-3939**

Dendroclimatological analysis of tree growth patterns. Osawa, A., [1993, p.55-58, eng] **47-3975**

Long-term studies of snow-vegetation interactions. Walker, D.A., et al. [1993, p.287-301, eng] **47-4024**

Swedish varve chronology—a review. Boygle, J., [1993, p.1-19, eng] **47-4073**

Is the Greenland ice sheet getting thicker. Braithwaite, R.J., [1993, p.379-381, eng] **47-4136**

Interpretation of short-term ice-sheet elevation changes inferred from satellite altimetry. Van der Veen, C.J., [1993, p.383-405, eng] **47-4137**

Correlation between ice core isotope levels and air *temperature.* Jones, P.D., et al. [1993, p.14-26, eng] **47-4143**

2000-year lichen-snowkill chronology for the Colorado Front Range, USA. Benedict, J.B., [1993, p.27-33, eng] **47-4144**

Climate and permafrost. Gavrilova, M.K., [1993, p.99-111, eng] **47-4146**

Permafrost distribution changes in Pleistocene Soviet Union. Kondratieva, K.A., et al. [1993, p.113-119, eng] **47-4147**

Permafrost changes in Europe during the last Glacial. Vandenberghe, J., *et al. [1993, p.121-135, eng]* **47-4148**

Permafrost zonation in Russia under anthropogenic climatic change. Nelson, F.E., et al. [1993, p.137-148, eng] **47-4149**

Climate warming and the carbon cycle in the permafrost zone of the former Soviet Union. Kolchugina, T.P., et al, [1993, p.149-163, eng] **47-4150**

Mountain permafrost and climatic change. Haeberli, W., et al, [1993, p.165-174, eng] **47-4151**

Paleoclimate record for Northwind Ridge, western Arctic Ocean. Poore, R.Z., et al, [1993, p.149-159, *eng*] **47-4152**

Microfaunal evidence for elevated Pliocene temperatures in the Arctic Ocean. Cronin, T.M., et al. [1993, p.161-173, eng] **47-4153**

Patterns of ice-rafted detritus in the glacial North Atlantic (40-55 deg N). Grousset, F.E., et al. [1993, p.175-192, eng] **47-4154**

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Variations in snow on sea ice: a mechanism for producing climate variations. Ledley, T.S., [1993, p.10,401-10,410, eng] **47-4291**

Geomorphic features as indicators of *climatic fluctuations* in a periglacial environment, northern Sweden. Nyberg, R., et al, [1990, p.203-210, eng] **47-4314**

Boolean delay equation model of an interdecadal arctic climate cycle. Darby, M.S., et al, [1993, p.241-246, eng] **47-4354**

Terrigenous clastic sedimentation in antarctic dry valley lakes. Andersen, D.W., et al. [1993, p.71-81, eng] **47-4397**

Model for the hydrologic and climatic behavior of water on Mars. Clifford, S.M., [1993, p.10,973-11,016, eng] **47-4409**

Monitoring of the Greenland ice sheet using ERS-1 *synthetic aperture imagery.* Bindschadler, R.A., et al, [1993, p.253-257, eng] **47-4421**

*Modeling the delta*O-18-derived record of Quaternary climatic change with low dynamical systems. Saltzman, B., [1987, p.355-380, eng] **47-4453**

Cloud-ice-vapor feedbacks in a global climate model. Jentsch, V., [1987, p.417-437, eng] **47-4456**

GIS modelling of winter orographic precipitation. Hay, L.E., et al. [1993, p.491-499, eng] **47-4460**

Changes of alpine climate and glacier water resources. Chen, J.Y., [1991, 196p., eng] **47-4462**

Preprints. [1991, 528p. + joint papers, eng] **47-4480**

Modeling study of the role of snow on sea ice in producing *interannual climate variations. Ledley, T.S., [1991,* p.323-326, eng] **47-4486**

Recent climate variability in the Antarctic Peninsula. King, J.C., [1991, p.354-357, eng] **47-4489**

Astronomical theory of ice ages. Lin, R.Q., et al. [1991, p.495-496, eng] **47-4496**

Greenland Ice Core Project. Stauffer, B., [1993, p.1766-1767, eng] **47-4503**

Great Lakes air temperature trends for land stations, 1901-1987. Bolsenga, S.J., et al. [1993, p.379-388, eng] 47-4565
GRIP ice core record of climate instability. [1993, p.203-207, eng] 47-4570
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Glacial geology in Peruvian mountains. Rodbell, D.T., [1993, p.923-934, eng] 47-4580
Late Quaternary continental paleohydrology as related to future environmental change. Starkel, L., [1993, p.95-108, eng] 47-4586
Glacials-interglacials in Vostok: climate and greenhouse gases. Lorius, C.J., et al. [1993, p.131-143, eng] 47-4587
"Recent warming": ice core evidence from tropical ice cores with emphasis on Central Asia. Thompson, L.G., et al. [1993, p.145-156, eng] 47-4588
Climate change inferred from borehole temperatures. Pollack, H.N., [1993, p.173-179, eng] 47-4589
PIXE analysis as a tool for dating of ice cores from the Greenland ice sheet. Hansson, H.C., et al. [1993, p.428-434, eng] 47-4592
Effects of CO2 increase on climate dynamics. Saltzman, B., et al. [1993, p.1051-1054, eng] 47-4630
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New South African research programme in the southern ocean. Lucas, M.I., et al. [1993, p.61-67, eng] 47-4723
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Environmental and climatic links between Antarctica and South Africa. Lucas, M.I., et al. [1991, p.193-219, eng] 47-4978
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Arctic climatic change: comment and reply. Burn, C.R., et al, [1993, p.1473-1478, eng] 47-5215
Possible climate change and its impact on snowmelt and water supply in California. Roos, M., [1990, p.135-144, eng] 47-5218
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Carbon cycling in boreal forest and sub-arctic ecosystems: biospheric responses and feedbacks to global climate change. Vinson, T.S., ed. [1993, 282p., eng] 47-5222
Warming the North: what happens?. Woodwell, G.M., et al. [1993, p.1-8, eng] 47-5223
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Canadian Climate Centre second-generation general circulation model and its equilibrium climate. McFarlane, N.A., et al. [1992, p.1013-1044, eng] 47-1269
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Reconstruction of mass balance variations for Franz Josef Glacier, New Zealand, 1913-1989. Woo, M.K., et al. [1992, p.281-290, eng] 47-1585
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Distribution of mountain permafrost and climate. Cheng, G.D., et al. [1992, p.83-91, eng] 47-1747
Permafrost occurrence from BTS measurements and climatic parameters in the eastern Swiss Alps. Hoelzle, M., [1992, p.143-147, eng] 47-1754
Evaporation and ice growth in Mackenzie Delta lakes. Marsh, P., [1991, p.257-266, eng] 47-1812
Freeze-control strategy and air-to-air energy recovery performance. Phillips, E.G., et al. [1992, p.44-45,48-49, eng] 47-1936
Computationally efficient approximations to stratiform cloud microphysics parameterization. Ghan, S.J., et al. [1992, p.1572-1582, eng] 47-1998
One-dimensional modeling study of carbonaceous haze effects on the springtime arctic environment. Emery, C.A., et al. [1992, p.20,599-20,613, eng] 47-2053
Martian atmospheric circulation simulation. Pollack, J.B., et al. [1993, p.3149-3181, eng] 47-2669
Present-day antarctic climatology of the NCAR Community Climate Model Version 1. Tzeng, R.Y., et al. [1993, p.205-226, eng] 47-2707
Freeze risk to Florida citrus. Part 2: Temperature variability and circulation patterns. Downton, M.W., et al. [1993, p.364-372, eng] 47-2708
Causes of variability of ice appearance dates in the lower reaches of the Volga. Soldatova, I.I., [1992, p.62-66, eng] 47-2714
Characteristics of climate and glacier ablation in the intertropical Andes. Kadomtseva, T.G., et al. [1991, p.99-107, rus] 47-2795
Response of subarctic forest tundra to climatic factors. Timoney, K.P., et al. [1992, p.1-9, eng] 47-3348
Significance of stomatal control on methane release from Carex-dominated wetlands. Morrissey, L.A., et al. [1993, p.339-355, eng] 47-3435
Environmental and biotic controls over methane flux from arctic tundra. Torn, M.S., et al. [1993, p.357-368, eng] 47-3436
Permafrost methane content: 2. Modeling theory and results. Moraes, F., et al. [1993, p.595-607, eng] 47-3438
Methane in permafrost—preliminary results from coring at Fairbanks, Alaska. Kvenvolden, K.A., et al. [1993, p.609-616, eng] 47-3439
Framework for interpreting paleoclimatic variations in eastern Beringia. Bartlein, P.J., et al. [1991, p.73-83, eng] 47-3481
Isotope stage 5 (130-74 ka) in Greenland—a review. Funder, S., et al. [1991, p.107-122, eng] 47-3484
Late Quaternary land-sea interactions: Fennoscandia and Svalbard—the Nordic seas. Larsen, E., et al. [1991, p.151-159, eng] 47-3487
Insolation effects on last interglacial climate. Kutzbach, J.E., et al. [1991, p.223-229, eng] 47-3492
Climate of Finland in relation to its hydrology, ecology and culture. Solantie, R., [1990, 130p., eng] 47-3540
Proceedings. [1992, 344p., eng] 47-3555
Strength of the Nordic heat pump. Broecker, W.S., [1992, p.173-181, eng] 47-3557
Initiation of maritime ice sheets. Kerr, A.D., [1990, p.69-79, eng] 47-3574
Some climatic characteristics of precipitation in the Asian Arctic for medium-range weather forecasting. Kuchin, V.A., [1989, p.138-147, rus] 47-3666
Hydroclimatological variations in an alpine glacier basin. Gurnell, A.M., et al. [1992, p.821-839, eng] 47-3679
Mass balance of a cirque glacier in the Italian Alps. Catasta, G., et al. [1993, p.87-90, eng] 47-3942
Constraints on ice-sheet thickness over Tibet during the last 40,000 years. Gupta, S.K., et al. [1992, p.283-290, eng] 47-4022
Glaciation in the Yukon Territory. Ward, B.C., et al. [1992, p.2007-2012, eng] 47-4158
Variations in snow on sea ice: a mechanism for producing climate variations. Ledley, T.S., [1993, p.10,401-10,410, eng] 47-4291
Geomorphic features as indicators of climatic fluctuations in a periglacial environment, northern Sweden. Nyberg, R., et al. [1990, p.203-210, eng] 47-4314
Thermodynamic model of ice-atmosphere interactions. Ebert, E.E., et al. [1993, p.10,085-10,109, eng] 47-4378
Influence of solar wind on cloud microphysics. Tinsley, B.A., et al. [1993, p.10,375-10,384, eng] 47-4391
Marine sediment records of Pleistocene climate. Birchfield, G.E., et al. [1993, p.10,385-10,399, eng] 47-4392
Climatic effects on glacier thermodynamics. Blatter, H., [1991, 98p., eng] 47-4461
Environmental regulators of microbial activity in continental antarctic lakes. Simmons, G.M., Jr., et al. [1993, p.491-541, eng] 47-4598
High latitude ocean convection. Rudels, B., [1993, p.323-356, eng] 47-4843
Large-scale statistical structure of antarctic temperature fields. Liubarskii, A.N., [1992, p.18-25, rus] 47-4922
Conditions of the Pleistocene glaciation of mountainous regions. Klimaszewski, M., [1993, p.1-18, eng] 47-4982
Recent snowfall variations in North America. Karl, T.R., et al, [1993, p.1327-1344, eng] 47-5211
Correlation between continental snow cover and air temperature. Leathers, D.J., et al. [1993, p.1345-1355, eng] 47-5212
Assessing climate controls of northern forest soils and tree growth. Arp, P.A., et al. [1993, p.187-192, eng] 47-5237

Climatology

Simulation of oxygen isotope variations in atmospheric flow. Fisher, D.A., [1992, p.61-77, eng] 47-804
Climatology of surface-based inversion in the North American Arctic. Bradley, R.S., et al. [1992, p.15,699-15,712, eng] 47-997
Effect of arctic ice cover on the monthly temperature and precipitation in China. Chen, Y.S., et al. [1992, p.275-286, eng] 47-1124
Evaluating the nival-glacial climate of mountains to be used for recreation. Suprunenko, IU.P., [1982, p.34-41, rus] 47-1247
Temperature-precipitation relationships for Canadian stations. Isaac, G.A., et al. [1992, p.822-830, eng] 47-1268
Canadian Climate Centre second-generation general circulation model and its equilibrium climate. McFarlane, N.A., et al. [1992, p.1013-1044, eng] 47-1269
Greenhouse gas-induced climate change simulated with the CCC second-generation general circulation model. Boer, G.J., et al, [1992, p.1045-1077, eng] 47-1270
Climate of Spitsbergen. Hanssen-Bauer, I., et al. [1990, 40p., eng] 47-1918
Icy prospects for a warmer world. Davidson, G., [1992, p.23-26, eng] 47-1946
Interannual variability of wintertime snow cover across the Northern Hemisphere. Gutzler, D.S., et al. [1992, p.1441-1447, eng] 47-2178
Correlation of arctic cloud climatologies. Schweiger, A.J., et al. [1992, p.1514-1527, eng] 47-2179
Ice nuclei availability in the higher troposphere. Sassen, K., [1992, p.287-290, eng] 47-2269

Climatology *(cont.)*
Modeling the seasonal variability of a coupled arctic ice-ocean system. Häkkinen, S., et al. [1992, p.20,285-20,304, eng] 47-2341
Multiyear surface climatology of a regional atmospheric model over the western United States. Giorgi, F., et al. [1993, p.75-95, eng] 47-2460
Improved real-time global sea surface temperature analysis. Reynolds, R.W., et al. [1993, p.114-119, eng] 47-2461
Extending the antarctic meteorological record using ice-sheet *temperature profiles*. Nicholls, K.W., et al. [1993, p.141-150, eng] 47-2462
Present-day antarctic climatology of the NCAR Community Climate Model Version 1. Tzeng, R.Y., et al. [1993, p.205-226, eng] 47-2707
Response of authors to commentary on their "Reconstruction of the Holocene climate". Barkov, N.I., et al. [1991, p.233-236, rus] 47-2817
Tropospheric low-level temperature inversions in the Canadian Arctic. Kahl, J.D., et al. [1992, p.511-529, eng] 47-2876
On the interannual variability of arctic sea-level pressure and sea ice. Power, S.B., et al. [1992, p.551-577, eng] 47-2878
Three-dimensional atmospheric circulation model with a comprehensive description of physical processes and simplified dynamics. Kislov, A.V., [1991, p.241-246, eng] 47-2895
Mass balance simulation of the antarctic ice sheet. Fortuin, J.P.F., et al, [1990, p.31-56, eng] 47-3572
State of the arctic environment: updated draft proposal for AMAP. Reiersen, L.O., [1992, p.391-403, eng] 47-3721
Observations of cirrus cloud microphysical properties. Noone, K.B., et al, [1993, p.294-303, eng] 47-3773
New parameterizations and sensitivities for simple climate models. Graves, C.E., et al. [1993, p.5025-5036, eng] 47-3783
Interactive coupling of a lake thermal model with a regional climate model. Hostetler, S.W., et al. [1993, p.5045-5057, eng] 47-3784
Convergence of the solution to certain models of climatic systems. Liubich, M.IU., [1992, p.100-104, rus] 47-3809
Correlation between ice core isotope levels and air temperature. Jones, P.D., et al. [1993, p.14-26, eng] 47-4143
Snow cover model for global climate simulations. Loth, B., et al, [1993, p.10,451-10,464, eng] 47-4293
Boolean delay equation model of an interdecadal arctic climate cycle. Darby, M.S., et al, [1993, p.241-246, eng] 47-4354
Climatology of the East Antarctic ice sheet (100E to 140E) derived from automatic weather stations. Allison, I., et al, [1993, p.8815-8823, eng] 47-4380
Proceedings. [1993, 2 vol., eng] 47-4415
Sea ice—a climate component. Gudmandsen, P., [1993, p.9-13, eng] 47-4416
Cloud-ice-vapor feedbacks in a global climate model. Jentsch, V., [1987, p.417-437, eng] 47-4456
Sea ice-ocean interaction. Lemke, P., [1987, p.439-451, eng] 47-4457
Air temperature variations on Spitsbergen in 1979-1983. Przybylak, R., [1992, p.113-129, eng] 47-4651
Study of the arctic heat sink. Ripley, E.A., [1990, 95p. + append., eng] 47-4910
Temporal characteristics of USA snowfall 1945-1946 through to 1984-1985. Leathers, D.J., et al, [1993, p.65-76, eng] 47-4981
Modeled variations of precipitation over the Greenland ice sheet. Bromwich, D.H., et al. [1993, p.1253-1268, eng] 47-5210
Recent snowfall variations in North America. Karl, T.R., et al. [1993, p.1327-1344, eng] 47-5211
Correlation between continental snow cover and air temperature. Leathers, D.J., et al. [1993, p.1345-1355, eng] 47-5212
Pacific warming and antarctic ozone depletion. Mo, K.C., [1993, p.1375-1391, eng] 47-5213
Satellite retrieval of lower-tropospheric ice crystal clouds in the polar regions. Wilson, L.D., et al. [1993, p.1467-1472, eng] 47-5214
Arctic climatic change: comment and reply. Burn, C.R., *et al*, [1993, p.1473-1478, *eng*] 47-5215
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Clothing
Wind-chill properties of various clothing types. Erhart, B., et al, [1991, p.63-75, ger] 47-2058
Primer on clothing systems for cold-weather field work. Denner, J.C., [1990, 14p., eng] 47-2225
Multilayered insulation ensuring human activity *in extreme* climatic conditions. Bosniatskiĭ, G.P., et al. [1991, p.33, rus] 47-2477
New wind-chill nomogram. Rees, W.G., [1993, p.229-234, eng] 47-4703

Cloud chambers
Study of the kinetics of the activation of natural and man-made *ice nuclei in the Salya cloud chamber*. Vychuzhanina, M.V., [1992, p.159-167, rus] 47-2528
Small vertical supercooled cloud tunnel system for the study of ice (snow) crystal growth. Gong, N.H., et al, [1992, p.254-262, eng] 47-4074

Cloud cover
Cloud radar data at Showa Station 1989. Konishi, H., [1992, 60p., eng] 47-42
Optical effects of polar stratospheric clouds on the retrieval of TOMS total ozone. Torres, O., et al, [1992, p.13,015-13,024, eng] 47-79
Development and verification of a three-dimensional large-scale cloud model. Lee, J.L., [1991, 165p., eng] 47-87
Active remote sensing of the earth using a powerful dye laser. Jyumonji, M., et al, [1992, p.254-258, eng] 47-145
On some meteorological aspects of snowfall over the Himalayas as observed by satellite. Kalsi, S.R., et al, [1985, p.125-132, eng] 47-531
Major cloud plumes in the Arctic and their relation to fronts and ice movement. Fett, R.W., [1992, p.925-945, eng] 47-591
MOS-1 and radar *observation of snow clouds*. Koike, T., et al. [1990, p.197-203, jpn] 47-886
Cold air outbreak near Spitsbergen in springtime—boundary-layer modification and cloud development. Brümmer, B., et al. [1992, p.13-46, eng] 47-900
Two polar lows *affecting Denmark*. Rasmussen, E.A., et al. [1992, p.326-338, eng] 47-1173
Annual cycle of radiation fluxes over the Arctic Ocean: sensitivity to cloud optical properties. Curry, J.A., et al, [1992, p.1267-1280, eng] 47-1549
Computationally efficient approximations to stratiform cloud microphysics parameterization. Ghan, S.J., et al, [1992, p.1572-1582, eng] 47-1998
Correlation of arctic cloud climatologies. Schweiger, A.J., et al, [1992, p.1514-1527, eng] 47-2179
Polar cloudiness: some results from ISCCP and other cloud climatologies. Rossow, W.B., [1992, p.1-3, eng] 47-2363
Cloud optical thickness in the Arctic. Leontyeva, E., et al, [1992, p.4-6, eng] 47-2364
Unusual cloud forms in the arctic winter boundary layer. Byers, C.A., et al. [1992, p.7-10, eng] 47-2365
Arctic radiative fluxes and cloud forcing estimated from the ISCCP C2 cloud data set. Schweiger, A.J., et al, [1992, p.13-16, eng] 47-2367
Tropospheric low-level temperature inversions in the Canadian Arctic. Kahl, J.D., et al, [1992, p.511-529, eng] *47-2876*
GCM feedback sensitivity to interactive cloud water budget *parameterization*. Del Genio, A.D., et al, [1993, p.176-181, eng] 47-3044
Novel digital holographic imaging system for observing ice crystals in cirrus. Cormack, R.H., et al, [1993, p.25-29, eng] 47-3061
High frequency satellite cloud motion at high latitudes. Herman, L.D., [1993, p.465-468, eng] 47-3077
Cirrus identification from multichannel satellite data. Sterliadkina, E.A., et al. [1992, p.729-733, eng] 47-3158
Convection forecasting during a *cloud-seeding experiment*. Czys, R.R., et al. [1993, p.996-1005, eng] 47-3566
Cloud property inference from satellite-observed radiance, pt.1. Minnis, P., et al, [1993, p.1279-1304, eng] 47-3731
Cloud property inference from satellite-observed radiance, pt.2. Minnis, P., et al, [1993, p.1305-1322, eng] 47-3732
Intercomparison of artificial intelligence approaches for polar scene identification. Tovinkere, V.R., et al, [1993, p.5001-5016, eng] 47-3781
New parameterizations and sensitivities for simple climate *models*. Graves, C.E., et al. [1993, p.5025-5036, eng] 47-3783
Cause-effect relationships in the interactive processes of the ocean and atmosphere in the North Atlantic. Zablotskiĭ, G.A., et al. [1992, p.105-115, rus] 47-3810
Estimation of cloud *resources for dispersion over the* USSR territory. Belova, L.K., et al, [1992, p.13-18, eng] 47-3988
High latitude wind velocities derived from polar orbiting satellite imagery. Warren, D., et al, [1988, p.119-121, eng] 47-4197
Satellite observation of high latitude surface and cloud types using pattern recognition. Ebert, E.E., [1988, p.133-136, eng] 47-4201
Clouds over both polar regions from the ISCCP pilot data sets. Raschke, E., et al, [1988, p.137-140, eng] 47-4202
Ice detection during cloudy conditions over the Arctic region using NOAA AVHRR satellite imagery. Alm, G., [1991, p.155-166, eng] 47-4338
Cloud-ice-vapor feedbacks in a global climate model. Jentsch, V., [1987, p.417-437, eng] 47-4456
Parameterization of the radiative properties of cirrus clouds. Fu, Q., et al. [1993, p.2008-2025, eng] 47-4459
Effects of infrared cooling and ice microphysics on large-scale cloud simulations. Lee, J.L., et al, [1991, p.295-298, eng] 47-4484
Detectability of arctic leads using thermal imagery under varying atmospheric conditions. Stone, R.S., et al, [1993, p.12,469-12,482, eng] 47-4523
High-resolution radiometry of cirrus clouds. Ou, S.C., et al. [1993, p.2171-2180, eng] 47-4713
Identification of clear and cloudy pixels at high latitudes from AVHRR radiances. Sakellariou, N.K., et al, [1993, p.2005-2024, eng] 47-5106
Satellite retrieval of lower-tropospheric ice crystal clouds in the polar regions. Wilson, L.D., et al. [1993, p.1467-1472, *eng*] 47-5214

Cloud dissipation
Cloud clearing with a CO2 laser in a cirrus cloud simulation facility. Waggoner, A.P., et al, [1992, p.5871-5877, eng] 47-2664
Squires' penetrative downdraft model. Reuter, G.W., [1993, p.794-798, eng] 47-3511
Estimation of cloud resources for dispersion over the USSR territory. Belova, L.K., et al, [1992, p.13-18, eng] 47-3988

Cloud droplets
Theoretical studies on binary homogeneous nucleation. Laaksonen, A., [1992, 12p., eng] 47-229
Infrared emittance of water clouds. Chýlek, P., et al, [1992, p.1459-1472, eng] 47-410
Algorithm for calculating the components and spatial orientation of air flow and water drops in a hail cloud. Baragunov, V.S., et al. [1991, p.8-14, rus] 47-747
Third central moment of falling velocity of water drops *and its relationship to hailstorm clouds*. Marchenko, P.E., et al. [1991, p.19-31, rus] 47-749
Calculating the processes of condensation and coagulation growth of droplets and ice crystal aggregates. Sergeev, B.N., [1991, p.85-96, rus] 47-890
Assessment of the one-dimensional icing forecast model applied to stratiform clouds. Tunick, A., et al. [1990, p.57-64, eng] 47-909
Measurement and modelling of cloudwater deposition to a snow-covered forest canopy. Gallagher, M.W., et al, [1992, p.2893-2903, eng] 47-1947
Comparison between the collection efficiency of aerosol *particles* by water drops and ice crystals. Wang, P.K., [1991, p.87-96, eng] 47-2210
Homogeneous freezing of sulfuric acid droplets. 1. Formation of H2SO4 x 4H2O (SAT). Luo, B.P., et al, [1992, p.225-228, eng] 47-2254
Ice crystal formation in cirrus cloud. Matsuo, T., et al, [1992, p.283-286, eng] 47-2268
Solubility increase of AgI nuclei intended for hail suppression. Reutova, T.V., et al. [1992, p.317-320, eng] 47-2276
Structural stability in cloud physics using parameterized microphysics. Wacker, U., [1992, p.231-242, eng] 47-2656
Dependence of cloud chemistry on drop size. Collett, J.L., Jr., et al, [1993, p.33-42, eng] 47-2705
Pre-EUCREX in-flight humidity intercomparison. Ström, J., et al, [1993, p.479-483, eng] 47-3078
Cloud droplets at a *mountain-top site in Colorado*. Hindman, E.E., et al, [1993, p.15-22, eng] 47-3099
Comments on paper by K.F. Jones. Levi, L., et al, [1993, p.599-609, eng] 47-3646
Microholographic study of cloud layers. Borrmann, S., et al, [1993, p.277-293, eng] 47-3772
Measurements of cloud-droplet-size distributions in *polluted and unpolluted stratiform*. Alkezweeny, A.J., et al, [1993, p.106-115, eng] 47-4166
Experimental studies of clouds and aerosols along the antarctic coast. Saxena, V.K., et al, [1988, p.108-111, eng] 47-4194
Scattering indices for water drops and ice particles in clouds. Ajvazyan, H.M., [1993, p.1137-1154, eng] 47-4509
Meteorological conditions for icing on a dirigible. Minervin, V.E., [1992, p.42-60, rus] 47-4657
Automated dual polarization complex for studying the characteristics of cumulonimbus. Dinevich, L.A., et al, [1992, p.79-95, rus] 47-4659
Measurement of drop size and liquid water content in clouds. Bachalo, W.D., et al, [1988, 66p., eng] 47-4903

Cloud electrification
Effects of high liquid water content on thunderstorm charging. Saunders, C.P.R., et al, [1992, p.14,671-14,676, eng] 47-252
Studies in cloud physics: electrification, glaciation, and turbulence. Baker, B.A., [1991, 97p., eng] 47-306
Dual polarization radar observations of anomalous wintertime thunderclouds in Japan. Maekawa, Y., et al, [1992, p.838-844, *eng*] 47-361
Charge separation by ice and water drops during growth and evaporation. Dong, Y.Y., et al, [1992, p.20,361-20,371, eng] 47-2050
Review of thunderstorm electrification processes. Saunders, C.P.R., [1993, p.642-655, *eng*] 47-3507
Collision between graupel particles: a field observation and theory. Mizuno, H., et al, [1992, p.1037-1043, eng] 47-4019

Cloud height indicators
Cloud property inference from satellite-observed radiance, pt.1. Minnis, P., et al, [1993, p.1279-1304, eng] 47-3731
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Cloud physics
Evolution of stratiform cirrus simulated in a lifting layer. Zhang, Y., et al. [1992, p.23-33, eng] 47-6
Calculation of hydrometeor growth via water vapor diffusion. Srivastava, V.C., et al. [1992, p.1643-1651, eng] 47-7
Supercooled liquid water and precipitation-enhancement opportunities. Long, A.B., et al. [1992, p.1041-1055, eng] 47-9
Dendritic crystallization of supercooled solutions. Harrison, K.M., [1989, 113p., eng] 47-86
Development and verification of a three-dimensional large-scale cloud model. Lee, J.L., [1991, 165p., eng] 47-87
Numerical model of polar mesospheric cloud formation and evolution. Jensen, E.J., [1990, 183p., eng] 47-88
Theoretical studies on binary homogeneous nucleation. Laaksonen, A., [1992, 12p., eng] 47-229
Model of heterogeneous nucleation on polar stratospheric clouds. Nelson, C.M., et al. [1992, p.6112-6115, eng] 47-248
Effects of high liquid water content on thunderstorm charging. Saunders, C.P.R., et al. [1992, p.14,671-14,676, eng] 47-252
Studies in cloud physics: electrification, glaciation, and turbulence. Baker, B.A., [1991, 97p., eng] 47-306
Brightness temperature properties of a cloud radiation model. Smith, E.A., et al. [1992, p.506-531, eng] 47-354
Dual polarization radar observations of anomalous wintertime thunderclouds in Japan. Maekawa, Y., et al. [1992, p.838-844, eng] 47-361
Infrared emittance of water clouds. Chylek, P., et al. [1992, p.1459-1472, eng] 47-410
Effects of small ice crystals on cirrus infrared radiative properties. Takano, Y., et al. [1992, p.1487-1493, eng] 47-411
Dual-wavelength radar method for ice-water characterization in mixed-phase clouds. Gosset, M., et al. [1992, p.538-547, eng] 47-412
Numerical simulation of ice phase microphysics in clouds, part 2. Kong, F.Y., et al. [1991, p.459-470, eng] 47-[illegible]
Light scattering by nonspherical ice grains: an application to noctilucent cloud particles. Mishchenko, M.I., [1992, p.203-211, eng] 47-772
Cool rain in a three-dimensional shallow-cloud model. Takahashi, T., et al. [1992, p.739-748, eng] 47-826
Interaction of HCl vapor with water-ice: implications for the stratosphere. Abbatt, J.P.D., et al. [1992, p.15,819-15,826, eng] 47-999
Vertical retrieval of solar and infrared irradiances in the stratiform regions of EMEX cloud clusters. Churchill, D.D., [1992, p.1229-1247, eng] 47-1119
Subvisual-thin cirrus lidar dataset for satellite verification and climatological research. Sassen, K., et al. [1992, p.1275-1285, eng] 47-1120
Spectroscopic studies of model polar stratospheric cloud films. Tolbert, M.A., et al. [1992, p.1303-1313, eng] 47-1172
Sticking of HCl and ClOH to ice: a computational study. Kroes, G.J., et al. [1992, p.7079-7088, eng] 47-1265
Condensation and evaporation of H2O on ice surfaces. Haynes, D.R., et al. [1992, p.8502-8509, eng] 47-1568
Heterogeneous interactions of ClONO2 and HCl on nitric acid trihydrate at 202 K. Abbatt, J.P.D., et al. [1992, p.7674-7679, eng] 47-1768
Precipitation retrieval from a cloud radiation model. Mugnai, A., et al. [1993, p.17-39, eng] 47-1995
Computationally efficient approximations to stratiform cloud microphysics parameterization. Ghan, S.J., et al. [1992, p.1572-1582, eng] 47-1998
Ice-cloud depolarization of backscatter for CO2 and other infrared lidars. Eberhard, W.L., [1992, p.6485-6490, eng] 47-2043
Charge separation by ice and water drops during growth and evaporation. Dong, Y.Y., et al. [1992, p.20,361-20,371, eng] 47-2050
Development of ice and precipitation in New Mexican summertime cumulus clouds. Blyth, A.M., et al. [1993, p.91-120, eng] 47-2146
Aerosol scavenging by ice in supercooled clouds. Song, N.H., et al. [1991, p.63-74, eng] 47-2208
Scavenging of aerosols by ice crystals. Prodi, F., et al. [1991, p.75-86, eng] 47-2209
Comparison between the collection efficiency of aerosol particles by water drops and ice crystals. Wang, P.K., [1991, p.87-96, eng] 47-2210
Effect of internal charge distribution in ice crystals on scavenging of aerosol particles. Zhang, R.Y., et al. [1991, p.97-108, eng] 47-2211
Field instrument for examining in-cloud scavenging mechanisms by snow. Mitchell, D.L., et al. [1991, p.239-253, eng] 47-2212
Investigations of the relationship between cloudwater and precipitation chemistry using Doppler radar. Collett, J.L., Jr., et al. [1991, p.381-392, eng] 47-2213
Scavenging ratios in precipitation studies. Barrie, L.A., [1991, p.403-419, eng] 47-2214
Scavenging of atmospheric constituents by alpine snow. Baltensperger, U., et al. [1991, p.483-493, eng] 47-2215
Numerical model of aerosol scavenging, part 1: microphysics parameterization. Molenkamp, C.R., et al. [1991, p.575-590, eng] 47-2216
Numerical model of aerosol scavenging, part 2: simulation of a large city fire. Bradley, M.M., et al. [1991, p.591-601, eng] 47-2217
Comparison of cloud microphysics parameterizations for simulation of mesoscale clouds and precipitation. Lee, I.Y., [1992, p.2699-2712, eng] 47-2251
Proceedings. [1992, 523p., eng] 47-2253
Homogeneous freezing of sulfuric acid droplets. 1. Formation of H2SO4 x 4H2O (SAT). Luo, B.P., et al. [1992, p.225-228, eng] 47-2254
Homogeneous freezing of sulfuric acid droplets. 2. Implications for PSCs and heterogeneous chemistry. Peter, T., et al. [1992, p.229-232, eng] 47-2255
Freezing points of H2SO4 aqueous solutions and formation of polar stratospheric clouds. Ohtake, T., [1992, p.233-236, eng] 47-2256
Ice crystal nucleation scheme applying by 3-D simulation of cirrus clouds. Levkov, L., et al. [1992, p.237-240, eng] 47-2257
Ice nucleus concentrations measured in a cloud chamber. Aksenov, M.IA., et al. [1992, p.241-243, eng] 47-2258
Laboratory studies of the ice-forming characteristics of natural aerosol models. Gorbunov, B.Z., et al. [1992, p.245-247, eng] 47-2259
On the homogeneous nucleation of water and ice in the supersaturated water vapour at temperatures below -41 C. Merzhanov, K.M., [1992, p.249-254, eng] 47-2260
Laboratory investigations of ice-forming properties transformation of crystallizing agent aerosol. Kerimov, A.M., et al. [1992, p.255-257, eng] 47-2261
Mechanistic studies of heterogeneous ice nucleation by AgI-AgCl and AgI-AgCl-4NaCl aerosols. DeMott, P.J., et al. [1992, p.263-266, eng] 47-2263
Ice nucleation studies on AgI-NaCl system. Radhakrishnan, T., et al. [1992, p.267-270, eng] 47-2264
Ice nucleation or ice crystal formation? An analysis of mechanisms. Pitter, R.L., et al. [1992, p.271-274, eng] 47-2265
Common features of ice nuclei concentration—temperature dependencies. Kim, N.S., et al. [1992, p.279-281, eng] 47-2267
Ice crystal formation in cirrus cloud. Matsuo, T., et al. [1992, p.283-286, eng] 47-2268
Ice nuclei availability in the higher troposphere. Sassen, K., [1992, p.287-290, eng] 47-2269
Potential role of heterogeneous nucleation in the cloud element formation at high altitudes. Hagen, D.E., et al. [1992, p.291-294, eng] 47-2270
Solubility effects on mixed aerosol ice nuclei in the supercooled clouds. Smorodin, V.E., [1992, p.295-299, eng] 47-2271
Study of ice nuclei in the area of hail suppression operations in Moldavia. Potapov, E.I., et al. [1992, p.301-303, eng] 47-2272
Ice-producing processes in North Dakota clouds. Detwiler, A.G., et al. [1992, p.305-308, eng] 47-2273
Supersaturation spectra of ice nuclei. Hussain, K., [1992, p.309-312, eng] 47-2274
Ice forming capability of various aerosols under haloid influence. Kim, N.S., et al. [1992, p.313-315, eng] 47-2275
Solubility increase of AgI nuclei intended for hail suppression. Reutova, T.V., et al. [1992, p.317-320, eng] 47-2276
Freezing nucleus spectra in the rain samples and their possible application on cloud conditions. Dubrovsky, M., [1992, p.321-324, eng] 47-2277
Analysis of ice nucleus observation over Huhehot area in winter season. Kong, Y.Y., [1992, p.325-326, eng] 47-2278
Modification of aerosol chemistry by reactions in atmospheric ice crystals. Finnegan, W.G., et al. [1992, p.399-402, eng] 47-2280
Peculiarities of vertical distribution of aerosol particles and ice nuclei in cloud atmosphere. Khorguani, V.G., [1992, p.427-430, eng] 47-2281
Combined system for observations of tropospheric and stratospheric thin clouds. Adriani, A., et al. [1993, p.34-40, eng] 47-2552
Effects of cloud seeding on meteorological parameters. Shmeter, S.M., [1991, p.29-33, eng] 47-2636
Structural stability in cloud physics using parameterized microphysics. Wacker, U., [1992, p.231-242, eng] 47-2656
Lidar measurement of cirrus clouds backscattering. Ansmann, A., et al. [1992, p.7113-7131, eng] 47-2663
Cloud clearing with a CO2 laser in a cirrus cloud simulation facility. Waggoner, A.P., et al. [1992, p.5871-5877, eng] 47-2664
PSCs above the South Pole in 1990. Collins, R.L., et al. [1993, p.1001-1010, eng] 47-2701
Dependence of cloud chemistry on drop size. Collett, J.L., Jr., et al. [1993, p.33-42, eng] 47-2705
Laboratory measurements of the loss of ClO on Pyrex, ice and NAT at 183 K. Kenner, R.D., et al. [1993, p.193-196, eng] 47-2857
GCM feedback sensitivity to interactive cloud water budget parameterization. Del Genio, A.D., et al. [1993, p.176-181, eng] 47-3044
Preprints. [1993, 140p., eng] 47-3098
In-cloud removal of trace chemicals. Chen, J.P., et al. [1993, p.53-56, eng] 47-3100
Cirrus optical properties determination from actinometric observations. Tarasova, T.A., [1992, p.690-696, eng] 47-3156
Investigation of cirrus microstructure on May 15, 1989. Burkovskaia, S.N., et al. [1992, p.714-724, eng] 47-3157
Multiple-scattering lidar experiments. Werner, C., et al. [1992, p.1731-1745, eng] 47-3160
Comment on porosities of ice films used to simulate stratospheric cloud surfaces. Keyser, L.F., et al. [1993, p.2800-2803, eng] 47-3178
Uptake of HNO3 onto ice, NAT, and frozen sulfuric acid. Hanson, D.R., [1992, p.2063-2066, eng] 47-3319
Combined infrared emission spectra and radar reflectivity studies of cirrus clouds. Palmer, A.J., et al. [1993, p.64-69, eng] 47-3356
Observations of the initial stage of ice phase evolution in supercooled clouds. Nevzorov, A.N., et al. [1992, p.69-76, eng] 47-3458
Review of thunderstorm electrification processes. Saunders, C.P.R., [1993, p.642-655, eng] 47-3507
Ice crystals produced by expansion: experiments and application to aircraft-produced ice. Foster, T.C., et al. [1993, p.716-728, eng] 47-3509
Storm simulation with and without ice microphysics. Johnson, D.E., et al. [1993, p.745-759, eng] 47-3510
Squires' penetrative downdraft model. Reuter, G.W., [1993, p.794-798, eng] 47-3511
Magnitude of error factors in estimates of snow-particle masses from images. Detwiler, A.G., et al. [1993, p.804-809, eng] 47-3512
Convection forecasting during a cloud-seeding experiment. Czys, R.R., et al. [1993, p.996-1005, eng] 47-3566
Calculation of microwave brightness temperatures over a thunderstorm. Muller, B.M., et al. [1993, p.1006-1013, eng] 47-3567
Hail growth hysteresis. Johnson, D.B., et al. [1992, p.2525-2532, eng] 47-3674
High ice crystal production in winter cumuli over the Japan Sea. Takahashi, T., [1993, p.451-454, eng] 47-3729
Cloud property inference from satellite-observed radiance, pt.1. Minnis, P., et al. [1993, p.1279-1304, eng] 47-3731
Cloud property inference from satellite-observed radiance, pt.2. Minnis, P., et al. [1993, p.1305-1322, eng] 47-3732
Microholographic study of cloud layers. Borrmann, S., et al. [1993, p.277-293, eng] 47-3772
Observations of cirrus cloud microphysical properties. Noone, K.B., et al. [1993, p.294-303, eng] 47-3773
Vertical structure and size distributions of Martian aerosols from solar occultation measurements. Chassefière, E., et al. [1992, p.46-69, eng] 47-3923
Simulation of water-ice layers on a silver iodide substrate. Taylor, J.H., et al. [1993, p.9732-9741, eng] 47-3984
Small vertical supercooled cloud tunnel system for the study of ice (snow) crystal growth. Gong, N.H., et al. [1992, p.254-262, eng] 47-4074
Relative dispersion of ice crystals in seeded cumuli. Weil, J.C., et al. [1993, p.1055-1073, eng] 47-4080
Method for determining cirrus cloud particle sizes using lidar and radar backscatter technique. Intrieri, J.M., et al. [1993, p.1074-1082, eng] 47-4081
Effect of competitive adsorption on polar stratospheric cloud reactions. Mozurkewich, M., [1993, p.355-358, eng] 47-4140
Laboratory simulations of PSC particle formation. Marti, J., et al. [1993, p.359-362, eng] 47-4141
Survey and new measurements of ice vapor pressure at temperatures between 170 and 250K. Marti, J., et al. [1993, p.363-366, eng] 47-4142
Measurements of cloud-droplet-size distributions in polluted and unpolluted stratiform. Alkezweeny, A.J., et al. [1993, p.106-115, eng] 47-4166
Spectroscopic probe of model polar stratospheric cloud films. Koehler, B.G., et al. [1993, p.10,563-10,571, eng] 47-4294
Scattering of light by polyhedral ice crystals. Macke, A., [1993, p.2780-2788, eng] 47-4348
Form of cyclonic precipitation and its thermal impact. Gedzelman, S.D., et al. [1993, p.1957-1978, eng] 47-4355
Measurements of high number densities of ice crystals in the tops of tropical cumulonimbus. Knollenberg, R.G., et al. [1993, p.8639-8664, eng] 47-4379
Antarctic polar stratospheric cloud chemistry. Drdla, K., et al. [1993, p.8965-8981, eng] 47-4382
Influence of solar wind on cloud microphysics. Tinsley, B.A., et al. [1993, p.10,375-10,384, eng] 47-4391
Parameterization of the radiative properties of cirrus clouds. Fu, Q., et al. [1993, p.2008-2025, eng] 47-4459

Cloud physics *(cont.)*

Effects of infrared cooling and ice microphysics on large-scale cloud simulations. Lee, J.L., et al. (1991, p.295-298, eng) 47-4484

Hail detection using active and passive radars. Ajvazyan, H.M., et al. (1993, p.1155-1174, eng) 47-4510

Acid snow over coastal Japan, pt.1. Kitada, T., et al. (1993, p.1061-1076, eng) 47-4581

Acid snow over coastal Japan, pt.2. Kitada, T., et al. (1993, p.1077-1090, eng) 47-4582

Polarized infrared radiation in ice crystals. Takano, Y., et al. (1993, p.1243-1256, eng) 47-4737

Mass transfer measurements of graupel growth. Cober, S.G., et al. (1993, p.1591-1609, eng) 47-4832

Homogeneous ice nucleation and supercooled liquid water in orographic wave clouds. *Heymsfield, A.J., et al.* (1993, p.2335-2353, eng) 47-4891

Estimation of cloud liquid water in winter storms on the Mongollon Rim—report on task 1. Medina, J.G., (1993, 19p., eng) 47-4913

Rate of vapor condensation in a cloud layer at a slow updraft. Smirnov, V.I., et al. (1991, p.78-82, eng) 47-4925

Perturbations in the fields of meteorological parameters caused by artificial crystallization of clouds. Shmeter, S.M., (1991, p.29-33, eng) 47-4926

Refractive indices of water and ice in the 0.65- to 2.5-micron spectral range. Kou, L.H., et al. (1993, p.3531-3540, eng) 47-5147

Cloud seeding

Supercooled liquid water and precipitation-enhancement opportunities. Long, A.B., et al. *(1992, p.1041-1055,* eng) 47-9

Optimal amounts of organic ice-forming reagents in clouds in order to produce precipitation. Stalevich, D.D., et al. (1991, p.34-43, rus) 47-92

Study of the ice-forming properties of copper acetylacetonate. Molotkova, I.A., et al. (1991, p.44-48, rus) 47-93

Quantifying ice nucleation by silver iodide aerosols. DeMott, P.J., (1990, 281p., eng) 47-313

Designing technology for cloud modification. Dinevich, L.A., et al. (1991, p.106-112, rus) 47-758

Evaluating the effectiveness of hail modification products. Abshaev, M.T., et al. (1991, p.122-136, rus) 47-760

Statistical evaluation of the correlations among the parameters of hail clouds during cloud seeding. Kozhevnikova, I.A., et al. (1991, p.136-143, rus) 47-761

Variations in the diameter of hailstones during the seeding of hail clouds. Bocharova, V.A., et al. (1991, p.143-149, rus) 47-762

Estimating the time needed for hail cloud modifications to take effect. Berezkin, V.V., et al. (1991, p.149-156, rus) 47-763

Evaluating the possibility of using hail prevention shells and rockets in high-mountain regions. Dubinin, B.N., et al. (1991, p.156-160, rus) 47-764

Technical and economic analysis of anti-hail launching devices. Dubinin, B.N., (1991, p.160-171, rus) 47-765

Study of ice nuclei in the area of hail suppression operations in Moldavia. Potapov, E.I., et al. (1992, p.301-303, eng) 47-2272

Solubility increase of AgI nuclei intended for hail suppression. Reutova, T.V., et al. (1992, p.317-320, eng) 47-2276

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Estimation of cloud resources for dispersion over the USSR territory. Belova, L.K., et al. (199?, p.13-18, eng) 47-3988

Relative dispersion of ice crystals in seeded cumuli. Weil, J.C., et al. (1993, p.1055-1073, eng) 47-4080

Radar analysis of hail clouds during seeding. Fedchenko, L.M., et al. (1992, p.87-92, eng) 47-4346

Automated dual polarization complex for studying the characteristics of cumulonimbus. Dinevich, L.A., et al. (1992, p.79-95, rus) 47-4659

Estimation of cloud liquid water in winter storms on the Mongollon Rim—report on task 1. Medina, J.G., (1993, 19p., eng) 47-4913

Perturbations in the fields of meteorological parameters caused by artificial crystallization of clouds. Shmeter, S.M., (1991, p.29-33, eng) 47-4926

See also: Artificial precipitation; Cloud dissipation; Fog dispersal; Hail prevention; Weather modification

Cloud seeding generators

See also: Smoke generators

Clouds (meteorology)

Cloud acidity, lower troposphere and stratospheric ozone depletion. Lin, N.H., (1991, 190p., eng) 47-47

Detecting polar stratospheric clouds from NOAA-HIRS data. Meerkoetter, R., (1992, p.1351-1354, eng) 47-48

Adsorption of HCl on ice under stratospheric conditions. Kroes, G.J., et al. (1992, p.1355-1358, eng) 47-49

Numerical model of polar mesospheric cloud formation and evolution. Jensen, E.J., (1990, 183p., eng) 47-88

Ozone depletion in Antarctica in 1991. Hofmann, D.J., et al. (1992, p.283-287, eng) 47-484

Distribution of paths of movement of multi-cell hail clouds in the Northern Caucasus. Gazaeva, Z.A., et al. (1991, p.93-99, rus) 47-756

Possibility of an Arctic ozone hole in a doubled-CO2 climate. *Austin, J., et al.* (1992, p.221-225, eng) 47-907

Ice clouds in the antarctic stratosphere: evidence for water removal. Di Girolamo, P., et al. (1992, p.271-275, eng) 47-1206

Vapor pressures of solid hydrates of nitric acid and PSCs. Worsnop, D.R., et al. (1993, p.71-74, eng) 47-1339

Impact of heterogeneous chemistry on model predictions of ozone changes. Granier, C., et al. (1992, p.18,015-18,033, eng) 47-1565

Heterogeneous reactions in the antarctic autumn stratosphere. Keys, J.G., et al. (1993, p.49-51, eng) 47-1594

Denitrification of the 1990 antarctic spring stratosphere. Gobbi, G.P., et al. (1991, p.1995-1998, eng) 47-2027

Remote sensing and polar climate. Crane, R.G., (1986, p.38-41, eng) 47-2195

Comparison of in-cloud measurements obtained with six PMS 2D-C probes. Gayet, J.F., et al. (1993, p.180-194, eng) 47-2768

Results of ozonesonde observations at Syowa Station in 1990. Shibata, S., et al. (1992, p.46-52, eng) 47-3004

Observations of the initial stage of ice phase evolution in supercooled clouds. Nevzorov, A.N., et al. (1992, p.69-76, eng) 47-3458

Doppler radar analysis of mesoscale snow bands. Ishihara, M., et al. (1989, p.503-520, eng) 47-3466

Freezing points of H2SO4 aqueous solutions and formation of stratospheric ice clouds. Ohtake, T., (1993, p.138-144, eng) 47-3534

Multifractal cloud properties data assessment. Gautier, C., et al. (1992, 15p., eng) 47-3632

Estimation of cloud resources for dispersion over the USSR territory. Belova, L.K., et al. (1992, p.13-18, eng) 47-3988

Lidar for monitoring polar stratospheric clouds. Stefanutti, L., et al. (1992, p.13-17, eng) 47-4721

Homogeneous ice nucleation and supercooled liquid water in orographic wave clouds. Heymsfield, A.J., et al. (1993, p.2335-2353, eng) 47-4891

Probing stratospheric ozone. Rodriguez, J.M., (1993, p.1128-1129, eng) 47-5132

Chlorine chemistry on polar stratospheric cloud particles in the Arctic winter. Webster, C.R., et al. (1993, p.1130-1134, eng) 47-5133

See also: Hail clouds; Supercooled clouds

Coagulate soils

Effect of agricultural development on the variation of thixotropic properties of tundra soils. Manucharov, A.S., et al. (1987, p.45-49, eng) 47-598

Coagulation

Calculating the processes of condensation and coagulation growth of droplets and ice crystal aggregates. Sergeev, B.N., (1991, p.85-96, rus) 47-890

Coal

Thermal and moisture dust control treatment of a perennially frozen disturbed coal mine. Kudriashov, V.V., et al. (1991, 135p., rus) 47-101

Coal resources in the North Slope. Roberts, S.B., et al. (1992, p.196-203, eng) 47-616

Fluvial facies architecture in the Tertiary Usibelli Group of Suntrana, central Alaska. Stanley, R.G., et al. (1992, p.204-211, eng) 47-617

Late Proterozoic anthracite coals from the Hornsund area, south Spitsbergen. Birkenmajer, K., et al. (1992, p.71-90, eng) 47-4648

Coal dusting

See also: Dusting

Coastal topographic features

Quaternary stratigraphy, paleoecology, and glacial geology, Iles de la Madeleine, Quebec. Dredge, L.A., et al. (1992, p.1981-1996, eng) 47-4157

Monitoring the dynamics of the antarctic coastline with Landsat images. Lucchitta, B.K., et al. (1991, p.316-317, eng) 47-4676

See also: Shoreline modification

Coasts

See also: Banks (waterways); Beaches; Shores

Coatings

See also: Protective coatings

Codes

See also: Building codes; Standards

Cold brittleness

See also: Brittleness

Cold chambers

Testing of assembly units, sets and machines to be used in extreme conditions. Degtiareva, A.L., et al. (1991, p.30, rus) 47-2069

Evaporation of snow under isothermal conditions. Golubev, V.N., et al. (1991, p.27-32, rus) 47-2785

Cold deserts

See also: Deserts

Cold exposure

See also: Frostbite

Cold storage

Ice cold storage using direct contact phase change. Utaka, Y., et al. (1989, p.469-475, eng) 47-914

Analysis of cool storage for air conditioning. Chen, S.L., et al. (1992, p.553-563, eng) 47-1055

Feasibility and limits of cold preconditioning prior to depositing. Wiemer, K., et al. (1992, p.280,283-284, ger) 47-1280

Use of a cold energy element in a low-temperature storage system. Suzuki, T., (1992, p.333-339, eng) 47-3211

Air conditioning energy conservation through ice storage. Tassou, S.A., et al. (1992, p.419-425, eng) 47-3798

Immersed tube heat transfer in a melting ice bed. Fukusako, S., et al. (1993, p.353-359, eng) 47-4064

Influence of polysaccharides on the glass transition in frozen sucrose solutions and ice cream. Goff, H.D., et al. (1993, p.1268-1277, eng) 47-4849

Cold stress

Relationship between frost tolerance and sugar concentration of various bryophytes in summer and winter. Rütten, D., et al. (1992, p.260-265, eng) 47-774

Cell shape and localisation of ice in leaves of overwintering wheat during frost stress in the field. Pearce, R.S., et al. (1992, p.324-331, eng) 47-795

Collapse of peroxide-scavenging systems in apple flower-buds associated with freezing injury. Kuroda, H., et al. (1992, p.743-750, eng) 47-1000

Winter injury to Subalpine red spruce: influence of prior vigor and effects on subsequent growth. Peart, D.R., et al. (1992, p.888-892, eng) 47-1481

NMR imaging of roots: effects after root freezing of containerised conifer seedlings. Southon, T.E., et al. (1992, p.329-334, eng) 47-1627

Analysis of stress losses in reinforcement depending on temperature drop. Artym, I.T., (1990, p.115-117, rus) 47-2762

Protective modification of freeze stress in plant tissue. Olien, R., (1992, p.255-260, eng) 47-2885

Thermal analysis of freezing of conifer seedling buds. Stushnoff, C., et al. (1992, p.1305-1309, eng) 47-3841

Angiosperm acclimation beneath lake ice. Spencer, W.E., et al. (1993, p.985-991, eng) 47-4169

Cold tolerance

Psychrophilic microorganisms isolated from deep sea mud. Hamamoto, T., et al. (1992, p.200-205, eng) 47-139

Cold acclimation in sibling deciduous and evergreen peach trees. Arora, R., et al. (1992, p.1562-1568, eng) 47-231

Safety and service life of equipment designed for cold climate operation. Larionov, V.P., (1992, p.111-123, eng) 47-586

Relationship between frost tolerance and sugar concentration of various bryophytes in summer and winter. Rütten, D., et al. (1992, p.260-265, eng) 47-774

Seasonal changes in the nutrient cycle of woody plants at the timberline. Sakio, H., et al. (1992, p.47-52, eng) 47-794

Bubble-formation damage to plant xylem due to freeze thaw cycling. Sperry, J.S., et al. (1992, p.605-613, eng) 47-903

Collapse of peroxide-scavenging systems in apple flower-buds associated with freezing injury. Kuroda, H., et al. (1992, p.743-750, eng) 47-1000

Root cold hardiness and native distribution of subalpine conifers. Coleman, M.D., et al. (1992, p.932-938, eng) 47-1187

Protection of membrane integrity in *Medicago sativa* L. by glycinebetaine against the effects of freezing. Zhao, Y., et al. (1992, p.541-543, eng) 47-1264

Winter injury to Subalpine red spruce: influence of prior vigor and effects on subsequent growth. Peart, D.R., et al. (1992, p.888-892, eng) 47-1481

Relation of acclimating bud water to winter hardiness. Vertucci, C.W., et al. (1992, p.503-511, eng) 47-1950

Ice-nucleating activity in the freeze-tolerant tardigrade *Adorybiotus coronifer*. Westh, P., et al. (1991, p.401-404, eng) 47-2107

Expression of a bacterial ice nucleation gene in plants. Baertlein, D.A., et al. (1992, p.1730-1736, eng) 47-2249

Forest development in cold climates. Alden, J., ed. (1993, 566p., eng) 47-4525

Molecular bases for adaptation of coniferous trees to cold climates. Durzan, D.J., (1993, p.15-42, eng) 47-4527

Growth and development of northern forest trees as affected by temperature and light. Junttila, O., et al. (1993, p.43-57, eng) 47-4528

Winter desiccation resistance selection at timberlines. Larsen, J.B., (1993, p.59-64, eng) 47-4529

Growth of mountain birch *(Betula pubescens* Ehrh.) in response to changing temperature. Skre, O., (1993, p.65-78, eng) 47-4530

Mountain birch and afforestation in Sweden and Iceland. Sveinbjörnsson, B., et al. (1993, p.79-88, eng) 47-4531

Causes of alpine timberline: a review of the hypotheses. Wardle, P., (1993, p.89-103, eng) 47-4532

Physiology of trees at treeline. Grace, J., et al. (1993, p.105-114, eng) 47-4533

Genetic diversity of tree populations at their arctic limits. Tigerstedt, P.M.A., (1993, p.241-250, eng) 47-4540

Potential species and provenances for forest development in cold climates. Hagman, M., (1993, p.251-263, eng) 47-4541

Accelerating adaptation of trees at tree limits by selective breeding. Lindgren, D., (1993, p.299-320, eng) 47-4545

Selection and breeding of Scots pine for northern Sweden. Nilsson, J.E., (1993, p.321-332, eng) 47-4546

Provenance and individual variation in climatic hardiness of Scots pine in northern Finland. Mikola, J., (1993, p.333-342, eng) 47-4547

Genetic variation in early frost tolerance of spruce from northwestern North America. Dietrichson, J., (1993, p.383-391, eng) 47-4551

Freezing tolerance of an arctic/subarctic cushion plant. Junttila, O., et al. (1993, p.423-426, eng) 47-4911

See also: Acclimatization; Viability

Cold weather concreting

See also: Winter concreting

Cold weather construction

Geographical forecasting of the consequences of hydropower construction. Malik, L.K., (1990, 316p. (Pertinent p.49-52), rus) 47-70

Hydrotechnical construction in the Far North and problems with the surrounding environment. Sergeev, I.P., et al. (1990, p.130-138, rus) 47-97

Characteristics of frost heave properties of freezing ground during engineering geological investigations for construction purposes. Puskov, V.I., (1991, p.21-28, rus) 47-187

Constructing mooring structures under conditions of the Far North. Gerasimova, E.I., (1992, p.15-18, rus) 47-372

Analysis of ice body formation within the west and central sections of Baikal-Amur main line. Burykina, N.I., (1991, p.83-86, eng) 47-421

Construction techniques for expedient air strips in snowbound regions. Natarajan, T.K., et al. (1985, p.293-317, eng) 47-580

Construction of concrete pavements in areas of snowfall. Phull, Y.R., et al. (1985, p.318-344, eng) 47-581

Construction and maintenance of roads and runways in snowbound region. Shukla, R.S., et al. (1985, p.345-365, eng) 47-582

Expedition huts in Antarctica: 1899-1917. Pearson, M., (1992, p.261-276, eng) 47-703

Plans for the construction of a dam in a fossil lagoon near the Juan Carlos I Station. Eraso, A., et al. (1989, p.89-101, spa) 47-816

Trans-Alaska Pipeline reroute meets schedule. Newcomer, E.S., et al. (1992, p.49-57, eng) 47-823

Cold weather compaction. Brakey, B., (1992, 16p., eng) 47-861

Industrial influence on glacial processes in mountains of circumpolar regions. Grebenets, V.I., et al. (1992, p.212-214, eng) 47-1114

Assuring durability of reinforced concrete structures during construction under winter conditions. Cherniavskii, V.L., (1990, p.19, rus) 47-1254

Current state and prospects for the development of new technology for cold climate regions. Prutovykh, V.P., et al. (1990, p.2-3, rus) 47-1411

Snow-compacting equipment for constructing winter roads and airfields. Rongonen, V.E., (1990, p.22-23, rus) 47-1414

Improving the norms for construction, road-making and mining equipment of the "KhL" type. Karelov, V.A., et al. (1990, p.24-25, rus) 47-1416

Keeping mortar materials warm in winter. Camillo, J., (1992, p.463-465, eng) 47-1510

Use of geotextiles in earth structures for oil—gas pipelines under West Siberia conditions. Kushnir, S.IA., et al. (1992, p.81-84, eng) 47-1579

Construction, environmental problems and natural hazards in periglacial mountain belts. Haeberli, W., (1992, p.111-124, eng) 47-1750

Protection of pyramidal piles and driven blocks from frost heaving. Zhukov, N.V., et al. (1993, p.104-109, eng) 47-2060

Experience with pile sinking in plastic-frozen soils by bored-driven and bored-drop methods. Vlokh, V.P., (1993, p.124-125, eng) 47-2061

Tests of excavator equipment under various above and below freezing temperatures. Mikheenko, V.V., (1992, p.2-5, rus) 47-2064

EO-4124A and EO-4125A multipurpose backhoe excavators. Gavrilov, N.I., et al. (1991, p.2-4, rus) 47-2065

Chain-type excavators for digging slit trenches in rocks. Vartanov, S.Kh., et al. (1991, p.4-6, rus) 47-2066

Power ice borers. Tavrizov, V.M., (1991, p.18-20, rus) 47-2067

Expert system approach to establish design snow and wind loads. Embleton, K.M., (1990, 263p., eng) 47-2103

Alkali-silicate concrete for salt-and-frost resistant structures. Guzeev, E.A., et al. (1990, p.4-6, rus) 47-2161

Cold-weather concreting study. Hover, K.C., (1992, p.458-464, eng) 47-2291

Effectiveness of anti-naled measures during road building. Nevskii, S.D., (1991, p.214-218, rus) 47-2450

Will northern piles last. Mikhailov, N.V., et al. (1991, p.6-7, rus) 47-2478

Methods of building in the arctic zone of the country. Shemraev, G.A., (1991, p.6-7, rus) 47-2481

Effective method of building foundations for structures on permafrost. Dolgikh, G.M., et al. (1991, p.16-17, rus) 47-2487

Introduction of rainwater infiltration facilities in cold regions. Iwami, Y., et al. (1992, p.213-218, jpn) 47-2506

Study on road construction for the 21st century in snowy and cold regions. (1991, p 5-24, jpn) 47-2530

Recycling of scrap wood for cold region asphalt pavements. Takami, K., et al. (1991, p.51-56, jpn) 47-2533

Frost-related performance of heated shallow foundation thermal insulation. Duquennoi, C., (1992, p.3-19, fre) 47-2665

In-slab hydronic heating systems warm rooms indoors, melt snow and ice outdoors. Smith, A., (1990, p.851-856, eng) 47-2715

Enclosures keep workers warm and more productive in cold weather. Smith, A., (1990, p.857-862, eng) 47-2716

Using heaters safely during cold weather concreting. Owens, F., (1990, p.878-881, eng) 47-2717

Designing cold weather concrete mixes. Suprenant, B.A., (1990, p.882-884, eng) 47-2718

Winter concreting of auto assembly plant floor. Ayers, C., et al. (1989, P.23-27, eng) 47-2751

Analysis of stress losses in reinforcement depending on temperature drop. Artym, I.T., (1990, p.115-117, rus) 47-2762

Ecological aspects in the design of low-rise housing in Siberia. Baklanova, E.I., (1992, p.125-131, rus) 47-2779

Economic effectiveness of the production and use of lignovermiculite as thermal insulation products. Rabcheniuk, G.P., et al. (1991, p.85-95, rus) 47-2937

Construction of the Dumont d'Urville airfield. Engler, M., (1990, p.78-83, fre) 47-3163

Polar engineering. Guichard, A., et al. (1990, p.84-87, fre) 47-3164

Use of concrete for new structures on Adélie Coast. Leguet, J.L., (1991, p.76-80, fre) 47-3180

Proceedings. (1992, 485p., eng) 47-3182

Re-application of traditional architectural schemes in the snow country. Mizuno, I., (1992, p.365-371, eng) 47-3214

Design review for snow country. Paine, J.C., (1992, p.373-379, eng) 47-3215

ASCE Standard 7 snow loads. Sack, R.L., et al. (1992, p.381-391, eng) 47-3216

Overview of snow loads for Fairbanks, Alaska. Tobiasson, W., et al. (1992, p.393-404, eng) 47-3217

Snow recycling house in a heavy snowfall district. Higuchi, T., (1992, p.405-408, eng) 47-3218

Standardization of snow loads on roofs—DIS 4355: revision of ISO Standard 4355. Apeland, K., (1992, p.411-437, eng) 47-3219

Effectiveness of code provisions for snow accumulations on stepped roofs. Kennedy, D.J.L., et al. (1992, p.439-452, eng) 47-3220

Codification of European snow loading. Tory, J.R., (1992, p.453-464, eng) 47-3221

Standing seam metal roofing systems in cold regions. Tobiasson, W., et al. (1993, p.34-44, eng) 47-3542

Foundation works in winter. Tammirinne, M., (1992, p.119-124, eng) 47-3552

Multifunctional combined foundations on permafrost soils. Nekliudov, V.S., et al. (1993, p.164-167, eng) 47-3576

Cryogenic deformations of Suluk BAM station building. Rubinchik, S.B., (1993, p.167-169, eng) 47-3577

Method and apparatus for constructing an ice structure. Erwin, R.E., (1988, 6 col., eng) 47-3635

Long-term deformation of freeze saline soils. Alifanova, A.A., (1992, p.74-79, eng) 47-3834

Fencing pays off big for arctic community. Weber, S., (1992, p.8-11, eng) 47-3836

Erecting seismically stable dams under the conditions of the northern construction-climatic zone. Shatygin, V.A., (1992, p.90-94, rus) 47-3915

Improving the technology for building a roadbed in Southern Yakutia. Maksimov, A.V., et al. (1992, p.3-5, rus) 47-4086

Frost heave theories and design measures against frost heave. Phukan, A., (1993, p.173-189, eng) 47-4135

Highway construction and management in cold regions. MacLeod, D.R., (1993, p.137-161, eng) 47-4278

Design of the new central building at Showa Station. Hannuki, T., et al. (1993, p.61-102, jpn) 47-4358

Multipurpose underground structures in the extreme north. Samokhin, A.V., et al. (1993, p.461-465, eng) 47-4578

Effects of freezing and moisture on impact properties of glass fiber reinforced RTM parts. Karbhari, V.M., et al. (1992, p.135-142, eng) 47-4627

Maintenance techniques for road surfacings—investigations, route decisions, planning, implementation. (1978, 221p., ger) 47-4986

Cold weather maintenance

Snow chains for vehicles. Artzi, G.B., (1987, 4 col., eng) 47-3847

Cold weather operation

Frozen assets. (1992, p.33-36, eng) 47-51

Study on the improvement of the airport functions in cold regions (Part 1). Hirasawa, M., et al. (1992, p.145-149, jpn) 47-132

Field-tested model for freeze protection of arctic multiphase pipelines. Eager, K., (1992, p.142-145, eng) 47-223

Retrospective of platform development in Cook Inlet, Alaska. Visser, R.C., (1992, p.146-150,202-203, eng) 47-224

Soviet arctic marine transportation 1990. Brigham, L.W., (1991, p.109-110, eng) 47-242

Development of mining excavations under difficult mining engineering conditions. Kartozia, B.A., ed. (1991, 319p. (Pertinent p.156-176), rus) 47-362

Development of the fuel and electric power complex in the Far East of Russia. Moldavanov, O.I., (1992, p.26-29, rus) 47-369

Safety and service life of equipment designed for cold climate operation. Larionov, V.P., (1992, p.111-123, eng) 47-586

Winter operability: equipment problems and their remedies. Diemand, D., (1992, p.124-137, eng) 47-587

Heat Wave introduced for cold weather starting. (1992, p.42, eng) 47-592

Packaging emergency power for Alaska. Clevenger, M., (1992, p.36-38, eng) 47-593

Compact, disengaging pump drive aids cold weather starts. (1992, p.56-57, eng) 47-594

Field manual for the U.S. Antarctic Program. (1992, 207p., eng) 47-601

Cold weather countermobility on the battlefield. Richmond, P.W., (1992, 7p., eng) 47-603

State-of-the-art survey of flexible pavement crack sealing procedures in the United States. Eaton, R.A., et al. (1992, 19p., eng) 47-707

Characteristics of the operation of seepage tanks during winter. Golovin, V.L., et al. (1988, p.136-143, rus) 47-978

Theoretical and methodological aspects of an eco-geochemical evaluation of large industrial regions in the arctic zone. Dodin, D.A., et al. (1990, p.81-93, rus) 47-980

Minerals Management Service regulation of floating drilling unit operations. Kuranel, R.Y., et al. (1992, p.227-241, eng) 47-1031

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Improving the microclimate of cabs and starting machines at low temperatures. Alekseev, V.I., et al. (1990, p.25-26, rus) 47-1417

Accelerated heating of a hydraulic system in subzero ambient temperatures. Gulin, S.D., et al. (1990, p.6, rus) 47-1420

Civil engineering in the arctic North Slope, Alaska. Manikian, V., (1992, p.1-6, eng) 47-1829

Village uses a multiple defense strategy for snow removal. Miller, R.H., (1992, p.42-44, eng) 47-1919

Evaluating the possible application of pneumohydraulic equipment to lower water temperature. Nazarov, I.I., (1991, p.77-80, rus) 47-2029

Improving the effectiveness of drying gas in northern regions. Mukhtarov, K.A., et al. (1990, p.42-43, rus) 47-2476

Ensuring reliable gas supply in Yakutia. Dement'ev, IU.L., (1991, p.24-25, rus) 47-2479

Gas field production in an area with permafrost development. Mikhailov, N.V., (1991, p.4-5, rus) 47-2480

Restoring disturbed soils under conditions in the Far North: basis for design solutions. Bobrova, T.N., et al. (1991, p.10-11, rus) 47-2482

Recultivation in arctic regions. Masalkin, S.D., (1991, p.11, rus) 47-2483

American practices in developing arctic resources. Halley, D., (1991, p.16-19, rus) 47-2485

Solid wastes from the drilling of boreholes in the Far North: means of reduction. Kashkarov, N.G., et al. (1991, p.26, rus) 47-2489

Canada's offshore technology meets the arctic challenges. (1985, p.133-135, eng) 47-2914

Bitumen-vermiculite as thermal insulation beneath a roll roof. Antsiferov, IU.M., et al. (1991, p.82-85, rus) 47-2936

Disposal of hazardous wastes in Canada's Northwest Territories. Heeney, P.L., et al. (1992, p.806-810, eng) 47-3303

Development of an international standard for safe winter operation. Hornig, R., (1993, p.14-18, eng) 47-3312

Cold weather operation *(cont.)*

Impacts of severe weather during December 1989 in the Lake Erie snowbelt. Schmidlin, T.W., (1993, p.759-767, eng) 47-3476

Motorist information needs and changeable sign messages for adverse winter travel. Wilson, E.M., et al, (1992, 100p., eng) 47-3524

Sludges from cold regions lagoons. Schneiter, R.W., et al, (1993, p.146-155, eng) 47-3675

Arctic bases to get cleanup. Carr, F.H., (1993, p.20, eng) 47-4079

Site surveys of pipelines in the Far North. Kharionovskii, V.V., (1993, p.30-35, rus) 47-4083

Highway construction and management in cold regions. MacLeod, D.R., (1993, p.137-161, eng) 47-4278

Cold region logistics planning and management. Hulsey, J.L., et al, (1993, p.1-11, eng) 47-4283

Remediation of diesel contaminated site in a cold climate. Whitlock, C., et al, (1993, p.977-984, eng) 47-4479

Polar operations manual. Jenkins, W.T., (1988, Var. p., eng) 47-4665

Outline of the Civil Engineering Research Institute, 1992. (1992, 37p., jpn) 47-4689

Current status and countermeasures in isolated communities. (1984, p.69-74, jpn) 47-5070

Study on winter traffic volume. Seki, N., et al, (1984, p.101-106, jpn) 47-5076

Estimated budget *requirements for snow and cold weather* operations for 1985. Iina, I., (1984, p.111-112, jpn) 47-5078

Bulletin on the budget for snow and cold weather operations for 1985. Iina, I., (1985, p.123, jpn) 47-5093

Traffic flow on local two lane roads in Hokkaido. Ogino, H., et al, (1985, p.49-52, jpn) 47-5099

Shinjo Branch of the National Research Center for Disaster Prevention Science and Technology. Nakamura, T., (1985, p.53-60, jpn) 47-5100

Use of the C-5 Galaxy in support of the United States Antarctic Program. Bresnahan, D.M., (1993, p.238-245, eng) 47-5113

Final breakdown of budget items for snow and cold weather operations in 1983 and 1984. Iina, I., (1985, p.98-99, jpn) 47-5161

Estimated budget requirements for snow and cold weather operations for 1986. Iina, I., (1985, p.85-86, jpn) 47-5174

Building snowproof cities (Aomori City). Nishiue, H., (1986, p.9-12, jpn) 47-5176

Snow and ice operations in the mountains and highways of *Chugoku*. Nagata, Y., *et al*, (1986, p.85-92, jpn) 47-5185

Bulletin on the budget for snow and cold weather operations for 1986. Fujieda, H., (1986, p.99, jpn) 47-5189

Cold weather performance

Traffic safety of porous asphalt surface layers during winter —results of a study on highways. Ferrero, T., et al, (1992, p.359-362, ger) 47-50

Efficiency of hydraulic gears of motor vehicles at low *temperatures*. Kaverzin, S.V., (1986, 141p., rus) 47-95

Principles of development of diesel fuel composition with pour-point depressants. Mitusova, T.N., et al, (1992, p.3-7, eng) 47-205

Atmospheric durability of polymer-fiber composites in cold climates. Bulmanis, V.N., et al, (1992, p.698-705, eng) 47-207

Solar chest for melting snow performance evaluation. Hariprasad, N.M., et al, (1985, p.203-211, eng) 47-572

Some typical problems encountered in roads and airfield pavements in snowbound areas. Arya, I.R., et al, (1985, p.279-286, eng) 47-578

Buckling of unidirectional graphite/epoxy composite plates at low temperatures. Dutta, P.K., et al, (1991, 11p., eng) 47-692

Environmental monitoring and performance evaluation of *roller-compacted concrete pavement*. Cortez, E.R., et al, (1992, 16p., eng) 47-694

Evaluation of polymer-modified asphalts in Ontario. Joseph, P., et al, (1992, p.243-269, eng) 47-1137

Design and analysis of a low speed drag plow for use in *deep snow*. Walsh, M.R., *et al*, (1992, 51p., eng) 47-1894

Comparison of thawing soil strength *measurements for* predicting vehicle performance. Shoop, S.A., (1992, 11p., eng) 47-1895

Salt *and sand compared for winter* road treatment. Jones, R.H., (1992, p.58-59, eng) 47-1928

Low-temperature viscosity characteristics of synthetic aviation oils. Echin, A.I., et al, (1993, p.337-341, eng) 47-1997

Energy criterion for low temperature failure of asphalt concrete. Gubach, L.S., et al, (1992, p.50-52, rus) 47-2031

Wind-chill properties of various clothing types. Erhart, B., et al, (1991, p.63-75, ger) 47-2058

Physical assessment of the wind chill index. Ennemoser, O., et al, (1991, p.76-82, ger) 47-2059

Will northern piles last. Mikhallov, N.V., et al, (1991, p.6-7, rus) 47-2478

Improving the performance of electrical networks under conditions of the Far North. Belousenko, I.V., (1991, p.17-19, rus) 47-2686

2.5-kVA arctic ground fault detector, final report. Fries, L.M., et al, (1993, 18p. + appends., eng) 47-2610

Evaluation of FCAW consumables for offshore and arctic structure fabrication. Bala, S.R., et al, (1993, p.76-82, eng) 47-2667

Enclosures keep workers warm and more productive in cold weather. Smith, A., (1990, p.857-862, eng) 47-2716

Effect of the freezing of a foundation on the bearing capacity of a rigid airfield pavement. Onopa, I.A., et al, (1990, p.96-101, rus) 47-2759

Recessed deflecting road reflector. Sheldon, S.A., (1989, 6 col., eng) 47-3104

Snow and ice melting system for automotive vehicles. Ahmed, M.I., (1989, 12 col., eng) 47-3105

Tire snow belt. Lenet, L., (1989, 4 col., eng) 47-3106

Buildings for harsh environments. Wallhead, M., (1989, 8 col., eng) 47-3107

Plastic moldboards for snow plows and the like. Ciula, J.C., (1989, 14 col., eng) 47-3111

Fluid line deicer. Wilson, D.W., (1989, 6 col., eng) 47-3112

Prediction of building energy consumption. Pakanen, J., (1992, 32p. + appends., eng) 47-3134

Frost resistance of high-strength concrete. Pigeon, M., et al, (1992, p.975-980, fre) 47-3342

Newly developed snow vehicle (SM100S) for Antarctica. 5. Saito, M., *et al*, (1992, *p.410-440, jpn*) 47-3367

Contact assembly for high-voltage switch. Roman, C.D., et al, (1989, 6 col., eng) 47-3412

Freeze-thaw resistance of mortar-polymer admixtures. Atzeni, C., et al, (1993, p.301-308, eng) 47-3421

Standing seam metal roofing systems in cold regions. Tobiasson, W., et al, (1993, p.34-44, eng) 47-3542

Proceedings. (1993, 1681p. (2 vols.), eng) 47-3605

Deicer scaling resistance of concrete pavement aggregates. Marchand, J., et al, (1993, p.151-178, eng) 47-3606

Silica fume in concrete—an overview. Khayat, K.H., et al, (1993, p.835-872, eng) 47-3611

Concrete durability related to curing rate. Johnston, C.D., (1993, p.1167-1187, eng) 47-3613

Performance of portland and blast furnace slag cement concretes in marine environments. Osborne, G.J., (1993, p.1303-1323, eng) 47-3616

Maintenance vehicle with snow tiller apparatus. Haug, W., (1988, 6 col., eng) 47-3643

Tire chain device for automobiles travelling on snow-covered terrain. Yang, M.F., (1988, 4 col., eng) 47-3767

Modification of motor-scooter for snow traversal. Bruzzone, R., (1988, 4 col., eng) 47-3770

Apparatus for converting a road vehicle into a snowmobile. Shaver, A.L., (1988, 8 col., eng) 47-3771

Field performance of a spinning-reflector microwave radiometer. Demoz, B.B., et al, (1993, p.420-427, eng) 47-3775

Snow conditions during MLRS-TGW BBS European Captive Flight Program, Hessen, Germany, February 1992. Fisk, D.J., (1993, 37p., eng) 47-3796

Fencing pays off big for arctic community. Weber, S., (1992, p.8-11, eng) 47-3836

Snow plow attachment. Steinhoff, K., (1987, 4 col., eng) 47-3848

Winter equipment maintenance: tips you need to know. (1993, p.18,20,21, eng) 47-3908

Snowplow and implement attachment means for a vehicle. Quenzi, P.J., (1987, 14 col., eng) 47-4001

Historical overview of the DEW system in Alaska, and documentation of facilities at POW-3, Bullen Point, Alaska. (1993, 96p., eng) 47-4209

Highway construction and management in cold regions. MacLeod, D.R., (1993, p.137-161, eng) 47-4278

Snowdrift around antarctic buildings—*effects of corner* geometry and wind incidence. Kwok, K.C.S., et al, (1993, p.61-65, eng) 47-4302

Atactic polypropylene as a viscosity index improver for low-temperature oils. Alekseev, A.P., et al, (1993, p.509-512, eng) 47-4385

Low-temperature performance of biological wastewater treatment systems. Viraraghavan, T., et al, (1993, p.297-302, eng) 47-4470

Transparent insulations. Cold-region application. *Kouhia*, I., et al, (1992, 32p., eng) 47-4619

Outline of the Civil Engineering Research Institute, 1992. (1992, 37p., jpn) 47-4689

Diode laser humidity sensor for cold environments. Phase I. Final technical report. Stanton, A.C., et al, (1988, 35p., eng) 47-4861

Using physical methods to predict slippery road conditions. Hertl, S., et al, (1988, 72p., ger) 47-4990

Driver behavior during winter conditions. Gabestad, K.O., et al, (1988, 54p. + appends., nor) 47-4992

Effects of thawing salts on biological sewage treatment plants. Washüttl, J., (1983, p.1-19, ger) 47-5000

Influence of studded tires on roadway surfaces. Bereza-Kudrycki, W., (1985, 55p., eng) 47-5008

Determination of road wear from studded tires. *Knoflacher*, H., et al, (1974, 90p., ger) 47-5010

High strength concrete resistance to cold weather. Ernzen, J.J., et al, (1993, 304p., eng) 47-5061

Cold weather survival

Speedy sledge offers retreat from storms. Anderson, I., (1992, p.20, eng) 47-233

Arctic insects as indicators of environmental change. Danks, H.V., (1992, p.159-166, eng) 47-519

ANARE first aid manual (5th ed.). Gormly, P., (1992, 82p., eng) 47-1215

New perspectives on the survival chances of a person *buried in an avalanche*. Brugger, H., et al, (1992, p.24-31, eng) 47-1319

Winter injury to Subalpine red spruce: influence of prior vigor and effects on subsequent growth. Peart, D.R., et al, (1992, p.888-892, eng) 47-1481

Root mechanical properties related to disturbed and stressed habitats in the Arctic. Jonasson, S., et al, (1992, p.179-186, eng) 47-1557

Bioclimatology of frost. Kalma, J.D., et al, (1992, 144p., eng) 47-1794

Primer on clothing systems for cold-weather field work. Denner, J.C., (1990, 14p., eng) 47-2225

Frost hardiness of dormant *Salix* shoots. von Fircks, H.A., (1992, p.317-323, eng) 47-2296

Multilayered insulation ensuring human activity in extreme climatic conditions. Bosniatskii, G.P., et al, (1991, p.33, rus) 47-2477

Effect of snow-free duration on leaf life-span of four alpine plant species. Kudo, G., (1992, p.1684-1688, eng) 47-3826

Vegetation of stressed calcareous screes and slopes on Sverdrup Pass, Ellesmere Island, Canada. Maycock, P.F., et al, (1992, p.2359-2377, eng) 47-3837

Lifesaving craft. Kraft, U., (1988, 4 col., eng) 47-3845

2000-year lichen-snowkill chronology for the Colorado Front Range, USA. Benedict, J.B., (1993, p.27-33, eng) 47-4144

Polar operations manual. Jenkins, W.T., (1988, Var. p., eng) 47-4665

New wind-chill nomogram. Rees, W.G., (1993, p.229-234, eng) 47-4703

Inverse relation between frost survival and atmospheric pressure. Halloy, S., et al, (1993, p.117-123, eng) 47-4744

Freezing tolerance of an arctic/subarctic cushion plant, Junttila, O., et al, (1993, p.423-426, eng) 47-4911

Pinus development related to soil preparation. Fries, C., (1993, p.73-80, eng) 47-4997

Cold weather tests

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Root cold hardiness and native distribution of subalpine conifers. Coleman, M.D., et al, (1992, p.932-938, eng) 47-1187

Effects of summer frosts and subsequent shade on foliage gas exchange in peatland tamarack and black spruce. Dang, Q.L., et al, (1992, p.973-979, eng) 47-1188

Bench testing of joints in machinery—the basis for competitive engineering. Mikheenko, V.V., (1990, p.27-29, rus) 47-1419

Tests of excavator equipment under various above and below freezing temperatures. Mikheenko, V.V., (1992, p.2-5, rus) 47-2064

Cold acclimation of pine trees measured by needle freezing tolerance. Lindgren, K., et al, (1992, p.309-315, eng) 47-2295

Frost hardiness of dormant *Salix* shoots. von Fircks, H.A., (1992, p.317-323, eng) 47-2296

Using nondestructive diagnostic methods to evaluate the condition of the material in foundations on permafrost. Izotov, V.N., ed, (1989, 44p., rus) 47-2316

Aerodynamic effects of aircraft ground deicing anti-icing fluids. Hill, E.G., et al, (1993, p.24-34, eng) 47-3314

Snow-weathering test apparatus for self-propelled vehicle. Kimura, C., (1989, 6 col., eng) 47-3329

Potential leachate production due to cold weather effects. Leskiw, E.J., *et al*, (1992, *p.660-667, eng*) 47-3345

Deicer scaling resistance of concrete pavement aggregates. Marchand, J., et al, (1993, p.151-178, eng) 47-3606

Measuring the point spread function of sea ice *in situ*. Voss, J.M., et al, (1992, p.517-526, eng) 47-3735

Ice detector estimation of *atmospheric icing on* a cable. McComber, P., et al, (1993, p.305-316, eng) 47-3933

Shading effects on spruce frost damage. Örlander, G., (1993, p.27-36, eng) 47-4296

Effects of freezing and moisture on impact properties of *glass fiber reinforced* RTM parts. Karbhari, V.M., et al, (1992, p.135-142, eng) 47-4627

Inverse relation between frost survival and atmospheric pressure. Halloy, S., et al, (1993, p.117-123, eng) 47-4744

Plant competition over winter in alpine shrubland and grassland, Snowy Mountains, Australia. Egerton, J.J.G., et al, (1993, p.124-129, eng) 47-4745

Evaluation of ice prevention properties of road surface with calcium chloride admixture. Augustin, H., et al, (1986, 60p., ger) 47-4988

Manual for planning and implementing road surface condition studies in wintertime—vol.1 and 2. Gabestad, K.O., [1988, 2 vols., nor] 47-4991

Photosynthetic photon flux effect on Larix frost hardiness. Hansen, J.M., et al. [1993, p.204-212, eng] 47-4998

Effects of road salt reduction on salting efficiency. Augustin, H., et al. [1983, p.21-78, ger] 47-5001

Influence of studded tires on roadway surfaces. Bereza-Kudrycki, W., [1985, 55p., eng] 47-5008

High strength concrete resistance to cold weather. Ernzen, J.J., et al. [1993, 304p., eng] 47-5061

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Low temperature studies of stability of emulsion explosives. Ganguly, S., et al. [1992, p.243-256, eng] 47-194

Ice nucleation in emulsified aqueous salt solutions: a *differential scanning calorimetry* study. Ganguly, S., et al, [1992, p.105-111, eng] 47-798

Scanning electron microscopy of ice cream. 1. Caldwell, K.B., et al, [1992, p.1-9, eng] 47-2014

Scanning electron microscopy of ice cream. 2. Caldwell, K.B., et al, [1992, p.11-23, eng] 47-2015

Pressure effects on non-freezing water layer thickness. Bardasov, S.A., et al, [1992, p.160-166, eng] 47-3733

Dynamical criterion for freezing of colloidal liquids. Löwen, H., et al, [1993, p.1557-1560, eng] 47-4347

Influence of polysaccharides on the glass transition in frozen sucrose solutions and ice cream. Goff, H.D., et al, [1993, p.1268-1277, *eng*] 47-4849

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Interglacial to glacial climatic change: observations from selected Colombian pollen records. Hooghiemstra, H., et al, [1992, p.71-84, eng] 47-2833

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Origin of green icebergs in Antarctica. *Kipfstuhl, J., et al,* [1992, p.20,319-20,324, eng] 47-2343

Green iceberg formation on antarctic ice shelf bases. Warren, S.G., et al, [1993, p.6921-6928, eng] 47-4138

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Frost resistance of *roller compacted concrete*. *Osipov*, A.D., et al, [1993, p.400-404, eng] 47-4013

Stresses and forces under ice compacting. Nikitin, V.A., et al, [1993, p.139-142, eng] 47-4299

Effect of freeze-thaw on the hydraulic conductivity and morphology of compacted clay. Othman, M.A., et al, [1993, p.236-246, eng] 47-4512

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Atmospheric durability of polymer-fiber composites in cold climates. Bulmanis, V.N., et al, [1992, p.698-705, eng] 47-207

Low-temperature shaping of thick-walled composite rings. Stephanychev, E.I., et al, [1992, p.478-481, eng] 47-245

Buckling of unidirectional graphite/epoxy composite plates at low temperatures. Dutta, P.K., et al, [1991, 11p., eng] 47-692

Freezing of water in hardboard: absence of changes in *mechanical properties*. George, M.F., et al, [1992, p.252-259, eng] 47-771

Tensile strength of unidirectional fiber composites at low temperatures. Dutta, P.K., [1992, p.782-792, eng] 47-2230

Study on phase changes of *heterogeneous composite* materials: effects of parameters on solidification process. Hirasawa, Y., et al, [1991, p.225-230, eng] 47-2556

On development of fibre-ice-composites. Vasil'ev, N.K., [1993, p.195-199, eng] 47-2650

Influence of damage on mechanical properties of woven composites at low temperatures. Kriz, R.D., [1985, p.55-58, eng] 47-3909

Arctic structure of composite wall construction. Birdy, J.N., et al, [1987, 14 col., eng] 47-4007

Effects of freezing and moisture on impact properties of glass fiber reinforced RTM parts. Karbhari, V.M., et al, [1992, p.135-142, *eng*] 47-4627

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Compressive strength, flexural strength and static elastic modulus of sea ice. Takahashi, Y., et al, [1992, p.155-168, eng] 47-1026

Evaluation of ice compression. Kuznetsov, I.M., et al, [1989, p.72-76, eng] 47-1225

Non-air-entrained high-strength concrete—is it frost resistant. Cohen, M.D., et al, [1992, p.406-415, eng] 47-1548

Anomalies of the shock compressibility of water. Bogdanov, G.E., et al, [1992, p.162-165, eng] 47-2458

On development of fibre-ice-composites. Vasil'ev, N.K., [1993, p.195-199, eng] 47-2650

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Properties of granulated blast-furnace slag cement concrete. Sakai, K., et al, [1993, p.1367-1383, eng] 47-3617

Snowplow resistant road markers. Eigenmann, L., [1987, 6 col., eng] 47-4000

Compressive strength of ice cubes of different sizes. Kuehn, G.A., et al, [1993, p.142-148, eng] 47-4060

On the ductile-to-brittle transition in ice under compression. Batto, R.A., et al, [1993, p.2219-2225, eng] 47-4731

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Computer applications

Ice forecasting model helps operators extend arctic exploration periods. [1992, p.34, eng] 47-921

Automated permafrost mapping using a computer program. Keller, F., [1992, p.133-138, eng] 47-1752

Experiment in organizing the automated gathering and processing of hydrometeorological information for ships. Safronov, V.A., [1991, p.145-152, rus] 47-3965

Glaze ice measurement with microprocessor. Provencal, G., et al, [1988, 8 col., eng] 47-4008

Winter storm mapping: a Geographic Information Systems Transportation application. Swift, L.B., et al, [1992, p.60-71, *eng*] 47-4359

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Landing and parking a C5 Galaxy on sea ice: McMurdo Station, Antarctica. Barthelemy, J.L., [1992, p.37-49, eng] 47-1017

Automated permafrost mapping using a computer program. Keller, F., [1992, p.133-138, eng] 47-1752

PASCON: an expert system for passive snow control on highways. Kaminski, D.F., et al, [1991, p.193-201, eng] 47-1803

Unsurfaced road management rating system. Eaton, R.A., et al, [1993, p.25, eng] 47-1911

Water resource modelling using remote sensing and object-oriented simulation. McKim, H.L., et al, [1993, p.153-165, eng] 47-3346

Algorithms for alpine land cover classification. Peddle, D.R., [1993, p.31-44, eng] 47-3723

Snow conditions during *MLRS-TGW BBS European* Captive Flight Program, Hessen, Germany, February 1992. Fisk, D.J., [1993, 37p., eng] 47-3796

Classification of permafrost active layer depth from remotely sensed and topographic evidence. Peddle, D.R., et al, [1993, p.67-80, eng] 47-3918

Flow along developable surface snowplow moldboards. Crane, R.L., [1992, 293p., eng] 47-4677

Pneumatically de-iced ice detector. Franklin, C.H., et al, [1985, 32p., eng] 47-4896

Behavior of artificial radionuclides in seawater. Khodakovskii, I.L., et al, [1993, p.213-223, eng] 47-5032

Computerized simulation

Enhancement of computer model of tracked vehicle performance on snow-covered terrain. Wong, J.Y., [1992, p.341-357, eng] 47-408

Computerized simulation of Barents Sea glaciation. Isaksson, E., [1992, p.295-301, eng] 47-470

Simulation of oil slick transport in Great Lakes connecting channels: user's manual. Shen, H.T., et al, [1991, 69p., eng] 47-693

On computer simulation of motion of broken ice. Vinogradov, O., [1992, p.15-24, eng] 47-1015

Computational modeling of antarctic lake ice. Lindner, B.L., et al, [1992, p.105-116, eng] 47-1022

New computerized approach to estimating the thermal properties of unfrozen soils. Tarnawski, V.R., et al, [1992, p.714-720, eng] 47-1186

Solution of solidification problem using a microcomputer. Rabin, Y., et al, [1993, p.673-683, eng] 47-2653

Numerical simulation of systems of multitudinous polygonal blocks. Hopkins, M.A., [1992, 69p., eng] 47-2923

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Adjoint sensitivity theory for a pack ice momentum model. Sykes, J.F., et al, [1992, p.881-889, eng] 47-3353

Simulation of water-ice layers on a silver iodide substrate. Taylor, J.H., et al, [1993, p.9732-9741, eng] 47-3984

North Atlantic sea ice sensitivities of monthly dynamical forecasts. Walsh, J.E., et al, [1988, p.32-35, eng] 47-4179

Polar low sensitivity to sea surface temperature. Langland, R.H., et al, [1988, p.83-86, eng] 47-4188

High-latitude processes in a coupled ocean-atmosphere general circulation model. Roberts, D.L., [1988, p.89-91, eng] 47-4190

Solvation, freezing, and the crystal/liquid interface: modern theories and computer simulation. Haymet, A.D.J., [1993, *p.415-426, eng*] 47-4216

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Computerized simulation of permafrost mass transfer. Kozlov, A.N., et al, [1992, p.63-67, eng] 47-4384

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Passive acoustic emission for quantitative evaluation of freeze thaw and alkali aggregate reaction in concretes. Taylor, M.A., [1992, p.1-12, eng] 47-1376

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Engineering properties of rubberized concrete. Eldin, N.N., et al. [1992, p.912-923, eng] 47-3307

Proceedings. [1993, 1681p. (2 vols.). eng] 47-3605

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Cryogenic frost resistance of lightweight concrete containing silica fume. Khayat, K.H., et al. [1989, p.915-928, eng] 47-59

Concrete resistance to freeze-thaw and de-icing salt cycling. Bilodeau, A., et al. [1989, p.945-970, eng] 47-60

Influence of curing on the salt scaling resistance of concrete with and without silica fume. Langlois, M., et al. [1989, p.971-989, eng] 47-61

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Influence of soluble alkalies on air-entrainment in concrete admixtures. Pigeon, M., et al. [1992, p.24-31, eng] 47-82

Effects of freeze-thaw cycles on reinforced concrete fatigue behavior. Radian, T.A., [1990, 220p., eng] 47-84

Exposure test for protective coatings for concrete. Tanikawa, S., et al. [1992, p.150-154, jpn] 47-133

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Mathematical simulation and laboratory duplication of concrete scaling. Adkins, D.F., [1991, 202p., eng] 47-310

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Proceedings. [1993, 1681p. (2 vols.). eng] 47-3605

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Comparative study of natural pozzolans used in blended cement production. Akman, M.S., et al. [1993, p.471-494, eng] 47-3609

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Abrasion of concrete structures by ice. Huovinen, S., [1993, p.69-82, eng] 47-3286

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General report—soil freezing-ground freezing. Andersland, O.B., et al, [1992, p.2657-2672, eng] 47-1816

New propulsion system for a multi-purpose icebreaker. [1993, p.50-51, ger] 47-2150

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Critical cooling rates for aqueous cryoprotectants. Sutton, R.L., [1992, p.585-598, eng] 47-2875
Temperature dependence of ice dielectric relaxation. Bruni, F., et al, [1993, p.538-547, eng] 47-4288
Influence of freezing technique on freeze drying. Kochs, M., et al, [1993, p.1727-1738, eng] 47-4413
Cooling systems
Freezing earth with seasonal cooling plants. Buchko, N.A., et al, [1992, p.258-264, eng] 47-2292
Ground freezing. Bell, F.G., [1992, p.321-333, eng] 47-4890
See also: Air conditioning; Cryogenics; Refrigeration
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Core analysis
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Core samplers
Review of current and potential future sampling practices for volatile organic compounds in soil. Hewitt, A.D., [1992, p.75-82, eng] 47-1820
Circumantarctic benthic foraminifers. Ishman, S.E., [1993, p.105-133, eng] 47-4822
Sampling frozen soils. Tarnocai, C., [1993, p.755-765, eng] 47-5249
See also: Ice coring drills
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Coring
Greenland Ice Sheet Project Two. GISP2 core data report 1991. [1991, Var. p., eng] 47-4666
Sampling frozen soils. Tarnocai, C., [1993, p.755-765, eng] 47-5249
Cornices
See also: Snow cornices
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Correlation
Relationship between snow fall and lean season-discharge of river Sainj at Larji, Himachal Pradesh. Krishnan, V., [1985, p.163-173, eng] 47-569
Temperature-precipitation relationships for Canadian stations. Isaac, G.A., et al, [1992, p.822-830, eng] 47-1268
Reassessment of Crete (Greenland) ice core acidity/volcanism link to climate change. Crowley, T.J., et al, [1993, p.209-212, eng] 47-2856
Glacial retreat in the Pyrenees. [1993, p.116-117, eng] 47-3318
Sensitivity method for ice floe trajectory calculations. Thomson, N.R., et al, [1992, p.573-585, eng] 47-3344
Measurement of microbial biomass in arctic tundra. Cheng, W.X., et al, [1993, p.135-141, eng] 47-3347
Marine transgressions and paleoclimatology in northern Alaska. Brigham-Grette, J., et al, [1992, p.74-89, eng] 47-3352
*Change detection on Alaska's North Slope using repeat-*pass ERS-1 SAR images. Villasenor, J.D., et al, [1993, p.227-236, eng] 47-3360
Relative rates of glacial and nonglacial erosion in alpine environments. Harbor, J.M., et al, [1993, p.1-7, eng] 47-3422
Crystal structure of typical snow crystals of low temperature types. Sato, N., et al, [1989, p.521-528, eng] 47-3467
Interglaciation palynology in the Yukon. Schweger, C.E., et al, [1991, p.85-94, eng] 47-3482
Last interglacial as recorded in the Greenland ice sheet and Canadian arctic ice caps. Reeh, N., [1991, p.123-142, eng] 47-3485
Problems of the last interglacial in arctic Siberia. Sher, A.V., [1991, p.215-222, eng] 47-3491
General circulation models, palaeoclimatic data and last interglacial climates. Harrison, S.P., et al, [1991, p.231-242, eng] 47-3493
Quaternary deposit chronology derived from varve dating. Björck, S., et al, [1992, p.25-44, eng] 47-3556
Palynological correlation of paleoclimatic changes. Peteet, D.M., [1992, p.327-344, eng] 47-3561
Methanesulfonic acid in coastal antarctic snow related to sea-ice extent. Welch, K.A., et al, [1993, p.443-446, eng] 47-3728
Cloud property inference from satellite-observed radiance, pt.2. Minnis, P., et al, [1993, p.1305-1322, eng] 47-3732
Some results of a statistical analysis of synoptic meso-scale variabilities in the water temperature of the Barents Sea. Lebedev, I.A., [1992, p.169-181, rus] 47-3816
Equatorial atmospheric influence on polar stratospheric temperatures. Kodera, K., [1993, p.7245-7250, eng] 47-3830
Effect of fatigue on the bearing capacity of floating ice sheets. Haynes, F.D., et al, [1993, p.257-263, eng] 47-3929
*Steady flow of a viscous ice stream across a no-slip/free-*slip transition at the bed. Barcilon, V., et al, [1993, p.167-185, eng] 47-3950
Correlation between ice core isotope levels and air temperature. Jones, P.D., et al, [1993, p.14-26, eng] 47-4143
Decrease in total ozone concentration in the polar cap following solar proton flares. Shumilov, O.I., et al, [1991, p.17-21, eng] 47-4251
Climatic changes in the Barents Sea area. Borisov, S.B., et al, [1991, p.46-50, eng] 47-4252
Ice studies in the Barents Sea by ERS-1 SAR during SIZEX 92. Johannessen, O.M., et al, [1993, p.277-282, eng] 47-4425
Experiences from the Swedish sea ice programme during BEERS-92. Thompson, T., et al, [1993, p.313-318, eng] 47-4431
Sea ice feature and type identification in merged ERS-1 SAR and Landsat Thematic Mapper imagery. Steffen, K., et al, [1993, p.361-365, eng] 47-4440
Summer arctic ice concentrations and characteristics from SAR and SSM/I data. Comiso, J.C., et al, [1993, p.367-372, eng] 47-4441
Monitoring of snowcover in high mountain terrain with ERS-1 SAR. Haefner, H., et al, [1993, p.583-588, eng] 47-4446
Application of ERS-1 SAR data to snow mapping. Hallikainen, M., et al, [1993, p.589-594, eng] 47-4447
Applications of ERS-1 SAR data for analyzing riverine and coastal processes and geomorphology. Gatto, L.W., et al, [1993, p.873-878, eng] 47-4449
Climate change inferred from borehole temperatures. Pollack, H.N., [1993, p.173-179, eng] 47-4589

Comparison of VLBI data with the ICE-3G glacial rebound model. James, T.S., et al. [1993, p.871-874, eng] 47-4631

Airborne measurement of absolute sea-surface heights. Brozena, J.M., et al. [1993, p.875-878, eng] 47-4632

Weathering of basaltic rocks under cold arid conditions: Antarctica and Mars. Allen, C.C., et al. [1991, p.711-717, eng] 47-4636

Matched field tomography results in the Arctic. Diachok, O.I., et al. [1992, p.24-27, eng] 47-4716

Paleoclimatic implications of Alaskan coastal marine deposits. Kaufman, D.S., et al. [1993, p.21-33, eng] 47-4733

Study of the arctic heat sink. Ripley, E.A., [1990, 95p. + appends., eng] 47-4910

Paleoclimatic variables derived from subarctic treeline dendrochronology. Yamaguchi, D.K., et al. [1993, p.256-262, eng] 47-5123

Correlation between continental snow cover and air temperature. Leathers, D.J., et al. [1993, p.1345-1355, eng] 47-5212

Avalanche prediction in Scotland: 2. Development of a predictive model. Ward, R.G.W., [1984, p.109-133, eng] 47-5255

Glacier fluctuation relation to moraine cushion plant variation. Frenot, Y., et al. [1993, p.140-144, eng] 47-5269

Corrosion

Resistance of microsilica concrete to steel corrosion, *erosion, and chemical attack.* Berke, N.S., [1989, p.861-886, eng] 47-58

Use of concrete admixtures to provide long-term durability from steel corrosion. Berke, N.S., et al. [1989, p.383-403, eng] 47-65

Effects of freeze-thaw cycles on reinforced concrete fatigue behavior. Radian, T.A., [1990, 220p., eng] 47-84

Distinguishing feature of frost and salt penetration corrosion. Koreniuk, A.G., et al. [1992, p.57-60, rus] 47-185

Frost-and-salt resistant concretes. Gurskis, V.V., [1992, p.18-20, rus] 47-2151

Superplasticizer based on poly-electrolytic compounds. Simonenko, L.I., et al. [1991, p.18-20, rus] 47-2159

Alkali-silicate concrete for salt-and-frost resistant structures. Guzeev, E.A., et al. [1990, p.4-6, rus] 47-2161

Statistical studies of wear on the hull plating of ice-navigating ships. Shemendiuk, G.P., et al. [*1992, p.28-31, rus*] 47-2920

Electrochemical characteristics of aluminum galvanic anodes in an arctic seawater. Tamada, A., et al. [1993, p.261-277, eng] 47-3176

Ways to help bridges and deicers coexist. Miller, W.L., [1993, p.18-19, eng] 47-3680

Guide to durable concrete. [1992, 39p., eng] 47-4353

Corrosion of aircraft fuel tanks by antifreezes. Likhterova, N.M., et al. [1993, p.563-566, eng] 47-4386

Anticorrosive deicer used on bridges. [1993, p.36, eng] 47-4623

Special challenge: cathodic protection on trans-Alaska pipeline. Peabody, A.W., [1976, p.40,42,43, eng] 47-4866

Cosmic dust

Sublimation and reformation of icy grains in the primitive solar nebula. Lunine, J.I., et al. [1991, p.333-344, eng] 47-990

Ice threshold in molecular clouds: a diagnostic of the infrared radiation field. Williams, D.A., et al. [1992, p.599-601, eng] 47-1787

Ice particle emission from cometary analogues. Kohl, H., et al. [1991, p.257-260, eng] 47-2112

Comparison of 3 micron features of trapped H2O and H2O frost in SiO condensate with observed dust features. Wada, S., et al. [1991, p.429-432, eng] 47-2114

Laboratory observational and theoretical studies of *interstellar ices.* Tielens, A.G.G.M., et al. [1991, p.29-58, eng] 47-2311

Physical and chemical effects induced by fast ions in ices of astrophysical interest. Pirronello, V., [1991, p.263-303, eng] 47-2313

Cost analysis

Big savings at the ice margin. Knight, P., et al. [1992, p.22-26, eng] 47-445

Avalanche control project: what does it involve. Rajaram, T., [1985, p.384-391, eng] 47-555

Appraisal of snow damage in an urban area. Umemura, T., et al. [1991, p.1-11, eng] 47-1935

Problems of optimization in avalanche studies. Bozhinskiĭ, A.N., [1990, p.38-43, rus] 47-1986

Evaluating the cost of anti-avalanche measures. *Blagoveshchenskiĭ, V.P., et al. [1991, p.179-186, rus]* 47-2810

Economic effectiveness of the production and use of lignovermiculite as thermal insulation products. Rabcheniuk, G.P., et al. [1991, p.85-95, rus] 47-2937

Impacts of severe weather during December 1989 in the Lake Erie snowbelt. Schmidlin, T.W., [1993, p.759-767, eng] 47-3476

Study finds 88.3% crash reduction after deicing. [1993, p.22, eng] 47-3682

Air conditioning energy conservation through ice storage. Tassou, S.A., et al. [1992, p.419-425, eng] 47-3798

Northern Sea Route—rosy prospects for commercial shipping?. Wergeland, T., [1992, p.43-57, eng] 47-4213

Highway construction and management in cold regions. MacLeod, D.R., [1993, p.137-161, eng] 47-4278

Cold region logistics planning and management. Hulsey, J.L., et al. [1993, p.1-11, eng] 47-4283

Harmony between road management and environment in winter. [1992, 44p., eng] 47-4780

Measurement of heat losses from a conduit-type heat distribution system. Lunardini, V.J., [1990, p.435-449, eng] 47-4862

Use of ALARA in decision making on costly international cleanup effort of radioactive contamination. Kuz'min, I.I., et al. [1993, p.573-584, eng] 47-5055

Summary of damages and countermeasures in the snowstorms of 1984. Takahashi, T., [1984, p.30-34, *jpn*] 47-5063

Estimated budget requirements for snow and cold weather operations for 1985. Iina, I., [1984, p.111-112, jpn] 47-5078

Frost heave damage to roads from abnormally low temperatures. Ito, N., [1985, p.73-76, jpn] 47-5086

Bulletin on the budget for snow and cold weather operations for 1985. Iina, I., [1985, p.123, jpn] 47-5093

Snow countermeasure operations at the Hokkaido Development Bureau. Bando, T., [1985, p.21-28, jpn] 47-5095

Road snow removal in Hokuriku regional construction. Yasui, K., et al. [1985, p.42-48, *jpn*] 47-5098

Bulletin on road snow removal in the 1985 snowstorms. Iina, I., [1985, p.82-83, jpn] 47-5104

Final breakdown of budget items for snow and cold weather operations in 1983 and 1984. Iina, I., [1985, p.98-99, jpn] 47-5161

Snow countermeasures in Joetsu City. [1985, p.45-49, jpn] 47-5167

Estimated budget requirements for snow and cold weather operations for 1986. Iina, I., [1985, p.85-86, jpn] 47-5174

Bulletin on the budget for snow and cold weather operations for 1986. Fujieda, H., [1986, p.99, jpn] 47-5189

Annual northern expenditure plan 1990-1991. [1993, *30p., eng*] 47-5243

Annual report 1992. [1993, 39p., eng] 47-5247

See also: Economic analysis

Countermeasures

Use of concrete admixtures to provide long-term durability from steel corrosion. Berke, N.S., et al. [1989, p.383-403, eng] 47-65

Thermal and moisture dust control treatment of a perennially frozen disturbed coal mine. Kudriashov, V.V., et al. [1991, 135p., rus] 47-101

*Safeguarding deep excavations from snowdrifts in high-*altitude sections of railroads. Lomidze, I.N., et al. [1992, p.17, rus] 47-370

Protecting railroads on Sakhalin from avalanches. [Adroshnikov, V.I., [1992, p.2-11, rus] 47-371

Formation and calculation of snow reserves on agricultural fields with a snow fence. Kaliuzhnyĭ, I.L., et al. [1991, p.22-34, rus] 47-381

Snow avalanches of Himalaya—an analysis. Rao, N.M., et al. [1985, p.327-340, eng] 47-550

Snow avalanches—classification, detection and search of victims. Bhandari, R.K., et al. [1985, p.341-345, eng] 47-551

Avalanche control in formation zone—a case study. Rajaram, T., [1985, p.354-368, eng] 47-553

New approach for design of diversion and retarding dams. Sharma, S.S., [1985, p.369-383, eng] 47-554

Avalanche control project: what does it involve. Rajaram, T., [1985, p.384-391, eng] 47-555

Some typical problems encountered in roads and airfield pavements in snowbound areas. Arya, I.R., et al. [1985, p.279-286, eng] 47-578

Pavements in seasonal frost areas. Aggarwal, R.C., et al. [1985, p.381-386, eng] 47-584

Winter operability: equipment problems and their remedies. Diemand, D., [1992, p.124-137, eng] 47-587

Methodology of airborne tests of anti-hail products in *stratiform clouds.* Berezinskiĭ, N.A., *et al.* [1991, p.68-74, rus] 47-754

Avalanche control. [1985, 231p., eng] 47-987

PASCON: an expert system for passive snow control on highways. Kaminski, D.F., et al. [1991, p.193-201, eng] 47-1803

Guide to proper salt storage. [1992, p.55-56,82-83, eng] 47-1923

Problems of optimization in avalanche studies. Bozhinskiĭ, A.N., [1990, p.38-43, rus] 47-1986

Problems in the study of naleds; *collected scientific papers.* Alekseev, V.R., ed, [1991, 238p., rus] 47-2424

Basic problems in the study of naleds. Alekseev, V.R., [1991, p.5-23, rus] 47-2425

System approach to selecting anti-naled procedures. Merkulov, D.M., et al. [1991, *p.210-214, rus*] 47-2449

Effectiveness of anti-naled measures during road building. Nevskiĭ, S.D., [1991, p.214-218, rus] 47-2450

Water-snow flows in the Khibiny Mountains. Sapunov, V.N., [1991, p.94-99, rus] 47-2794

Evaluating the cost of anti-avalanche measures. Blagoveshchenskiĭ, V.P., et al. [1991, p.179-186, rus] 47-2810

Elastic shield to protect road culverts from naleds. Dement'eva, O.V., [1992, p.13, rus] 47-2902

Abrasion of concrete structures by ice. Huovinen, S., [1993, p.69-82, eng] 47-3286

Contact assembly for high-voltage switch. Roman, C.D., et al. [1989, 6 col., eng] 47-3412

Clamp for arctic pipeline support. Morton, A.W., [1988, 4 col., *eng*] 47-3414

Support standard for implement. Schoessow, J., [1988, 4 col., eng] 47-3416

Water freeze prevention valve. Carney, F.P., [1988, 24 col., eng] 47-3417

Geography of avalanches. Miagkov, S.M., ed, [1992, 331p., rus] 47-3505

Freeze safe valve. Roper, B.G., [1988, 8 col., eng] 47-3633

Interfacial separator for concrete structures. Dahowski, D.E., [1988, 8 col., *eng*] 47-3640

Ways to help bridges and deicers coexist. Miller, W.L., [1993, p.18-19, eng] 47-3680

Removable bottom founded structure. Beskow, R.H., et al. [1988, 16 col., eng] 47-3763

Field performance of a spinning-reflector microwave radiometer. Demoz, B.B., et al. [1993, p.420-427, eng] 47-3775

Cleanup in the Arctic. Josephson, J., [1993, p.585, eng] 47-4020

Use of trees and shrubs for control of blowing snow in select locations along Wyoming highways. Powell, K., et al. [1992, 30p., eng] 47-4214

Anticorrosive deicer used on bridges. [1993, p.36, eng] 47-4623

Lessons learned from an ice storm emergency. Low, T.A., [1993, p.38-49, eng] 47-4624

Greenhouse effect and global warming: a Canadian perspective. Kemp, D., [1991, p.121-130, eng] 47-4729

Special challenge: cathodic protection on trans-Alaska pipeline. Peabody, A.W., [1976, p.40,42,43, eng] 47-4866

Avoiding aircraft icing. Collins, R.L., [1993, p.53-57, eng] 47-4999

Application of offshore drilling technology to the entombment of artificial sources of radioactivity on the sea floor. Francis, T.J.G., [1993, p.367-377, eng] 47-5043

Prevention, response and remediation of petroleum *pollution.* Kohlmeyer, C.R.C., [1993, p.157-172, eng] 47-5112

Reliability-based design of transmission towers under wind and ice loadings. Cho, H.N., et al. [1993, p.1125-1130, eng] 47-5263

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Covering

Tire snow belt. Lener, L., [1989, 4 col., eng] 47-3106

Continuous snow chain. Lew, H.S., [1989, 8 col., eng] 47-3110

Lamp mounting. Klaus, D.A., [1988, 6 col., eng] 47-3766

*Tire chain device for automobiles travelling on snow-*covered terrain. Yang, M.F., [1988, 4 col., eng] 47-3767

Snow chains for vehicles. Artzi, G.B., [1987, 4 col., eng] 47-3847

Maintenance techniques for road surfacings— investigations, route decisions, planning, implementation. [1978, 221p., ger] 47-4986

Test methods for the renovation of road coverings. Wicke, M., et al. [1985, 48p., ger] 47-4987

Evaluation of ice prevention properties of road surface with calcium chloride admixture. Augustin, H., et al. [1986, 60p., ger] 47-4988

Crack propagation

Fracture toughness Kq and fractography of S1 type *freshwater ice.* Dempsey, J.P., et al. [1989, p.3421-3428, eng] 47-236

Electromagnetic emission (EME) from ice crack formation: preliminary observations. Thiel, D.V., [1992, p.49-60, eng] 47-803

Boundary element analysis of macrocracking of ice in a large test basin. Marcellus, R.W., et al. [1992, p.91-104, eng] 47-1021

Large-scale thermal bending fracture of sea ice plates. Bažant, Z.P., [1992, p.17,739-17,751, eng] 47-1063

Crack growth stability in saline ice. DeFranco, S.J., et al. [1991, p.25-36, eng] 47-2307

Dislocation movement at crack tip of single crystals of ice. Wei, Y.C., et al. [1991, p.62-73, eng] 47-2308

Size-effect in indentation-induced splitting floe experiments. Gupta, V., et al. [1993, p.29-34, eng] 47-4227

Crack propagation *(cont.)*
Dynamical problems of ice cover fracture. Pushkin, A.V., et al. [1991, p.212-219, eng] 47-4282
Contact force and damage evolution in a moving uniaxial ice bar. Shin, J.G., et al. [1992, p.129-134, eng] 47-4287
On the ductile-to-brittle transition in ice under compression. Batto, R.A., et al. [1993, p.2219-2225, eng] 47-4731
Fatigue crack propagation in freshwater ice. *Final report.* Nixon, W.A., et al. [1993, 42p., eng] 47-4898
Cracking (fracturing)
Fracture toughness Kq and fractography of SI type freshwater ice. Dempsey, J.P., et al. [1989, p.3421-3428, eng] 47-236
Electromagnetic emissions associated with dynamic processes in ice. Bogorodskiĭ, V.V., et al. [1992, p.43-46, eng] 47-414
Two-dimensional extrusion of crushed ice. Part 1: experimental. Sayed, M., et al. [1992, p.25-36, eng] 47-801
Electromagnetic emission (EME) from ice crack formation: preliminary observations. Thiel, D.V., [1992, p.49-60, eng] 47-803
Boundary element analysis of macrocracking of ice in a large test basin. Marcellus, R.W., et al. [1992, p.91-104, eng] 47-1021
Large-scale thermal bending fracture of sea ice plates. Bažant, Z.P., [1992, p.17,739-17,751, eng] 47-1063
Comparison of four aggregates using the Washington hydraulic fracture test. Janssen, D.J., et al. [1991, p.57-67, eng] 47-1131
Proceedings of the 37th Annual Conference. [1992, 307p. + appends., eng] 47-1133
Statistical analysis of low temperature thermal stress restrained specimen test results. Jung, D.H., et al, [1992, p.200-223, eng] 47-1136
Concepts and procedures for evaluation/design of materials and flexible pavements. Ruth, B.E., et al, [1992, p.270-288, eng] 47-1138
Low temperature cracking experiment at USACRREL Frost Effects Research Facility. Kanerva, H.K., et al, [1992, p.289-307, eng] 47-1139
Energy criterion for low temperature failure of asphalt concrete. Gubach, L.S., et al, [1992, p.50-52, rus] 47-2031
Cracking kinetics and failure on repeated loadings of ice. Sinha, N.K., [1992, p.137-150, eng] 47-2301
Crack growth stability in saline ice. DeFranco, S.J., et al, [1991, p.25-36, eng] 47-2307
Relationship between creep and fracture of ice. Rist, M.A., et al, [1991, p.355-369, eng] 47-2309
Notch acuity effects on the CTOD and K(Q) of ice. Dempsey, J.P., et al, [1990, p.333-342, eng] 47-2310
Hydraulic conductivity of compacted clay frozen and thawed *in situ*. Benson, C.H., et al, [1993, p.276-294, eng] 47-2545
Preliminary study of electromagnetic emissions from cracks in ice. Fifolt, D.A., et al, [1993, p.289-299, eng] 47-3167
Polarization of electromagnetic emissions from cracking ice. Petrenko, V.F., [1993, p.301-305, eng] 47-3168
Brittle compressive failure of fresh-water columnar ice under biaxial loading. Smith, T.R., et al, [1993, p.153-163, eng] 47-3776
Soil-pipeline interaction associated with a large diameter chilled pipeline in temperate climates. Greene, D.P., et al, [1993, p.25-33, eng] 47-4270
Dynamical problems of ice cover fracture. Pushkin, A.V., et al, [1991, p.212-219, eng] 47-4282
Computer-based simulation of the ice fracture near a vertical pile. Matskevitch, D.G., et al, [1992, p.123-128, eng] 47-4286
Stresses and forces under ice compacting. Nikitin, V.A., et al, [1993, p.139-142, eng] 47-4299
Effect of confining stress on brittle indentation failure of columnar ice. Grape, J.A., et al, [1992, p.212-221, eng] 47-4305
Some characteristics of alpine permafrost, Mt. Daisetsu, central Hokkaido, northern Japan. Fukuda, M., et al, [1992, p.159-167, eng] 47-4325
Thermal properties of a plastic at cryogenic temperatures. Humer, K., et al, [1993, p.686-691, eng] 47-4765
Source mechanisms for arctic ocean ambient noise. Dyer, I., [1993, p.537-551, eng] 47-4835
Vertical directivity measurements of ice cracking. Greening, M.V., et al, [1993, p.553-562, eng] 47-4836
Arctic pack ice thermal stress related to under-ice noise. Lewis, J.K., et al, [1993, p.573-590, eng] 47-4838
Predictions and measurements of the directivity of a monopole source in a floating ice plate. Stein, P.J., [1993, p.625-639, eng] 47-4841
Acoustic radiation beneath the arctic ice cover. Xie, Y.B., et al, [1993, p.641-647, eng] 47-4842
Notch sensitivity of first-year sea ice. Parsons, B.L., et al, [1993, p.1303-1313, eng] 47-4848
Estimate of the size of the damage zone beneath an indenter on ice. Parsons, B.L., [1993, p.371-380, eng] 47-5207
Cracks
State-of-the-art survey of flexible pavement crack sealing procedures in the United States. Eaton, R.A., et al, [1992, 19p., eng] 47-707
Effect of freeze-thaw on the hydraulic conductivity and morphology of compacted clay. Othman, M.A., et al, [1993, p.236-246, eng] 47-4512
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Creep
See also: Ice creep; Rheology; Snow creep; Soil creep
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Analysis of radar studies on the Siple Coast. Bentley, C.R., et al, [1991, p.62-63, eng] 47-2464
Glaciers. Hambrey, M.J., et al, [1992, 207p., eng] 47-4009
Crossings
See also: Bridges; Ice crossings; River crossings
Crude oil
Petroleum potential of the Brooks Range. Howell, D.G., et al, [1992, p.112-126, eng] 47-614
Petroleum-geological activities in 1991 in Greenland. Christiansen, F.G., et al, [1992, p.28-30, eng] 47-1636
Renewed petroleum geological studies onshore west Greenland. Christiansen, F.G., et al, [1992, p.31-35, eng] 47-1637
1992 annual report on Alaska's mineral resources. Bohn, D., ed, [1992, 65p., eng] 47-4215
Disposal of fine tails produced at the Syncrude oil sands mine. Lord, E.R.F., et al, [1993, p.203-212, eng] 47-4466
Disposal of Athabasca oilsand fine tailings. Sheeran, D., et al, [1993, p.221-228, eng] 47-4467
Future of Soviet oil supplies to the West. Moe, A., [1991, p.137-167, eng] 47-4867
Future of Russian oil. Moe, A., et al, [1992, p.20-24, rus] 47-4874
Teshekpuk Lake oil and gas resource assessment. Bascle, R.J., [1993, 20p., eng] 47-4893
Kodiak National Wildlife Refuge oil and gas resource assessment. Bascle, R.J., et al, [1993, 21p., eng] 47-4894
Innoko National Wildlife Refuge oil and gas resource assessment. Bascle, R.J., et al, [1993, 20p., eng] 47-4895
Crustal structure
See also: Earth crust; Tectonics
Cryobiology
Psychrophilic microorganisms isolated from deep sea mud. Hamamoto, T., et al, [1992, p.200-205, eng] 47-139
Sea ice microalgae in Hudson Bay. Legendre, L., et al, [1992, p.206-210, eng] 47-140
Ice algae in Lake Saroma: review. Taguchi, S., [1992, p.211-220, eng] 47-141
Unusual antifreeze in the fishes of northern Japan. Raymond, J.A., [1992, p.221-224, eng] 47-142
Model for vertical structure of phytoplankton community in arctic regions. Legendre, L., et al, [1992, p.314-316, eng] 47-157
Bacterial ice nucleation proteins. Ruggles, J.A., [1992, 140p., eng] 47-276
Frost tolerance of tobacco with fish antifreeze protein. Lee, J.S., [1992, 136p., eng] 47-277
Structure-function relationships of insect antifreeze proteins. Wu, D.W., [1991, 187p., eng] 47-286
Effect of ice nucleating active bacteria on insect cold-hardiness. Strong-Gunderson, J.M., [1991, 83p., eng] 47-287
Cloning and sequencing of a bacterial ice nucleation gene. Zhao, J.L., [1991, 179p., eng] 47-289
Lipoprotein ice nucleators and antifreeze proteins in insects. Xu, L., [1990, 106p., eng] 47-31
Environmental influences on snow algal microbes. Hoham, R.W., [1992, p.78-83, eng] 47-496
Low-temperature microscopy and analysis. Echlin, P., [1992, 539p., eng] 47-621
Experiments on effects of sea ice biota on seeding. Kuosa, H., et al, [1992, p.333-339, eng] 47-1333
Ecology of sea ice biota. 1. Horner, R., et al, [1992, p.417-427, eng] 47-1334
Ecology of sea ice biota. 2. Legendre, L., et al, [1992, p.429-444, eng] 47-1335
Dinoflagellates and their cysts in land-fast ice. Stoecker, D.K., et al, [1991, p.143-144, eng] 47-1439
Protein interaction with ice. Hew, C.L., et al, [1992, p.33-42, eng] 47-1786
Ice formation in sucrose solutions. Shalaev, E.IU., et al, [1992, p.213-220, eng] 47-1933
Ice-nucleating activity in the freeze-tolerant tardigrade *Adorybiotus coronifer*. Westh, P., et al, [1991, p.401-404, eng] 47-2107
Performance of a kinetic model for intracellular ice formation based on the extent of supercooling. Pitt, R.E., et al, [1992, p.359-373, eng] 47-2297
Thermal modeling of freezing in biological tissue. Eto, T.K., et al, [1991, p.291-298, eng] 47-2559
Cryoprotective properties of water in the earth cryolithosphere and its role in exobiology. Gilichinskiĭ, D.A., et al, [1993, p.65-75, eng] 47-2658
Critical cooling rates for aqueous cryoprotectants. Sutton, R.L., [1992, p.585-598, eng] 47-2875
Microorganisms entrapped in glacial ice. Catranis, C., et al, [1991, p.234-236, eng] 47-3054
Freezing resistance in antarctic and arctic fishes. Wöhrmann, A.P.A., [1993, 99p., ger] 47-3259
Calorimetric investigation of solution glass transition. Mehl, P.M., [1993, p.177-197, eng] 47-3779
Aqueous salt solution solidification. Heschel, I., et al, [1993, p.63-66, ger] 47-4063
Time- and temperature-dependent solute loading of isolated thylakoids during freezing. Bakaltcheva, I., et al, [1992, p.607-615, eng] 47-4370
Microorganisms in the antarctic ice. Abyzov, S.S., [1993, p.265-295, eng] 47-4596
Ecological environmental features of antarctic sea ice and its role in the marine ecosystems. Wang, Z.P., et al, [1993, p.1-15, chi] 47-4646
Evaluation of bacterial ice nucleation. Watabe, S., et al, [1993, p.603-606, eng] 47-4734
Circumantarctic benthic foraminifers. Ishman, S.E., [1993, p.105-133, eng] 47-4822
Geologic use of polar marine diatoms. Leventer, A., et al, [1993, p.134-253, eng] 47-4823
Cryogenic processes
See also: Geocryology
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Soils of the valley near the middle course of the Amga River. Desiatkin, R.V., et al, [1989, 120p., rus] 47-100
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Weichselian permafrost in western Europe. Van Vliet-Lanoë, B., [1989, p.109-113, eng] 47-440
Soils of cold climate regions. Campbell, I.B., et al, [1992, p.183-201, eng] 47-1212
Cold desert soils and glacier variation in the Qilian Mountains. Hu, S.X., [1985, p.109-115, chi] 47-1525
Proceedings of the 1st International Conference on Cryopedology. [1992, 272p., eng] 47-1699
Formation and properties of soils in the permafrost regions of Canada. Tarnocai, C., et al, [1992, p.21-42, eng] 47-1702
Recent cryomorphic soils and underlying permafrost. Gubin, S.V., [1992, p.56-59, eng] 47-1704
Properties and genesis of cryosols at Marble Point, McMurdo Sound region, Antarctica. Campbell, I.B., et al, [1992, p.59-66, eng] 47-1705
Cryogenesis and forest soil formation in Middle Siberia. Ershov, IU.I., et al, [1992, p.66-71, eng] 47-1706
New data on soil geography of the north-eastern Siberia (NES). Mazhitova, G.G., [1992, p.84-88, eng] 47-1708
Geographic laws of spatial soil cover organization in the Yamal Peninsula. Aparin, B.F., et al, [1992, p.88-94, eng] 47-1709
European North: soil degradation due to technogenic pollution. Kriuchkov, V.V., [1992, p.94-97, eng] 47-1710
Experience in compiling the soil-ecological and soil conservation maps of circumpolar regions. Naumov, E.M., [1992, p.98-104, eng] 47-1711
Resistance of cryogenic soils to anthropogenic influences. Vasil'evskaia, V.D., [1992, p.104-107, eng] 47-1712
Ecology of cryogenic anthropogenically disturbed soils of the Yamal and peculiarities of their recultivation. Firsova, V.P., et al, [1992, p.108-111, eng] 47-1713
Winter water migration through deep-frozen soils of West Siberia. Panfilov, V.P., et al, [1992, P.111-115, eng] 47-1714
Mass transfer in freezing saline soils. Ershov, E.D., et al, [1992, p.115-122, eng] 47-1715
Transfer of ions within the system soil-snow and the role of ice surface in their migration. Ostroumov, V.E., et al, [1992, p.127-135, eng] 47-1717
Effect of freezing-thawing cycles on the heat-mass-exchangeable properties of cryogenic soils. Stepanov, A.V., et al, [1992, p.136-139, eng] 47-1718
Effect of prolonged freezing on chemical properties of soils and clays. Polubesova, T.A., et al, [1992, p.140-145, eng] 47-1719
Specific features of mineral changing in cryogenic soils under gleyformation process. Zvereva, T.S., [1992, p.145-148, eng] 47-1720
Silt-enriched horizons due to vertical mesosorting in cryogenic soils. Regairaz, M.C., [1992, p.154-167, eng] 47-1722
Heat energetics of cryopedogenesis. Kulikov, A.I., et al, [1992, p.173-177, eng] 47-1724
Dynamics of heat-mass transfer in cryogenic soils of north-east Yakutia. Davydov, S.P., et al, [1992, p.180-184, eng] 47-1726
Soil microbial communities under cryptogamic plants in tundra and arctic deserts. Parinkina, O.M., et al, [1992, p.185-189, eng] 47-1727

Organic matter and its availability to microorganisms in antarctic soils. Bölter, M., [1992, p.189-199, eng] 47-1728

Cryogenesis and functioning of microbial communities in soil of Zabaikalye areas. Kulikov, A.I., et al. [1992, p.199-203, eng] 47-1729

Gas-geochemical processes as a result of soil seasonal freezing and thawing in the cryolithozone. Glotov, V.E., [1992, p.216-220, eng] 47-1732

Regularities of the nitrogen regime of seasonally freezing soils of Karelia. Fedorets, N.G., [1992, p.220-222, eng] 47-1733

Carbon dioxide changes in Arctic tundra ecosystems. Oechel, W.C., et al. [1993, p.520-523, eng] 47-1942

Soil formation in mountain boreal forests of Siberia. Molokov, V.A., et al. [1991, 151p., rus] 47-2284

Geochemistry of soils of Spitsbergen. Dobrovol'skii, V.V., [1990, p.1-15, eng] 47-2758

Eroded chernozems in southern Western Siberia. Tanasienko, A.A., [1992, 150p., rus] 47-2938

Cryogenesis and frost genesis in soils. Vtorushin, V.A., [1992, p.38-42, rus] 47-3266

Erosion of agricultural lands in the Irkutsk region. Khismatullin, Sh.D., [1991, p.49-61, rus] 47-3279

Quaternary engineering geology. Forster, A., ed. [1991, 724p., eng] 47-3867

Theme lecture: Periglacial and slope processes. Hutchinson, J.N., [1991, p.283-331, eng] 47-3885

Shale from late and post glacial slope development. Gostelow, T.P., et al. [1991, p.349-359, eng] 47-3887

Identification of features due to former permafrost in the North Sea. Long, D., [1991, p.369-372, eng] 47-3888

Glacigenic soils of the Taff Valley, Wales. Lewis, J.D., [1991, p.423-430, eng] 47-3894

Wetland properties of permafrost soils in Alaska. Ping, C.L., et al. [1992, p.198-205, eng] 47-3898

Basic genetic patterns of peaty-podzolic-gleyey soils. Zaboeva, I.V., [1991, p.4-12, rus] 47-4103

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Regulating the thermal regime of soils in the northern taiga subzone of the Komi ASSR. Mokiev, V.V., [1991, p.41-55, rus] 47-4106

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Effect of manure-lignin compost on soil and agricultural crop yields. Shvetsova, V.M., et al. [1991, p.107-113, rus] 47-4112

Microbiology of antarctic soils. Vishniac, H.S., [1993, p.297-341, eng] 47-4597

Micromorphological features of the USSR zonal soils. Gerasimova, M.I., et al. [1992, 214p. (Pertinent p.66-107), rus] 47-4661

Cryology of soils; collected scientific papers. Gilichinskiĭ, D.A., ed. [1991, 131p., rus] 47-4801

Microflora of soils in the Arctic and its activity. Parinkina, O.M., [1991, p.87-91, rus] 47-4815

Effect of the complexity of soil cover on the agricultural development of meadow-swamp soils. Butsenko, A.N., [1991, p.97-103, rus] 47-4817

Results of the Fifth All-Union Conference on the Theoretical Principles of Soil Cryogenesis. [1991, p.121-128, rus] 47-4821

Residence time of carbon in soils of the boreal zone. Kobak, K., et al. [1993, p.51-57, eng] 47-5228

Cryogenic structures

Cryogenic frost resistance of lightweight concrete containing silica fume. Khayat, K.H., et al. [1989, p.915-928, eng] 47-59

Upper surface layer of permafrost; collected scientific papers. Mel'nikov, P.I., ed. [1991, 100p., rus] 47-392

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Engineering geocryological properties of deposits of cryogenic weathering crusts. Vasil'ev, A.A., [1991, p.63-70, rus] 47-399

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Geomorphology of James Ross Island. Strelin, J., et al. [1992, p.7-36, spa] 47-866

Formation of the cryogenic structure of the upper layer of permafrost. Konstantinov, S.A., [1991, p.48-53, rus] 47-1989

Periglacial phenomena and Pleistocene environmental conditions in the Netherlands—an overview. Vandenberghe, J., [1992, p.363-374, eng] 47-2243

Periglacial microjointing and faulting in Weichselian fluvio-aeolian deposits. Mol, J., et al. [1993, p.15-30, eng] 47-5005

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Upper surface layer of permafrost; collected scientific papers. Mel'nikov, P.I., ed. [1991, 100p., rus] 47-392

Formation of the structure and properties of flood-plain deposits by major rivers. Zaikanov, V.G., [1991, p.31-47, rus] 47-397

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Experimental techniques in condensed matter physics at low temperatures. Richardson, R.C., ed. [1988, 338p., eng] 47-1618

Thermal conductivity measurements for liquids at low temperatures. Eftekhar, J.G., [1991, p.451-455, eng] 47-2564

Temperature: its measurement and control in science and industry. Volume 6. Schooley, J.F., ed. [1992, 1269p. (2 parts), eng] 47-2939

IPTS-68 and ITS-90 international temperature scales. Swenson, C.A., [1992, p.1-7, eng] 47-2940

Noise thermometry of superconductive transition temperatures. Bremer, J., et al. [1992, p.15-20, eng] 47-2941

Measurements on a dielectric constant gas thermometer between 3 K and 84 K. Grohmann, K., et al. [1992, p.21-26, eng] 47-2942

NPL total radiation thermometer: extension of its range to 450 C. Martin, J.E., et al. [1992, p.31-35, eng] 47-2943

Temperature measurements in radiometry. Sapritskiĭ, V.I., et al. [1992, p.37-39, eng] 47-2944

Absolute spectral radiation thermometry at the National Physical Laboratory. Fox, N.P., et al. [1992, p.41-45, eng] 47-2945

International temperature scale of 1990: Part I. Preston-Thomas, H., et al. [1992, p.63-67, eng] 47-2946

International temperature scale of 1990: Part II. Preston-Thomas, H., et al. [1992, p.69-74, eng] 47-2947

Thermodynamic basis of ITS-90 at 13.8-273.16 K. Part I. Ciarlini, P., et al. [1992, p.75-78, eng] 47-2948

Thermodynamic basis of ITS-90 at 13.8-273.16 K. Part II. Pavese, F., et al. [1992, p.79-83, eng] 47-2949

ITS-90 below 1 K: how accurate is it. Fogle, W.E., et al. [1992, p.85-90, eng] 47-2950

New cryogenic temperature scale from 6.3 to 650 mK. Fogle, W.E., et al. [1992, p.91-96, eng] 47-2951

Extrapolation of ITS-90 to lower temperatures. Schuster, G., et al. [1992, p.97-100, eng] 47-2952

He-3 melting curve thermometer as a universal temperature transfer standard. Colwell, J.H., et al. [1992, p.101-106, eng] 47-2953

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High-resolution He-4 melting-pressure thermometer for use near 2 K. Goldner, L.S., et al. [1992, p.113-116, eng] 47-2955

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Practical interpolation gas thermometer for a secondary realization of the ITS-90. Sakurai, H., [1992, p.127-131, eng] 47-2958

Piston gage for the NIST realization of the ITS-90. Meyer, C.W., et al. [1992, p.133-138, eng] 47-2959

Development of the ITS-90 interpolation equations for the platinum resistance thermometer. Crovini, L., [1992, p.139-144, eng] 47-2960

On designing the temperature scale in the range 13.8 K to 273.16 K. Ling, S.K., et al. [1992, p.145-150, eng] 47-2961

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ITS-90 traceability with non-ITS-90 equations. Jump, B.E., [1992, p.203-208, eng] 47-2965

Temperature fixed-points using high-purity superconductors. Fellmuth, B., [1992, p.233-238, eng] 47-2966

Study of superconductive transition temperatures for thermometric fixed points. Li, Z.R., et al. [1992, p.239-242, eng] 47-2967

Sealed He-4 superfluid-transition fixed-point device. Duncan, R.V., et al. [1992, p.243-245, eng] 47-2968

Triple point of pure equilibrium deuterium using Gd2O3 spin catalyst. Head, D.I., et al. [1992, p.247-249, eng] 47-2969

Stability of the triple point of gases in metal sealed cells. Pavese, F., et al. [1992, p.251-256, eng] 47-2970

Study of the preparation of sealed cells for thermometry. Liu, F.H., et al. [1992, p.257-260, eng] 47-2971

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Argon triple point apparatus with multiple thermometer wells. Furukawa, G.T., [1992, p.265-269, eng] 47-2973

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Realization of the mercury triple point. Furukawa, G.T., [1992, p.281-285, eng] 47-2976

Mercury point realization: estimate of some uncertainties. Hermier, Y., et al. [1992, p.287-291, eng] 47-2977

Platinum resistance thermometer for exploration of the Titan atmosphere. Ruffino, G., et al. [1992, p.409-413, eng] 47-2978

Platinum resistance thermometers in the -200 to 0 C range. Mao, Y.Z., et al. [1992, p.423-425, eng] 47-2979

Low-temperature characteristics of some industrial-grade platinum resistance thermometers. Tamura, O., et al. [1992, p.443-448, eng] 47-2980

Temperature measurement with rhodium-iron resistors below 0.5 K. Schuster, G., [1992, p.449-451, eng] 47-2981

Study of Chinese standard rhodium-iron resistance thermometers. Mao, Y.Z., et al. [1992, p.453-456, eng] 47-2982

Fabrication and practical use of two types of rhodium-iron resistance thermometers. Tamura, O., et al. [1992, p.457-460, eng] 47-2983

R-T relationship and stability of ceramic rhodium-iron resistance thermometers. Yao, Q.F., et al. [1992, p.461-465, eng] 47-2984

Rhodium-iron resistance thermometer for practical use. Mao, Y.Z., et al. [1992, p.467-470, eng] 47-2985

Resistance thermometers with fast response for use in rapidly oscillating gas flows. Rawlins, W., et al. [1992, p.471-474, eng] 47-2986

Low temperature system for advanced thermal control. Lipa, J.A., et al. [1992, p.949-952, eng] 47-2987

Self-tuning temperature controller for a dilution refrigerator. Schuster, G., [1992, p.953-954, eng] 47-2988

Decade of absolute noise thermometry at NIST using a resistive SQUID. Soulen, R.J., Jr, et al. [1992, p.983-988, eng] 47-2989

Signal filtering in SQUID noise thermometers. Nawrocki, W., [1992, p.989-991, eng] 47-2990

Self-balancing bridge for precise susceptibility thermometry. Schuster, G., [1992, p.1009-1011, eng] 47-2991

Nuclear quadrupole resonance spectroscopy for ultra-low-temperature thermometry. Andersen, P.M., et al. [1992, p.1013-1015, eng] 47-2992

Cryogenic thermometer calibration system based on triple points from D2 to H2O. Levine, P.D., et al. [1992, p.1067-1069, eng] 47-2993

Application of mini-refrigerator in temperature measurement. Guo, N.N., et al. [1992, p.1071-1072, eng] 47-2994

Algorithms for Standard Platinum Resistance Thermometer. Cermak, M.A., [1992, p.1087-1091, eng] 47-2995

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Resolution and accuracy of cryogenic temperature measurements. Holmes, D.S., et al. [1992, p.1225-1230, eng] 47-2998

Neutron and gamma radiation effects on cryogenic temperature sensors. Courts, S.S., et al. [1992, p.1237-1242, eng] 47-2999

Dilatometric variations of calcareous rock cylinders during freeze thaw cycles. Prick, A., et al. [1993, p.1-15, fre] 47-3114

Matter and methods at low temperatures. Pobell, F., [1992, 319p., eng] 47-3147

Temperature dependence of crystalline methane refractive indices. Ngoh, M.A., et al. [1993, p.5511-5515, eng] 47-3651

Influence of damage on mechanical properties of woven composites at low temperatures. Kriz, R.D., [1985, p.55-58, eng] 47-3909

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Influence of polysaccharides on the glass transition in frozen sucrose solutions and ice cream. Goff, H.D., et al. [1993, p.1268-1277, eng] 47-4849

Low-temperature physics: an introduction for scientists and engineers. McClintock, P.V.E., et al. [1992, 296p., eng] 47-4858

Cryogenics *(cont.)*
Cryogenic ambient air vaporizers: frost growth, wind and seismic design for safety. Bernert, R.E., Jr., et al. [1993, p.789-793, eng] 47-4876
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Humus accumulation and soil formation in Svalbard. Lag, J., [1992, p.222-228, eng] 47-1734
Cryoturbations: a sediment structural analysis. Vandenberghe, J., [1992, p.343-352, eng] 47-2241
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Slow soil movement in Tarfala Valley, Kebnekaise Mountains, Swedish Lapland. Jahn, A., [1991, p.93-107, eng] 47-4309
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Low temperature properties of motor oils. Riga, A.T., [1992, p.227-242, eng] 47-2884
Modeling and numerical simulations of dendritic crystal growth. Kobayashi, R., [1993, p.410-423, eng] 47-4071
Thermodynamics of fuel oil cloud-point depressant additives. Claudy, P., et al, [1993, p.821-827, eng] 47-4518
Perturbations in the fields of meteorological parameters caused by artificial crystallization of clouds. Shmeter, S.M., [1991, p.29-33, eng] 47-4926
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Crystals
Changes of crystal c-axis orientation fabric in uniaxial extension tests. Li, J., et al, [1992, p.29-35, chi] 47-72
Crystallographic analyses of clathrate hydrates included in Vostok ice cores. Hondoh, T., et al, [1992, p.268-278, jpn] 47-976
Freezing. Haymet, A.D.J., [1992, p.363-405, eng] 47-4367
See also: Ice crystals; Snow crystals
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See also: Ground ice
Cubic ice
Calorimetric study of pressure-amorphized cubic ice. Johari, G.P., et al, [1990, p.1212-1214, eng] 47-817
Dielectric study of the structure of hyperquenched glassy water and its crystallized forms. Johari, G.P., et al, [1992, p.5851-5855, eng] 47-988
Ultraviolet-induced amorphization of cubic ice and its implications for the evolution of ice grains. Kouchi, A., et al, [1991, p.87-90, eng] 47-2111
Inclusion-exclusion calculation of the dipole-dipole energy of hexagonal ice and of cubic ice. Huckaby, D.A., et al, [1993, p.8105-8109, eng] 47-3581
Culverts
Analysis and design for frost effect in soil-steel structures. Ghobrial, N., [1990, 117p., eng] 47-2104
Winter temperature regime of culverts in channels with naleds. Kuz'minykh, A.I., et al, [1991, p.205-210, rus] 47-2448
Elastic shield to protect road culverts from naleds. Dement'eva, O.V., [1992, p.13, rus] 47-2902
Method for thawing out road culverts choked with ice. Olsson, L.U., [1988, 8 col., eng] 47-3501
Thermal behavior of rip rap in a cross-drainage structure. Lozano, N., [1993, p.35-43, eng] 47-4118
Structural and ice effects on salt water marsh hydrology. Ballestero, T.P., et al, [1993, p.150-155, eng] 47-4451
Currents
See also: Ocean currents; Tidal currents
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See also: Ice cutting
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See also: Periodic variations
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See also: Atmospheric disturbances
Damage
Masonry wall and window system leakage investigation for university building. Frauenhoffer, J., [1992, p.107-115, eng] 47-409
Some typical problems encountered in roads and airfield pavements in snowbound areas. Arya, I.R., et al, [1985, p.279-286, eng] 47-578
Freezing of water in hardboard: absence of changes in mechanical properties. George, M.F., et al, [1992, p.252-259, eng] 47-771
Bubble-formation damage to plant xylem due to freeze thaw cycling. Sperry, J.S., et al, [1992, p.605-613, eng] 47-903
Collapse of peroxide-scavenging systems in apple flower-buds associated with freezing injury. Kuroda, H., et al, [1992, p.743-750, eng] 47-1000
Influence of frost heave on houses under construction in Merthyr Tydfil. Statham, I., et al, [1989, p.31-33, eng] 47-1001
Ship operations in ice: practical speed considerations. Parnell, G.Q., [1992, p.307-312, eng] 47-1037
Evaluation of frost action mitigation procedures for highly frost-susceptible soils. MacKay, M.H., et al, [1992, p.91-109, eng] 47-1134
Rockslide and debris flow from Mount Cayley, B.C., in June 1984. Cruden, D.M., et al, [1992, p.614-626, eng] 47-1185
Passive acoustic emission for quantitative evaluation of freeze thaw and alkali aggregate reaction in concretes. Taylor, M.A., [1992, p.1-12, eng] 47-1376
Winter injury to Subalpine red spruce: influence of prior vigor and effects on subsequent growth. Peart, D.R., et al, [1992, p.888-892, eng] 47-1481
NMR imaging of roots: effects after root freezing of containerised conifer seedlings. Southon, T.E., et al, [1992, p.329-334, eng] 47-1627
Construction, environmental problems and natural hazards in periglacial mountain belts. Haeberli, W., [1992, p.111-124, eng] 47-1750
Registration of vehicular tracks on the Svalbard archipelago. Raheim, E., [1992, 51p., eng] 47-1890
Ice melters and concrete damage: are they related. Balkin, L.E., et al, [1992, p.50-51, eng] 47-1922
Appraisal of snow damage in an urban area. Umemura, T., et al, [1991, p.1-11, eng] 47-1935
Thermal modeling of freezing in biological tissue. Eto, T.K., et al, [1991, p.291-298, eng] 47-2559
New method for assessing frost damage in non-air entrained hydraulic structures. Hooton, R.D., et al, [1992, p.339-355, eng] 47-2575
Durability of concrete in Iceland. Kristjánsson, R., et al, [1992, p.381-392, eng] 47-2576
Thermal analysis of freezing of conifer seedling buds. Stushnoff, C., et al, [1992, p.1305-1309, eng] 47-3841
Frost, canker, and dieback of Douglas-fir in the central interior of British Columbia. Reich, R.W., et al, [1993, p.373-379, eng] 47-3843
Hail: the white plague. Hughes, P., et al, [1993, p.16-21, eng] 47-3924
Effects of deicing salt on roadside Scots pine foliage. Hautala, E.L., et al, [1992, p.179-185, eng] 47-3995
Analysis for dynamic ice structure interaction involving finite difference model and damage considerations. Iyer, S.H., et al, [1993, p.199-206, eng] 47-4247
Contact force and damage evolution in a moving uniaxial ice bar. Shin, J.G., et al, [1992, p.129-134, eng] 47-4287
Shading effects on spruce frost damage. Örlander, G., [1993, p.27-36, eng] 47-4296
Time- and temperature-dependent solute loading of isolated thylakoids during freezing. Bakaltcheva, I., et al, [1992, p.607-615, eng] 47-4370
Destructive hailstorms in Essex on 26 May 1985. Elsom, D.M., et al, [1993, p.166-173, eng] 47-4405
Frozen rock abrasiveness effect on tool wear. Polovinko, V.A., et al, [1993, p.546-550, eng] 47-4579
Seed and vegetation dynamics in an alpine herb field: effects of disturbance type. Chambers, J.C., [1993, p.471-485, eng] 47-4584
Lessons learned from an ice storm emergency. Low, T.A., [1993, p.38-49, eng] 47-4624
Response of shrub-tussock community to vehicle use. Ahlstrand, G.M., et al, [1993, p.142-149, eng] 47-4746
Test methods for the renovation of road coverings. Wicke, M., et al, [1985, 48p., ger] 47-4987
Influence of studded tires on roadway surfaces. Bereza-Kudrycki, W., [1985, 55p., eng] 47-5008
Estimate of the size of the damage zone beneath an indenter on ice. Parsons, B.L., [1993, p.371-380, eng] 47-5207
Damping
Influence of snow viscosity on forced flexural-gravity waves in a basin with a density jump. Bukatov, A.E., et al, [1992, p.259-266, eng] 47-781
Hydroelastic stability of marine risers. Rzentkowski, G., et al, [1991, p.31-41, eng] 47-1141
Evaluation of wind-induced vibration of arctic pipelines. Sause, R., et al, [1992, p.21-31, eng] 47-1832
Breakup of shore fast sea ice. Squire, V.A., [1993, p.211-218, eng] 47-3925
Comparison of the mass-loading and elastic plate models of an ice field. Squire, V.A., [1993, p.219-229, eng] 47-3926
Shock absorption for the KBR-80 compact snowplow. Yamada, Y., et al, [1980, p.23-30, jpn] 47-4929
Dams
Parameter uncertainty and simulation of design floods in Sweden. Harlin, J., et al, [1992, p.209-230, eng] 47-174
Effects of hydropower development on ice jamming. Zufelt, J.E., [1992, p.254-257, eng] 47-625
Unconventional energy sources for ice control at lock and dam installations. Nakato, T., et al, [1992, 37p., eng] 47-697
Plans for the construction of a dam in a fossil lagoon near the Juan Carlos I Station. Eraso, A., et al, [1989, p.89-101, spa] 47-816
Spillway design floods in Sweden: 1. New guidelines. Bergström, S., et al, [1992, p.505-519, eng] 47-922
Spillway design floods in Sweden: 2. Applications and sensitivity analysis. Lindström, G., et al, [1992, p.521-539, eng] 47-923
Erecting seismically stable dams under the conditions of the northern construction-climatic zone. Shatygin, V.A., [1992, p.90-94, rus] 47-3915
Icing problems at Corps projects. Haynes, F.D., et al, [1993, 18p. + figs., eng] 47-4608
See also: Earth dams; Ice dams
Data processing
Fundamentals of the theory of calculating the navigation value of ice data. Likhachev, A.V., [1991, p.15-33, rus] 47-90
Differential method of multivariate analysis of ice data. Likhachev, A.V., [1991, p.60-73, rus] 47-91
Coherent Antarctic Radar Depth Sounder (CARDS) design, development and results. Garudachar, R., [1989, 169p., eng] 47-349
Unsupervised segmentation of polarimetric SAR data using the covariance matrix. Rignot, E.J., et al, [1992, p.697-705, eng] 47-356
Neural network-based adaptive radar detection scheme for small ice targets in sea clutter. Bhattacharya, T.K., et al, [1992, p.1528-1529, eng] 47-741
Statistical-mathematical processing of data from a land-based network of passive hail indicators. Zhakamikhov, Kh.M., et al, [1991, p.112-122, rus] 47-759
Interpretation of seismic data collected on floating ice. Beaudoin, B.C., et al, [1992, p.1359-1372, eng] 47-984
Subvisual-thin cirrus lidar dataset for satellite verification and climatological research. Sassen, K., et al, [1992, p.1275-1285, eng] 47-1120
O3 and NO2 absorption cross section measurements by multipath spectrophotometer. Bonasoni, P., et al, [1992, p.205-211, eng] 47-1202
Ozone absorption and sun-photometric measurements. Tomasi, C., et al, [1992, p.227-245, eng] 47-1205
International sharing of polar information resources. [1992, 371p., eng] 47-1393
Implementation of a U.S. polar bibliographic information system. McCarthy, P., et al, [1992, p.29-40, eng] 47-1394
Analysis of the content of the PolarPac database using the WLN collection analysis service. West, S.M., [1992, p.41-55, eng] 47-1395
Data bases on the NISC Arctic and Antarctic Regions CD-ROM. Mills, W., [1992, p.56-78, eng] 47-1396
Modernization of the Cold Regions bibliographies at the Library of Congress. Hibben, S.G., [1992, p.81-87, eng] 47-1397
Building a Canadian Polar Information System. Minion, R., et al, [1992, p.88-94, eng] 47-1398
BIBSYS as a polar literature database. Sveum, T., [1992, p.95-101, eng] 47-1399
Bibliography of studies in Finland and the Kola Peninsula. Saarinen, H., et al, [1992, p.102-107, eng] 47-1400
Contract indexing of industry and government gray literature at ASTIS. Goodwin, R., [1992, p.112-118, eng] 47-1401
Permafrost information in the National Snow and Ice Data Center. Brennan, A.M., et al, [1992, p.119-124, eng] 47-1402
WLN and PolarPac. Miller, R.F., [1992, p.130-133, eng] 47-1403
Polar archival records: a modest proposal. Cronenwett, P.N., [1992, p.195-207, eng] 47-1404
Contribution of SCAR to antarctic research. Walton, D.W.H., [1992, p.217-228, eng] 47-1405
Environmental management in Antarctica: a guide to the literature resources. Meadows, J., [1992, p.229-241, eng] 47-1406
NSF's role in polar information. Guthridge, G.G., [1992, p.243-249, eng] 47-1407
Information sources used by antarctic scientists. Phillips, C., [1992, p.317-324, eng] 47-1409

Classification of snow cover and precipitation using SSM/I measurements: case studies. Fiore, J.V., Jr., et al. [1992, p.3349-3361, eng] 47-1442
Multisource evidential classification of surface cover and frozen ground. Peddle, D.R., et al. [1992, p.3375-3380, eng] 47-1443
Polar hydrology—data bases. Sand, K., [1989, 13p. + appends., nor] 47-1683
Integrating GIS and CAD for transportation data base development. Wang, J.Y., et al. [1991, p.212-218, eng] 47-1805
Passive microwave remote sensing applied for snow monitoring in a Norwegian test site. Rognes, A., [1992, 60p., eng] 47-1811
Ozone cross section measurements in 339-355 nm region and at different temperatures. Cacciani, M., et al. [1991, p.259-264, eng] 47-1826
DIAL ozone measurements at Dumont d'Urville Station. Stefanutti, L., et al. [1992, p.345-358, eng] 47-2169
Tropospheric and stratospheric thin clouds at McMurdo. Adriani, A., et al. [1992, p.491-503, eng] 47-2175
Arctic ice stress measurements. Lau, P.A., et al. [1991, p.645-650, eng] 47-2183
Prototype climate information system. Jarrett, T.K., [1993, 71p., eng] 47-2611
Quantitative analysis of sea ice remote sensing imagery. Korsnes, R., [1993, p.295-311, eng] 47-2752
Characterization of spatial statistics of distributed targets in SAR data. Rignot, E.J., et al. [1993, p.345-363, eng] 47-2754
Glaciological examination—a necessary phase of developing arctic and subarctic regions. Il'ina, E.A., [1991, p.186-190, rus] 47-2811
Use of digital geographical databases in hydrological modelling. [1993, 158p., eng] 47-2830
Ship superstructure icing: data collection and instrument performance on USCGC *Midgett* research cruise. Ryerson, C.C., et al. [1992, 133p., eng] 47-2924
Surface albedo distribution in Lützow-Holm Bay. Nakagawa, K., [1992, p.1-15, eng] 47-3001
Analysis of sea ice compactness by image processing. Muramoto, K., et al. [1992, p.126-131, eng] 47-3012
Atmospheric infrared emission measurements at the South Pole. Murcray, F.J., et al. [1991, p.278-281, eng] 47-3058
Broadband source localization and signature estimation. Yang, T.C., [1993, p.1797-1806, eng] 47-3232
Scattering from boundary protuberances and reverberation imaging. Yang, T.C., [1993, p.231-242, eng] 47-3233
Analysis of ground-probing radar data: predictive deconvolution. LaFleche, P.T., et al. [1991, p.134-139, eng] 47-3309
Repeat-pass interferometry with airborne synthetic aperture radar. Gray, A.L., et al. [1993, p.180-191, eng] 47-3359
Automated processing and analysis of data on cracks in the sea ice cover, made from visual observations from an aircraft. Brestkin, S.V., et al, [1990, p.133-147, rus] 47-3600
Multifractal cloud properties data assessment. Gautier, C., et al. [1992, 15p., eng] 47-3632
Algorithms for alpine land cover classification. Peddle, D.R., [1993, p.31-44, eng] 47-3723
Snow conditions during MLRS-TGW BBS European Captive Flight Program, Hessen, Germany, February 1992. Fisk, D.J., [1993, 37p., eng] 47-3796
Natural hazards data resources directory. Hennig, L.M., ed. [1990, 247p. (Pertinent p.7-8,82-84), eng] 47-3821
Digital photogrammetric approach to ice-flow determination in Antarctica. Tseng, Y.H., [1992, 139p., eng] 47-3856
Enhancement of microwave images of sea ice. Full, W.E., et al. [1993, p.1-23, eng] 47-3917
Experiment in organizing the automated gathering and processing of hydrometeorological information for ships. Safronov, V.A., [1991, p.145-152, rus] 47-3965
Validating the UK-PAF land ice product surface elevation. Mantripp, D.R., et al. [1993, p.483-488, eng] 47-4444
Passive microwave remote sensing of thin sea ice using principal component analysis. Wensnahan, M.R., et al. [1993, p.12,453-12,468, eng] 47-4522
Review of GEOSAT data over Canadian east coast waters. Topliss, B.J., et al, [1993, p.117-130, eng] 47-4590
Site characterization measurements of background and targets in support of smart weapons testing. Hayward, M., et al. [1993, 96p., eng] 47-4664
Comparison of conventional and passive microwave sea ice data sets for Hudson Bay. Etkin, D.A., [1991, 132p., eng] 47-4668
High-resolution radiometry of cirrus clouds. Ou, S.C., et al. [1993, p.2171-2180, eng] 47-4713
SANAE total column ozone: 1980 to 1990. Bodeker, G.E., et al. [1991, p.220-221, eng] 47-4979
Report of Inventories/Sources Group. Smith, J.N., ed. [1993, p.5-7, eng] 47-5014
Report of the Working Group on Routes, Rates, Reactions and Fates. [1993, p.9-11, eng] 47-5015
Non-local radiological consequences of nuclear waste dumping in the Arctic seas: a preliminary assessment. Baxter, M.S., et al. [1993, p.329-341, eng] 47-5040
Treatment of data on sea pollutions and dumping sites with radioecological indices method. Georgievskii, V., et al. [1993, p.359-365, eng] 47-5042
Glacier study using wavenumber domain synthetic aperture radar. Hamran, S.E., et al. [1993, p.559-570, eng] 47-5120

Data transmission

Transmission system for Q/L image of earth observation satellite data (2). Ito, N., et al. [1992, p.244-248, jpn] 47-143
Near-real-time data distribution plan of ADEOS data. Nakanishi, I., et al. [1992, p.249-253, jpn] 47-144
Electromagnetic communications through the seawater-ice-air interface. Steeves, G., et al. [1991, p.638-644, eng] 47-2182
Influence of water ice absorption on transmission for a 10.5- to 12.5-micron filter/window. Jacyszyn, F., et al. [1992, p.1952-1954, eng] 47-2234
Development of snow removal information systems. Kato, T., et al. [1990, p.9-11, jpn] 47-4681

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Decomposition

Microorganism survival in ice-covered marine environment. Stanley, S.J., et al. [1992, p.58-72, eng] 47-2
Hydrate dissociation enthalpy and guest size. Sloan, E.D., et al. [1992, p.123-140, eng] 47-588
Karstic denudation and tufas deposits in high alpine mountains (Alpes, France). Chardon, M., [1992, p.19-38, eng] 47-742
Sediment evolution in an ice-covered lake. Catalan, J., [1992, p.945-955, eng] 47-1266
Overwinter nitrate loss and denitrification potential of cultivated soils in Alberta. Heaney, D.J., et al. [1992, p.877-884, eng] 47-1795
Modeling of tussock phosphatase activity. Moorhead, D.L., et al. [1993, p.50-55, eng] 47-3428
Climate warming and the carbon cycle in the permafrost zone of the former Soviet Union. Kolchugina, T.P., et al. [1993, p.149-163, eng] 47-4150

Defects

Geometry of OH- defect in condensed water phase. Defect localization and cooperative interaction of H-bonds. Isaev, A.N., et al. [1992, p.14-19, eng] 47-203
Energy and structure of Bjerrum defects in ice Ih determined with an additive and a nonadditive potential. Hassan, R., et al. [1992, p.4326-4335, eng] 47-222
Sea salt dependent electrical conduction in polar ice. Moore, J.C., et al. [1992, p.19,803-19,812, eng] 47-2187
Creep law of rock ice with anisotropic fabric inferred from homogenization. Lliboutry, L.A., [1991, p.242-245, eng] 47-2314
Surface-defect vibrational modes of large ice clusters. Rowland, B., et al. [1993, p.2485-2487, eng] 47-3177
Compression jig for x-ray topography of ice. Liu, F., et al. [1993, p.416-421, eng] 47-3468
UV-excited luminescences from amorphous and polycrystalline H2O ices. Lennon, D., et al, [1993, p.120-126, eng] 47-3513
Defect theory for the glass transition and residual entropy of hyperquenched water. Johari, G.P., [1993, p.7324-7329, eng] 47-3684
Temperature dependence of ice dielectric relaxation. Bruni, F., et al. [1993, p.538-547, eng] 47-4288
Proton transfer in ice. Lee, C., et al. [1993, p.279-284, eng] 47-4856
Pauling potential in ice quantum tunneling. Consolini, G., et al. [1993, p.4227-4228, eng] 47-5273

See also: Crystal defects

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Deformation

Predicting ice formation parameters in closed systems. Dubina, M.M., et al, [1992, p.91-97, rus] 47-68
Some aspects of the statistical evaluation of the mechanical properties of soil and foundations. Gerasimov, A.S., [1991, p.82-91, rus] 47-239
Temperature-independent relationships for frozen soils. Wijeweera, H., et al, [1992, p.1-21, eng] 47-516
Movement mechanisms of Ürümqi Glacier No.1, Tien Shan mountains, China. Huang, M.H., [1992, p.39-44, eng] 47-1084
Mechanism of mass transfer and chemogenic deformation of frozen ground. Lebedenko, IU.P., [1990, p.55-66, rus] 47-1255
Tools for examining subglacial bed deformation. Blake, E., et al. [1992, p.388-396, eng] 47-1390
Moisture deformation of concrete with admixtures under cyclic freeze-thaw. Almazov, V.O., et al, [1991, p.29-30, rus] 47-2160
Cryoturbations: a sediment structural analysis. Vandenberghe, J., [1992, p.343-352, eng] 47-2241
Cryogenic deformations of Suluk BAM station building. Rubinchik, S.B., [1993, p.167-169, eng] 47-3577
Anti-icing and deicing device. Bird, L., [1988, 8 col., eng] 47-3764
Consolidation of sediments by glaciers. Boulton, G.S., et al, [1993, p.26-44, eng] 47-3938
Free meandering in the conditions of a cryolithic zone of the Yamal Peninsula. Savitskii, V.A., [1992, p.27-33, eng] 47-3990
Gas pipelines and the challenge of the cold regions: an experimental study. Williams, P.J., [1993, p.5-18, eng] 47-4268
Creep response of laterally loaded piles in ice and permafrost. Puswewala, U.G.A., et al. [1993, p.223-240, eng] 47-4285
France-Canada joint study of deformation of an experimental pipe line by differential frost heave. Williams, P.J., et al, [1993, p.56-60, eng] 47-4301
Ice action onto multilegged structures due to change of water level. Matskevitch, D.G., et al. [1992, p.222-227, eng] 47-4306
Frost-susceptible soils as foundations of structures. Orlov, V.O., et al, [1992, 166p., rus] 47-4977

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Defrosting

Freeze-control strategy and air-to-air energy recovery performance. Phillips, E.G., et al. [1992, p.44-45,48-49, eng] 47-1936
Ice, rain, fog, and frost protection. [1990, 62p., eng] 47-3137

Degradation

Use of air-conditioning and plasticizing admixtures for producing concrete with good salt-frost resistance. Petersson, P.E., [1989, p.161-169, eng] 47-15
Chemical resistance of alkali-activated concrete. Talling, B., [1989, p.252-257, eng] 47-18
Concrete resistance to freeze-thaw and de-icing salt cycling. Bilodeau, A., et al, [1989, p.945-970, eng] 47-60
Influence of curing on the salt scaling resistance of concrete with and without silica fume. Langlois, M., et al, [1989, p.971-989, eng] 47-61
Model for deicer scaling resistance of field concretes containing high-range water reducers. Whiting, D., et al, [1989, p.343-359, eng] 47-64
Investigation of evolution of the Arctic shelf cryolithozone by mathematical simulation. Sigunov, IU.A., et al, [1992, p.13-19, eng] 47-244
Identification of TNT transformation products in soil. Walsh, M.E., et al, [1992, 31p., eng] 47-699
Microbial ecology of the 1989 antarctic oil spill. Karl, D.M., [1992, p.77-89, eng] 47-1257
European North: soil degradation due to technogenic pollution. Kriuchkov, V.V., [1992, p.94-97, eng] 47-1710
Experience in compiling the soil-ecological and soil conservation maps of circumpolar regions. Naumov, E.M., [1992, p.98-104, eng] 47-1711
Stagnant glacier ice, St. Elias Mountains, Yukon. Johnson, P.G., [1992, p.13-19, eng] 47-4319

Degree days

Effects of severe freezing periods and discharge on the formation of ice jams. Zufelt, J.E., et al, [1992, 12p., eng] 47-698
Snowmelt degree-day values for HBV-model in Finland. Vehviläinen, B., [1992, p.211-220, eng] 47-1963
Degree-day glacier mass balance modelling. Jóhannesson, T., et al, [1993, 40p., eng] 47-3707
Thickness predictions of rafted ice in the Caspian Sea. Bukharitsin, P.I., [1993, p.390-394, eng] 47-4067

Dehumidification

Apparatus for deicing exterior parts of a railway vehicle. Björklund, B., [1987, 6 col., eng] 47-4002
Measurements of high number densities of ice crystals in the tops of tropical cumulonimbus. Knollenberg, R.G., et al, [1993, p.8639-8664, eng] 47-4379

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Deltas

Ice jam flood forecasting: Hay River, N.W.T. Stanley, S.J., et al. [1992, p.212-223, eng] 47-200
Physical signatures of Pleistocene ice advance in Norway. Lönne, I., [1993, p.59-70, eng] 47-4018
Three-dimensional model of an Alaskan river polar fan-delta. Lindsay, J.F., [1992, p.183-201, eng] 47-4366
Geochemistry of Mackenzie river sediments. Yunker, M.B., et al, [1993, p.3041-3061, eng] 47-4458

Dendritic ice

Dendritic crystallization of supercooled solutions. Harrison, K.M., [1989, 113p., eng] 47-86
Dendritic growth of ice crystals with natural convection. Koo, K.K., [1992, 192p., eng] 47-279
Three-dimensional growth in ice dendrites. Furukawa, Y., et al, [1993, p.234-239, eng] 47-3469
Spacing of icicles. Makkonen, L., et al, [1993, p.317-322, eng] 47-3934
Modeling and numerical simulations of dendritic crystal growth. Kobayashi, R., [1993, p.410-423, eng] 47-4071
Effect of voltage polarity on icicles grown on line insulators. Farzaneh, M., et al, [1992, p.297-302, eng] 47-4303
Distribution of icicles. Croft, P.J., et al, [1990, p.34, eng] 47-5258

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Denmark
Prediction of road conditions by combined road layer/atmospheric model in winter. Voldborg, H., [1992, 9p., eng] 47-973
Homogeneity problems in Danish and Greenlandic temperature time series. Frich, P., [1993, p.339-342, eng] 47-3081
—Bornholm Island
Glacial ice-flows on the islands of Bornholm and Christiansö, Denmark. Lindström, E., [1991, p.17-35, eng] 47-4317
—Christiansö Island
Glacial ice-flows on the islands of Bornholm and Christiansö, Denmark. Lindström, E., [1991, p.17-35, eng] 47-4317
Density (mass/volume)
Effect of density extremum on the solidification of water on a vertical wall of a rectangular cavity. Braga, S.L., et al, [1992, p.703-713, eng] 47-1628
Singularity of liquid water—data analysis and modeling. Sato, H., [1992, p.89-101, eng] 47-3730
Numerical modeling of heat transfer in irregular solidification of a liquid. Nikitenko, N.I., et al, [1993, p.519-528, eng] 47-3800
Non-destructive high resolution density measurements of marine sediments. Gerland, S., [1993, 130p., ger] 47-4222
Freezing. Haymet, A.D.J., [1992, p.363-405, eng] 47-4367
Freezing of water between vertical tubes. Kim, C.J., et al, [1993, p.2647-2656, eng] 47-4414
Effect of the water density extremum on the solidification process. Braga, S.L., et al, [1991, p.1185-1192, eng] 47-5110
See also: Atmospheric density; Ice density; Snow density
Density (number/volume)
See also: Ion density (concentration); Particle size distribution
Deposits
See also: Alluvium; Avalanche deposits; Glacial deposits; Lacustrine deposits; Marine deposits; Moraines; Quaternary deposits; Sediments
Depth
See also: Permafrost depth; Snow depth
Desalting
Crystallizing apparatus. Connery, C.A., [1989, 12 col., eng] 47-3333
Desert soils
Proceedings of the 1st International Conference on Cryopedology. [1992, 272p., eng] 47-1699
Soil-forming rates and processes in cold desert soils of Antarctica. Bockheim, J.G., et al, [1992, p.42-56, eng] 47-1703
Properties and genesis of cryosols at Marble Point, McMurdo Sound region, Antarctica. Campbell, I.B., et al, [1992, p.59-66, eng] 47-1705
Soil microbial communities under cryptogamic plants in tundra and arctic deserts. Parinkina, O.M., et al, [1992, p.185-189, eng] 47-1727
Microbiology of antarctic soils. Vishniac, H.S., [1993, p.297-341, eng] 47-4597
Deserts
Vegetation of stressed calcareous screes and slopes on Sverdrup Pass, Ellesmere Island, Canada. Maycock, P.F., et al, [1992, p.2359-2377, eng] 47-3837
Spatial heterogeneity of high mountain vegetation in the Andean desert zone of Chile. Squeo, F.A., et al, [1993, p.203-209, eng] 47-4712
Framework to quantify the natural terrestrial carbon cycle of the former Soviet Union. Kolchugina, T.P., et al, [1993, p.259-275, eng] 47-5242
Desiccation
Relation of acclimating bud water to winter hardiness. Vertucci, C.W., et al, [1992, p.503-511, eng] 47-1950
Winter desiccation resistance selection at timberlines. Larsen, J.B., [1993, p.59-64, eng] 47-4529
Design
Speedy sledge offers retreat from storms. Anderson, I., [1992, p.20, eng] 47-233
Safeguarding deep excavations from snowdrifts in high-altitude sections of railroads. Lomidze, I.N., et al, [1992, p.17, rus] 47-370
Protecting railroads on Sakhalin from avalanches. [Adroshnikov, V.I., [1992, p.2-11, rus] 47-371
Winter operability: equipment problems and their remedies. Diemand, D., [1992, p.124-137, eng] 47-587
Packaging emergency power for Alaska. Clevenger, M., [1992, p.36-38, eng] 47-593
Compact, disengaging pump drive aids cold weather starts. [1992, p.56-57, eng] 47-594
Salmon River experimental ice boom: 1989-90 and 1990-91 winter seasons. White, K.D., [1992, 17p., eng] 47-702
Development of a thermal mechanical drill for sampling ice and rock from great depths. Das, D.K., et al, [1992, p.377-382, eng] 47-913
Designing production structures for the Russian Arctic. [1992, p.33,53, eng] 47-920
Arctic marine R&D program. Peirce, T.H., [1992, p.119-133, eng] 47-1023
Research on hovercraft and suction bow icebreakers. Hinchey, M.J., et al, [1992, p.243-251, eng] 47-1032
Errors in net radiometry: comparison and evaluation of six radiometer designs. Halldin, S., et al, [1992, p.762-783, eng] 47-1471
Obtaining smooth hydrographic profiles from a buoy deployed in sea ice. Steele, M., et al, [1992, p.812-826, eng] 47-1472
Access pipes for sampling through thick ice. Kipphut, G.W., et al, [1992, p.267-269, eng] 47-1607
General report—soil freezing-ground freezing. Andersland, O.B., et al, [1992, p.2657-2672, eng] 47-1816
Design and analysis of a low speed drag plow for use in deep snow. Walsh, M.R., et al, [1992, 51p., eng] 47-1894
Guide to proper salt storage. [1992, p.55-56,82-83, eng] 47-1923
Snow fence guide. [1992, p.57-59, eng] 47-1924
Guard against freezing in water lines. Kenny, T.M., [1991, p.44-47, eng] 47-1996
Experience with pile sinking in plastic-frozen soils by bored-driven and bored-drop methods. Vlokh, V.P., [1993, p.124-125, eng] 47-2061
Structural analysis of the suspension of a rotary snow blower. Savel'ev, A.G., et al, [1991, p.22-24, rus] 47-2068
Polar Ocean Profiler: a new generation of oceanographic and meteorological sensory platform. Morison, J.H., et al, [1991, p.627-632, eng] 47-2180
Autonomous Conductivity Temperature Vehicle: recent developments. Morison, J.H., et al, [1991, p.633-637, eng] 47-2181
Nuclear-powered submarine transport for the Arctic. Dronov, B.F., et al, [1992, p.3-7, rus] 47-2899
Modernization of icebreakers. Petrakov, E., [1992, p.23-25, rus] 47-2906
Arctic supply ship *Ivan Papanin*. Nikonov, V., [1992, p.26-30, rus] 47-2915
Floating nuclear power stations for the Far North. Tarasov, V.K., et al, [1992, p.3-6, rus] 47-2916
Effect of the bow form of ships on ice-navigability. Titov, I.A., et al, [1992, p.6-8, rus] 47-2917
Analysis of the dynamic characteristics of the shaft line and main thrust bearing of the "Arctic" type icebreaker. Basalygin, G.M., et al, [1992, p.15-19, rus] 47-2919
First ice-navigating ships for the Far East. Smirnov, K.D., [1992, p.49-51, rus] 47-2921
New Finnish-built icebreaker for the Soviet Union. Maclennan, G., [1988, p.182-183, eng] 47-2932
New class of arctic supply ship for the Soviet Union. [1988, p.141, eng] 47-2933
Recessed deflecting road reflector. Sheldon, S.A., [1989, 6 col., eng] 47-3104
Snow and ice melting system for automotive vehicles. Ahmed, M.I., [1989, 12 col., eng] 47-3105
Tire snow belt. Lenet, L., [1989, 4 col., eng] 47-3106
Buildings for harsh environments. Wallhead, M., [1989, 8 col., eng] 47-3107
Fiber optic probe system. Brossia, C.E., et al, [1989, 20 col., eng] 47-3108
Frost plug heater. Smith, E.L., [1989, 6 col., eng] 47-3109
Continuous snow chain. Lew, H.S., [1989, 8 col., eng] 47-3110
Plastic moldboards for snow plows and the like. Ciula, J.C., [1989, 14 col., eng] 47-3111
Fluid line deicer. Wilson, D.W., [1989, 6 col., eng] 47-3112
Compositional state detection system and method. Sinnar, A.M., [1989, 12 col., eng] 47-3113
Solifluction meter for permafrost sites. Lewkowicz, A.G., [1992, p.11-18, eng] 47-3122
Mobile marine operations structure. Bhalaik, A., et al, [1989, 38 col., eng] 47-3323
Snow removal device for vehicle. Motohashi, Y., [1989, 12 col., eng] 47-3324
Ice breaker. Hellmann, J.H., et al, [1989, 8 col., eng] 47-3325
Automobile windshield cleaning tool. Littledeer, T.F., [1989, 4 col., eng] 47-3326
Integrated semiconductor resistance temperature sensor and resistive heater. Sittler, F.C., et al, [1989, 10 col., eng] 47-3327
Photoelectric ice accumulation monitor using dual detectors. Rein, R.G., Jr., [1989, 16 col., eng] 47-3328
Snow-weathering test apparatus for self-propelled vehicle. Kimura, C., [1989, 6 col., eng] 47-3329
Apparatus for measuring the moisture content of snow particles. Suga, N., [1989, 6 col., eng] 47-3330
Pneumatic process and device for conveying snow. Pasquier, A., [1989, 10 col., eng] 47-3331
Dual freezing chamber system and method for water purification. Chang, C.N., [1989, 14 col., eng] 47-3332
Crystallizing apparatus. Connery, C.A., [1989, 12 col., eng] 47-3333
Subsurface drainage of pavement structures: current Corps of Engineers and industry practice. Allen, W.L., [1991, 31p., eng] 47-3339
Helicopter-borne scatterometer for remote sensing pt. 1. Hallikainen, M., et al, [1993, p.161-169, eng] 47-3358
Newly developed snow vehicle (SM100S) for Antarctica. 1. Takeuchi, S., et al, [1992, p.363-375, jpn] 47-3363
Newly developed snow vehicle (SM100S) for Antarctica. 2. Nakajima, M., et al, [1992, p.376-392, jpn] 47-3364
Adjustable, manual snowplow. Kulat, A.C., [1989, 4 col., eng] 47-3411
Contact assembly for high-voltage switch. Roman, C.D., et al, [1989, 6 col., eng] 47-3412
Cleats for snowmobile track. Simmons, V.M., [1989, 8 col., eng] 47-3413
Clamp for arctic pipeline support. Morton, A.W., [1988, 4 col., eng] 47-3414
Arctic production terminal facility. Williams, T.E., [1988, 4 col., eng] 47-3415
Support standard for implement. Schoessow, J., [1988, 4 col., eng] 47-3416
Water freeze prevention valve. Carney, F.P., [1988, 24 col., eng] 47-3417
Arctic offshore structure and installation method therefor. Turner, J.W., [1988, 8 col., eng] 47-3418
Snow removal method. Swanson, E.V., [1988, 8 col., eng] 47-3419
Tunnel kiln adapted for firing frost-resistant bricks in a reducing atmosphere. Mueller, M., [1988, 6 col., eng] 47-3420
Design of greenhouses for the manipulation of temperature in tundra plant communities. Debevec, E.M., et al, [1993, p.56-62, eng] 47-3429
Compression jig for x-ray topography of ice. Liu, F., et al, [1993, p.416-421, eng] 47-3468
Snow blower with vertical endless belt digger. Cloutier, R., [1988, 6 col., eng] 47-3496
Ice dam preventer. Daniel, G.S., [1988, 4 col., eng] 47-3497
Steering system for vehicle such as snowmobile. Bibollet, J.-C., [1988, 6 col., eng] 47-3498
Snowplow assembly quick block and pin disconnect for a payloader. Dejana, V., [1988, 6 col., eng] 47-3499
Apparatus for production of compression-solidified snow. Tsukada, H., et al, [1988, 6 col., eng] 47-3500
Method for thawing out road culverts choked with ice. Olsson, L.U., [1988, 8 col., eng] 47-3501
Method and apparatus for scraping ice and snow and illuminating a scraping area. Hopkins, E.L., [1988, 6 col., eng] 47-3502
Ice detector. Weinstein, L.M., [1988, 8 col., eng] 47-3503
Freeze safe valve. Roper, B.G., [1988, 8 col., eng] 47-3633
Apparatus for changing artificial snow to wet snow. Suga, N., et al, [1988, 6 col., eng] 47-3634
Method and apparatus for constructing an ice structure. Erwin, R.E., [1988, 6 col., eng] 47-3635
Swing wheel snowthrower. Friberg, N.J., et al, [1988, 10 col., eng] 47-3636
Precipitation detection with a scintillation device. Wang, T.I., [1988, 14 col., eng] 47-3637
Device for comminuting small ice bodies. Wessa, T., [1988, 4 col., eng] 47-3638
Icebreaking defense buoy. Coleman, R.K., [1988, 4 col., eng] 47-3639
Interfacial separator for concrete structures. Dahowski, D.E., [1988, 8 col., eng] 47-3640
Water freezing enhancement for thermal storage brine tube. Holowczenko, A., et al, [1988, 6 col., eng] 47-3641
De-icer for a transducer assembly. Fox, C.D., [1988, 6 col., eng] 47-3642
Maintenance vehicle with snow tiller apparatus. Haug, W., [1988, 6 col., eng] 47-3643
How to design snow fences. Shelquist, K., [1993, p.22, eng] 47-3681
Optical techniques for the measurement of frazil ice. Pegau, W.S., et al, [1992, p.498-507, eng] 47-3734
Process and measuring probe for the determination of ice or snow formation. Meyer, F., [1988, 6 col., eng] 47-3762
Removable bottom founded structure. Beskow, R.H., et al, [1988, 16 col., eng] 47-3763
Anti-icing and deicing device. Bird, L., [1988, 8 col., eng] 47-3764
Deicer control system. Phillips, R.W., II, [1988, 6 col., eng] 47-3765
Lamp mounting. Klaus, D.A., [1988, 6 col., eng] 47-3766
Tire chain device for automobiles travelling on snow-covered terrain. Yang, M.F., [1988, 4 col., eng] 47-3767
Stern apron for ice breakers. Varges, G., [1988, 4 col., eng] 47-3768
Modification of motor-scooter for snow traversal. Bruzzone, R., [1988, 4 col., eng] 47-3770
Apparatus for converting a road vehicle into a snowmobile. Shaver, A.L., [1988, 8 col., eng] 47-3771
Field performance of a spinning-reflector microwave radiometer. Demoz, B.B., et al, [1993, p.420-427, eng] 47-3775

Canadian experience with air cushion vehicle skirts. Sullivan, P.A., et al. [1993, p.23-34, eng] 47-3797
Lifesaving craft. Kraft, U., [1988, 4 col., eng] 47-3845
Floating drilling platform. Mäkinen, E., et al. [1988, 4 col., eng] 47-3846
Snow chains for vehicles. Artzi, G.B., [1987, 4 col., eng] 47-3847
Snow plow attachment. Steinhoff, K., [1987, 4 col., eng] 47-3848
Method and apparatus for deicing a leading edge. Briscoe, J.A., et al. [1987, 14 col., eng] 47-3849
Trustworthy simplified vacuum systems. Henry, R.D., [1987, 6 col., eng] 47-3850
Silicone emulsion having improved freeze/thaw resistance. Bakken, K.L., [1987, 8 col., eng] 47-3851
Cargo container lift device. Hatley, J.F., [1987, 6 col., eng] 47-3852
Swirl anti-ice system. Rosenthal, H.A., [1987, 6 col., eng] 47-3853
Microwave ice accretion measuring instruments. Magenheim, B., et al. [1987, 20 col., eng] 47-3854
Ice mill for chemical analysis of trace gases in ice bubbles. Fuchs, A., et al. [1993, p.199-203, eng] 47-3952
Pneumatic deicers with inextensible threads. Kageorge, P.W., [1987, 8 col., eng] 47-3999
Snowplow resistant road markers. Eigenmann, L., [1987, 6 col., eng] 47-4000
Snowplow and implement attachment means for a vehicle. Quenzi, P.J., [1987, 14 col., eng] 47-4001
Apparatus for deicing exterior parts of a railway vehicle. Björklund, B., [1987, 6 col., eng] 47-4002
Snow-removing machine. Gisler, H., et al. [1987, 8 col., eng] 47-4003
Pipeline insulation system. Patterson, M.M., [1987, 4 col., eng] 47-4004
Ice preparation machine for ice tracks. Schiehe, H., [1987, 4 col., eng] 47-4005
Passive transponder for locating avalanche victims. Leuenberger, C.E., [1987, 8 col., eng] 47-4006
Arctic structure of composite wall construction. Birdy, J.N., et al. [1987, 14 col., eng] 47-4007
Glaze ice measurement with microprocessor. Provencal, G., et al. [1988, 8 col., eng] 47-4008
Drag reduction of a cylinder/endwall junction using the ice formation method. LaFleur, R.S., et al. [1993, p.26-32, eng] 47-4021
Small vertical supercooled cloud tunnel system for the study of ice (snow) crystal growth. Gong, N.H., et al. [1992, p.254-262, eng] 47-4074
Oden—a new concept in icebreaker design. [1989, p.E71-E74, eng] 47-4078
Effective structural design plan for a marine steel platform in sea ice conditions. Berniker, I.A.S., et al. [1993, p.12-15, rus] 47-4087
Variable pitch propellers for ice navigating ships. Ivanov, S., [1990, p.38-40, rus] 47-4091
Icing of turbine intake louvers. Walsh, M.R., et al. [1993, 37p., eng] 47-4095
Rear swing arm assembly for three or four wheeled off-the-road vehicle track conversion unit. Yochum, M., [1986, 10 col., eng] 47-4098
Snowblower. Swanson, J.L., [1986, 4 col., eng] 47-4099
Pipeline launching module. Hemphill, D.P., [1986, 4 col., eng] 47-4100
Ice deflector. Marthinsen, A., [1988, 4 col., eng] 47-4101
Thin profile snow, sleet and moisture sensing detector. Murphy, J.P., [1987, 10 col., eng] 47-4102
Snow tiller. Haug, W., [1988, 10 col., eng] 47-4258
Composite platform for petroleum workings in polar seas. Michel, D., et al. [1986, 6 col., eng] 47-4259
Sea ice flexure noise attenuation during seismic surveys. Ostrander, W.J., [1986, 14 col., eng] 47-4260
Mobile marine operations structure. Bhalaik, A., et al. [1988, 30 col., eng] 47-4261
Pipeline trenching. Langner, C.G., [1986, 4 col., eng] 47-4262
Wing slat anti-ice air duct system. Knowler, J.C., [1986, 6 col., eng] 47-4263
Snowplow mounted on longitudinal frame attachable to chassis. Racicot, G., [1986, 14 col., eng] 47-4264
Snow-disposal unit and method. Jackson, P.H., [1986, 8 col., eng] 47-4265
Design of the new central building at Showa Station. Hannuki, T., et al. [1993, p.61-102, jpn] 47-4358
Instrument for measuring ice depth in aircraft fuel tanks. [1991, 36p., eng] 47-4404
Tracked vehicle performance over snow-covered slopes. Muro, T., [1993, p.143-155, eng] 47-4889
Ground freezing. Bell, F.G., [1992, p.321-333, eng] 47-4890
Ice detector for protecting boats. Schuellein, G.J., [1991, 4 col., eng] 47-4915

Design criteria

Design method for frozen-soil retaining wall. Soo, S., et al. [1992, p.73-89, eng] 47-3
Roof-snow load for seismic-design calculations. O'Rourke, M.J., et al. [1992, p.2338-2350, eng] 47-4
Parameter uncertainty and simulation of design floods in Sweden. Harlin, J., et al. [1992, p.209-230, eng] 47-174
Retrospective of platform development in Cook Inlet, Alaska. Visser, R.C., [1992, p.146-150,202-203, eng] 47-224
Trials for the measurement of static and impact pressure of snow and avalanches. Hariprasad, N.M., et al. [1985, p.226-243, eng] 47-541
Avalanche control in formation zone—a case study. Rajaram, T., [1985, p.354-368, eng] 47-553
Safety and service life of equipment designed for cold climate operation. Larionov, V.P., [1992, p.111-123, eng] 47-586
Preliminary study of the effect of fines on sanded-ice friction. Blaisdell, G.L., et al. [1992, p.79-90, eng] 47-805
Trans-Alaska Pipeline reroute meets schedule. Newcomer, E.S., et al. [1992, p.49-57, eng] 47-823
Spillway design floods in Sweden: 1. New guidelines. Bergström, S., et al. [1992, p.505-519, eng] 47-922
Spillway design floods in Sweden: 2. Applications and sensitivity analysis. Lindström, G., et al. [1992, p.521-539, eng] 47-923
Arctic marine R&D program. Peirce, T.H., [1992, p.119-133, eng] 47-1023
Calculating the maximum water levels in areas of backwater curves in designing a reservoir. Bolotnikov, G.I., [1991, p.12-16, rus] 47-1043
Temperature and suction profiles beneath highway pavements: computed and measured. Pufahl, D.E., et al. [1991, p.268-276, eng] 47-1126
Concepts and procedures for evaluation/design of materials and flexible pavements. Ruth, B.E., et al. [1992, p.270-288, eng] 47-1138
Approximation of interference effects in dynamic ice-structure interactions. Abul-Azm, A.G., et al. [1992, p.299-309, eng] 47-1799
Analysis of energy dissipation caused by snow compaction during displacement plowing. Hansen, A.C., [1991, p.177-181, eng] 47-1800
Goal-oriented design of an improved displacement snowplow. Crane, R.L., et al. [1991, p.188-192, eng] 47-1802
Application of routing technologies to rural snow and ice control. Haslam, E., et al. [1991, p.202-211, eng] 47-1804
Integrating GIS and CAD for transportation data base development. Wang, J.Y., et al. [1991, p.212-218, eng] 47-1805
Designing *for ice conditions in marinas.* Wortley, C.A., [1992, p.48-50, eng] 47-1921
Polymer-modified asphalts—international research results on possible modifications and properties. Schneider, U., [1992, p.14-20, ger] 47-2003
Evolution theory for optimal control of a Couette iceform design model. LaFleur, R.S., [1992, p.2617-2629, eng] 47-2148
Example of the *Couette iceform design model: flat plate* ice formation. LaFleur, R.S., [1992, p.2631-2642, eng] 47-2149
Design of piles in permafrost under combined lateral and axial load—discussion and reply. Budkowska, B.B., et al. [1992, p.162-166, eng] 47-2642
Snowdrift around buildings for antarctic environment. Kwok, K.C.S., et al. [1992, p.2797-2808, eng] 47-2643
Local contact pressures in ship/ice and structure/ice interactions. Masterson, D.M., et al. [1993, p.169-185, eng] 47-2648
Frost-related performance of heated shallow foundation thermal insulation. Duquennoi, C., [1992, p.3-19, fre] 47-2665
Designing cold weather concrete mixes. Suprenant, B.A., [1990, p.882-884, eng] 47-2718
Ecological aspects in the design of low-rise housing in Siberia. Baklanova, E.I., [1992, p.125-131, rus] 47-2779
Determining the design values for the depth of seasonal thawing of permafrost for pile foundations. Tsurikov, A.S., et al. [1992, p.22-25, rus] 47-2901
Estimating icing in the design of seagoing ships. Pavliuchenko, IU.N., [1992, p.9-11, rus] 47-2922
Model tests of dynamic ice loading on the Chinese JZ-20-2 jacket platform. Timco, G.W., et al. [1992, p.819-832, eng] 47-3304
Extreme values of thermal loading parameters in concrete bridges. Maes, M.A., et al. [1992, p.935-946, eng] 47-3341
Multifunctional combined foundations on permafrost soils. Nekliudov, V.S., et al. [1993, p.164-167, eng] 47-3576
Long-term deformation of freeze saline soils. Alifanova, A.A., [1992, p.74-79, eng] 47-3834
Floating ice pressures on sloping and vertical structures. *Arunachalam, V.M., et al. [1993, p.231-245, eng]* 47-3927
Structural design for permafrost on a railroad line. Kondrat'ev, V.G., et al. [1993, p.11-13, rus] 47-4085
Field pile load tests in saline permafrost. 1. Test procedures and results. Biggar, K.W., et al. [1993, p.34-45, eng] 47-4162
Field pile load tests in saline permafrost. 2. Analysis of results. Biggar, K.W., et al. [1993, p.46-59, eng] 47-4163
Investigation of the icebreaking pattern at the bow of the IB Kapitan Sorokin on the Yenisei River estuary in May 1991. Valanto, P.U., [1993, p.127-134, eng] 47-4240
Influence of filling charge, evaporator length and condenser length on the performance of a right-angled *thermosyphon.* Lock, G.S.H., et al. [1993, p.207-211, eng] 47-4248
Ice forces on light piers in the St. Lawrence Seaway. Frederking, R.M.W., et al. [1992, p.67-72, eng] 47-4280
Modelling of snowdrift around prismatic buildings for antarctic environment. Kim, D.H., et al. [1992, p.73-79, eng] 47-4281
Snowdrift around antarctic buildings —effects of corner geometry and wind incidence. Kwok, K.C.S., et al. [1993, p.61-65, eng] 47-4302
Ice forces in dynamic ice structure interaction. Eranti, E., [1992, p.204-211, eng] 47-4304
Ice action onto multilegged structures due to change of water level. Matskevitch, D.G., et al. [1992, p.222-227, eng] 47-4306
Pile behavior in saline frozen soils. Biggar, K.W., et al. [1993, p.319-337, eng] 47-4514
Steel selection for arctic ships: effects of elevated loading rate on toughness. Tyson, W.R., et al. [1993, p.261-265, eng] 47-4830
Cryogenic ambient air vaporizers: frost growth, wind and seismic design for safety. Bernert, R.E., Jr., et al. [1993, p.789-793, eng] 47-4876
Snow loads on road-side structures during plowing. Rudelstorfer, K., et al. [1987, 88p., ger] 47-4989
Reliability of guyed masts with special reference to arctic conditions. Johansson, B., et al. [1991, 18p., eng] 47-5011
Effects of drifting on snow loads on large roofs. Irwin, P.A., et al. [1993, p.508-513, eng] 47-5262
Reliability-based design of transmission towers under wind *and ice loadings.* Cho, H.N., et al. [1993, p.1125-1130, eng] 47-5263

See also: Building codes

Destructive effects

See also: Damage

Detection

Relation between SAR imagery and regional sea ice ridging characteristics from BEPERS-88. Simili, M., et al. *[1992, p.2415-2432, eng]* 47-256
Masonry wall and window system leakage investigation for university building. Frauenhoffer, J., [1992, p.107-115, eng] 47-409
Kinetic energy of hailfalls. Part 4: patterns of hailpad and radar data. Schmid, W., et al. [1992, p.1165-1178, eng] 47-460
Avalanche forecasting by acoustic monitoring of snowpacks. Koul, B.B., [1985, p.318-323, eng] 47-549
Snow avalanches—classification, detection and search of victims. Bhandari, R.K., et al. [1985, p.341-346, eng] 47-551
Neural network-based adaptive radar detection scheme for small ice targets in sea clutter. Bhattacharya, T.K., et al. [1992, p.1528-1529, eng] 47-741
Detecting organic chemical contaminants by spectral-induced polarization method in glacial till environment. Vanhala, H., et al. [1992, p.1014-1017, eng] 47-779
Electromagnetic emission (EME) from ice crack formation: preliminary observations. Thiel, D.V., [1992, p.49-60, eng] 47-803
Polynomial trend surface analysis applied to AVHRR images to improve definition of arctic leads. Eppler, D.T., et al. [1992, p.197-218, eng] 47-982
Doppler radar wind and reflectivity signatures with overrunning and freezing-rain episodes: preliminary results. Prater, E.T., et al. [1992, p.1350-1358, eng] 47-1123
Performance predictions for a passive infrared intrusion detection system. Lacombe, J., [1992, p.133-140, eng] 47-1167
Passive infrared intrusion detection systems. Peck, L., [1992, p.141-144, eng] 47-1168
Skeletal modeling of ice leads. Banfield, J., [1992, p.918-923, eng] 47-1258
Short-pulse radar detection of groundwater in the Sagavanirktok River floodplain in early spring. Arcone, S.A., et al. [1992, p.2925-2936, eng] 47-1475
Detection of sub-sea permafrost by electromagnetic *sounding.* Palacky, G.J., et al. [1992, p.1419-1427, eng] 47-1509
Development of field screening methods for TNT, 2,4-DNT and RDX in soil. Jenkins, T.F., et al. [1992, p.33-45, eng] 47-1819
Detection of Labrador current by radar tracking of ice floe movement. Ikeda, M., et al. [1992, p.223-245, eng] 47-2349
Broadband source localization and signature estimation. Yang, T.C., [1993, p.1797-1806, eng] 47-3232
Analysis of ground-probing radar data: predictive deconvolution. LaFleche, P.T., et al. [1991, p.134-139, eng] 47-3309
Thermal analysis of freezing of conifer seedling buds. Stushnoff, C., et al. [1992, p.1305-1309, eng] 47-3841

Detection *(cont.)*
Radiometric sea ice features from aircraft images. Farmer, L.D., et al. [1993, p.4645-4665, eng] 47-4387
Detectability of arctic leads using thermal imagery under varying atmospheric conditions. Stone, R.S., et al. [1993, p.12,469-12,482, eng] 47-4523
Observation of flooded ice in arctic regions. Goroch, A.K., et al. [1993, p.1305-1324, eng] 47-4905
Identification of clear and cloudy pixels at high latitudes from AVHRR radiances. Sakellariou, N.K., et al. [1993, p.2005-2024, eng] 47-5106
See also: Crevasse detection; Ice detection; Moisture detection
Deterioration
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Deuterium oxide
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Deuterium oxide ice
Inelastic incoherent neutron scattering study of D2O and H2O ice VIII in the range 2-140 meV. Kolesnikov, A.I., et al. [1992, p.308-312, eng] 47-195
Stable isotope distribution in the Cazadora Glacier. Eraso, A., et al. [1989, p.50-60, spa] 47-812
Premelting of ice in exfoliated graphite: a neutron diffraction study. Gay, J.M., et al. [1992, p.33-41, eng] 47-1383
Quantum tunneling in irradiated ice. Muto, H., et al. [1992, p.5211-5213, eng] 47-1937
Development
See also: Economic development; Land development; Landscape development; Natural resources
Diagenesis
Kinetic enrichment of stable isotopes in cryogenic calcites. Clark, I.D., et al. [1992, p.217-228, eng] 47-3159
Submarine rock diagenesis as exposed on Ellesmere I. Davies, G.R., et al. [1990, 77p., eng] 47-4365
Late Proterozoic anthracite coals from the Hornsund area, south Spitsbergen. Birkenmajer, K., et al. [1992, p.71-90, eng] 47-4648
Dictionaries
Acronyms and abbreviations for the polar science community. [1992, 42p., eng] 47-2338
Dielectric properties
Energy and structure of Bjerrum defects in ice Ih determined with an additive and a nonadditive potential. Hassan, R., et al. [1992, p.4326-4335, eng] 47-222
Continuous 770-year record of volcanic activity from East Antarctica. Moore, J.S., et al. [1991, p.17,353-17,359, eng] 47-348
Measurement on the dielectric properties of acid-doped ice at 9.7 GHz. Fujita, S., et al. [1992, p.799-803, eng] 47-359
Scaling observed in glycerol-water and propylene glycol-water mixtures. Abe, R., et al. [1991, p.2835-2838, eng] 47-918
Dielectric study of the structure of hyperquenched glassy water and its crystallized forms. Johari, G.P., et al. [1992, p.5851-5855, eng] 47-988
Determination of soil moisture distribution from impedance and gravimetric measurements. Ungar, S.G., et al. [1992, p.18,969-18,977, eng] 47-1624
Determination of the water content of snow by dielectric measurements. Camp, P.R., et al. [1992, 38p., eng] 47-1899
Dielectric properties of normal supercooled water obtained in alcohol/water mixtures. Noyel, G.A., et al. [1992, p.1136-1143, eng] 47-2294
Remote sensing of snow using radar methods. Kulemin, G.P., et al. [1992, 36p., rus] 47-2910
Dielectric dispersion of supercooled trimethyleneglycol-water mixtures. Abe, R., et al. [1992, p.4204-4211, eng] 47-3580
Dielectric properties of frozen clay and silt soils. Moore, J.C., et al. [1993, p.265-273, eng] 47-3930
Dielectric study of frozen aqueous ionic solutions. Laudat, J., et al. [1991, p.211-224, eng] 47-3998
Dielectric properties of road aggregates and their effect on GPR surveys. Ravaska, O., et al. [1993, p.17-22, eng] 47-4116
Temperature dependence of ice dielectric relaxation. Bruni, F., et al. [1993, p.538-547, eng] 47-4288
Determination of dielectric constant of young sea ice using microwave spectral radiometry. St. Germain, K.M., et al. [1993, p.4675-4679, eng] 47-4389
Pauling potential in ice quantum tunneling. Consolini, G., et al. [1993, p.4227-4228, eng] 47-5273
Diesel engines
Heat Wave introduced for cold weather starting. [1992, p.42, eng] 47-592
Packaging emergency power for Alaska. Clevenger, M., [1992, p.36-38, eng] 47-593
Compact, disengaging pump drive aids cold weather starts. [1992, p.56-57, eng] 47-594
Performance of the Nathaniel B. Palmer in ice. Sutherland, A.L., et al. [1993, p.300-309, eng] 47-5117
Diffraction
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Diffusion
Measuring the point spread function of sea ice *in situ.* Voss, J.M., et al. [1992, p.517-526, eng] 47-3735
See also: Ion diffusion; Self diffusion; Thermal diffusion; *Turbulent diffusion; Vapor diffusion*
Digging
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Discontinuous permafrost
Specific hydrogeological conditions of the North-Muya Ridge. Shabinin, L.L., et al. [1991, p.76-80, eng] 47-1674
Formation and properties of soils in the permafrost regions of Canada. Tarnocai, C., et al. [1992, p.21-42, eng] 47-1702
Observations on the rock glaciers of Monte Emilius (Valle d'Aosta, Italy). Smiraglia, C., [1992, p.163-168, eng] 47-1757
Active rock glaciers and the lower limit of discontinuous alpine permafrost, Khumbu Himalaya, Nepal. Jakob, M., [1992, p.253-256, eng] 47-1780
Hydrogen and oxygen isotopes and *the origin of the ice in* peat plateaus. Harris, S.A., et al. [1992, p.19-27, eng] 47-3123
Effect of site disturbance on the soil thermal regime near Fort Simpson, Northwest Territories, Canada. Hayhoe, H.N., et al. [1993, p.37-44, eng] 47-3426
Methane in permafrost—preliminary results from coring at Fairbanks, Alaska. Kvenvolden, K.A., et al. [1993, p.609-616, eng] 47-3439
Cryogenic deformations of Suluk BAM station building. Rubinchik, S.B., [1993, p.167-169, eng] 47-3577
See also: Taliks
Dislocations (materials)
Novel processes of dislocation multiplication observed in ice. Shearwood, C., et al. [1993, p.205-210, eng] 47-3777
Dynamic observations of dislocation generation at grain boundaries in ice. Liu, F., et al. [1993, p.1261-1276, eng] 47-3986
Field pile load tests in saline permafrost. 2. Analysis of results. Biggar, K.W., et al. [1993, p.46-59, eng] 47-4163
Dispersions
Seed *entrapment in alpine ecosystems: effects of soil* particle size and diaspore morphology. Chambers, J.C., et al. [1991, p.1668-1677, eng] 47-767
Scaling observed in glycerol-water and propylene glycol-water mixtures. Abe, R., et al. [1991, p.2835-2838, eng] 47-918
Source strength terms for winter dispersion models. *Hogan, A.W., et al. [1992, p.149-155, eng]* 47-1069
Biochemical indicators of gold deposits in permafrost. Taisaev, T.T., et al. [1993, p.215-220, eng] 47-4059
Relative dispersion of ice crystals in seeded cumuli. Weil, J.C., et al. [1993, p.1055-1073, eng] 47-4080
Disposal
See also: Snow disposal; Waste disposal
Distilled water
Crystallizing apparatus. Connery, C.A., [1989, 12 col., eng] 47-3333
Distribution
Radiolarian fauna at the ice edge in the Greenland Sea during summer, 1988. Swanberg, N.R., et al. [1992, p.297-320, eng] 47-199
Characterizing the distribution of observed precipitation and runoff over the continental United States. Dolph, J., et al. [1992, p.99-119, eng] 47-228
Salinity profiles of antarctic sea ice: field data and model results. Eicken, H., [1992, p.15,545-15,557, eng] 47-514
Arctic insects as indicators of environmental change. Danks, H.V., [1992, p.159-166, eng] 47-519
Characteristics of the distribution of glaciers in China. Wang, Z.T., et al. [1992, p.17-20, eng] 47-1080
Outline of avalanches in the southeastern Tibet Plateau, China. Wang, Y.L., et al. [1992, p.146-150, eng] 47-1102
Deposition of sulfur and nitrogen compounds over the USSR. Vasilenko, V.N., et al. [1991, p.19-24, eng] 47-1177
Distribution of dominant copepods in the Nansen Basin, Arctic Ocean, in summer. Hirche, H.J., et al. [1992, p.S485-S505, eng] 47-1275
Recent distribution of planktonic foraminifera in the Nansen Basin, Arctic Ocean. Carstens, J., et al. [1992, p.S507-S524, eng] 47-1276
Diatom assemblages in arctic sea ice—indicator for ice drift pathways. Abelmann, A., [1992, p.S525-S538, eng] 47-1277
Nonmethane hydrocarbons in the arctic boundary layer. Blake, D.R., et al. [1992, p.16,559-16,588, eng] 47-1455
Zonation of flora and vegetation of the northern declivity of the Karakoram/Kunlun Mountains (SW Xinjiang China). Dickoré, W.B., [1991, p.265-284, eng] 47-1613
Rock glaciers in Svalbard and Norway. Sollid, J.L., et al. [1992, p.215-220, eng] 47-1773
Statistical analysis of the spatial distribution of rock glaciers, Spanish Central Pyrenees. Chueca, J., [1992, p.261-265, eng] 47-1782
Rock glaciers and periglacial phenomena *in the Southern* Carpathians. Urdea, P., [1992, p.267-273, eng] 47-1783
In situ patterns of intracellular photosynthate allocation by sea ice algae in the Canadian High Arctic. Smith, R.E.H., et al. [1992, p.545-551, eng] 47-1789
Bryophytes of the Melville Hills region, Northwest Territories. Scotter, G.W., et al. [1992, p.100-104, eng] 47-1880
Lichens of the Cape Parry and Melville Hills regions, Northwest Territories. Thomson, J.W., et al. [1992, p.105-111, eng] 47-1881
Peculiarities of vertical distribution of aerosol particles and ice nuclei in cloud atmosphere. Khorguani, V.G., [1992, p.427-430, eng] 47-2281
Russian iceberg observations in the Barents Sea, 1933-1990. Abramov, V.A., [1992, p.93-97, eng] 47-2354
Southern ocean phytoplankton pigment concentrations. Comiso, J.C., et al. [1993, p.2419-2451, eng] 47-2625
Hail occurrences in India. Nizamuddin, S., [1993, p.90-92, eng] 47-2709
Distribution of block fields in Scandinavia. Malmström, B., [1991, p.110-113, swe] 47-2852
Krill abundance and distribution in the Scotia/Weddell Confluence. Godlewska, M., et al. [1991, p.593-603, eng] 47-3094
Ichthyoplankton near the ice edge in the Scotia/Weddell confluence. Skóra, K.E., [1991, p.605-611, eng] 47-3095
Very-low-frequency under-ice reflectivity. Wolf, J.W., et al. [1993, p.1329-1334, eng] 47-3432
Winter plankton assemblages at the Weddell and Scotia Seas ice edge. Garrison, D.L., et al. [1993, p.311-338, eng] 47-3628
Vegetation of stressed calcareous screes and slopes on Sverdrup Pass, Ellesmere Island, Canada. Maycock, P.F., et al. [1992, p.2359-2377, eng] 47-3837
Cod schooling behavior in relation to *drifting pack ice.* Crawford, R.E., et al. [1993, p.345-357, eng] 47-4061
Ice in the northern lowlands and southern highlands of Mars and its enrichment beneath the Elysium lavas. Cave, J.A., [1993, p.11,079-11,097, eng] 47-4411
Avalanche prediction in Scotland: 1. A survey of avalanche activity. Ward, R.G.W., [1984, p.91-108, eng] 47-5254
See also: Permafrost distribution; Sea ice distribution; Snow cover distribution
Disturbances
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Diurnal variations
Modulation of the diurnal streamflow response by the seasonal snowcover of an alpine basin. Caine, N., [1992, p.245-260, eng] 47-175
Diurnal depletion of mountain snow cover at different altitudes. Krishnan, V., et al. [1985, p.157-163, eng] 47-535
Coupled subsurface-boundary layer model of water on Mars. Zent, A.P., et al. [1993, p.3319-3337, eng] 47-2670
Interactive coupling of a lake thermal model with a *regional climate model.* Hostetler, S.W., et al. [1993, p.5045-5057, eng] 47-3784
Katabatic flow thermodynamics of Adélie Coast. Pettré, P., et al. [1993, p.10,429-10,440, eng] 47-4292
Docks
Designing for ice conditions in marinas. Wortley, C.A., [1992, p.48-50, eng] 47-1921
Arctic production terminal facility. Williams, T.E., [1988, 4 col., eng] 47-3415
Ice detector for protecting boats. Schuellein, G.J., [1991, 4 col., eng] 47-4915
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Doped ice
Measurement on the dielectric properties of acid-doped ice at 9.7 GHz. Fujita, S., et al. [1992, p.799-803, eng] 47-359
Properties of EG/AD/S doped ice at the IMD ice tank. [1990, 31p., eng] 47-1367
Effects of electric fields on ice deformation. Petrenko, V.F., et al. [1993, p.173-185, eng] 47-3174
Drainage
Errors in measuring water discharge during hydrometric surveys of small and medium rivers in permafrost *regions.* Kolotaev, V.N., et al. [1991, p.147-158, rus] 47-899
Sublimational drainage of frozen soils in Zabaikalye. Zheleznlak, I.I., et al. [1992, p.122-126, eng] 47-1716
Guard against freezing in water lines. Kenny, T.M., [1991, p.44-47, eng] 47-1996
Introduction of rainwater infiltration facilities in cold regions. Iwami, Y., et al. [1992, p.213-218, jpn] 47-2506
Ice dam preventer. Daniel, G.S., [1988, 4 col., eng] 47-3497
Freeze safe valve. Roper, B.G., [1988, 8 col., eng] 47-3633
Using drained land and some examples of its improvement. Gil', A.F., [1991, p.30-40, rus] 47-4105
Thermal behavior of rip rap in a cross-drainage structure. Lozano, N., [1993, p.35-43, eng] 47-4118
Where does the water go during ice lense thaw. Dysli, M., [1993, p.45-50, eng] 47-4119

Experiments with frost-heave prevention in concrete troughs. Kubo, H., et al. (1993, p.89-96, eng) 47-4126

See also: Runoff: Subglacial drainage: Subsurface drainage: Surface drainage

Drains

Mechanical opening and shutting device for snow removal storm drain openings. Fukushi, H., et al. (1992, p.29-34, jpn) 47-2491

Snow removal channeling operations—battle against snow and ice bars. Suzuki, K., et al. (1992, p.201-204, jpn) 47-2504

Snow removal channeling operations in Iwamizawa City. Hirai, Y., et al. (1992, p.205-208, jpn) 47-2505

Hydraulic transportation machine development for snow removal from urban areas. Umemura, T., (1992, p.287-297, eng) 47-3207

Flow characteristics of snow-water mixtures in horizontal pipes. Sasaki, M., et al. (1992, p.301-312, eng) 47-3208

New Kotoni snow removal channel. (1992, n.p. (brochure), jpn) 47-4797

Tests on the surface layout of snow removal drains. Shimaguchi, Y., et al. (1986, p.65-82, jpn) 47-4953

Tests on the surface layout of snow removal drains. Shimaguchi, Y., et al. (1987, p.1-16, jpn) 47-4954

Tests on the surface layout of snow removal drains. Shimaguchi, Y., et al. (1988, p.1-55, jpn) 47-4959

Tests on the surface layout of snow removal drains. Maeda, T., (1990, p.23-30, jpn) 47-4964

Pipe transport system for snow. Isobe, K., (1985, p.83-89, jpn) 47-5088

Snow removal drains and snow melting drains. Okuma, T., (1985, p.21-26, jpn) 47-5163

Model operations for towns of the north—surface layout of snow removal drains. Honda, M., (1985, p.34-39, jpn) 47-5165

Development of technology for continuous transport of snow. Hishita, T., et al. (1986, p.59-63, jpn) 47-5181

Control of the flow terminus of snow removal drains by water pipes. (1986, p.96-97, jpn) 47-5188

Drift

Kinematics of two dimensional granular material on a non-linear viscous base. Ito, H., (1992, p.65-68, eng) 47-117

Use of numerical methods in ice conditions examination. Pokrashenko, S.A., (1992, p.382-383, eng) 47-168

Geostrophic wind and sea ice motion in the Weddell Sea. Olf, J., (1992, p.228-229, ger) 47-214

Simulation of the recurrence probability of ice islands in the Arctic Ocean. Li, F.C., (1992, 169p., eng) 47-272

Recent iceberg groundings and scours on the Grand Banks of Newfoundland. (1989, 80p. + appends., eng) 47-429

Sea ice advection derived from buoy and satellite data. Massom, R.A., (1992, p.15,559-15,572, eng) 47-515

Major cloud plumes in the Arctic and their relation to fronts and ice movement. Fett, R.W., (1992, p.925-945, eng) 47-591

Dynamics of arctic ice shelves and ice islands. Jeffries, M.O., (1992, p.245-267, eng) 47-827

Air-ice drag coefficient in the Weddell Sea deduced from profile measurements. Andreas, E.L., et al. (1992, p.J5/109-J5/112, eng) 47-868

Mathematical modeling of ice drift in the example of the Caspian Sea. Mikhal'chuk, A.V., (1991, p.94-96, rus) 47-893

Diatom assemblages in arctic sea ice—indicator for ice drift pathways. Abelmann, A., (1992, p.S525-S538, eng) 47-1277

Chasing the rogue icebergs. Vaughan, D., (1993, p.24-27, eng) 47-1570

Finite area element snow loading prediction—applications and advancements. Gamble, S.L., et al. (1992, p.1537-1548, eng) 47-1583

PASCON: *an expert system for passive snow control on highways.* Kaminski, D.F., et al. (1991, p.193-201, eng) 47-1803

Wind and tidal induced currents in an ice covered ocean. Furnes, G.E., (1992, p.608-617, eng) 47-1848

Coastal jet and ice flow movement. Bando, K., et al. (1992, p.772-776, eng) 47-1872

Wind forcing and ice motion in the Weddell Sea region. Kottmeier, C., et al. (1992, p.20,373-20,383, eng) 47-2051

Numerical simulation of pack ice movement using the momentum conservation method. Rheem, C.K., et al. (1992, 7p., eng) 47-2117

Iceberg trajectory model—real-time verification. *Finlayson, D.J., et al. (1992, 47p. + appends., eng)* 47-2335

Oceanographic features in the Newfoundland marginal ice zone, March-April 1990. Tang, C.L., (1992, p.151-172, eng) 47-2345

Automated sea-ice tracking for LIMEX '87 and '89. Hirose, T., et al. (1992, p.173-191, eng) 47-2346

Detection of Labrador current by radar tracking of ice floe movement. Ikeda, M., et al. (1992, p.223-245, eng) 47-2349

Ice-floe collisions interpreted from acceleration da.. during LIMEX '89. McKenna, R.F., et al. (1992, p.246-269, eng) 47-2350

Simulation of sea-ice motion and distribution off Newfoundland during LIMEX, March 1987. Tang, C.L., et al. (1992, p.270-296, eng) 47-2351

Clues to causes of deformation features in coastal sea ice. Kozo, T.L., et al. (1992, p.385,388-389, eng) 47-2597

On the interannual variability of arctic sea-level pressure and sea ice. Power, S.B., et al. (1992, p.551-577, eng) 47-2878

Determination of sea ice motion from satellite images. Holt, B., et al. (1992, p.343-354, eng) 47-3032

Use of satellite observations in ice cover simulations. Preller, R.H., et al. (1992, p.385-404, eng) 47-3036

On the propagation of discontinuities in a drifting ice cover. Marchenko, A.V., (1992, p.346-358, eng) 47-3230

Sea surface temperature of the southern ocean in iceberg regions. Popov, I.K., (1992, p.181-183, rus) 47-3337

Sensitivity method for ice floe trajectory calculations. Thomson, N.R., et al. (1992, p.573-585, eng) 47-3344

Adjoint sensitivity theory for a pack ice momentum model. Sykes, J.F., et al. (1992, p.881-889, eng) 47-3353

Sensitivity analysis of ice motion near Adams Island. Sykes, J.F., et al. (1992, p.890-901, eng) 47-3354

Remote sensing and image processing for ice forecasting. Marko, J.R., et al. (1991, p.217-226, eng) 47-3388

Remotely sensed data in the U.S. Navy's sea ice forecast models. Preller, R.H., et al. (1991, p.235-255, eng) 47-3389

Predicting annual variability of sea ice and icebergs. Fissel, D.B., et al. (1991, p.19-32, eng) 47-3395

Analysis of the characteristics of decrease in areas of ice massifs in the Novosibirsk region during summer. Egorov, A.G., et al. (1990, p.15-24, rus) 47-3585

Hydrometeorological conditions characteristic of separated and connected Severnaya Zemlya and Kara Sea ice massifs. Egorov, A.G., (1990, p.35-41, rus) 47-3587

Some characteristics of spatial irregularity in the thickness of stationary and drifting ice. Mironov, E.U., et al. (1990, p.42-53, rus) 47-3588

Numerical calculation of the trajectory of ice drift. Aksenov, E.O., (1990, p.148-154, rus) 47-3601

Evaluating the role of the West Spitsbergen current in the formation of a sea ice boundary. Makshtas, A.P., et al. (1992, p.157-164, rus) 47-3814

Iceberg movement prediction off the Canadian east coast. Marko, J.R., et al. (1988, p.435-462, eng) 47-3820

Particulate matter in pack ice of the Beaufort Gyre. Reimnitz, E., et al. (1993, p.186-198, eng) 47-3951

Cod schooling behavior in relation to drifting pack ice. Crawford, R.E., et al. (1993, p.345-357, eng) 47-4061

Seasonal variations of atmospheric circulation and sea ice motion in the Arctic. McLaren, A.S., et al. (1988, p.20-23, eng) 47-4177

Iceberg scouring in Scoresby Sund and on the East Greenland continental shelf. Dowdeswell, J.A., et al. (1993, p.37-53, eng) 47-4297

Dynamics of ice cover interacting with ocean and atmosphere. Kheisin, D.E., (1993, p.51-55, eng) 47-4300

Thermal energy conservation in icebergs and tracking by temperature. Löset, S., (1993, p.10,001-10,012, eng) 47-4372

Arctic Ocean ice balance: a Kalman smoother estimate. Thomas, D.R., et al. (1993, p.10,053-10,067, eng) 47-4376

Use of ERS-1 SAR to measure ice flux in the East Greenland current. Wadhams, P., et al. (1993, p.283-287, eng) 47-4426

Validation of ERS-1 SAR measurements of sea ice during ARCTIC-91. Askne, J., et al. (1993, p.289-294, eng) 47-4427

Sea ice deformation observed with ERS-1 SAR. Rothrock, D.A., et al. (1993, p.301-306, eng) 47-4429

Ocean circulation revealed by ice floe tracking. Ikeda, M., et al. (1993, p.351-353, eng) 47-4438

Evaluating ERS-1 ice motion and classification products. Fetterer, F.M., et al. (1993, p.373-375, eng) 47-4442

Sea ice models. Hibler, W.D., III, et al. (1992, p.413-436, eng) 47-4499

Drag coefficients for winter antarctic pack ice. Wamser, C., et al. (1993, p.12,431-12,437, eng) 47-4520

Report of the International Ice Patrol in the North Atlantic, 1992 season. (1992, 45p., eng) 47-4603

Monthly mean sea ice data from ice prediction models. Posey, P.G., et al. (1993, 6p. + appends., eng) 47-4620

Radar backscatter measurements from arctic sea ice during the fall freeze-up. Beaven, S.G., et al. (1993, 66p., eng) 47-4621

Arctic Ocean Buoy Program data report for 1 January 1987-31 December 1987. Colony, R.L., et al. (1990, 152p., eng) 47-4670

Arctic Ocean Buoy Program data report for 1 January 1988-31 December 1988. Colony, R.L., et al. (1991, 181p., eng) 47-4671

Arctic Ocean Buoy Program data report for 1 January 1989-31 December 1989. Colony, R.L., et al. (1991, 158p., eng) 47-4672

Arctic Ocean Buoy Program data report for 1 January 1990-31 December 1990. Colony, R.L., et al. (1991, 142p., eng) 47-4673

Sediment export by ice rafting from a coastal polynya, arctic Alaska, U.S.A. Reimnitz, E., et al. (1993, p.83-98, eng) 47-4741

Iceberg impacts on massive structures. Guichard, A., (1992, Var. p., fre) 47-4885

Potential transport of radionuclides and other pollutants by arctic sea ice. Pfirman, S.L., et al. (1993, p.267-284, eng) 47-5036

Large-scale circulation of the Arctic Ocean: implications for pollutant transport. Schlosser, P., et al. (1993, p.285-309, eng) 47-5037

See also: Continental drift: Snowdrifts

Drift stations

Weddell Sea drift station. Holden, C., ed. (1992, p.26, eng) 47-1073

Obtaining smooth hydrographic profiles from a buoy deployed in sea ice. Steele, M., et al. (1992, p.812-826, eng) 47-1472

Wind forcing and ice motion in the Weddell Sea region. Kottmeier, C., et al. (1992, p.20,373-20,383, eng) 47-2051

Polar Ocean Profiler: a new generation of oceanographic and meteorological sensory platform. Morison, J.H., et al. (1991, p.627-632, eng) 47-2180

Hydrography and vertical fluxes of heat and salt northeast of Svalbard in autumn. Steele, M., et al. (1993, p.10,013-10,024, eng) 47-4373

Arctic Ocean Buoy Program data report for 1 January 1987-31 December 1987. Colony, R.L., et al. (1990, 152p., eng) 47-4670

Arctic Ocean Buoy Program data report for 1 January 1988-31 December 1988. Colony, R.L., et al. (1991, 181p., eng) 47-4671

Arctic Ocean Buoy Program data report for 1 January 1989-31 December 1989. Colony, R.L., et al. (1991, 158p., eng) 47-4672

Arctic Ocean Buoy Program data report for 1 January 1990-31 December 1990. Colony, R.L., et al. (1991, 142p., eng) 47-4673

Tidal motions derived from ice buoy data. Turet, P., et al. (1993, 63p., eng) 47-4908

Drill core analysis

Changing sources of impurities to the Greenland ice sheet over the last 250 years. Laj, P., et al. (1992, p.2627-2640, eng) 47-901

Thermal maturity and source-rock potential in northwestern Melville Island, arctic Canada. Gentzis, T., et al. (1992, p.423-442, eng) 47-983

Interpretation of ice age-gas differences in polar ice cores. Sowers, T., et al. (1992, p.15,683-15,697, eng) 47-996

Origin of sediment pellets from the arctic seafloor: sea ice or icebergs?. Goldschmidt, P.M., et al. (1992, p.S539-S565, eng) 47-1278

Supernova shock ensemble model using Vostok Be-10 radioactivity. Sonett, C.P., (1992, p.239-245, eng) 47-1480

Shallow ice core drilling project at Byrd Station. Langway, C.C., Jr., (1991, p.60-61, eng) 47-2463

Sediment descriptions, western side of the Antarctic Peninsula during Deep Freeze 1985. Bryan, J.R., ed. (1992, 179p., eng) 47-2627

Reassessment of Crete (Greenland) ice core acidity/volcanism link to climate change. Crowley, T.J., et al. (1993, p.209-212, eng) 47-2856

Investigation of Arctic Ocean bottom sediments. Danilov, I.D., et al. (1991, p.77-82, eng) 47-2888

Glacimarine sediments on Axel Heiberg I. Gilbert, R., et al. (1993, p.257-273, eng) 47-3103

Determination of pollen accumulation rates in frozen sediments. Wang, X.C., et al. (1993, p.87-93, eng) 47-3120

Composition and properties of glacigenic sediments in the southwestern Barents Sea. Saettem, J., et al. (1991, p.229-255, eng) 47-3175

Methane in permafrost—preliminary results from coring at Fairbanks, Alaska. Kvenvolden, K.A., et al. (1993, p.609-616, eng) 47-3439

Last interglacial as recorded in the Greenland ice sheet and Canadian arctic ice caps. Reeh, N., (1991, p.123-142, eng) 47-3485

Glacigenic deposits of the Central Deep: a key to the Late *Quaternary evolution of the eastern Barents Sea.* Gataullin, V., et al. (1993, p.47-58, eng) 47-4017

Patterns of ice-rafted detritus in the glacial North Atlantic (40-55 deg N). Grousset, F.E., et al. (1993, p.175-192, eng) 47-4154

Paleoecology of peats from the Chukchi Sea shelf region. Elias, S.A., et al. (1992, p.371-378, eng) 47-4408

Compression properties of Canadian intertill clays. Sauer, E.K., et al. (1993, p.257-275, eng) 47-4513

Glacials-interglacials in Vostok: climate and greenhouse gases. Lorius, C.J., et al. (1993, p.131-143, eng) 47-4587

"Recent warming": ice core evidence from tropical ice cores with emphasis on Central Asia. Thompson, L.G., et al. (1993, p.145-156, eng) 47-4588

PIXE analysis as a tool for dating of ice cores from the Greenland ice sheet. Hansson, H.C., et al. (1993, p.428-434, eng) 47-4592

Drill core analysis *(cont.)*
Greenland: a temptation and a challenge. Dansgaard, W., et al. [1993, p.12-16, eng] 47-4728
Sediment descriptions, western Ross Sea 1987. Bryan, J.R., ed. [1993, 75p., eng] 47-4826
Source of volcanic ash in a Greenland ice core. Fiacco, R.J., Jr., et al. [1993, p.267-273, eng] 47-5141
See also: Coring; Ice cores
Drilling
Canada-Russia geotechnical studies of permafrost; Bovanenkovo test site. Kurfurst, P.J., ed. [1992, 402p., eng] 47-977
Study of ice borehole closure by finite element method. Li, F., et al. [1992, p.77-89, eng] 47-1020
Equipment for drilling boreholes in rocky and coarse-grained ground. Golkhman, I.A.A., et al. [1990, p.3-5, rus] 47-1412
Numerical solution to the problem of heat transfer during borehole drilling. Starovoitova, E.R., [1988, p.120-126, rus] 47-2233
Solid wastes from the drilling of boreholes in the Far North: means of reduction. Kashkarov, N.G., et al. [1991, p.26, rus] 47-2489
See also: Offshore drilling; Percussion drilling; Rock drilling; Rotary drilling
Drills
See also: Ice coring drills; Ice drills; Thermal drills
Drops (liquids)
Scattering by rain and melting snow. Kharadly, M.M.Z., [1989, p.406-410, eng] 47-19
Spacing of icicles. Makkonen, L., et al. [1993, p.317-322, eng] 47-3934
Cylinder ice accretion determined by laser-Doppler analysis. Yoon, B., et al. [1993, p.381-397, eng] 47-5208
See also: Cloud droplets; Raindrops
Dry ice (trademark)
Technological scheme for removing impurities from biogas. Nekrasov, V.G., [1990, p.30-31, rus] 47-2475
Relative dispersion of ice crystals in seeded cumuli. Weil, J.C., et al. [1993, p.1055-1073, eng] 47-4080
Drying
Improving the effectiveness of drying gas in northern regions. Mukhtarov, K.A., et al. [1990, p.42-43, rus] 47-2476
See also: Freeze drying
Ducts
Engineering studies on pneumatic conveying systems of snow. Kobayashi, T., et al. [1992, p.275-286, eng] 47-3206
Wing slat anti-ice air duct system. Knowler, J.C., [1986, 6 col., eng] 47-4263
Dust
Aerosol and general atmospheric circulation models. Genthon, C., [1992, p.371-389, eng] 47-836
Evaluating the effect of dust and gas exhaust on a city and its surrounding terrain. Davydova, N.D., [1990, p.65-74, rus] 47-979
Sources and spatial variation of the chemical composition of snow in the Tien Shan, China. Williams, M.W., et al. [1992, p.25-32, eng] 47-1082
Anthropogenic sulfate and Asian dust signals in snow from Tien Shan, northwest China. Wake, C.P., et al. [1992, p.45-52, eng] 47-1085
Temperature evolution of porous ice samples covered by a dust mantle. Kömle, N.I., et al. [1992, p.204-212, eng] 47-1953
Origin of dust in polar regions. Gillette, D.A., [1991, p.1719-1732, eng] 47-2221
Dust-accumulative capacity of pine and birch phytocenosis in forest-steppe regions in Siberia. Skripal'shchikova, L.N., [1992, p.39-43, rus] 47-3272
Reflectance characteristics of arctic tundra vegetation from airborne radiometry. Stow, D.A., et al. [1993, p.1239-1244, eng] 47-4403
Crustal evolution and dust emission of artificial cometary nuclei. Thiel, K., et al. [1990, p.389-399, eng] 47-4568
Particle emission from artificial cometary surfaces: material science aspects. Kochan, H., et al. [1990, p.401-411, eng] 47-4569
New results of the dust investigation in the comet simulation project KOSI. Thiel, K., et al. [1991, p.579-589, eng] 47-4634
Scavenging effect of snow. Kumagai, K., et al. [1985, p.61-64, jpn] 47-5101
See also: Cosmic dust
Dust control
Thermal and moisture dust control treatment of a perennially frozen disturbed coal mine. Kudriashov, V.V., et al. [1991, 135p., rus] 47-101
Dusting
Accelerated snow melting by artificial means. Bhattacharya, U., et al. [1985, p.248-263, eng] 47-576
Dynamic loads
Experimental and theoretical investigation of the icebreaking cycle in two dimensions. Valanto, P.U., [1990, 129p., eng] 47-89
Ice edge contact and failure. Daley, C., [1992, p.1-23, eng] 47-800
Strength characteristics of frozen ground at variable temperatures. Konovalov, A.A., [1991, 91p., rus] 47-1502
Model tests of dynamic ice loading on the Chinese JZ-20-2 jacket platform. Timco, G.W., et al. [1992, p.819-832, eng] 47-3304
Brittle compressive failure of fresh-water columnar ice under biaxial loading. Smith, T.R., et al. [1993, p.153-163, eng] 47-3776
Elastohydrodynamic response of an ice sheet to forced sub-surface uplift. Dempsey, J.P., et al. [1993, p.487-506, eng] 47-3827
Effect of fatigue on the bearing capacity of floating ice sheets. Haynes, F.D., et al. [1993, p.257-263, eng] 47-3929
Creep and creep damage of polycrystalline ice under multi-axial variable loading. Wu, Z., et al. [1993, p.1-10, eng] 47-4224
Ice forces in dynamic ice structure interaction. Eranti, E., [1992, p.204-211, eng] 47-4304
On the ductile-to-brittle transition in ice under compression. Batto, R.A., et al. [1993, p.2219-2225, eng] 47-4731
Simulation of ice-shedding on electrical transmission lines using ADINA. Jamaleddine, A., et al. [1993, p.523-536, eng] 47-4857
Dynamic properties
Kinematic model of river ice motion during dynamic breakup. Ferrick, M.G., et al. [1993, p.111-134, eng] 47-4907
Earth crust
Glacio-isostatic crustal movements on an Icelandic ice cap. Sigmundsson, F., et al. [1992, p.2123-2126, eng] 47-2927
Earth dams
Formation of a closure channel upon rupture of a frozen dam. Moroz, A.A., [1992, p.72-75, rus] 47-2032
Freeze sampling of the riverbed sediment at Chubetsu Dam. Masakuni, Y., et al. [1992, p.329-334, jpn] 47-2507
Intensification of freezing earth hydraulic structures by natural cold. Panteleev, V.G., et al. [1991, p.691-694, rus] 47-2908
Earth fills
Use of geotextiles in earth structures for oil—gas pipelines under West Siberia conditions. Kushnir, S.IA., et al. [1992, p.81-84, eng] 47-1579
See also: Hydraulic fill; Rock fills
Earthquakes
Roof-snow load for seismic-design calculations. O'Rourke, M.J., et al. [1992, p.2338-2350, eng] 47-4
Erecting seismically stable dams under the conditions of the northern construction-climatic zone. Shatygin, V.A., [1992, p.90-94, rus] 47-3915
Penultimate great earthquake in Alaska. Combellick, R.A., [1993, p.7-15, eng] 47-4774
See also: Seismology
Earthwork
Design method for frozen-soil retaining wall. Soo, S., et al. [1992, p.73-89, eng] 47-3
Suitability for earthworking of glacial tills in Scotland. Matheson, G.D., et al. [1991, p.239-249, eng] 47-3881
See also: Excavation; Trenching; Tunneling (excavation)
Ecology
Arctic marine ecosystem contamination. Muir, D.C.G., et al. [1992, p.75-134, eng] 47-262
Arctic terrestrial ecosystem contamination. Thomas, D.J., et al. [1992, p.135-164, eng] 47-263
Presence and implications of chemical contaminants in the freshwaters of the Canadian Arctic. Lockhart, W.L., et al. [1992, p.165-245, eng] 47-264
Basic problems in the geoecology of the cryolithozone. Solomatin, V.I., et al. [1992, p.10-14, rus] 47-367
Ecological-geological regionalization of the cryolithozone in the USSR. Chizhov, A.B., et al. [1991, p.92-100, rus] 47-403
Seasonal changes in the sea ice brine community, McMurdo Sound. Stoecker, D.K., et al. [1992, p.265-278, eng] 47-520
Crystal desert: summers in Antarctica. Campbell, D.G., [1992, 308p., eng] 47-628
Seasonal temperature patterns in an arctic and two subarctic Alaskan (USA) headwater streams. Irons, J.G., III, et al. [1992, p.147-157, eng] 47-780
Natural cleaning processes of arctic waters and ice from petroleum hydrocarbons. Il'inskii, V.V., et al. [1991, p.91-101, rus] 47-889
Evaluating the effect of dust and gas exhaust on a city and its surrounding terrain. Davydova, N.D., [1990, p.65-74, rus] 47-979
Theoretical and methodological aspects of an eco-geochemical evaluation of large industrial regions in the arctic zone. Dodin, D.A., et al. [1990, p.81-93, rus] 47-980
Ecology of recently-deglaciated terrain. Matthews, J.A., [1992, 386p., eng] 47-1066
Microbial ecology of the 1989 antarctic oil spill. Karl, D.M., [1992, p.77-89, eng] 47-1257
Sediment evolution in an ice-covered lake. Catalan, J., [1992, p.945-955, eng] 47-1266
Ecology of sea ice biota. 1. Horner, R., et al. [1992, p.417-427, eng] 47-1334
Ecology of sea ice biota. 2. Legendre, L., et al. [1992, p.429-444, eng] 47-1335
Environment of the antarctic sea ice brine channels. Weissenberger, J., [1992, 159p., ger] 47-1598
Experience in compiling the soil-ecological and soil conservation maps of circumpolar regions. Naumov, E.M., [1992, p.98-104, eng] 47-1711
Ecology of cryogenic anthropogenically disturbed soils of the Yamal and peculiarities of their recultivation. Firsova, V.P., et al. [1992, p.108-111, eng] 47-1713
Hydrobiological studies in the Arctic: the structure of bottom communities. Vozzhinskaia, V.B., et al. [1992, p.1332-1335, rus] 47-2039
Plankton ecology in an ice-covered lake. Vanderploeg, H.A., et al. [1992, p.175-183, eng] 47-2287
Metals in water, ice, and biological material from Spitsbergen. Drbal, K., et al. [1992, p.99-101, eng] 47-2355
Of measured risks: the environmental impacts of the Prudhoe Bay, Alaska oil field. Maki, A.W., [1992, p.1691-1707, eng] 47-2604
Ecological aspects in the design of low-rise housing in Siberia. Baklanova, E.I., [1992, p.125-131, rus] 47-2779
Seismic properties of artificial polar bear dens. Blix, A.S., et al. [1992, p.20-24, eng] 47-3350
Scale and remotely sensed data for change detection in the James Bay, Ontario, coastal wetlands. McNairn, H., et al. [1993, p.45-49, eng] 47-3724
Novaya Zemlya: analyzing radiation safety and ecological consequences of nuclear tests. Kharitonov, K.V., et al. [1992, p.65-74, rus] 47-3862
Results of the Third Joint US-USSR Bering & Chukchi Seas Expedition (BERPAC), Summer 1988. Nagel, P.A., ed. [1988, 415p., eng] 47-3864
Glaciers. Hambrey, M.J., et al. [1992, 207p., eng] 47-4009
Microbial activity in lakes. Simmons, G.M., Jr., et al. [1993, p.165-195, eng] 47-4400
Long-term ecological research strategy for polar environmental research. Quetin, L.B., et al. [1992, p.233-238, eng] 47-4506
Winter ecology of the sea ice biota in Weddell Sea pack ice. Garrison, D.L., et al. [1993, p.17-31, eng] 47-4575
Microorganisms in antarctic sea ice. Palmisano, A.C., et al. [1993, p.167-218, eng] 47-4595
Geoecology of the North (an introduction to geocryoecology). Solomatin, V.I., ed. [1992, 270p., rus] 47-4653
Ecological situation and protection of flora and fauna of the Barents Sea. Matishov, G.G., ed. [1991, 211p., rus] 47-4660
Satellite remote sensing of subalpine forest types. Franklin, S.E., [1992, p.25-35, eng] 47-4827
Radioecology of the Barents and Kara Sea: level of apprehension and research strategy. Ivanov, G.I., et al. [1993, p.79-89, eng] 47-5022
Bomb radiocarbon in arctic Alaskan aquatic and terrestrial biota. Schell, D.M., [1993, p.135-144, eng] 47-5026
Radioactivity in the Barents Sea, past and present status, and its impact on fisheries. Föyn, L., [1993, p.201-211, eng] 47-5031
Treatment of data on sea pollutions and dumping sites with radioecological indices method. Georgievskii, V., et al. [1993, p.359-365, eng] 47-5042
Assessment of deep-sea nekton and their role in radionuclide transfer. Stein, D.L., [1993, p.449-461, eng] 47-5049
Radiological assessment for the dumping of radioactive wastes in the oceans. Templeton, W.L., [1993, p.480-496, eng] 47-5050
Regionalization as a tool for studying carbon cycling in the former Soviet Union. Blanutsa, V., [1993, p.253-258, eng] 47-5241
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Economic analysis
Technical and economic analysis of anti-hail launching devices. Dubinin, B.N., [1991, p.160-171, rus] 47-765
Developing the productive energies of Northern USSR. Granberg, A.G., ed. [1991, 229p., rus] 47-2457
Economic effectiveness of the production and use of lignovermiculite as thermal insulation products. Rabcheniuk, G.P., et al. [1991, p.85-95, rus] 47-2937
Supplying the national economy with oceanographic information. Shamraev, IU.I., [1989, 189p., rus] 47-3504
Use of ALARA in decision making on costly international cleanup effort of radioactive contamination. Kuz'min, I.I., et al. [1993, p.573-584, eng] 47-5055
See also: Cost analysis
Economic development
Arctic Research Commission's role in fostering engineering research. Gerwick, B.C., Jr., [1992, p.548-552, eng] 47-1839
Climate change and energy production: status and plans. Saelthun, N.R., [1992, p.37-46, nor] 47-1955
Effects of Alta's development on ice conditions. Asvall, R.P., [1992, p.469-478, nor] 47-1973

Environmental protection in the North. Bondarenko, L.A., et al. [1990, p.17-27, rus] 47-2455
Developing the productive energies of Northern USSR. Granberg, A.G., ed. [1991, 229p., rus] 47-2457
Glaciological examination—a necessary phase of developing arctic and subarctic regions. Il'ina, E.A., [1991, p.186-190, rus] 47-2811
Ecological aspects of the establishment of a West Siberian territorial-industrial complex. Bud'kov, S.T., [1991, p.34-42, rus] 47-3277
Russia's Rosshelf sets timetable for arctic offshore field development. [1993, p.31-34, eng] 47-3527
Russia pins energy hopes on western Siberia gas. [1992, p.17-20, eng] 47-3528
Economic Quaternary geology in Sweden—some comments on the contemporary situation. Königsson, L.K., [1992, p.75-87, eng] 47-3549
Engineering geology of the USSR: platform regions in European USSR. Komarov, I.S., ed. [1992, 2 vols., rus] 47-3858
Gulags and goldmines. Louis, N., [1992, p.28-34, eng] 47-3860
Cleanup in the Arctic. Josephson, J., [1993, p.585, eng] 47-4020
Northern regulatory approvals. Beaubier, H., [1993, p.92-100, eng] 47-4275
Uses of antarctic ice. Beltramino, J.C.M., [1992, p.241-247, spa] 47-4295
Arctic: arena for international environmental security?. Kolodkin, A., et al, [1993, p.277-289, eng] 47-4727
Greenhouse effect and global warming: a Canadian perspective. Kemp, D., [1991, p.121-130, eng] 47-4729
Petroleum policy in the north. Moe, A., [1991, p.211-231, eng] 47-4860
Teshekpuk Lake oil and gas resource assessment. Bascle, R.J., [1993, 20p., eng] 47-4893
Kodiak National Wildlife Refuge oil and gas resource assessment. Bascle, R.J., et al, [1993, 21p., eng] 47-4894
Innoko National Wildlife Refuge oil and gas resource assessment. Bascle, R.J., et al, [1993, 20p., eng] 47-4895
See also: Land development; Landscape development; Natural resources

Ecosystems
Theoretical approaches to the study of ecosystems in the arctic and subarctic seas. Matishov, G.G., ed. [1992, 162p., rus] 47-182
Arctic contaminants: sources, occurrence and pathways. Barrie, L.A., et al, [1992, p.1-74, eng] 47-261
Arctic marine ecosystem contamination. Muir, D.C.G., et al, [1992, p.75-134, eng] 47-262
Arctic terrestrial ecosystem contamination. Thomas, D.J., et al, [1992, p.135-164, eng] 47-263
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Crystal desert: summers in Antarctica. Campbell, D.G., [1992, 308p., eng] 47-628
Diary of an arctic year. Krasemann, S.J., [1991, 189p., eng] 47-788
Canada north of sixty. Boden, J.F., ed. [1991, 336p., eng] 47-789
Measurements of NOx and NOy concentrations and fluxes over arctic tundra. Bakwin, P.S., et al, [1992, p.16,545-16,557, eng] 47-1454
Methane emissions from Alaska arctic tundra: an assessment of local spatial variability. Morrissey, L.A., et al, [1992, p.16,661-16,670, eng] 47-1460
CO2 exchange in tundra ecosystems. Whiting, G.J., et al, [1992, p.16,671-16,680, eng] 47-1461
Carbon isotopes in methane emitted from Alaskan wetlands. Martens, C.S., et al, [1992, p.16,689-16,701, eng] 47-1463
Biogeochemistry and zoogeography of lakes and rivers in arctic Alaska. Kling, G.W., et al, [1992, p.1-14, eng] 47-1599
Flux of CO2 and CH4 from lakes and rivers in arctic Alaska. Kling, G.W., et al, [1992, p.23-36, eng] 47-1601
Silicon budget for an Alaskan arctic lake. Cornwell, J.C., et al, [1992, p.37-44, eng] 47-1602
Biogeochemistry of manganese- and iron-rich sediments in Toolik Lake, Alaska. Cornwell, J.C., et al, [1992, p.45-59, eng] 47-1603
Geochemistry of a tundra stream on the North Slope of Alaska. Peterson, B.J., et al, [1992, p.61-69, eng] 47-1604
Water and sediment export of the upper Kuparuk River drainage of the North Slope of Alaska. Kriet, K., et al, [1992, p.71-81, eng] 47-1605
Influence of light and nutrient addition upon the sediment chemistry of iron in an arctic lake. Sugai, S.F., et al, [1992, p.91-101, eng] 47-1606
Ecology of cryogenic anthropogenically disturbed soils of the Yamal and peculiarities of their recultivation. Firsova, V.P., et al, [1992, p.108-111, eng] 47-1713
Soil microbial communities under cryptogamic plants in tundra and arctic deserts. Parinkina, O.M., et al, [1992, p.185-189, eng] 47-1727
High latitude environments and environmental change. Kullman, L., [1992, p.478-488, eng] 47-1744
Dynamics of ice algae and phytoplankton in Frobisher Bay. Hsiao, S.I.C., [1992, p.645-651, eng] 47-1790
Polar hydrology—Svalbard. [1992, 49p., eng] 47-1889
Atmospheric loading of nitrogen to alpine tundra in the Colorado Front Range. Sievering, H., et al, [1992, p.339-346, eng] 47-2236
Environmental effects on CO2 tundra efflux. Oberbauer, S.F., et al, [1992, p.568-577, eng] 47-2710
Sea ice and wind: effects on primary productivity in the Barents Sea. Sakshaug, E., et al, [1992, p.579-591, eng] 47-2879
Rock weathering, soil development and colonization under a changing climate. Hall, K.J., et al, [1992, p.269-277, eng] 47-3146
Thaw depth effects on tundra methane flux. Vourlitis, G.L., et al, [1993, p.329-337, eng] 47-3434
Environmental and biotic controls over methane flux from arctic tundra. Torn, M.S., et al, [1993, p.357-368, eng] 47-3436
Long-term studies of snow-vegetation interactions. Walker, D.A., et al, [1993, p.287-301, eng] 47-4024
Simulated antarctic fast ice ecosystem. Arrigo, K.R., et al, [1993, p.6929-6946, eng] 47-4139
Mixotrophic algae in three ice-covered lakes of the Pocono Mountains, U.S.A. Berninger, U.G., et al, [1992, p.263-272, eng] 47-4517
Biosphere reserves—a challenge and an opportunity. [1993, 31p., eng] 47-4602
Are arctic marine invertebrates relatively insensitive to metals. Chapman, P.M., [1993, p.611-613, eng] 47-4628
Selective accumulation of polychlorocamphenes in aquatic biota from the Canadian Arctic. Bidleman, T.F., et al, [1993, p.701-709, eng] 47-4629
Geoecology of the North (an introduction to geocryoecology). Solomatin, V.I., ed, [1992, 270p., rus] 47-4653
Ecological situation and protection of flora and fauna of the Barents Sea. Matishov, G.G., ed, [1991, 211p., rus] 47-4660
Arctic: arena for international environmental security?. Kolodkin, A., et al, [1993, p.277-289, eng] 47-4727
Microflora of soils in the Arctic and its activity. Parinkina, O.M., [1991, p.87-91, rus] 47-4815
Soil degradation in the vicinity of industrial centers in the North. Kriuchkov, V.V., [1991, p.103-108, rus] 47-4818
Effects of global changes on social life in the Arctic and possible response strategies. Lange, M.A., ed, [1993, 64p., eng] 47-4877
Destruction of the ecological food-chain in the Barents Sea. Vorontsov, N.N., [1993, p.325-327, eng] 47-5039
U.S. interagency coastal and marine monitoring programs for determining levels of Arctic radioactivity. Curtis, W.R., et al, [1993, p.343-357, eng] 47-5041
Treatment of data on sea pollutions and dumping sites with radioecological indices method. Georgievskii, V., et al, [1993, p.359-365, eng] 47-5042
Radioactive contamination of the northern seas: approaches to the assessment of the impact on the marine environment and man. Kuznetsov, IU.V., et al, [1993, p.379-394, eng] 47-5044
Radioecological risk assessment for solid radioactive waste (SRW) dumped into the Kara Sea by the former USSR. Lystsov, V.N., [1993, p.395-414, eng] 47-5045
Assessment of deep-sea nekton and their role in radionuclide transfer. Stein, D.L., [1993, p.449-461, eng] 47-5049
Radiological assessment for the dumping of radioactive wastes in the oceans. Templeton, W.L., [1993, p.480-496, eng] 47-5050
Carbon cycling in boreal forest and sub-arctic ecosystems: biospheric responses and feedbacks to global climate change. Vinson, T.S., ed, [1993, 282p., eng] 47-5222
Planetary maximum CO2 and ecosystems of the North. Zimov, S.A., et al, [1993, p.21-34, eng] 47-5225
Marine humic acids in Bering and Chukchi sea ecosystems. Perminova, I.V., et al, [1993, p.43-49, eng] 47-5227
Methane and carbon dioxide production and uptake in some boreal ecosystems of Russia. Panikov, N.S., et al, [1993, p.125-138, eng] 47-5234
Carbon budget and succession dynamics of Canadian vegetation. Cihlar, J., et al, [1993, p.215-220, eng] 47-5238
Quantifying regional changes in terrestrial carbon storage by extrapolation from local ecosystem models. King, A.W., [1993, p.221-234, eng] 47-5239
Framework to quantify the natural terrestrial carbon cycle of the former Soviet Union. Kolchugina, T.P., et al, [1993, p.259-275, eng] 47-5242
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Annual report—1991-92. [1992, 54p. + append., eng] 47-1745
Aircraft ground deicing, a flight crew perspective. Haase, D.J., [1993, p.19-23, eng] 47-3313
Snow-belt county's approach to snow and ice control. Bakken, R.C., [1993, p.40-42, eng] 47-4625

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Sea ice constitutive behavior and under-ice noise. Pritchard, R.S., [1993, p.591-610, eng] 47-4839
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Influence of snow viscosity on forced flexural-gravity waves in a basin with a density jump. Bukatov, A.E., et al, [1992, p.259-266, eng] 47-781
Determination of sea ice acoustical properties by tomography. Rajan, S.D., et al, [1993, p.721-738, eng] 47-3431
Sea ice flexural rigidity: a comparison of methods. DiMarco, R.L., et al, [1993, p.247-255, eng] 47-3928
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Heat Wave introduced for cold weather starting. [1992, p.42, eng] 47-592
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Drilling boreholes in glacial and subglacial rocks, with core selection by an electromechanical drill on a load- bearing cable. Kudriashov, B.B., et al, [1991, p.165-170, rus] 47-2808
Frost plug heater. Smith, E.L., [1989, 6 col., eng] 47-3109
Contact assembly for high-voltage switch. Roman, C.D., et al, [1989, 6 col., eng] 47-3412
Deicer control system. Phillips, R.W., II, [1988, 6 col., eng] 47-3765
Icing on a small horizontal-axis wind turbine—part 1: glaze ice profiles. Bose, N., [1992, p.75-85, eng] 47-3921
Icing on a small horizontal-axis wind turbine—part 2: three dimensional ice and wet snow formations. Bose, N., [1992, p.87-96, eng] 47-3922

Electric fields
Effect of static electric fields on protonic conductivity of ice single crystals. Petrenko, V.F., et al, [1992, p.341-353, eng] 47-243
Electromagnetic emissions associated with dynamic processes in ice. Bogorodskii, V.V., et al, [1992, p.43-46, eng] 47-414
Electromagnetic emission (EME) from ice crack formation: preliminary observations. Thiel, D.V., [1992, p.49-60, eng] 47-803
(Mu)SR studies of ice, illustrating the positive muon as a magnetic resonance probe of structure and dynamics. Cox, S.F.J., [1992, p.292-296, eng] 47-981
Polarization of electromagnetic emissions from cracking ice. Petrenko, V.F., [1993, p.301-305, eng] 47-3168
Effects of electric fields on ice deformation. Petrenko, V.F., et al, [1993, p.173-185, eng] 47-3174

Electric heating
Improving the microclimate of cabs and starting machines at low temperatures. Alekseev, V.I., et al, [1990, p.25-26, rus] 47-1417
Electric cab heater for construction and road-making machines. Khalnatskii, G.F., et al, [1990, p.26-27, rus] 47-1418
Keeping mortar materials warm in winter. Camillo, J., [1992, p.463-465, eng] 47-1510
Three-dimensional simulation of electrothermal deicing systems. Yaslik, A.D., et al, [1992, p.1035-1042, eng] 47-1563
Frost plug heater. Smith, E.L., [1989, 6 col., eng] 47-3109
New concept in runback water modeling for anti-iced aircraft surfaces. Al-Khalil, K.M., et al, [1993, p.41-49, eng] 47-3316

Electric potential
Oscillation of the freezing potential of aqueous lithium chloride solutions containing ethanol. Ozeki, S., et al, [1992, p.2511-2516, eng] 47-461

Electric power
Geographical forecasting of the consequences of hydropower construction. Malik, L.K., [1990, 316p. (Pertinent p.49-52), rus] 47-70
Hydrotechnical construction in the Far North and problems with the surrounding environment. Sergeev, I.P., et al, [1990, p.130-138, rus] 47-97
Development of the fuel and electric power complex in the Far East of Russia. Moldavanov, O.I., [1992, p.26-29, rus] 47-369
Packaging emergency power for Alaska. Clevenger, M., [1992, p.36-38, eng] 47-593

Electric power *(cont.)*

Unconventional energy sources for ice control at lock and dam installations. Nakato, T., et al. [1992, 37p., eng] 47-697

Climate change and energy production: status and plans. Saelthun, N.R., [1992, p.37-46, nor] 47-1955

Evaluating the possible application of pneumohydraulic equipment to lower water temperature. Nazarov, I.I., [1991, p.77-80, rus] 47-2029

Improving the performance of electrical networks under conditions of the Far North. Belousenko, I.V., [1991, p.17-19, rus] 47-2486

Engineering geology of the USSR: platform regions in European USSR. Komarov, I.S., ed. [1992, 2 vols., rus] 47-3858

Power plants of future icebreakers. Kulikov, A., [1990, p.43-44, rus] 47-4092

Lessons learned from an ice storm emergency. Low, T.A., [1993, p.38-49, eng] 47-4624

Industrial potential of hydropower in West Greenland. Thomsen, H.H., et al. [1993, p.59-62, eng] 47-4917

Observations of large-size river water temperature and accuracy of hydrothermal calculations. Korenkov, V.A., et al. [1991, p.95-98, eng] 47-4924

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Electrical grounding

2.5-kVA arctic ground fault detector, final report. Fries, L.M., et al. [1993, 18p. + appends., eng] 47-2610

Special challenge: cathodic protection on trans-Alaska pipeline. Peabody, A.W., [1976, p.40,42,43, eng] 47-4866

Electrical insulation

Special challenge: cathodic protection on trans-Alaska pipeline. Peabody, A.W., [1976, p.40,42,43, eng] 47-4866

Electrical measurement

Measurement on the dielectric properties of acid-doped ice at 9.7 GHz. Fujita, S., et al, [1992, p.799-803, eng] 47-359

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Electromagnetic emission (EME) from ice crack formation: preliminary observations. Thiel, D.V., [1992, p.49-60, eng] 47-803

Ice-core dating and chemistry by direct-current electrical conductivity. Taylor, K., et al, [1992, p.325-332, eng] 47-1385

Determination of soil moisture distribution from impedance and gravimetric measurements. Ungar, S.G., et al, [1992, p.18,969-18,977, eng] 47-1624

Electrical resistance as a function of mushy layer solid fraction. Shirtcliffe, T.G.L., et al, [1992, p.495-501, eng] 47-2607

Preliminary study of electromagnetic emissions from cracks in ice. Fifolt, D.A., et al, [1993, p.289-299, eng] 47-3167

Dielectric dispersion of supercooled trimethyleneglycol-water mixtures. Abe, R., et al, [1992, p.4204-4211, eng] 47-3580

Dielectric properties of frozen clay and silt soils. Moore, J.C., et al, [1993, p.265-273, eng] 47-3930

Dielectric study of frozen aqueous ionic solutions. Laudat, J., et al, [1991, p.211-224, eng] 47-3998

Instrument for measuring ice depth in aircraft fuel tanks. [1991, 36p., eng] 47-4404

Determination of salting frequency through examination of salt residue amounts. Dirnböck, G., [1990, 38p., ger] 47-4985

Soil-fabric measurement using phase transition porosimetry. Gunnink, B.W., et al, [1993, p.1019-1036, eng] 47-5105

Electrical properties

Fundamentals of amplitude-phase measurements using induced polarization. Mel'nikov, V.P., et al, [1974, 222p., rus] 47-2911

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Electrical resistivity

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Liquid microphases at ice-solid interface of microelectrodes in solid water. Bond, A.M., et al, [1992, p.281-295, eng] 47-768

DC flashover performance of iced insulators under pressure and pollution conditions. Zhang, J.H., et al, [1991, p.957-960, eng] 47-2177

Sea salt dependent electrical conduction in polar ice. Moore, J.C., et al, [1992, p.19,803-19,812, eng] 47-2187

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Ice accretion on energized line insulators. Farzaneh, M., et al, [1992, p.228-233, eng] 47-4307

Some characteristics of alpine permafrost, Mt. Daisetsu, central Hokkaido, northern Japan. Fukuda, M., et al, [1992, p.159-167, eng] 47-4325

Electricity

Selecting a current for melting glaze. Nikitina, L.G., et al, [1992, p.46-49, rus] 47-2360

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Electromagnetic properties

Diffraction of electromagnetic waves by the antarctic icecap. Barr, R., [1992, p.1527-1533, eng] 47-740

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Detection of sub-sea permafrost by electromagnetic sounding. Palacky, G.J., et al, [1992, p.1419-1427, eng] 47-1509

Airborne millimeter-wave FM-CW radar for thickness profiling of freshwater ice. Yankielun, N.E., [1992, 77p., eng] 47-1893

Using nondestructive diagnostic methods to evaluate the condition of the material in foundations on permafrost. Izotov, V.N., ed, [1989, 44p., rus] 47-2316

Fundamentals of amplitude-phase measurements using induced polarization. Mel'nikov, V.P., et al, [1974, 222p., rus] 47-2911

Dielectric properties of road aggregates and their effect on GPR surveys. Ravaska, O., et al, [1993, p.17-22, eng] 47-4116

Electron microscopy

Low-temperature microscopy and analysis. Echlin, P., [1992, 539p., eng] 47-621

Image contrast in high-resolution electron microscopy of biological macromolecules: TMV in ice. Henderson, R., [1992, p.1-18, eng] 47-1676

Quantitative energy-filtered electron microscopy of biological molecules in ice. Langmore, J.P., et al, [1992, p.349-373, eng] 47-1677

Electron-microscopic studies of naled salts. Ivanov, A.V., et al, [1991, p.128-131, rus] 47-2437

Changes in microstructure of fine-grained soils due to freezing. Grechishchev, S.E., et al, [1992, p.1-10, eng] 47-3121

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Diffusion of atomic hydrogen in ice-Ih. Bartels, D.M., et al, [1993, p.129-134, eng] 47-4855

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Electronic equipment

Rapid Deployment Imagery Terminal (RDIT) using DMSP special sensor data. Harris, T.L., et al, [1992, p.202-211, eng] 47-1070

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Fiber optic probe system. Brossia, C.E., et al, [1989, 20 col., eng] 47-3108

Integrated semiconductor resistance temperature sensor and resistive heater. Sittler, F.C., et al, [1989, 10 col., eng] 47-3327

Ice detector. Weinstein, L.M., [1988, 8 col., eng] 47-3503

Precipitation detection with a scintillation device. Wang, T.I., [1988, 14 col., eng] 47-3637

Anti-icing and deicing device. Bird, L., [1988, 8 col., eng] 47-3764

Glaze ice measurement with microprocessor. Provencal, G., et al, [1988, 8 col., eng] 47-4008

Thin profile snow, sleet and moisture sensing detector. Murphy, J.P., [1987, 10 col., eng] 47-4102

Instrument for measuring ice depth in aircraft fuel tanks. [1991, 36p., eng] 47-4404

Development of a portable ice-measuring instrument. Doundoulakis, G.J., [1991, 31p. + appends., eng] 47-4884

Ice detector for protecting boats. Schuellein, G.J., [1991, 4 col., eng] 47-4915

Electronic instruments

Microwave ice accretion measuring instruments. Magenheim, B., et al, [1987, 20 col., eng] 47-3854

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Forecasting the bearing strength of a thawing railroad embankment. Prokudin, I.V., et al, [1991, p.76-83, rus] 47-190

1988 Endicott Environmental Monitoring Program. Final report. Dewey, R.K., ed. [1992, 5 vols., eng] 47-3456

Highway embankment construction across the Strathearn buried valley. Cochrane, G.A., et al, [1991, p.203-209, eng] 47-3877

Laboratory study of the compaction properties of frozen soils. Viklander, P., et al, [1993, p.69-77, eng] 47-4123

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Compact, disengaging pump drive aids cold weather starts. [1992, p.56-57, eng] 47-594

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Using ice and ice phenomena in the national economy, geophysical aspect. Faiko, L.I., [1986, 155p., rus] 47-94

Improving the norms for construction, road-making and mining equipment of the "KhL" type. Karelov, V.A., et al, [1990, p.24-25, rus] 47-1416

Reliability-based design of transmission towers under wind and ice loadings. Cho, H.N., et al, [1993, p.1125-1130, eng] 47-5263

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Characteristics of frost heave properties of freezing ground during engineering geological investigations for construction purposes. Puskov, V.I., [1991, p.21-28, rus] 47-187

Paleogeography of Leningrad in the post-glacial period. Zavarzin, L.G., [1991, p.91-100, rus] 47-240

Soviet glaciological studies in 1990. Glazovskii, A.F., [1991, p.229-240, rus] 47-346

Development of mining excavations under difficult mining engineering conditions. Kartozia, B.A., ed, [1991, 319p. (Pertinent p.156-176), rus] 47-362

Engineering geocryological properties of deposits of cryogenic weathering crusts. Vasil'ev, A.A., [1991, p.63-70, rus] 47-399

Specific hydrogeological conditions of the North-Muya Ridge. Shabinin, L.L., et al, [1991, p.76-80, eng] 47-1674

Geology and foundation works in Estonia. Vilo, A., [1992, p.109-117, eng] 47-3551

Foundation works in winter. Tammirinne, M., [1992, p.119-124, eng] 47-3552

Engineering geology of the USSR; platform regions in European USSR. Komarov, I.S., ed. [1992, 2 vols., rus] 47-3858

Studying engineering-geocryological and hydrogeological conditions of the upper zones of rocks in the cryolithozone. Mel'nikov, E.S., ed. [1992, 288p., rus] 47-3866

Quaternary engineering geology. Forster, A., ed, [1991, 724p., eng] 47-3867

Engineering geology of Quaternary soils: I. Processes and properties. Culshaw, M.G., et al, [1991, p.3-38, eng] 47-3868

Engineering geology of Quaternary soils: II. Methods of treatment. Bell, F.G., [1991, p.39-62, eng] 47-3869

Quaternary engineering geology. Fookes, P.G., [1991, p.73-98, eng] 47-3870

Report on Session 1b. [Engineering implications of glacially derived deposits] Little, J.A., [1991, p.183-193, eng] 47-3875

Frost heave theories and design measures against frost heave. Phukan, A., [1993, p.173-189, eng] 47-4135

Multipurpose underground structures in the extreme north. Samokhin, A.V., et al, [1993, p.461-465, eng] 47-4578

Ground freezing. Bell, F.G., [1992, p.321-333, eng] 47-4890

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Efficiency of hydraulic gears of motor vehicles at low temperatures. Kaverzin S.V., [1986, 141p., rus] 47-95

New propulsion system for a multi-purpose icebreaker. [1993, p.50-51, ger] 47-2150

Frost plug heater. Smith, E.L., [1989, 6 col., eng] 47-3109

Newly developed snow vehicle (SM100S) for Antarctica. 2. Nakajima, M., et al, [1992, p.376-392, jpn] 47-3364

De-icer for a transducer assembly. Fox, C.D., [1988, 6 col., eng] 47-3642

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Enthalpy formulation of the conduction problem with phase changes. Cesari, F., [1992, p.983-987, eng] **47-775**

Hydrocarbon solubility related to ice formation within solutions. Shinoda, K., [1992, p.81-100, eng] **47-1550**

Variability of the heat balance component in the northern Norwegian Sea. Seriakov, E.I., et al, [1991, p.66-74, rus] **47-3959**

Simulation of extraterrestrial ammonia-water ice system. Yarger, J., et al, [1993, p.13,109-13,117, eng] **47-4412**

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Environmental impact

Geographical forecasting of the consequences of hydropower construction. Malik, L.K., [1990, 316p. (Pertinent p.49-52), rus] **47-70**

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Theoretical approaches to the study of ecosystems in the arctic and subarctic seas. Matishov, G.G., ed, [1992, 162p., rus] **47-182**

Groundwater issues relating to an Alaskan methanol spill. Robertson, S.B., [1992, p.936-940, eng] **47-234**

Effect of road salting on plants. Lauten, G.N., et al, [1992, p.236-238, eng] **47-644**

Simulation of oil slick transport in Great Lakes connecting channels: user's manual. Shen, H.T., et al, [1991, 69p., eng] **47-693**

Postfire shift from lichen-spruce to lichen-tundra vegetation at tree line. Arseneault, D., et al, [1992, p.1067-1081, eng] **47-773**

Evaluating the effect of dust and gas exhaust on a city and its surrounding terrain. Davydova, N.D., [1990, p.65-74, rus] **47-979**

Theoretical and methodological aspects of an eco-geochemical evaluation of large industrial regions in the arctic zone. Dodin, D.A., et al, [1990, p.81-93, rus] **47-980**

Industrial influence on glacial processes in mountains of circumpolar regions. Grebenets, V.I., et al, [1992, p.212-214, eng] **47-1114**

Hydrocarbon pollution of ocean sediments. Steinhauer, M.S., et al, [1992, p.223-253, eng] **47-1170**

Global changes in the environment as "mirrored" in an ice core. Kotliakov, V.M., [1992, p.59-68, rus] **47-1250**

Earth's ozone shield and its variation. Aleksandrov, E.L., et al, [1992, 288p., rus] **47-1501**

Prince William Sound starts to recover. Nichols, A.B., [1990, p.48-55, eng] **47-1697**

European North: soil degradation due to technogenic pollution. Kriuchkov, V.V., [1992, p.94-97, eng] **47-1710**

Resistance of cryogenic soils to anthropogenic influences. Vasil'evskaia, V.D., [1992, p.104-107, eng] **47-1712**

Ecology of cryogenic anthropogenically disturbed soils of the Yamal and peculiarities of their recultivation. Firsova, V.P., et al, [1992, p.108-111, eng] **47-1713**

High latitude environments and environmental change. Kullman, L., [1992, p.478-488, eng] **47-1744**

Registration of vehicular tracks on the Svalbard archipelago. Raheim, E., [1992, 51p., eng] **47-1890**

Effects of banning salt for roadway de-icing. Strizek, P., [1992, p.54,82, eng] **47-1927**

Effect of acid mist on spruce frost resistance. Eamus, D., et al, [1993, p.135-142, eng] **47-2017**

Synoptic climatology in environmental analysis: a primer. Yarnal, B., [1993, 195p., eng] **47-2176**

Prudhoe Bay Waterflood Project environmental monitoring program 1987. Final report, [1993, Var. p., eng] **47-2207**

Restoring disturbed soils under conditions in the Far North: basis for design solutions. Bobrova, T.N., et al, [1991, p.10-11, rus] **47-2482**

Recultivation in arctic regions. Masalkin, S.D., [1991, p.11, rus] **47-2483**

Geology and geohydrology at CRREL, Hanover, New Hampshire: relationship to subsurface contamination. Shoop, S.A., et al, [1992, 83p., eng] **47-2568**

Of measured risks: the environmental impacts of the Prudhoe Bay, Alaska oil field. Maki, A.W., [1992, p.1691-1707, eng] **47-2604**

Environmental and health effects of the use of studded tires. Literature review. Folkeson, L., [1992, 36p., swe] **47-2617**

Considerations in the design of effects monitoring strategies: Beaufort Sea case study. Thomas, D.J., [1992, 54p. + append., eng] **47-2621**

Beaufort Region Environmental Assessment and Monitoring Program (BREAM). Final report for 1991/1992. [1992, 359p. + appends., eng] **47-2623**

Environmental geology at a Canadian sulphide deposit site. Claridge, P.G., et al, [1993, p.50-57, eng] **47-2630**

Fate and effects of dispersed crude oil under icy conditions simulated in mesocosms. Siron, R., et al, [1993, p.273-302, eng] **47-2657**

Hydrogeology of the Gardermoen Airport. Englund, J.O., ed, [1992, Var. p., eng] **47-2822**

Tundra-forest soils in the arctic Yenisey region, subjected to sulfur-containing industrial discharge. Ershov, IU.I., [1992, p.33-39, rus] **47-3271**

Ecological aspects of the establishment of a West Siberian territorial-industrial complex. Bud'kov, S.T., [1991, p.34-42, rus] **47-3277**

Assessment of the technogenic migration of chemical elements through terrain of a large urbanized territory. Sorokina, E.P., et al, [1991, p.42-49, rus] **47-3278**

Disposal of hazardous wastes in Canada's Northwest Territories. Heeney, P.L., et al, [1992, p.806-810, eng] **47-3303**

Organic contaminants in Canadian lake sediments. Mudroch, A., et al, [1992, p.10-19, eng] **47-3349**

1988 Endicott Environmental Monitoring Program. Final report. Dewey, R.K., ed, [1992, 5 vols., eng] **47-3456**

Urban snow dump quality and pollutant reduction in snowmelt by sedimentation. Droste, R.L., et al, [1993, p.9-21, eng] **47-3719**

Scale and remotely sensed data for change detection in the James Bay, Ontario, coastal wetlands. McNairn, H., et al, [1993, p.45-49, eng] **47-3724**

Gulags and goldmines. Louis, N., [1992, p.28-34, eng] **47-3860**

Novaya Zemlya: analyzing radiation safety and ecological consequences of nuclear tests. Kharitonov, K.V., et al, [1992, p.65-74, rus] **47-3862**

Results of the Third Joint US-USSR Bering & Chukchi Seas Expedition (BERPAC), Summer 1988. Nagel, P.A., ed, [1988, 415p., eng] **47-3864**

Field screening methods for TNT, RDX and 2,4-DNT in soil and water. Jenkins, T.F., et al, [1993, p.282-287, eng] **47-3912**

Comparison of methods for extraction of explosives from water. Jenkins, T.F., et al, [1993, p.316-321, eng] **47-3913**

Effects of deicing salt on roadside Scots pine foliage. Hautala, E.L., et al, [1992, p.179-185, eng] **47-3995**

Cleanup in the Arctic. Josephson, J., [1993, p.585, eng] **47-4020**

U.S. rangeland technology: rehabilitating Russia's oil, gas production sites. McKendrick, J.D., et al, [1993, p.4-7, eng] **47-4096**

Development of natural gas resources in northwest Siberia. Michel, F.A., [1993, p.19-24, eng] **47-4269**

Effect of power plant construction on river hydrological regime. Filippov, A.M., [1992, p.61-64, eng] **47-4345**

Structural and ice effects on salt water marsh hydrology. Ballestero, T.P., et al, [1993, p.150-155, eng] **47-4451**

Storm water regulations—aircraft deicer/anti-icers operations. Espey, W.H., Jr., et al, [1993, p.2333-2338, eng] **47-4452**

Environmental impacts of three runway de-icers. John, R.D., et al, [1993, p.323-330, eng] **47-4473**

Roles of monitoring and research in polar environments: a perspective. Champ, M.A., et al, [1992, p.220-226, eng] **47-4504**

Ozone depletion and UV-B radiation in the Antarctic—limitations to ecological assessment. Karentz, D., [1992, p.231-232, eng] **47-4505**

Long-term ecological research strategy for polar environmental research. Quetin, L.B., et al, [1992, p.233-238, eng] **47-4506**

Seed bank composition in a subarctic forest. Vieno, M., et al, [1993, p.379-384, eng] **47-4583**

Seed and vegetation dynamics in an alpine herb field: effects of disturbance type. Chambers, J.C., [1993, p.471-485, eng] **47-4584**

Emissions from antiskid materials applied to icy roadways. Kinsey, J.S., [1993, Var. p., eng] **47-4617**

Effects of lime-sludge discharge on an arctic river. Tumeo, M.A., [1992, p.1083-1094, eng] **47-4626**

Selective accumulation of polychlorocamphenes in aquatic biota from the Canadian Arctic. Bidleman, T.F., et al, [1993, p.701-709, eng] **47-4629**

Arctic: arena for international environmental security?. Kolodkin, A., et al, [1993, p.277-289, eng] **47-4727**

Greenhouse effect and global warming: a Canadian perspective. Kemp, D., [1991, p.121-130, eng] **47-4729**

Response of shrub-tussock community to vehicle use. Ahlstrand, G.M., et al, [1993, p.142-149, eng] **47-4746**

Soil degradation in the vicinity of industrial centers in the North. Kriuchkov, V.V., [1991, p.103-108, rus] **47-4818**

Effect of concentration on sorption of dissolved organics by well casings. Parker, L.V., et al, [1993, 17p., eng] **47-4868**

Effects of global changes on social life in the Arctic and possible response strategies. Lange, M.A., ed, [1993, 64p., eng] **47-4877**

Effects of thawing salts on biological sewage treatment plants. Washüttl, J., [1983, p.1-19, ger] **47-5000**

Development of a new de-icing agent. Washüttl, J., et al, [1985, 34p., ger] **47-5009**

Proceedings, [1993, 647p., eng] **47-5013**

Report of Inventories/Sources Group. Smith, J.N., ed, [1993, p.5-7, eng] **47-5014**

Report of the Working Group on Routes, Rates, Reactions and Fates, [1993, p.9-11, eng] **47-5015**

Assessment and Remediation [Working Group report], [1993, p.13-15, eng] **47-5016**

Summary report of the Working Group on Legal, Economic and Policy Priorities. Lamb, J.M., [1993, p.17-26, eng] **47-5017**

Novaya Zemlya test site and the problem of the radioactive pollution of the polar ocean. Adushkin, V., et al, [1993, p.27-36, eng] **47-5018**

Sediment inventory of Cs-137 in the Eastern Chukchi Sea, Northwest Alaskan Arctic. Baskaran, M., et al, [1993, p.37-47, eng] **47-5019**

Anthropogenic radioactivity in the arctic seas: time trends and present levels. Dahlgaard, H., [1993, p.49-63, eng] **47-5020**

Radioactivity and environmental problems for the seas and oceans. Israel, IU.A., et al, [1993, p.65-78, eng] **47-5021**

Radioecology of the Barents and Kara Sea: level of apprehension and research strategy. Ivanov, G.I., et al, [1993, p.79-89, eng] **47-5022**

Sellafield as a source of radioactivity to the Barents Sea. Kershaw, P., et al, [1993, p.91-104, eng] **47-5023**

Estimated inventory of radionuclides in former Soviet Union naval reactors dumped in the Kara Sea. Mount, M.E., et al, [1993, p.105-118, eng] **47-5024**

Bomb radiocarbon in arctic Alaskan aquatic and terrestrial biota. Schell, D.M., [1993, p.135-144, eng] **47-5026**

Radioactivity in the Barents Sea, past and present status, and its impact on fisheries. Föyn, L., [1993, p.201-211, eng] **47-5031**

Destruction of the ecological food-chain in the Barents Sea. Vorontsov, N.N., [1993, p.325-327, eng] **47-5039**

Radioactive contamination of the northern seas: approaches to the assessment of the impact on the marine environment and man. Kuznetsov, IU.V., et al, [1993, p.379-394, eng] **47-5044**

State of pollution of terrestrial surface waters on the USSR territory in 1990. Shekhovtsov, A.A., et al, [1991, p.101-106, eng] **47-5199**

Regionalization as a tool for studying carbon cycling in the former Soviet Union. Blanutsa, V., [1993, p.253-258, eng] **47-5241**

Tracer gas for meteorological analysis in the Fairbanks basin. Rezek, J.F., et al, [1981, 33p. + appends., eng] **47-5246**

Environmental protection

[Hearing on monitoring the arctic and antarctic environments], [1992, 119p., eng] **47-843**

Minerals Management Service regulation of floating drilling unit operations. Kuranel, R.Y., et al, [1992, p.227-241, eng] **47-1031**

International law and the Antarctic Treaty System. Watts, A., [1992, 469p., eng] **47-1243**

Environmental management in Antarctica: a guide to the literature resources. Meadows, J., [1992, p.229-241, eng] **47-1406**

Polar hydrology—Svalbard, [1992, 49p., eng] **47-1889**

international environmental politics and ozone depletion. Litfin, K.T., [1992, 474p., eng] **47-2046**

Environmental protection in the North. Bondarenko, L.A., et al, [1990, p.17-27, rus] **47-2455**

Restoring disturbed soils under conditions in the Far North: basis for design solutions. Bobrova, T.N., et al, [1991, p.10- . rus] **47-2482**

Recultivation in arctic regions. Masalkin, S.D., [1991, p.11, rus] **47-2483**

Antarctica and the detection of environmental change. Weller, G., [1992, p.201-208, eng] **47-3139**

Ecological aspects of the establishment of a West Siberian territorial-industrial complex. Bud'kov, S.T., [1991, p.34-42, rus] **47-3277**

Comprehensive protection measures on antarctic environment. Yoshida, Y., [1992, p.51-56, jpn] **47-3623**

State of the arctic environment: updated draft proposal for AMAP. Reiersen, L.O., [1992, p.391-403, eng] **47-3721**

Recultivation of disturbed land in permafrost regions. Younkin, W.E., [1991, p.42-45, rus] **47-4082**

Wetlands: an editorial perspective. Knight, C.W., [1993, p.13-16, eng] **47-4097**

Proceedings, [1993, 2078p. (2 vols.), eng] **47-4465**

Disposal of fine tails produced at the Syncrude oil sands mine. Lord, E.R.F., et al, [1993, p.203-212, eng] **47-4466**

Disposal of Athabasca oilsand fine tailings. Sheeran, D., et al, [1993, p.221-228, eng] **47-4467**

Cyclic freeze-thaw effects on the soil cover for tailings. Mohamed, A.M.O., et al, [1993, p.259-272, eng] **47-4468**

Hydrologic analysis and prediction in a soil cover. Woyshner, M.R., et al, [1993, p.289-296, eng] **47-4469**

Biosphere reserves—a challenge and an opportunity. [1993, 31p., eng] **47-4602**

Environmental protection *(cont.)*

Are arctic marine invertebrates relatively insensitive to metals. Chapman, P.M., [1993, p.611-613, eng] **47-4628**

Arctic: arena for international environmental security? Kolodkin, A., et al, [1993, p.277-289, eng] **47-4727**

Mineral feeding of plants—to increase bioproductivity and protect frozen soils. Gershevich, E.G., et al, [1991, p.115-120, rus] **47-4820**

Effects of global changes on social life in the Arctic and possible response strategies. Lange, M.A., ed, [1993, 64p., eng] **47-4877**

Arctic environmental cooperation after Rovaniemi—what now. Stokke, O.S., [1992, p.221-234, eng] **47-4901**

Proceedings, [1993, 647p., eng] **47-5013**

Framework for a regional environmental regime for the Arctic. Chircop, A., [1993, p.535-540, eng] **47-5052**

London Convention and radioactive waste dumping at sea: a global treaty regime in transition. Curtis, C., [1993, p.541-555, eng] **47-5053**

Environmental security and governance issues in the Arctic Ocean. Perelet, R., [1993, p.595-601, eng] **47-5057**

Legal regulation of environmental improvement of the Russian Federation nuclear complex activities. Veksler, M., [1993, p.609-614, eng] **47-5058**

Current status and countermeasures in the problem of studded tires. Fujishiro, Y., [1985, p.29-34, jpn] **47-5080**

Symposium on Antarctic Logistics and Operations, 5th. Proceedings. Melander, O., ed, [1993, 365p., eng] **47-5111**

Prevention, response and remediation of petroleum pollution. Kohlmeyer, C.R.C., [1993, p.157-172, eng] **47-5112**

Environmental tests

Distribution and forms of lead compounds in the environment near southern Finland highways. Vuorinen, A., [1986, p.30-33, eng] **47-595**

Softening of rigid polyvinyl chloride by high concentrations of aqueous solutions of methylene chloride. Parker, L.V., et al, [1992, 40p., eng] **47-696**

Effect of acid mist on spruce frost resistance. Eamus, D., et al, [1993, p.135-142, eng] **47-2**

Fate and effects of dispersed crude oil under icy conditions *simulated in mesocosms.* Siron, R., *et al, [1993, p.273-302, eng]* **47-2657**

Environmental and biotic controls over methane flux from arctic tundra. Torn, M.S., et al, [1993, p.357-368, eng] **47-3436**

Are arctic marine invertebrates relatively insensitive to metals. Chapman, P.M., [1993, p.611-613, eng] **47-4628**

Selective accumulation of polychlorocamphenes in aquatic biota from the Canadian Arctic. Bidleman, T.F., et al, [1993, p.701-709, eng] **47-4629**

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Effect of concentration on sorption of dissolved organics by well casings. Parker, L.V., et al, [1993, 17p., eng] **47-4868**

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Environments

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Eolian soils

Sand dunes and paleoclimatology of northern Alaska. Galloway, J.P., et al, [1992, p.100-111, eng] **47-613**

Periglacial and eolian processes in southern France. Ambert, P., et al, [1992, p.55-71, fre] **47-778**

Paleoecological interpretation of sand dunes at the tree line, northeast sector of Hudson Bay, Quebec. Saint-Laurent, D., et al, [1992, p.209-220, fre] **47-3790**

Grain-size distribution of the Edoma deposits on Cape Bykovskiy. Nagaoka, D., [1993, p.104-109, eng] **47-3981**

Quaternary loess deposition in a montane environment. Roberts, M.C., et al, [1992, p.291-301, eng] **47-4023**

Subarctic dune dynamics determined by tree ring analysis. Marin, P., et al, [1992, p.316-330, eng] **47-4407**

Saltating particles over flat beds. Nalpanis, P., et al, [1993, p.661-685, eng] **47-5195**

Epitaxy

Premelting of ice in exfoliated graphite: a neutron diffraction study. Gay, J.M., et al, [1992, p.33-41, eng] **47-1383**

Equipment

Icebreaker face-off. Cox, B., [1992, p.52-53, eng] **47-444**

Safety and service life of equipment designed for cold climate operation. Larionov, V.P., [1992, p.111-123, eng] **47-586**

Technical and economic analysis of anti-hail launching devices. Dubinin, B.N., [1991, p.160-171, rus] **47-765**

Short-offset seismic refraction results near Rothera Station, *Antarctic Peninsula.* King, E.C., et al, [1992, p.479-480, eng] **47-905**

Working tools and special equipment for trenching excavators *designed for frozen ground.* Sokolov, L.K., et al, [1990, p.17-19, rus] **47-1413**

Evaluating the technical level of snowplows. Shtain, A.I., et al, [1990, p.23-24, rus] **47-1415**

Goal-oriented design of an improved displacement snowplow. Crane, R.L., et al, [1991, p.188-192, eng] ***47-1802***

Design and analysis of a low speed drag plow for use in deep snow. Walsh, M.R., et al, [1992, 51p., eng] **47-1894**

Snow removing equipment for a multipurpose motor vehicle chassis. Nishnevich, E.L., et al, [1991, p.14-15, rus] **47-2062**

Bulldozer equipment with a controlled blade for maintaining mountain roads. Turgumbaev, D.D., et al, [1992, p.17-18, rus] **47-2063**

Structural analysis of the suspension of a rotary snow blower. Savel'ev, A.G., et al, [1991, p.22-24, rus] **47-2068**

Snow and ice melting system for automotive vehicles. Ahmed, M.I., [1989, 12 col., eng] **47-3105**

Plastic moldboards for snow plows and the like. Ciula, J.C., [1989, 14 col., eng] **47-3111**

Snow removal device for vehicle. Motohashi, Y., [1989, 12 col., eng] **47-3324**

Pneumatic process and device for conveying snow. Pasquier, A., [1989, 10 col., eng] **47-3331**

Dual freezing chamber system and method for water purification. Chang, C.N., [1989, 14 col., eng] **47-3332**

Crystallizing apparatus. Connery, C.A., [1989, 12 col., eng] **47-3333**

Snow removal method. Swanson, E.V., [1988, 8 col., eng] **47-3419**

Snow blower with vertical endless belt digger. Cloutier, R., [1988, 6 col., eng] **47-3496**

Steering system for vehicle such as snowmobile. Bibollet, J.-C., [1988, 6 col., eng] **47-3498**

Snowplow assembly quick block and pin disconnect for a payloader. Dejana, V., [1988, 6 col., eng] **47-3499**

Apparatus for production of *compression-solidified snow.* Tsukada, H., et al, [1988, 6 col., eng] **47-3500**

Method for thawing out road culverts choked with ice. Olsson, L.O., *[1988, 8 col., eng]* ***47-3501***

De-icer for a transducer assembly. Fox, C.D., [1988, 6 col., eng] **47-3642**

Maintenance vehicle with snow tiller apparatus. Haug, W., [1988, 6 col., eng] **47-3643**

Modification of motor-scooter for snow traversal. Bruzzone, R., [1988, 4 col., eng] **47-3770**

Apparatus for converting a road vehicle into a snowmobile. Shaver, A.L., [1988, 8 col., eng] **47-3771**

Snowplow and implement attachment means for a vehicle. Quenzi, P.J., [1987, 14 col., eng] **47-4001**

Apparatus for deicing exterior parts of a railway vehicle. Björklund, B., [1987, 6 col., eng] **47-4002**

Rear swing arm assembly for three or four wheeled off-the-road vehicle track *conversion unit.* Yochum, M., [1986, 10 col., eng] **47-4098**

Pipeline launching module. Hemphill, D.P., [1986, 4 col., eng] ***47-4100***

Snowplow mounted on longitudinal frame attachable to chassis. Racicot, G., [1986, 14 col., eng] **47-4264**

Frozen rock abrasiveness effect on tool wear. Polovinko, V.A., et al, [1993, p.546-550, eng] **47-4579**

Prevention, response and remediation of petroleum pollution. Kohlmeyer, C.R.C., [1993, p.157-172, eng] **47-5112**

Performance of the *Nathaniel B. Palmer* in ice. Sutherland, A.L., et al, [1993, p.300-309, eng] **47-5117**

See also: Airborne equipment; Construction equipment; Electric equipment; Electronic equipment; Infrared equipment; Machinery; Military equipment; Photographic equipment; Portable equipment; Railroad equipment; Rescue equipment; Telemetering equipment; Test equipment

Erosion

Quantitative evaluation of deterioration in cryogenic erosion. Vasil'ev, A.A., et al, [1991, p.14-20, rus] **47-395**

See also: Avalanche erosion; Bank protection (waterways); Glacial erosion; Ice erosion; Shore erosion; Snow erosion; Soil erosion; Water erosion; Wind erosion

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See also: Accuracy

Estonia

Applied quaternary geology in Estonia. Raukas, A., [1992, p.89-96, eng] **47-3550**

Geology and foundation works in Estonia. Vilo, A., [1992, p.109-117, eng] **47-3551**

Estuaries

Periglacial shoreline erosion of a rocky coast: George River estuary, northern Quebec. Fournier, A., et al, [1992, p.926-942, eng] **47-443**

Meltwater and tidal currents: controls on circulation in a small glacial fjord. Cowan, E.A., [1992, p.381-392, eng] **47-2602**

Suspended sediment character and distribution in McBeth Fiord, Baffin Island. Winters, G.V., et al, [1992, p.25-35, eng] **47-3351**

Late Quaternary glacial marine sediment record. Praeg, D., et al, [1992, p.133-150, eng] **47-3787**

Sediment dynamics in the St. Lawrence estuary. Drapeau, G., [1992, p.233-242, fre] **47-3791**

Geochemistry of Mackenzie river sediments. Yunker, M.B., et al, [1993, p.3041-3061, eng] **47-4458**

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Evaporation

Calculation of hydrometeor growth via water vapor diffusion. Srivastava, R.C., et al, [1992, p.1643-1651, eng] **47-7**

Condensation and evaporation of H2O on ice surfaces. Haynes, D.R., et al, [1992, p.8502-8509, eng] **47-1568**

Evaporation and ice growth in Mackenzie Delta lakes. Marsh, P., [1991, p.257-266, eng] **47-1812**

Charge separation by ice and water drops during growth and evaporation. Dong, Y.Y., et al, [1992, p.20,361-20,371, eng] **47-2050**

Temperature dependence of negative ice crystal growth. Furukawa, Y., et al, [1993, p.571-581, eng] **47-3649**

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Evapotranspiration

Climate change and evapotranspiration modelling. [1992, 160p., eng] **47-2122**

Excavation

Development of mining excavations under difficult mining engineering conditions. Kartozia, B.A., ed, [1991, 319p. (Pertinent p.156-176), rus] **47-362**

Safeguarding deep excavations from snowdrifts in high-altitude sections of railroads. Lomidze, I.N., et al, [1992, p.17, rus] **47-370**

Working tools and special equipment for trenching excavators designed for frozen ground. Sokolov, L.K., et al, [1990, p.17-19, rus] **47-1413**

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See also: Thermal expansion

Expeditions

Final report of Operation Deep Freeze '92 (1991-1992). [1992, var. p., eng] **47-74**

Initiation of first snow surveys in the Himalayas—a brief *appraisal. Dhar, O.N., et al, [1985, p.164-174, eng]* **47-536**

Spanish Antarctic Expedition 1988-1989, [1989, 101p., spa] **47-807**

Expedition ARKTIS VIII/1 of RV *Polarstern* in 1991. Kattner, G., ed, [1992, 75p., ger] **47-1221**

Report of Operation Deep Freeze 85, 1984-1985, [1985, Var. p., eng] **47-1285**

Work of the wintering personnel of the 32nd Soviet Antarctic Expedition. Vovk, V.IA., [1991, p.5-9, rus] **47-1572**

Sino-USSR joint glaciological expedition to Mt. Xixabangma. Su, Z., et al, [1992, p.184-186, chi] **47-1657**

Permafrost research sites in the Alps. Haeberli, W., et al, [1992, p.189-202, eng] **47-1770**

Icebreaking trials with the polar research vessel *Polarstern.* Schwarz, J., [1985, p.131-133, eng] **47-2913**

Polish expedition to the Weddell Sea sea ice zone. Rakusa-Suszczewski, S., [1991, p.485-494, eng] **47-3086**

Oceanographic observation of Lützow-Holm Bay, Antarctica in 1990. Takizawa, T., [1992, p.22-30, jpn] **47-3621**

33rd Japanese Antarctic Research Expedition in 1991-93. Fukuchi, M., [1992, p.31-37, jpn] **47-3622**

Summer activity of JARE-32. Kokubun, S., [1991, p.38-42, jpn] **47-3626**

Report on the 31st JARE wintering party at Syowa Station. Naito, Y., [1991, p.43-46, jpn] **47-3627**

Workshop on Antarctic Studies, May 3-5, 1988, National Physical Laboratory: seven years of antarctic research, [1988, 54p., eng] **47-3630**

Some results of the arctic expedition of the scientific research vessel *Akademik Shokal'skii.* Dunaev, A.L., et al, [1991, p.117-121, rus] **47-3698**

Breaking the ice. Goldsack, B., [1992, p.22-27, eng] **47-3859**

Results of the Third Joint US-USSR Bering & Chukchi Seas Expedition (BERPAC), Summer 1988. Nagel, P.A., ed, [1988, 415p., eng] **47-3864**

Arctic exploration & international relations 1900-1932. Fogelson, N., [1992, 220p., eng] **47-3865**

Large-scale oceanographic surveys and their methodological significance in a comprehensive investigation of the Barents Sea. Denisov, V.V., et al, [1991, p.121-132, rus] **47-3963**

Expedition to Novaja Zemlja and Franz Josef Land with RV "Dalnie Zelentsy". Nürnberg, D., et al, [1993, p.49-74, eng] **47-4221**

Expedition to Novaja Zemlja and Franz Josef Land with RV *Dalnie Zelentsy.* Nürnberg, D., et al, [1993, p.45-74, eng] **47-4878**

Expedition ANTARKTIS X3 of RV *Polarstern* in 1992. Spindler, M., ed, [1993, p.1-122, eng] **47-4879**

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Goal-oriented design of an improved displacement snowplow. Crane, R.L., et al. [1991, p.188-192, eng] 47-1802

Exploration
Frozen assets. [1992, p.33-36, eng] 47-51
Geologic studies in Alaska by the U.S. Geological Survey, 1990. Bradley, D.C., ed. [1992, 244p., eng] 47-608
Occurrence of platinum-group elements in some gold-mining districts of Alaska. Cathrall, J.B., et al. [1992, p.33-43, eng] 47-610
Uranium resource potential in the Kenai Peninsula. Dickinson, K.A., et al. [1992, p.81-99, eng] 47-612
Petroleum potential of the Brooks Range. Howell, D.G., et al. [1992, p.112-126, eng] 47-614
Geochemically anomalous areas in southwest Alaska. Kilburn, J.E., et al. [1992, p.156-162, eng] 47-615
Coal resources in the North Slope. Roberts, S.B., et al. [1992, p.196-203, eng] 47-616
Fluvial facies architecture in the Tertiary Usibelli Group of Suntrana, central Alaska. Stanley, R.G., et al. [1992, p.204-211, eng] 47-617
Gold placers, gold source, and high terrace gravels in the Fortymile River area, Alaska. Yeend, W., [1992, p.228-230, eng] 47-620
1991 annual report on Alaska's mineral resources. Schneider, J.L., ed. [1991, 69p., eng] 47-626
Many challenges ahead for exploration, development in Norwegian-Russian Arctic. Johansen, B., [1992, p.31-32, eng] 47-919
Thermal maturity and source-rock potential in northwestern Melville Island, arctic Canada. Gentzis, T., et al. [1992, p.423-442, eng] 47-983
Analysis of the Beaufort-Mackenzie Basin, Canada burial, thermal and hydrocarbon histories. Tang, J., et al. [1992, p.510-525, eng] 47-1171
Alaska's mineral industry, 1991. Bundtzen, T.K., et al. [1992, 89p., eng] 47-1485
Geochemistry of Haines-Klukwan-Porcupine area, southeastern Alaska. Gilbert, W.G., et al. [1991, 75p. + 2 sheets, eng] 47-1488
GGU's mineral resource activities and their role for the mineral industry. Schönwandt, H.K., [1992, p.17-19, eng] 47-1633
Mineral resources in Precambrian supracrustal belts. Dawes, P.R., et al. [1992, p.19-23, eng] 47-1634
Björnesund Project, west Greenland. Appel, P.W.U., [1992, p.24-27, eng] 47-1635
Petroleum-geological activities in 1991 in Greenland. Christiansen, F.G., et al. [1992, p.28-30, eng] 47-1636
Renewed petroleum geological studies onshore west Greenland. Christiansen, F.G., et al. [1992, p.31-35, eng] 47-1637
Disko Bugt Project 1991, west Greenland. Kalsbeek, F., et al. [1992, p.36-41, eng] 47-1638
Gold and base metal potential of the Lower Proterozoic Karrat Group, west Greenland. Thomassen, B., [1992, p.57-66, eng] 47-1639
Tourmalinites in supracrustal rocks in the Björnesund area, west Greenland. Appel, P.W.U., [1992, p.73-78, eng] 47-1641
Regolith exploration geochemistry in arctic and temperate terrains. Kauranne, K., et al. [1992, 443p., eng] 47-1643
Prospecting and mapping of mountain permafrost and associated phenomena. King, L., et al. [1992, p.73-81, eng] 47-1746
Major hydrocarbon structures in Barents Sea, Kara Sea regions. [1993, p.34-35, eng] 47-2004
Geochemical exploration for hidden deposits in the cryolithozone. Makarov, V.N., et al. [1988, 108p., rus] 47-2315
Sedimentary source-rock potential from the Sverdrup basin, arctic Canada. Gentzis, T., et al [1993, p.33-54, eng] 47-2596
Using a nuclear submarine for arctic research. Keigwin, L.D., et al. [1992, p.209,220-221, eng] 47-2600
Geochemistry of an offshore well in northeast Alaska. Banet, A.C., Jr., [1993, 51p. + maps., eng] 47-2618
Environmental geology at a Canadian sulphide deposit site. Claridge, P.G., et al. [1993, p.50-57 eng] 47-2630
Shale compaction and stratigraphic restoration. Issler, D.R., [1992, p.1170-1189, eng] 47-2775
Glacial geology and glacial sediment geochemistry in the Clyde Forks-Westport area of Ontario. Kettles, I.M., [1992, 34p. + maps, eng] 47-3148
Quaternary geology and prospecting in Manitoba. Henderson, P.J., [1993, p.63-69, eng] 47-3706
Arctic exploration & international relations 1900-1932. Fogelson, N., [1992, 220p., eng] 47-3865
Sea ice flexure noise attenuation during seismic surveys. Ostrander, W.J., [1986, 14 col., eng] 47-4260
Cold region logistics planning and management. Hulsey, J.L., et al. [1993, p.1-11, eng] 47-4283
Heavy mineral analysis from Alaska placer mines. Wood, J.E., [1992, 7p., eng] 47-4771
Short notes on Alaskan geology 1993. Solie, D.N., ed. [1993, 99p., eng] 47-4773
Vinasale Mountain gold deposit. DiMarchi, J.J., [1993, p.17-29, eng] 47-4775
Organic-rich shale and bentonite in the Arctic Creek unit. Mull, C.G., et al. [1993, p.41-49, eng] 47-4777
Petroleum policy in the north. Moe, A., [1991, p.211-231, eng] 47-4860
Teshekpuk Lake oil and gas resource assessment. Bascle, R.J., [1993, 20p., eng] 47-4893
Kodiak National Wildlife Refuge oil and gas resource assessment. Bascle, R.J., et al. [1993, 21p., eng] 47-4894
Innoko National Wildlife Refuge oil and gas resource assessment. Bascle, R.J., et al. [1993, 20p., eng] 47-4895
Hydrocarbon gas traces in snow cover. Vyshemirskii, V.S., et al. [1993, p.1-4, eng] 47-5194

Explosion effects
Seismic characteristics of an airgun fired over snow. King, E.C., et al. [1993, p.201-207, eng] 47-2651
See also: Blasting; Ice blasting; Nuclear explosions

Explosives
Low temperature studies of stability of emulsion explosives. Ganguly, S., et al. [1992, p.243-256, eng] 47-194
Identification of TNT transformation products in soil. Walsh, M.E., et al. [1992, 31p., eng] 47-699
Supercritical fluid chromatography for the analysis of nitroaromatics, nitramines and nitrate esters. Miyares, P.H., [1992, 14p., eng] 47-708
Development of field screening methods for TNT, 2,4-DNT and RDX in soil. Jenkins, T.F., et al. [1992, p.33-45, eng] 47-1819
Comparison of cartridge and membrane solid-phase extraction with salting-out solvent extraction. Jenkins, T.F., et al. [1992, 31p., eng] 47-2232
Field screening methods for TNT, RDX and 2,4-DNT in soil and water. Jenkins, T.F., et al. [1993, p.282-287, eng] 47-3912
Comparison of methods for extraction of explosives from water. Jenkins, T.F., et al. [1993, p.316-321, eng] 47-3913

Exposure
See also: Cold exposure; Orientation; Slope orientation

Extraterrestrial ice
Coldest places in the solar system. Dyer, A., [1992, p.30-33, eng] 47-197
Balmy past of icy Triton. Croswell, K., [1992, p.13, eng] 47-232
Laboratory measurements of the single-scattering properties of ammonia ice crystals. Pope, S.K., [1991, 130p., eng] 47-288
Martian geology and ice sublimation. Moore, J.M., [1991, 179p., eng] 47-301
Effects of material mixing on planetary gamma ray spectroscopy. Squyres, S.W., et al. [1992, p.14,701-14,715, eng] 47-377
Experimental study of the sublimation of water ice and the release of trapped gases. Hudson, R.L., et al. [1991, p.326-332, eng] 47-989
Sublimation and reformation of icy grains in the primitive solar nebula. Lunine, J.I., et al. [1991, p.333-344, eng] 47-990
Brine volcanism and the interior structures of asteroids and icy satellites. Kargel, J.S., [1991, p.368-390, eng] 47-991
Angular width of the coherent back-scatter opposition effect: an application to icy outer planet satellites. Mishchenko, M.I., [1992, p.327-333, eng] 47-1191
Temperature evolution and vapour pressure build-up in porous ices. Kömle, N.I., et al. [1992, p.1311-1323, eng] 47-1468
Europa, Ganymede, and Callisto: new radar results from Arecibo and Goldstone. Ostro, S.J., et al. [1992, p.18,227-18,244, eng] 47-1556
Simulation of the climate on Mars for exobiological studies. Lindberg, C., et al. [1992, p.240-243, eng] 47-1737
Ice threshold in molecular clouds: a diagnostic of the infrared radiation field. Williams, D.A., et al. [1992, p.599-601, eng] 47-1787
Temperature evolution of porous ice samples covered by a dust mantle. Kömle, N.I., et al. [1992, p.204-212, eng] 47-1953
Small and planetary bodies of the solar system: the critical mass of icy bodies. Sliuta, E.N., et al. [1992, p.692-696, rus] 47-2040
Ultraviolet-induced amorphization of cubic ice and its implications for the evolution of ice grains. Kouchi, A., et al. [1991, p.87-90, eng] 47-2111
Ice particle emission from cometary analogues. Kohl, H., et al. [1991, p.257-260, eng] 47-2112
Plasma emission from high velocity impacts of microparticles onto water ice. Timmermann, R., et al. [1991, p.375-378, eng] 47-2113
Comparison of 3 micron features of trapped H2O and H2O frost in SiO condensate with observed dust features. Wada, S., et al. [1991, p.429-432, eng] 47-2114
Pluto's moon is a giant snowball. Croswell, K., [1992, p.16, eng] 47-2290
Effects of dispersed particulates on the rheology of water ice at planetary conditions. Durham, W.B., et al. [1992, p.20,883-20,897, eng] 47-2293
Laboratory observational and theoretical studies of interstellar ices. Tielens, A.G.G.M., et al. [1991, p.29-58, eng] 47-2311
Physical and chemical effects induced by fast ions in ices of astrophysical interest. Pirronello, V., [1991, p.263-303, eng] 47-2313
Identification and yield of carbonic acid and formaldehyde in irradiated ices. DelloRusso, N., et al. [1993, p.5505-5510, eng] 47-3650
Temperature dependence of crystalline methane refractive indices. Ngoh, M.A., et al. [1993, p.5511-5515, eng] 47-3651
Shear-induced folding in Arsia Mons aureole: evidence for low-latitude Martian glaciations. Anguita, F., et al. [1992, p.11-22, eng] 47-3722
Central pit and dome craters: exposing the interiors of Ganymede and Callisto. Schenk, P.M., [1993, p.7475-7498, eng] 47-3839
Correction to paper by Suszcynsky et al. [1993, p.7499, eng] 47-3840
Vertical structure and size distributions of Martian aerosols from solar occultation measurements. Chassefière, E., et al. [1992, p.46-69, eng] 47-3923
Simulation of extraterrestrial ammonia-water ice system. Yarger, J., et al. [1993, p.13,109-13,117, eng] 47-4412
Evolution of a porous H2O-CO2-ice sample in response to irradiation. Steiner, G., et al. [1993, p.9065-9073, eng] 47-4508
Model comet made from mineral dust and H2O-CO2 ice: sample preparation development. Roessler, K., et al. [1990, p.379-388, eng] 47-4567
Crustal evolution and dust emission of artificial cometary nuclei. Thiel, K., et al. [1990, p.389-399, eng] 47-4568
Particle emission from artificial cometary surfaces: material science aspects. Kochan, H., et al. [1990, p.401-411, eng] 47-4569
Diapirism on Triton: a record of crustal layering and instability. Schenk, P.M., et al. [1993, p.299-302, eng] 47-4593
New results of the dust investigation in the comet simulation project KOSI. Thiel, K., et al. [1991, p.579-589, eng] 47-4634
Simulation of extraterrestrial ice solution melting curves. Boone, S., et al. [1991, p.603-610, eng] 47-4635
Mid- and far-infrared spectroscopy of ices: optical constants and integrated absorbances. Hudgins, D.M., et al. [1993, p.713-870, eng] 47-4736
Optics on a fractal surface and the photometry of the regoliths. Drossart, P., [1993, p.381-393, eng] 47-4994
Laboratory simulation of a cometary nucleus: experimental setup and first results. Kochan, H., et al. [1989, p.487-492, eng] 47-5124
On the accuracy of cometary nuclei simulation experiments. Klinger, J., et al. [1989, p.493-497, eng] 47-5125
Ices on the surface of Triton. Cruikshank, D.P., et al. [1993, p.742-745, eng] 47-5128
Surface ices and the atmospheric composition of Pluto. Owen, T.C., et al. [1993, p.745-748, eng] 47-5129

Extraterrestrial material
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Extremes
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Falling snow
Extinction of visible and infrared beams by falling snow. Hutt, D.L., et al. [1992, p.5121-5132, eng] 47-449
Field instrument for examining in-cloud scavenging mechanisms by snow. Mitchell, D.L., et al. [1991, p.239-253, eng] 47-2212
Measurement of falling motion of snowflakes using CCD camera. Muramoto, K., et al. [1992, p.71-76, eng] 47-3006
Automating the observation of blowing snow. Lewis, R., [1993, p.86-90, eng] 47-3066
Apparatus for measuring the moisture content of snow particles. Suga, N., [1989, 6 col., eng] 47-3330
Positioning of satellite navigation system during snowfall. Tranquilla, J.M., et al. [1993, p.295-299, eng] 47-3361
Snow crystals, natural and man made. Mason, B.J., [1992, p.227-243, eng] 47-3718

Fallout
Arctic contaminants: sources, occurrence and pathways. Barrie, L.A., et al. [1992, p.1-74, eng] 47-261
Arctic terrestrial ecosystem contamination. Thomas, D.J., et al. [1992, p.135-164, eng] 47-263
Radioactive fallout on Tyrolean glaciers. Ambach, W., et al. [1991, p.7-17, ger] 47-1901
Atmospheric physics and chemistry of Adélie Coast. Polian, G., [1990, p.50-59, fre] 47-3162
Novaya Zemlya: analyzing radiation safety and ecological consequences of nuclear tests. Kharitonov, K.V., et al. [1992, p.65-74, rus] 47-3862

Fallout *(cont.)*
Below-cloud scavenging of aerosol particles: particle-bound radionuclides—experimental. Sparmacher, H., et al, [1993, p.605-618, eng] 47-4349
Snow impurities as a function of pollutant emission remoteness. Malakhov, S.G., et al, [1993, p.111-115, eng] 47-5003
Proceedings, [1993, 647p., eng] 47-5013
Sediment inventory of Cs-137 in the Eastern Chukchi Sea, Northwest Alaskan Arctic. Baskaran, M., et al, [1993, p.37-47, eng] 47-5019
Anthropogenic radioactivity in the arctic seas: time trends and present levels. Dahlgaard, H., [1993, p.49-63, eng] 47-5020
Radioactivity and environmental problems for the seas and oceans. Israel, IU.A., et al, [1993, p.65-78, eng] 47-5021
I-129 as a tracer of European reprocessing emissions in the North Atlantic and Arctic oceans. Zhou, Z.Q., et al, [1993, p.145-156, eng] 47-5027
Temporal evolution of artificial radioactivity in the North and Baltic Sea. Nies, H., et al, [1993, p.225-236, eng] 47-5033
Destruction of the ecological food-chain in the Barents Sea. Vorontsov, N.N., [1993, p.325-327, eng] 47-5039
Radioactive contamination of the northern seas: approaches to the assessment of the impact on the marine environment and man. Kuznetsov, IU.V., et al, [1993, p.379-394, eng] 47-5044
Dynamics of tritium deposition from precipitation over the USSR and its removal into seas. Katrich, I.IU., [1991, p.90-93, eng] 47-5198

Farming
See also: Agriculture

Fast ice
Periglacial shoreline erosion of a rocky coast: George River estuary, northern Quebec. Fournier, A., et al, [1992, p.926-942, eng] 47-443
Mathematical model of border ice formation in rivers. Hammar, L., [1988, p.165-179, eng] 47-729
Dinoflagellates and their cysts in land-fast ice. Stoecker, D.K., et al, [1991, p.143-144, eng] 47-1439
Landfast ice pressure measurements in the Beaufort Sea. Sayed, M., et al, [1992, p.656-661, eng] 47-1854
In-situ stress measurements in a fast ice and possible tidal loads on structures. Nikitin, V.A., et al, [1992, p.696-702, eng] 47-1862
Hydrography under fast ice in Lützow-Holm Bay. Takizawa, T., et al, [1992, p.106-125, eng] 47-3011
Landfast ice thickness variations in the Canadian High Arctic. Brown, R.D., et al, [1992, p.273-284, eng] 47-3321
Sensitivity analysis of ice motion near Adams Island. Sykes, J.F., et al, [1992, p.890-901, eng] 47-3354
Fast-ice properties and structure in McMurdo Sound. Jeffries, M.O., et al, [1991, p.94-95, eng] 47-3516
Breakup of shore fast sea ice. Squire, V.A., [1993, p.211-218, eng] 47-3925
Simulated antarctic fast ice ecosystem. Arrigo, K.R., et al, [1993, p.6929-6946, eng] 47-4139
East Siberian Arctic Region Expedition '92: the Laptev Sea—its significance for arctic sea-ice formation and transpolar sediment flux. Dethleff, D., et al, [1993, p.3-44, eng] 47-4220
Numerical and experimental investigation of river ice cover cracking. Abdel-Zaher, A.K., [1992, 201p., eng] 47-4887
Observations of large-size river water temperature and accuracy of hydrothermal calculations. Korenkov, V.A., et al, [1991, p.95-98, eng] 47-4924

Fatigue (materials)
Effects of freeze-thaw cycles on reinforced concrete fatigue behavior. Radian, T.A., [1990, 220p., eng] 47-84
Cracking kinetics and failure on repeated loadings of ice. Sinha, N.K., [1992, p.137-150, eng] 47-2301
Effect of fatigue on the bearing capacity of floating ice sheets. Haynes, F.D., et al, [1993, p.257-263, eng] 47-3929
Fatigue crack propagation in freshwater ice. Final report. Nixon, W.A., et al, [1993, 42p., eng] 47-4898

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Fences
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Films
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Filters
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Fines
Preliminary study of the effect of fines on sanded-ice friction. Blaisdell, G.L., et al, [1992, p.79-90, eng] 47-805
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Finland
In the Inari Arctic at the edge of Europe. Heininen, L., ed, [1991, 99p., fin] 47-433
Application of ground penetrating radar techniques to peatland investigations. Hänninen, P., [1992, p.217-221, eng] 47-635
GPR applications in geotechnical investigations of peat for road survey purposes. Saarenketo, T., et al, [1992, p.293-305, eng] 47-636
Application of ERS-1 SAR data to remote sensing of snow in Finland. Hallikainen, M., et al, [1992, p.1661-1663, eng] 47-688
Some new technics in river ice measuring. Maunula, M., [1988, p.87-93, eng] 47-721
Statistical model for prediction of ice breakup in river Torneälven. Forsius, J., et al, [1988, p.195-204, eng] 47-732
Reduction of damages from ice jam flooding in river Torneälven. Zachrisson, G., [1988, p.217-225, eng] 47-734
Highway winter maintenance and cost efficiency. Teppo, M.P.K., [1992, 8p., eng] 47-926
Goals and methods of winter maintenance in Finland. Katko, K., [1992, 7p., eng] 47-928
Determining maintenance truck station network and snow plow routes in Finland. Korhonen, P., et al, [1992, 17p., eng] 47-930
Anti-icing activities in Finland: field tests with liquid and prewetted chemicals. Raukola, T.J., et al, [1992, 11p., eng] 47-934
Methods and reasons for cutting usage of salt in Finland. Kuusela, R., et al, [1992, 7p., eng] 47-940
New ideas and equipment for winter maintenance in Finland. Kuusela, R., et al, [1992, 8p., eng] 47-949
Road weather service system in Finland and savings in driving costs. Pilli-Sihvola, Y., et al, [1992, 12p., eng] 47-966
Snowmelt degree-day values for HBV-model in Finland. Vehviläinen, B., [1992, p.211-220, eng] 47-1963
Flood control on the middle reaches of the River Iijoki. Ottavainen, P., et al, [1992, p.431-442, eng] 47-1970
Ice reduction of winter discharges. Leppäjärvi, R., [1992, p.563-567, eng] 47-1976
Excursion guide for northern Finland-Norway-Sweden. Revised edition. Sollid, J.L., ed, [1989, 105p., eng] 47-2116
Ice load measurements on board the MS *Kemira*, winter 1991. Muhonen, A., [1992, 26p. + appends., eng] 47-2583
Homogeneity of precipitation time series in Finland. Heino, R., [1993, p.J52-J55, eng] 47-3084
Hydrological yearbook 1989. Leppäjärvi, R., ed, [1992, 174p., eng] 47-3154
Mire ecosystems on raised peat bogs in Finland. Korhola, A., [1992, p.25-94, eng] 47-3525
Climate of Finland in relation to its hydrology, ecology and culture. Solantie, R., [1990, 130p., eng] 47-3540
Deglaciation of Finnish Lapland. Kujansuu, R., [1992, p.21-31, eng] 47-3544
Glacial stratigraphy in Lapland. Hirvas, H., [1992, p.41-42, eng] 47-3546
Postglacial history of Kemijoki. Saarnisto, M., [1992, p.151-159, eng] 47-3553
Provenance and individual variation in climatic hardiness of Scots pine in northern Finland. Mikola, J., [1993, p.333-342, eng] 47-4547

—Lapland
Bibliography of studies in Finland and the Kola Peninsula. Saarinen, H., et al, [1992, p.102-107, eng] 47-1400

—Utsjoki
Depth of snow and frost on a palsa mire, Finnish Lapland. Seppälä, M., [1990, p.191-201, eng] 47-4313

Finland, Gulf
Current tendencies of anthropogenic changes in physical-mechanical properties of natural ice. Paniushkin, A.V., et al, [1991, p.126-129, rus] 47-2801

Fires
Numerical model of aerosol scavenging, part 2: simulation of a large city fire. Bradley, M.M., et al, [1991, p.591-601, eng] 47-2217
See also: Forest fires

Firn
Thermal properties of snow/firn on the Law Dome ice cap. Ren, J.W., et al, [1991, p.38-46, eng] 47-39
Short-offset seismic refraction results near Rothera Station, Antarctic Peninsula. King, E.C., et al, [1992, p.479-480, eng] 47-905
Report on the Franz Josef Glacier. Brazier, V., et al, [1992, p.35-49, eng] 47-1004
Age of air in Greenland firn and ice. Schwander, J., et al, [1993, p.2831-2838, eng] 47-2703
Isotopic plciad of oxygen in atmospheric precipitation in the polar regions. Nikolaev, V.I., et al, [1991, p.109-112, rus] 47-2796
Air inclusions as an index of ice formation conditions on polar glaciers. Samoilov, O.IU., [1991, p.118-121, rus] 47-2799
Microwave signature of firn and sea ice from airborne observations. Yamanouchi, T., et al, [1992, p.16-35, eng] 47-3002
Temperate firn constitutive equation derived from strain rates. Ambach, W., et al, [1993, p.295-303, eng] 47-3932
Statistics of firn closure: a simulation study. Enting, I.G., [1993, p.133-142, eng] 47-3947
Energy transfer in ventilated low-temperature snow. Lax, J., [1988, p.153-157, eng] 47-4207
Signatures of antarctic firn by means of ERS-1 AMI and by field measurements. Rott, H., et al, [1993, p.227-233, eng] 47-4417
Ice sheet firn temperature and meltwater refreezing in Greenland. Braithwaite, R.J., [1993, p.109-114, eng] 47-4920

Firn stratification
Firn stratigraphy, density and crystal structure on Law Dome. Li, J., et al, [1991, p.1-14, eng] 47-36
Firn stratification on the slopes of the Klyuchevskoy volcano. Salamatin, A.N., et al, [1992, p.230-240, eng] 47-792
Nitrate signal of solar flares in polar snow and ice. Dreschhoff, G.A.M., et al, [1992, 23p., eng] 47-3631
Spatial patterns in backscatter strength across the Greenland ice sheet. Jezek, K.C., [1993, p.269-272, eng] 47-4424
Firn density of the Greenland ice sheet. Braithwaite, R.J., et al, [1993, p.62-65, eng] 47-4918

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Flexural strength
Properties of no-fines concrete containing silica fume. Tamai, M., [1989, p.799-814, eng] 47-56
Compressive strength, flexural strength and static elastic modulus of sea ice. Takahashi, Y., et al, [1992, p.155-168, eng] 47-1026
Influence of beam size on the flexural strength of sea ice, freshwater ice and iceberg ice. Parsons, B.L., et al, [1992, p.1017-1036, eng] 47-1626
Oscillations of an ice sheet under a periodically varying load. Kozin, V.M., et al, [1993, p.746-750, eng] 47-3169
Sea ice flexural rigidity: a comparison of methods. DiMarco, R.L., et al, [1993, p.247-255, eng] 47-3928
Ice and rubble failure loads on sloping structures by two-dimensional upper-bound plastic limit analysis. Luk, C.H., et al, [1993, p.157-168, eng] 47-4243
Effects of freezing and moisture on impact properties of glass fiber reinforced RTM parts. Karbhari, V.M., et al, [1992, p.135-142, eng] 47-4627
Toughness indices of steel fiber reinforced concrete at subzero temperatures. Banthia, N., et al, [1993, p.863-873, eng] 47-5107

Floating ice
Experimental and theoretical investigation of the icebreaking cycle in two dimensions. Valanto, P.U., [1990, 129p., eng] 47-89
Neural network-based adaptive radar detection scheme for small ice targets in sea clutter. Bhattacharya, T.K., et al, [1992, p.1528-1529, eng] 47-741
Influence of snow viscosity on forced flexural-gravity waves in a basin with a density jump. Bukatov, A.E., et al, [1992, p.259-266, eng] 47-781
On the melt rate of drifting ice heated from below. Omstedt, A., et al, [1992, p.91-100, eng] 47-806
Local contact pressures in ship/ice and structure/ice interactions. Masterson, D.M., et al, [1993, p.169-185, eng] 47-2648
Probabilistic analysis of local ice pressures. Jordaan, I.J., et al, [1993, p.83-89, eng] 47-2668
Thermal nonequilibrium of freezing bodies of water with the environment. Faiko, L.I., [1991, p.115-118, rus] 47-2798
Abrasion of concrete structures by ice. Huovinen, S., [1993, p.69-82, eng] 47-3286
Elastohydrodynamic response of an ice sheet to forced sub-surface uplift. Dempsey, J.P., et al, [1993, p.487-506, eng] 47-3827
Effect of fatigue on the bearing capacity of floating ice sheets. Haynes, F.D., et al, [1993, p.257-263, eng] 47-3929
Pipeline launching module. Hemphill, D.P., [1986, 4 col., eng] 47-4100
Static analysis of floating ice block stability. Coutermarsh, B.A., et al, [1993, p.147-160, eng] 47-4172
Ice forces on light piers in the St. Lawrence Seaway. Frederking, R.M.W., et al, [1992, p.67-72, eng] 47-4280
Dynamical problems of ice cover fracture. Pushkin, A.V., et al, [1991, p.212-219, eng] 47-4282
Model study of cable-moored conical platform. Nixon, W.A., et al, [1993, p.12-31, eng] 47-4284
Computer-based simulation of the ice fracture near a vertical pile. Matskevitch, D.G., et al, [1992, p.123-128, eng] 47-4286
Ice forces in dynamic ice structure interaction. Eranti, E., [1992, p.204-211, eng] 47-4304
Predictions and measurements of the directivity of a monopole source in a floating ice plate. Stein, P.J., [1993, p.625-639, eng] 47-4841
See also: Ice floes

Floating structures
Enclosed superstructures for light and sound buoys. *Cunningham, R.,* [1991, 40p. + *appends., eng*] 47-438
Polar Ocean Profiler: new generation sensor platform. May, C.W., et al. [1992, p.73-81, eng] 47-1060
Technical problems of floating type ice barriers. Mizuno, Y., et al. [1991, p.265-270, jpn] 47-2498
Floating nuclear power stations for the Far North. Tarasov, V.K., et al. [1992, p.3-6, rus] 47-2916
Icebreaking defense buoy. Coleman, R.K., [1988, 4 col., eng] 47-3639
Removable bottom founded structure. Beskow, R.H., et al. [1988, 16 col., eng] 47-3763
Floating drilling platform. Mäkinen, E., et al. [1988, 4 col., eng] 47-3846
Pipeline launching module. Hemphill, D.P., [1986, 4 col., eng] 47-4100
Ice deflector. Marthinsen, A., [1988, 4 col., eng] 47-4101
Ice detector for protecting boats. Schuellein, G.J., [1991, 4 *col., eng*] 47-4915

Flood control
What is being done to reduce ice jam damages. *Gruntfest, E.,* [1992, p.243-245, *eng*] 47-622
Ice jam flood mitigation: Salmon River, Idaho. White, K.D., [1992, p.250-253, eng] 47-624
Effects of hydropower development on ice jamming. Zufelt, J.E., [1992, p.254-257, eng] 47-625
Effects of severe freezing periods and discharge on the formation of ice jams. Zufelt, J.E., et al. [1992, 12p., eng] 47-698
Flood control on the middle reaches of the River Iijoki. Ottavainen, P., et al. [1992, p.431-442, eng] 47-1970
Flood control in Luleälven. Sensitivity analysis of new Swedish guidelines. Brandesten, C.O., [1992, p.443-452, swe] 47-1971

Flood forecasting
Parameter uncertainty and simulation of *design floods in* Sweden. Harlin, J., et al. [1992, p.209-230, eng] 47-174
Ice jam flood forecasting: Hay River, N.W.T. Stanley, S.J., et al. [1992, p.212-223, eng] 47-200
Developing a method of forecasting rain and snow-rain triggered floods with insufficient data. Basilashvili, Ts.Z., [1990, p.46-59, rus] 47-417
Field ice measurements for emergency and project operations. Pomerleau, R.T., [1992, p.246-249, eng] 47-623
Slope runoff in the Transural steppe region of Bashkiria. Mosienko, N.A., et al. [1991, p.77-80, eng] 47-796
Spillway design floods in Sweden: 1. New guidelines. Bergström, S., et al. [1992, p.505-519, eng] 47-922
Spillway design floods in Sweden: 2. *Applications and* sensitivity analysis. Lindström, G., et al. [1992, p.521-539, *eng*] 47-923
Jökulhlaups in Iceland: prediction, characteristics and *simulation.* Björnsson, H., [1992, p.95-106, eng] 47-1093
Real time system for flood forecasting of an ice dam outburst. Fernández, P., et al. [1990, p.85-91, eng] 47-1169
Ice jam flood frequency analysis techniques. Zufelt, J.E., et al. [1991, p.353-356, eng] 47-1239
Ice jam flood assessment—Yukon River at Dawson. Gerard, R., et al. [1992, 145p., eng] 47-1244
Nordic Hydrological Conference 1992. [1992, 757p., nor] 47-1954
Frequency of extremes and its relation to climate *fluctuations.* Krasovskaia, I., et al. [1992, p.47-58, *eng*] 47-1956
Floods in Sweden—occurrence and trends. Lindström, G., [1992, p.65-74, eng] 47-1957
Hydrological modeling of extreme floods in Sweden. Harlin, J., [1992, p.107-117, swe] 47-1958
Significance of groundwater levels for discharge peak flows. Lundin, L.C., [1992, p.316-323, eng] 47-1967
Flood control on the middle reaches of the River Iijoki. Ottavainen, P., et al. [1992, p.431-442, eng] 47-1970
Flood control in Luleälven. Sensitivity analysis of new Swedish guidelines. Brandesten, C.O., [1992, p.443-452, swe] 47-1971
Flood forecasting and snow mapping by satellite. Lundquist, D., et al. [1992, p.453-459, nor] 47-1972
Ice reduction of winter discharges. Leppäjärvi, R., [1992, p.563-567, eng] 47-1976
On the choice of threshold levels in partial duration series. Rosbjerg, D., *et al.* [1992, *p.604-615, eng*] 47-1977
Identification and mitigation of glacier-related hazards: *examples from the Cordillera Blanca, Peru.* Reynolds, J.M., [1992, p.143-157, eng] 47-20
River flood forecasting in the Northeast during ice jam situations. Austin-Smith, A., et al. [1992, 10p., eng] 47-2131
Rainfall-snowmelt peaks in a warmer climate. Martinec, J., et al. [1992, p.195-202, eng] 47-2728
Guidelines for determining flood flow frequency. [1982, 28p. + appends., eng] 47-2777
Probability analysis of historical ice jam flood data for a complex reach: a case study. Stanley, S.J., et al. [1992, p.875-885, eng] 47-3306
River surge propagation modeling. Hicks, F.E., et al. [1992, p.454-462, eng] 47-3308
Analysis of conditions and long-term forecast of ice-dam levels on the Lena. Kilmianinov, V.V., [1992, p.64-69, eng] 47-3993
Probablistic computation of maximum ice-dam water levels. Buzin, V.A., [1992, p.56-62, eng] 47-4025
Revised snowstorm maximization method for Canadian boreal regions. Chow, K.C.A., et al. [1993, p.449-454, eng] 47-4401

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Effects of severe freezing periods and discharge on the formation of ice jams. Zufelt, J.E., et al. [1992, 12p., *eng*] 47-698
Flood generation and destruction of "Drift" Glacier by the 1989-90 eruption of Redoubt Volcano, Alaska. Trabant, D.C., et al. [1992, p.33-38, eng] 47-1083
Investigation of glacier bursts of the Yarkant River in Xinjiang, China. Zhang, X.S., [1992, p.135-139, eng] 47-1099
Glacier lake outburst flood disasters in China. Ding, Y.J., et al. [1992, p.180-184, eng] 47-1108
Early winter flooding along a subalpine river. Butler, D.R., et al. [1993, p.145-155, eng] 47-4369
Observation of flooded ice in arctic regions. Goroch, A.K., et al. [1993, p.1305-1324, eng] 47-4905

Floodplains
Formation of the structure and properties of flood-plain deposits by *major rivers.* Zaikanov, V.G., [1991, p.31-47, rus] 47-397
Short-pulse radar detection of groundwater in the Sagavanirktok River floodplain in early spring. Arcone, S.A., et al. [1992, p.2925-2936, eng] 47-1475
Computerized simulation of permafrost mass transfer. Kozlov, A.N., et al. [1992, p.63-67, eng] 47-4384
Cryogenesis in the soil-plant cover in the floodplains of Mongolia. Maksimovich, S.V., et al. [1991, p.34-37, rus] 47-4806

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Characteristics of glacier outburst flood in the Yarkant River, Karakorum Mountains. Feng, Q.H., [1991, p.255-263, eng] 47-1612
Three historical data series on floods and anomalous climatic events in Italy. Pavese, M.P., et al. [1992, p.155-170, eng] 47-2086
Boulder ring structures produced during jökulhlaup flows. Maizels, J., [1992, p.21-33, eng] 47-4320
Late Wisconsin subglacial megaflood paths in Alberta. Rains, B., et al. [1993, p.323-326, eng] 47-4594

Floors
Insulation configurations for slab-on-grade floors. Krarti, M., [1992, p.137-146, eng] 47-1152

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Flow control
Ice impacts on flow along the Missouri River. Wuebben, J.L., et al. [1992, 10p., eng] 47-1237
Causes of variability of ice appearance dates in the lower reaches of the Volga. Soldatova, I.I., [1992, p.62-66, eng] 47-2714
Effect of selective withdrawal on the annual thermal regime of a deep water body. Bocharov, O.B., et al. [1993, p.384-390, eng] 47-4066
Flow regulation for controlled river-ice formation. Jain, S.C., et al. [1993, 50p., eng] 47-4662

Flow measurement
Jökulhlaups in the Kunmalike River, southern Tien Shan mountains, China. Liu, J.S., [1992, p.85-88, eng] 47-1091
Internal waves in an ice-covered basin. Pisarev, S.P., [1991, *p.42-46, eng*] 47-2887
Initial instrument measurements of the current in the *region of the cold bottom water dome in the Greenland* Sea. Alekseev, G.V., et al. [1992, p.165-168, rus] 47-3815
Subglacial flow of a mountain glacier. Fountain, A.G., [1993, p.143-156, eng] 47-3948

Flow rate
Freezing flow in a subcooled permeable medium. Griffiths, S.K., et al. [1992, p.1036-1041, eng] 47-1672
Dating stable isotope records from *Greenland ice cores.* Johnsen, S.J., et al. [1993, p.13-24, eng] 47-2863
Solution freezing characteristics in an immersed tube. Yamada, M., et al. [1993, p.54-62, eng] 47-3792
Sprinkler snow melting on railway tracks. Sawase, K., et al. [1992, p.727-738, eng] 47-4364
Debris flow in Canadian continuous permafrost area. Harris, S.A., et al. [1993, p.41-56, eng] 47-4984
See also: Water transport

Fluid dynamics
Finite element modelling of natural-convection-controlled change of phase. Usmani, A.S., et al. [1992, p.1019-1036, eng] 47-193
Hydrate dissociation enthalpy and guest size. Sloan, E.D., *et al.* [1992, p.123-140, *eng*] 47-588
Calculation of phase diagrams of gas-hydrates. *Lundgaard, L., et al.* [1992, p.141-149, *eng*] 47-589
Effect of density extremum on the solidification of water *on a vertical wall of a rectangular cavity.* Braga, S.L., et al. [1992, p.703-713, eng] 47-1628
Comparison between wave propagation in water-saturated and air-saturated porous materials. Albert, D.G., [1993, p.28-36, eng] 47-1678
Negatively buoyant jet (or plume) with applications to snowplow exit flow behavior. Lindberg, W.R., et al. [1991, p.219-229, eng] 47-1806
Evolution theory for optimal control of a Couette iceform design model. LaFleur, R.S., [1992, p.2617-2629, eng] 47-2148
Example of the Couette iceform design model: flat plate ice formation. LaFleur, R.S., [1992, p.2631-2642, *eng*] 47-2149
Aerodynamic effects of deicing and anti-icing fluids. *Reinmann, J.J., et al.* [1993, *p.8-9, eng*] 47-3310
Contrasting requirements for Type II de anti-icing fluids. Ross, J.F., *et al,* [1993, p.10-13, eng] 47-3311
Aerodynamic effects of aircraft ground deicing anti-icing *fluids.* Hill, E.G., et al. [1993, p.24-34, eng] 47-3314
Aerodynamic effects of ground de anti-icing fluids on Fokker 50 and Fokker 100. van Hengst, J., [1993, p.35-40, eng] 47-3315
New concept in runback water modeling for anti-iced aircraft surfaces. Al-Khalil, K.M., et al. [1993, p.41-49, eng] 47-3316
Atlantic circulation simulation with sea ice interface model, pt.1. Oberhuber, J.M., [1993, p.809-829, *eng*] 47-3568
Singularity of *liquid water—data analysis and modeling.* Sato, H., [1992, p.89-101, eng] 47-3730
Liquid freezing during laminar flow. Weigand, B., et al, [1993, p.294-301, eng] 47-3838
Trustworthy simplified vacuum systems. Henry, R.D., [1987, 6 col., eng] 47-3850
Drag reduction of a cylinder/endwall junction using the ice formation method. LaFleur, R.S., et al. [1993, p.26-32, eng] 47-4021
Static analysis of floating ice block stability. Coutermarsh, B.A., et al. [1993, p.147-160, eng] 47-4172
On the engulfment of spherical particles by a moving ice-liquid interface. Lipp, G., et al. [1993, p.475-489, eng] 47-4289
Dynamical criterion for freezing of colloidal liquids. Löwen, H., et al. [1993, p.1557-1560, eng] 47-4347
Freezing. Haymet, A.D.J., [1992, p.363-405, *eng*] 47-4367
Nucleation. Oxtoby, D.W., [1992, p.407-442, *eng*] 47-4368
Visualization of liquid crystals during solidification. Nishimura, T., et al. [1992, p.456-460, eng] 47-4393
Evaluation of air flow over an anti-icing fluid film. Laforte, J.L., et al. [1993, p.96-104, eng] 47-5007
Effect of the water density extremum on the solidification process. Braga, S.L., et al. [1991, p.1185-1192, eng] 47-5110
Cylinder ice accretion determined by laser-Doppler analysis. Yoon, B., et al. [1993, p.381-397, eng] 47-5208

Fluid flow
Estimation of runout distances of flowing avalanches. Sethi, D.N., [1985, p.271-275, eng] 47-545
Aircraft take-off laboratory simulation for de/anti-icing study. Laforte, J.L., et al. [1992, p.183-193, eng] 47-1578
Freezing flow in a subcooled permeable medium. *Griffiths, S.K., et al.* [1992, *p.1036-1041, eng*] 47-1672
Negatively buoyant jet (or plume) with applications to snowplow exit flow behavior. Lindberg, W.R., et al. [1991, p.219-229, eng] 47-1806
Dependence of post-stable fluidelastic behavior on the degrees-of-freedom of a tube bundle. Lever, J.H., et al. [1992, p.167-187, eng] 47-1913
Drag reduction of a cylinder/endwall junction using the ice formation method. LaFleur, R.S., et al. [1993, p.26-32, eng] 47-4021
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Fluid mechanics
Bénard convection in binary mixtures with Soret effects and solidification. Zimmermann, G., et al. [1992, p.657-682, eng] 47-820
River surge propagation modeling. Hicks, F.E., et al. [1992, p.454-462, eng] 47-3308
Contact melting during sliding on ice. Fowler, A.J., et al. [1993, p.1171-1179, eng] 47-3578

Fluid mechanics *(cont.)*
Saltating particles over flat beds. Nalpanis, P., et al. [1993, p.661-685, eng] 47-5195

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Fog
Ice and fog: detection and warning systems (Nov 83-present). Whitney, C.M., [1992, n.p., eng] 47-1495
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Fog formation
Numerical forecasting of radiation fog. Bergot, T., [1992, 16p., *eng*] 47-974

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Footings
Finite element modelling of pressuremeter tests and *footings on frozen soils*. Puswewala, U.G.A., et al, [1992, p.351-375, eng] 47-196
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Forecasting
Development and verification of a three-dimensional large-scale cloud model. Lee, J.L., [1991, 165p., *eng*] 47-87
Forecasting the bearing strength of a thawing railroad embankment. Prokudin, I.V., et al, [1991, p.76-83, rus] 47-190
Enhancement of computer model of tracked vehicle performance on snow-covered terrain. Wong, J.Y., [1992, p.341-357, eng] 47-408
Surface air temperature forecasting during heavy snowfall. Petrichenko, I.A., et al, [1991, p.6-9, eng] 47-995
New computerized approach to estimating the thermal properties of unfrozen soils. Tarnawski, V.R., et al, [1992, p.714-720, eng] 47-1186
Finite area element snow loading prediction—applications and advancements. Gamble, S.L., et al, [1992, p.1537-1548, eng] 47-1583
Reconstruction of mass balance variations for Franz Josef Glacier, New Zealand, 1913-1989. Woo, M.K., et al, [1992, p.281-290, eng] 47-1585
PASCON: an expert system for passive snow control on highways. Kaminski, D.F., et al, [1991, p.193-201, eng] *47-1803*
Predicting the frost resistance of concrete. Sizov, V.P., [1992, p.25-27, rus] 47-2153
Prediction of frost growth on a flat plate. Tao, Y.X., et al, [1993, p.278-281, eng] 47-2551
Validation of stream flow temperature model. Mattax, B.L., et al, [1989, p.391-400, eng] 47-2582
Sensitivity method for ice floe trajectory calculations. Thomson, N.R., et al, [1992, p.573-585, eng] 47-3344
Supplying the national economy with oceanographic information. Shamraev, *IU.I.*, [1989, 189p., *rus*] 47-3504
Simple method for specifying snowpack water equivalent in the northeastern United States. Samelson, D., et al, [1993, p.965-974, eng] 47-3565
Predictability of large-scale thermohaline anomalies in surface waters of the arctic basin. Artem'ev, A.O., [1991, p.65-75, rus] 47-3692
Probability method of forecasting surge level oscillations in the example of the East Siberian Sea. Andriushchenko, V.I., [1991, p.76-85, rus] 47-3693
Floating ice pressures on sloping and vertical structures. Arunachalam, V.M., et al, [1993, p.231-245, eng] 47-3927
Tutorial on the use of control methods in ice-sheet modeling. MacAyeal, D.R., [1993, p.91-98, eng] 47-3943
Forecasting the temperature of water in the Norwegian Sea. Zhevnovatyi, V.T., et al, [1991, p.110-120, rus] 47-3962
Modeling the temperature regime of an arctic soil. Richeva, T.A., et al, [1993, *p.1-11*, eng] 47-4011
Thickness predictions of rafted ice in the Caspian Sea. Bukharitsin, P.I., [1993, p.390-394, eng] 47-4067
Boolean delay equation model of an interdecadal arctic climate cycle. Darby, M.S., et al, [1993, p.241-246, *eng*] 47-4354
Impact of ERS-1 wind/wave/ice data on operational ocean forecasting. Guddal, J., [1993, p.695-699, eng] 47-4448
GIS modelling of winter orographic precipitation. Hay, L.E., et al, [1993, p.491-499, eng] 47-4460
Greenland: a temptation and a challenge. Dansgaard, W., et al, [1993, p.12-16, eng] 47-4728
Industrial potential of hydropower in West Greenland. Thomsen, H.H., et al, [1993, p.59-62, eng] 47-4917
Use of meltwater stream material loads in the estimation of glacial erosion rates. Warburton, J., et al, [1993, p.19-28, eng] 47-4983
Driver behavior during winter conditions. Gabestad, K.O., et al, [1988, 54p. + appends., nor] 47-4992
Simplified numerical solution of the Miller model of secondary frost heave. Fowler, A.C., et al, [1993, p.327-336, eng] 47-5204
Chaotic characteristics of snowmelt runoff: a preliminary study. Wilcox, B.P., et al, [1990, *p.125-134, eng*] 47-5217
Effects of drifting on snow loads on large roofs. Irwin, P.A., et al, [1993, p.508-513, eng] 47-5262
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Forest canopy
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Snowmelt and heat balance in snow-covered forested areas. Yamazaki, T., et al, [1992, p.1322-1327, eng] 47-1122
Measurement and modelling of cloudwater deposition to a snow-covered forest canopy. Gallagher, M.W., et al, [1992, p.2893-2903, eng] 47-1947
Snow ablation in small forest openings in southwest Alberta. Berry, G.J., *et al*, [1992, p.1326-1331, *eng*] 47-3842
Influence of opening size on snow evaporation in the forests of the Alberta Foothills. Bernier, P.Y., et al, [1993, p.239-244, eng] 47-4585
Effects of forest cover on a snowpack in the Sierra Nevada. Kattelmann, R., [1990, p.276-284, eng] 47-5219

Forest ecosystems
Characterization of fungi ecosystems in subarctic alder forests. Brunner, I., et al, [1992, p.1247-1258, eng] 47-1483
Nitrogen mineralization and streamwater chemistry, Rock Creek watershed, Denali National Park, U.S.A. Stottlemyer, R., [1992, p.291-303, eng] 47-1586
European North: soil degradation due to technogenic pollution. Kriuchkov, *V.V.*, [1992, p.94-97, eng] 47-1710
Effect of climate change on C:N pools in a boreal watershed ecosystem. Stottlemyer, R., [1992, p.451-460, eng] 47-2731
Influence of beaver and bogs on greenhouse gases at Voyageurs National Park. Johnston, C.A., et al, [1992, p.471-479, eng] 47-2732
Dynamics of plant communities related to global changes of climate. Puzachenko, IU.G., [1992, p.481-487, *eng*] 47-2733
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Seed bank composition in a subarctic forest. Vieno, M., et al, [1993, p.379-384, eng] 47-4583
Carbon cycling in boreal forest and sub-arctic ecosystems: biospheric responses and feedbacks to global climate change. *Vinson, T.S., ed*, [1993, 282p., *eng*] 47-5222
Warming the North: what happens?. Woodwell, G.M., et al, [1993, p.1-8, eng] 47-5223
Boreal carbon pools: approaches and constraints in global *extrapolations*. Chapin, F.S., III, et al, [1993, p.9-20, eng] 47-5224
Boreal forests, the carbon cycle and global change: a challenge for ecologists. Bonan, G.B., [1993, p.139-153, eng] 47-5235
Greenhouse gases from forest fires in Russia. Krankina, O.N., [1993, p.179-186, eng] 47-5236
Quantifying regional changes in terrestrial carbon storage by extrapolation *from local ecosystem models*. King, A.W., [1993, p.221-234, eng] 47-5239
Estimating carbon budgets of Canadian forest ecosystems using a national scale model. Apps, M.J., et al, [1993, p.243-252, eng] 47-5240
Framework to quantify the natural terrestrial carbon cycle of the former Soviet Union. Kolchugina, T.P., et al, [1993, p.259-275, eng] 47-5242

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Postfire shift from lichen-spruce to lichen-tundra vegetation at tree line. Arseneault, D., et al, [1992, *p.1067-1081, eng*] 47-773
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Hydrology of four headwater basins in the Sierra Nevada. Kattelmann, R., [1989, p.141-147, eng] 47-2577
Seasonal changes in the radiation balance of subarctic forest and tundra. Lafleur, P.M., et al, [1993, p.32-36, eng] 47-3425
Satellite remote sensing of subalpine forest types. Franklin, S.E., [1992, p.25-35, eng] 47-4827

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Forest lines
Postfire shift from lichen-spruce to lichen-tundra vegetation at tree line. Arseneault, D., et al, [1992, p.1067-1081, eng] 47-773
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Ecology and palaeoecology of the northern treeline. MacDonald, G.M., *et al*, [1992, *p.113-120, eng*] 47-1431
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Holocene vegetation histories from three sites in the tundra of northwestern Quebec, Canada. Gajewski, K., et al, [1992, p.329-336, eng] 47-1589
Response of subarctic forest tundra to climatic factors. Timoney, K.P., et al, [1992, p.1-9, eng] 47-3348
Pine tree-limit surveillance in Sweden. Kullman, L., [1993, p.24-31, eng] 47-3424
Paleoecological interpretation of sand dunes at the tree line, northeast sector of Hudson Bay, Quebec. Saint-Laurent, D., et al, [1992, p.209-220, fre] 47-3790
Forest development in cold climates. Alden, J., ed, [1993, 566p., eng] 47-4525
Winter desiccation resistance selection at timberlines. Larsen, J.B., [1993, p.59-64, eng] 47-4529
Mountain birch and afforestation in Sweden and Iceland. Sveinbjörnsson, B., et al, [1993, p.79-88, eng] 47-4531
Causes of alpine timberline: a review of the hypotheses. *Wardle, P.*, [1993, p.89-103, *eng*] 47-4532
Physiology of trees at treeline. Grace, J., et al, [1993, p.105-114, eng] 47-4533
Treeline in relation to climate, with special reference to oceanic areas. Tuhkanen, S., [1993, p.115-134, eng] 47-4534
Pliocene fossil *Nothofagus* (southern beech) from Antarctica. Webb, P.N., et al, [1993, p.135-165, eng] 47-4535
Predicting afforestation success during climatic warming at the northern limit of forests. Solomon, A.M., et al, [1993, p.167-188, eng] 47-4536
Genetic diversity of tree populations at their arctic limits. Tigerstedt, P.M.A., [1993, p.241-250, *eng*] 47-4540
Potential species and provenances for forest development in cold climates. Hagman, M., [1993, p.251-263, eng] 47-4541
Species and provenance choice at northern tree limits in *maritime climates*. Lines, R., [1993, p.265-276, *eng*] 47-4542
Accelerating adaptation of trees at tree limits by selective breeding. Lindgren, D., [1993, p.299-320, eng] 47-4545
Selection and breeding of Scots pine for northern Sweden. Nilsson, J.E., [1993, p.321-332, eng] 47-4546
Potential tree line in the Faroe Islands. Leivsson, T.G., [1993, p.463-474, eng] 47-4556
Forest trials at high elevations in Britain. Nixon, C.J., et al, [1993, p.475-489, eng] 47-4557
Wind and wave forests: a case study and implications for silviculture. Robertson, A., [1993, p.491-510, eng] 47-4558
Alpine timberline of Tibet. Li, B.S., [1993, p.511-527, eng] 47-4559
Forestry in New Zealand's southern high country. Ledgard, N.J., [1993, p.529-548, eng] 47-4560
Paleoclimatic variables derived from subarctic treeline dendrochronology. Yamaguchi, D.K., et al, [1993, p.256-262, eng] 47-5123

Forest soils
Microclimate of an interlobate complex in western Finland. *Rajakorpi, A.*, [1984, p.237-337, *eng*] 47-10
Lithologic composition and rock weathering potential of forested, glacial-till soils. Bailey, S.W., et al, [1992, 7p., eng] 47-430
Microorganism nucleic acids and biomass in alpine-forest soils in the northern Caucasus. Aseeva, I.V., et al, [1981, p.37-43, eng] 47-457
Mineralogy of silt material of soils of the forest tundra and northern taiga of the Kola Peninsula. Gradusov, B.P., et al, [1987, p.7-14, eng] 47-596
Cryogenesis and forest soil formation in Middle Siberia. Ershov, IU.I., et al, [1992, p.66-71, eng] 47-1706
Effect of prolonged freezing on chemical properties of soils and clays. *Polubesova, T.A.*, et al, [1992, p.140-145, eng] 47-1719
Heat energetics of cryopedogenesis. Kulikov, A.I., et al, [1992, p.173-177, eng] 47-1724
Cryogenesis and functioning of microbial communities in soil of Zabaikalye areas. Kulikov, A.I., et al, [1992, p.199-203, eng] 47-1729
Effect of soil freezing on the composition and properties of humus. Plotnikova, T.A., et al, [1992, p 203-208, eng] 47-1730

Soil formation in mountain boreal forests of Siberia. Molokov, V.A., et al. [1991, 151p., rus] 47-2284
Tundra-forest soils in the arctic Yenisey region, subjected to sulfur-containing industrial discharge. Ershov, IU.I., [1992, p.33-39, rus] 47-3271
Soil characteristics and C and N storage in soil. Ohta, S., et al. [1993, p.59-65, eng] 47-3976
Effect of freeze-thaw processes on calcium ion mobility in *the example of brown forest soil*. Gurikov, IU.V., et al. [1991, p.57-60, rus] 47-4810
Warming the North: what happens?. Woodwell, G.M., et al. [1993, p.1-8, eng] 47-5223
Characteristics of forest biogeocenoses. Pervova, N., [1993, p.79-85, eng] 47-5231
Assessing climate controls of northern forest soils and tree growth. Arp, P.A., et al. [1993, p.187-192, eng] 47-5237

Forest strips

Mountain conifers *reduce snow avalanche hazard in* French Alps. Jenkins, M.J., [1993, p.4-5, eng] 47-1887
Wind tunnel experiments on snowbreak forest planting. Ishizuka, Y., [1983, p.17-32, jpn] 47-4943
Wind tunnel experiments on highway snow countermeasures. Ishizuka, Y., et al. [1986, p.55-64, jpn] 47-4952
Wind tunnel experiments on highway snow *countermeasures*. Takabe, N., et al. [1991, p.69-73, jpn] 47-4971
Wind tunnel experiments on innovations at the Toyono bypass on National Highway 40. Takabe, N., et al. [1992, p.70-91, jpn] 47-4975
Selection of tree species and patterns of *planting for snowy* regions. Oie, T., [1985, p.75-81, jpn] 47-5158
See also: Protective vegetation

Forest trees

See also: Trees (plants)

Forest tundra

Recent dynamics of jack pine at its northern distribution limit in northern Quebec. Desponts, M., et al. [1992, p.1157-1167, eng] 47-1482
Tundra-forest soils in the arctic Yenisey region, subjected to sulfur-containing industrial discharge. Ershov, IU.I., [1992, p.33-39, rus] 47-3271
Response of subarctic forest tundra to climatic factors. Timoney, K.P., et al. [1992, p.1-9, eng] 47-3348
American arctic *lichens. 1. The macrolichens*. Thomson, J.W., [1984, 504p., eng] 47-3671
Paleoecological interpretation of sand dunes at the tree line, northeast sector of Hudson Bay, Quebec. Saint-Laurent, D., et al. [1992, p.209-220, fre] 47-3790

Forestry

Pine response to fertilization through snow cover. Marshall, V.G., et al. [1992, p.225-238, eng] 47-2016
Cold acclimation of pine trees measured by needle freezing tolerance. Lindgren, K., et al. [1992, p.309-315, eng] 47-2295
Frost hardiness of dormant *Salix* shoots. von Fircks, H.A., [1992, p.317-323, eng] 47-2296
Thermal analysis of freezing of conifer seedling buds. Stushnoff, C., et al. [1992, p.1305-1309, eng] 47-3841
Snow ablation in small forest openings in southwest Alberta. Berry, G.J., et al. [1992, p.1326-1331, eng] 47-3842
Frost, canker, and dieback of Douglas-fir in the central *interior of British Columbia*. Reich, R.W., et al. [1993, p.373-379, eng] 47-3843
Cultivation practice influence on conifer seedling frost tolerance. Calmé, S., et al. [1993, p.503-511, eng] 47-3844
Shading effects on spruce *frost damage*. Örlander, G., [1993, p.27-36, eng] 47-4296
Forest development in cold climates. Alden, J., ed. [1993, 566p., eng] 47-4525
Socioeconomic *importance of forests in Iceland*. Blöndal, S., [1993, p.1-13, eng] 47-4526
Mountain birch and afforestation in Sweden and Iceland. *Sveinbjörnsson, B., et al. [1993, p.79-88, eng]* 47-4531
Predicting afforestation success during climatic warming at the northern limit of forests. Solomon, A.M., et al. [1993, p.167-188, eng] 47-4536
Climate change as seen by trees and by climate modelers. Bowling, S.A., [1993, p.189-202, eng] 47-4537
Effects of wind on boreal forests. Robertson, A., [1993, p.203-225, eng] 47-4538
Biometeorological monitoring at forest sites. Thorgeirsson, H., et al. [1993, p.227-239, eng] 47-4539
Genetic diversity of tree populations at their arctic limits. Tigerstedt, P.M.A., [1993, p.241-250, eng] 47-4540
Potential species and provenances for forest development in cold climates. Hagman, M., [1993, p.251-263, eng] 47-4541
Species and provenance choice at northern tree limits in maritime climates. Lines, R., [1993, p.265-276, eng] 47-4542
Seed collections from North American trees for marginal sites in the Nordic countries. Skaret, G., et al. [1993, p.277-291, eng] 47-4543
Accelerating adaptation of trees at tree limits by selective *breeding*. Lindgren, D., [1993, p.299-320, eng] 47-4545
Selection and breeding of Scots pine for northern Sweden. Nilsson, J.E., [1993, p.321-332, eng] 47-4546
Provenance and individual variation in climatic hardiness of Scots pine in *northern Finland*. Mikola, J., [1993, p.333-342, eng] 47-4547
Hybridization among provenances of lodgepole pine. Fries, A., [1993, p.343-356, eng] 47-4548
Icelandic birch genetics and reforestation. Anamthawat-Jónsson, K., et al. [1993, p.357-368, eng] 47-4549
Chloroplast DNA diversity, phylogenetics, and *hybridization in Picea*. Sigurgeirsson, A., et al. [1993, p.369-382, eng] 47-4550
Genetic variation in early frost tolerance of spruce from northwestern North America. Dietrichson, J., [1993, p.383-391, eng] 47-4551
History of tree planting on the Aleutian Islands. Bruce, D., [1993, p.393-426, eng] 47-4552
Afforestation of spruce in the Vesteraalen Islands, Norway. Kaasen, N.O., et al. [1993, p.427-436, eng] 47-4553
Forest and arboretum development in Norway. Slettjord, S., [1993, p.437-451, eng] 47-4554
Forest development in Iceland. Loftsson, J., [1993, p.453-461, eng] 47-4555
Potential tree line in the Faroe Islands. Leivsson, T.G., [1993, p.463-474, eng] 47-4556
Forest trials at high elevations in Britain. Nixon, C.J., et al. [1993, p.475-489, eng] 47-4557
Wind and wave forests: a case study and implications for silviculture. Robertson, A., [1993, p.491-510, eng] 47-4558
Alpine timberline of Tibet. Li, B.S., [1993, p.511-527, eng] 47-4559
Forestry in New Zealand's southern high country. Ledgard, N.J., [1993, p.529-548, eng] 47-4560
Influence of opening size on snow evaporation in the forests of the Alberta Foothills. Bernier, P.Y., et al. [1993, p.239-244, eng] 47-4585
Pinus development related to soil preparation. Fries, C., [1993, p.73-80, eng] 47-4997

Formwork (construction)

Finite element analysis of cold embedments in fresh concrete. Swift, D.P., et al. [1992, p.41-57, eng] 47-1

Fossil ice

Cryogenic wedge within gravels, north of Kempten, Bavaria, F.R.G. Menzies, J., et al. [1992, p.365-374, eng] 47-2057
Oxygen isotope study of ice fields in East Antarctica. *Faure, G., et al. [1992, p.15-26, eng]* 47-2869
Radar stratigraphy of massive ground ice at Yaya Lake. Robinson, S.D., et al. [1993, p.23-32, eng] 47-3703
Fossil ice wedge formation near Tiksi. Fukuda, M., [1993, p.101-103, eng] 47-3980

Fossils

Late Pleistocene vertebrates and other fossils from *Epiguruk, northwestern Alaska*. Hamilton, T.D., et al. [1993, p.381-389, eng] 47-3899
Pliocene fossil *Nothofagus* (southern beech) from Antarctica. Webb, P.N., et al. [1993, p.135-165, eng] 47-4535
Penultimate great earthquake in Alaska. Combellick, R.A., [1993, p.7-15, eng] 47-4774
Pleistocene vertebrates and other fossils from Epiguruk, northwestern Alaska. Hamilton, T.D., et al. [1993, p.381-389, eng] 47-5143

Foundations

Effect of soil stress on its water permeability during *freezing and forecasting frost heave intensity*. Karlov, V.D., [1991, p.77-82, rus] 47-238
Some aspects of the statistical evaluation of the mechanical properties of soil and foundations. Gerasimov, A.S., [1991, p.82-91, rus] 47-239
Thermal regime of filtrating taliks in the foundation of a hydraulic power system and reservoir banks. Sobol', S.V., et al. [1992, p.106-110, rus] 47-366
Influence of frost heave on houses under construction in Merthyr Tydfil. Statham, I., et al. [1989, p.31-33, eng] 47-1001
Experimental long-term performance of some thermal foundation systems. Goldberg, L.F., et al. [1992, p 127-136, eng] 47-1151
Insulation configurations for slab-on-grade floors. Krarti, M., [1992, p.137-146, eng] 47-1152
Assessment of apparent soil thermal conductivity. *Sterling, R.L., [1992, p.147-157, eng]* 47-1153
Protection of pyramidal piles and driven blocks from frost heaving. Zhukov, N.V., et al. [1993, p.104-109, eng] 47-2060
Using nondestructive diagnostic methods to evaluate the condition of the material in foundations on permafrost. Izotov, V.N., ed. [1989, 44p., rus] 47-2316
Effective method of building foundations for structures on permafrost. Dolgikh, G.M., et al. [1991, p.16-17, rus] 47-2487
Frost-related performance of heated shallow foundation thermal insulation. Duquennoi, C., [1992, p.3-19, fre] 47-2665
Effect of the freezing of a foundation on the bearing capacity of a rigid airfield pavement. Onopa, I.A., et al. [1990, p.96-101, rus] 47-2759
Determining the design values for the depth of seasonal thawing of permafrost for pile foundations. Tsurikov, A.S., et al. [1992, p.22-25, rus] 47-2901
Geology and foundation works in Estonia. Vilo, A., [1992, p.109-117, eng] 47-3551
Foundation works in winter. Tammirinne, M., [1992, p.119-124, eng] 47-3552
Multifunctional combined foundations on permafrost soils. Nekliudov, V.S., et al. [1993, p.164-167, eng] 47-3576
Foundation improvement by artificial freezing. Spalding, A.V., et al. [1988, 6 col., eng] 47-3769
Long-term deformation of freeze saline soils. Alifanova, A.A., [1992, p.74-79, eng] 47-3834
Refreezing of a building foundation on permafrost. Claisse, M., et al. [1993, p.303-309, fre] 47-4471
Frost-susceptible soils as foundations of structures. Orlov, V.O., et al. [1992, 166p., rus] 47-4977
See also: Pavement bases; Permafrost bases; Roadbeds

Fractals

Multifractal cloud properties data assessment. Gautier, C., et al. [1992, 15p., eng] 47-3632
Optics on a fractal surface and the photometry of the regoliths. Drossart, P., [1993, p.381-393, eng] 47-4994
Topography of the upper and lower surfaces of 10 hectares of deformed sea ice. Melling, H., et al. [1993, p.349-369, eng] 47-5206
Estimate of the size of the damage zone beneath an indenter on ice. Parsons, B.L., [1993, p.371-380, eng] 47-5207

Fracturing

Physical-mechanical types of cryogenesis. Konishchev, V.N., et al. [1991, p.9-14, rus] 47-394
Evaluation of polymer-modified asphalts in Ontario. Joseph, P., et al. [1992, p.243-269, eng] 47-1137
Analysis for dynamic ice structure interaction involving *finite difference model and damage considerations*. Iyer, S.H., et al. [1993, p.199-206, eng] 47-4247

Fram Strait

Physical and dynamic properties of sea ice in the polar oceans. Gow, A.J., et al. [1991, 46p., eng] 47-704
Evaluating the role of the West Spitsbergen *current in the* formation of a sea ice boundary. Makshtas, A.P., et al. [1992, p.157-164, rus] 47-3814
Potential transport of radionuclides and other pollutants by arctic sea ice. Pfirman, S.L., et al. [1993, p.267-284, *eng*] 47-5036

France

Snow cover measurements in France. Duband, D., et al. [1992, p.18-27, eng] 47-490
Snow is their profession—the French "Pisteurs-Secouristes". Escudero, H., et al. [1992, p.32-39, eng] 47-1320
Winter behavioural patterns of self draining roadways. Livet, J., et al. [1992, 23p., eng] 47-1621
Month of July like no other. Brunot, G., [1992, p.12-13, fre] 47-2331

—Alps

Exceptional *rain-snow event of February 1990 in the* Northern Alps. Blanchet, G., [1993, p.68-77, fre] 47-4761

Frazil ice

Frazil jam evolution and transport of low density granules. Wang, D.S., [1992, *103p., eng*] 47-456
Determining the intrinsic permeability of frazil ice. Part 2: field investigations. White, K.D., et al. [1992, 15p., eng] 47-695
Salmon River experimental ice boom: 1989-90 and 1990-91 winter seasons. White, K.D., [1992, 17p., eng] 47-702
Petrographic and salinity characteristics of brackish water ice in the Bay of Bothnia. Gow, A.J., et al. [1992, 36p., *eng*] 47-706
Frazil production in partly filled tunnels. Horjen, I., [1988, p.139-140, nor] 47-726
Frazil ice in rivers near power stations. Andersson, A., et al. [1988, p.141-146, eng] 47-727
Discussion of "Minimization of frazil-ice production by river flow regulation". Ferrick, M.G., [1991, p.1406-1409, eng] 47-1286
Discussion of "Minimization of frazil-ice production by river flow regulation". Calkins, D.J., [1991, p.1402-1405, eng] 47-1287
Laboratory investigation of trash rack freezeup by frazil ice. Andersson, A., et al. [1992, 11p., eng] 47-1896
Structural characteristics and development of sea ice in the western Ross Sea. Jeffries, M.O., et al. [1993, p.63-75, eng] 47-2245
Frazil ice formation due to difference in heat and salt exchange across a density interface. Krylov, A.D., et al. [1992, p.497-506, *eng*] 47-2250
Interaction of frazil with suspended particles. Reimnitz, E., et al. [1993, p.117-135, eng] 47-2645
Interactions of frazil and anchor ice with sedimentary particles in a flume. Kempema, E.W., et al. [1993, *p.137-149, eng*] 47-2646
Optical techniques for the measurement of frazil ice. Pegau, W.S., et al. [1992, p.498-507, eng] 47-3734

Frazil ice *(cont.)*

Flow regulation for controlled river-ice formation. Jain, S.C., et al. [1993, 50p., eng] **47-4662**

Thermal effects of marine water mixing with different temperatures and salinities. Zatsepin, A.G., et al. [1991, p.72-76, eng] **47-4927**

Freeze drying

Cell shape and localisation of ice in leaves of overwintering wheat during frost stress in the field. Pearce, R.S., et al. [1992, p.324-331, eng] **47-795**

Industrial applications of freeze concentration technology. Final report. Barron, T.S., et al. [1987, Var. p., eng] **47-1622**

Ice formation in sucrose solutions. Shalaev, E.IU., et al. [1992, p.213-220, eng] **47-1933**

Operating pressure effects on fluidized bed freezing-drying. Wolff, E., et al. [1991, p.237-246, eng] **47-2303**

Freeze-drying heating profiles. Lombraña, J.I., et al. [1991, p.394-404, eng] **47-2304**

Mathematical modelling of heat transfer in freeze drying. Nastaj, J., [1991, p.405-413, eng] **47-2305**

Simulation of heating profiles in freeze-drying. Lombraña, J.I., et al. [1993, p.85-102, eng] **47-2882**

Influence of freezing technique on freeze drying. Kochs, M., et al. [1993, p.1727-1738, eng] **47-4413**

Freeze thaw cycles

Upper surface layer of permafrost; collected scientific papers. Mel'nikov, P.I., ed. [1991, 100p., rus] **47-392**

Physical-mechanical types of cryogenesis. Konishchev, V.N., et al. [1991, p.9-14, rus] **47-394**

Quantitative evaluation of deterioration in cryogenic erosion. Vasil'ev, A.A., et al. [1991, p.14-20, rus] **47-395**

Masonry wall and window system leakage investigation for university building. Frauenhoffer, J., [1992, p.107-115, eng] **47-409**

Environmental monitoring and performance evaluation of roller-compacted concrete pavement. Cortez, E.R., et al. [1992, 16p., eng] **47-694**

Poly(vinyl alcohol) hydrogels prepared by freezing-thawing cyclic processing. Stauffer, S.R., et al. [1992, p.3932-3936, eng] **47-744**

Dynamic simulation of phase changes in snowpacks and soils. Grant, R.F., [1992, p.1051-1062, eng] **47-902**

Collapse of peroxide-scavenging systems in apple flower-buds associated with freezing injury. Kuroda, H., et al. [1992, p.743-750, eng] **47-1000**

Field testing of a model for water flow and heat transport in variably saturated, variably frozen soil. Xu, X., et al. [1991, p.300-308, eng] **47-1128**

Construction of a geogrid- and geocomposite-faced soil-nailed slope reinforcement project in eastern Canada. Alston, C., [1991, p.87-95, eng] **47-1130**

Performance of asphalt concrete airport pavements during thaw weakening periods. Janoo, V.C., et al. [1992, p.167-183, eng] **47-1135**

Determination of the phase interface of the aggregate state of water in soil. Kitaev, V.V., [1989, p.84-92, eng] **47-1222**

Passive acoustic emission for quantitative evaluation of freeze thaw and alkali aggregate reaction in concretes. Taylor, M.A., [1992, p.1-12, eng] **47-1376**

Incorporating freeze-thaw calculations into a water balance model. Fox, J.D., [1992, p.2229-2244, eng] **47-1507**

Frost heave and creep in the Sör Rondane Mountains, Antarctica. Matsuoka, N., et al. [1992, p.271-280, eng] **47-1584**

Ice formation in freezing and thawing cycles of saturated sand. Wang, J.C., et al. [1992, p.101-106, chi] **47-1645**

Effect of freezing-thawing cycles on the heat-mass-exchangeable properties of cryogenic soils. Stepanov, A.V., et al. [1992, p.136-139, eng] **47-1718**

Effect of prolonged freezing on chemical properties of soils and clays. Polubesova, T.A., et al. [1992, p.140-145, eng] **47-1719**

Permafrost environment of the Daisetsu Mountains, Hokkaido, Japan. Sone, T., [1992, p.235-240, eng] **47-1777**

Superplasticizer based on poly-electrolytic compounds. Simonenko, L.I., et al. [1991, p.18-20, rus] **47-2159**

Moisture deformation of concrete with admixtures under cyclic freeze-thaw. Almazov, V.O., et al. [1991, p.29-30, rus] **47-2160**

Periglacial microforms in the Lesotho Highlands. Hanvey, P.M., et al. [1992, p.353-361, eng] **47-2242**

Modeling the thermodynamic processes of permafrost. Mal'kov, IU.K., [1990, 155p., rus] **47-2317**

Durability of concrete in Iceland. Kristjánsson, R., et al. [1992, p.381-392, eng] **47-2576**

Dilatometric variations of calcareous rock cylinders during freeze thaw cycles. Prick, A., et al. [1993, p.1-15, fre] **47-3114**

Freeze-thaw activity in the Abisko Mountains, Sweden. Nyberg, R., [1993, p.37-47, eng] **47-3116**

Subsurface drainage of pavement structures: current Corps of Engineers and industry practice. Allen, W.L., [1991, 31p., eng] **47-3339**

Freeze-thaw resistance of mortar-polymer admixtures. Atzeni, C., et al. [1993, p.301-308, eng] **47-3421**

Silicone emulsion having improved freeze/thaw resistance. Bakken, K.L., [1987, 8 col., eng] **47-3851**

Proceedings. [1993, 170p., eng] **47-4267**

Gas pipelines and the challenge of the cold regions: an experimental study. Williams, P.J., [1993, p.5-18, eng] **47-4268**

Microstructural genesis of a frost susceptible soil adjacent to a buried chilled pipeline. White, T.L., et al. [1993, p.73-91, eng] **47-4274**

France-Canada joint study of deformation of an experimental pipe line by differential frost heave. Williams, P.J., et al. [1993, p.56-60, eng] **47-4301**

Guide to durable concrete. [1992, 39p., eng] **47-4353**

Time- and temperature-dependent solute loading of isolated thylakoids during freezing. Bakaltcheva, I., et al. [1992, p.607-615, eng] **47-4370**

Cyclic freeze-thaw effects on the soil cover for tailings. Mohamed, A.M.O., et al. [1993, p.259-272, eng] **47-4468**

Lagoon sludge dewatering by natural freeze-thaw. Martel, C.J., et al. [1993, p.357-364, eng] **47-4477**

Freezing rate of sludge layers. Parker, P.J., et al. [1993, p.405-412, eng] **47-4478**

Effect of freeze-thaw processes on calcium ion mobility in the example of brown forest soil. Gurikov, IU.V., et al. [1991, p.57-60, rus] **47-4810**

Mechanism of freeze-thaw deterioration of rock in the Great Lakes region. Lienhart, D.A., [1993, p.77-87, eng] **47-4888**

Soil-fabric measurement using phase transition porosimetry. Gunnink, B.W., et al. [1993, p.1019-1036, eng] **47-5105**

Seasonal variability of hydraulic conductivity. Asare, S.N., et al. [1993, p.451-457, eng] **47-5146**

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Freeze thaw tests

Durability of concrete incorporating high-volume of low-calcium (ASTM class F) fly ash. Malhotra, V.M., [1989, p.93-104, eng] **47-13**

Effect of condensed silica fume on the frost resistance of concrete. Opsahl, O.A., et al. [1989, p.149-160, eng] **47-14**

Use of air-conditioning and plasticizing admixtures for producing concrete with good salt-frost resistance. Petersson, P.E., [1989, p.161-169, eng] **47-15**

Salt-scaling resistance of concrete with air-entraining and superplasticizing admixtures. Ranisch, E.H., et al. [1989, p.170-178, eng] **47-16**

Frost-salt scaling tests on concrete-effects of test parameters and condensed silica fume. Sellevold, E.J., [1989, p.215-217, eng] **47-17**

Chemical resistance of alkali-activated concrete. Talling, B., [1989, p.252-257, eng] **47-18**

Cryogenic frost resistance of lightweight concrete containing silica fume. Khayat, K.H., et al. [1989, p.915-928, eng] **47-59**

Concrete resistance to freeze-thaw and de-icing salt cycling. Bilodeau, A., et al. [1989, p.945-970, eng] **47-60**

Frost resistance of superplasticized air-entrained concrete. Siebel, E., [1989, p.297-319, eng] **47-63**

Upgrading sand, gravel to meet freeze-thaw specs. Magerowski, A., et al. [1989, p.62,64,66, eng] **47-76**

Freezing of water in hardboard: absence of changes in mechanical properties. George, M.F., et al. [1992, p.252-259, eng] **47-771**

Effect of sealers on the freeze-thaw resistance of mortar. Litvan, G.G., [1992, p.1141-1147, eng] **47-791**

Alternative test for determining the frost resistance of bricks. Arnott, M.R., et al. [1990, p.105, eng] **47-824**

Bubble-formation damage to plant xylem due to freeze thaw cycling. Sperry, J.S., et al. [1992, p.605-613, eng] **47-903**

Durability of MSW fly-ash concrete. Triano, J.R., et al. [1992, p.369-384, eng] **47-1057**

Comparison of four aggregates using the Washington hydraulic fracture test. Janssen, D.J., et al. [1991, p.57-67, eng] **47-1131**

Laboratory tests for predicting coarse aggregate performance in Ontario. Senior, S.A., et al. [1991, p.97-106, eng] **47-1132**

Non-air-entrained high-strength concrete—is it frost resistant. Cohen, M.D., et al. [1992, p.406-415, eng] **47-1548**

Comparison of thawing soil strength measurements for predicting vehicle performance. Shoop, S.A., [1992, 11p., eng] **47-1895**

Concrete freeze/thaw resistance in the presence of deicer solutions. Bordeleau, D., et al. [1992, p.547-553, eng] **47-2546**

Freeze-thaw durability of lightweight carbon fiber reinforced cement composites. Soroushian, P., et al. [1992, p.491-494, eng] **47-2548**

Freeze/thaw characteristics of a copper/water heat pipe: effects of noncondensible gas charge. Ochterbeck, J.M. et al. [1993, p.127-132, eng] **47-2549**

New method for assessing frost damage in non-air entrained hydraulic structures. Hooton, R.D., et al. [1992, p.339-355, eng] **47-2575**

Parametric analysis for thawing frozen spheroidal (prolate and oblate) or finitely cylindrical food. Sheen, S., et al. [1992, p.236-240, eng] **47-2606**

Changes in microstructure of fine-grained soils due to freezing. Grechishchev, S.E., et al. [1992, p.1-10, eng] **47-3121**

Engineering properties of rubberized concrete. Eldin, N.N., et al. [1992, p.912-923, eng] **47-3307**

Frost resistance of high-strength concrete. Pigeon, M., et al. [1992, p.975-980, fre] **47-3342**

Freeze-thaw durability and scaling resistance of concrete paving blocks. Boisvert, J., et al. [1992, p.1017-1024, fre] **47-3343**

Proceedings. [1993, 1681p. (2 vols.), eng] **47-3605**

Resistance of fly ash concrete to freezing and thawing. Nasser, K.W., et al. [1993, p.205-226, eng] **47-3607**

Comparative study of natural pozzolans used in blended cement production. Akman, M.S., et al. [1993, p.471-494, eng] **47-3609**

Evaluation of pozzolanic activity of rice husk ash. Sugita, S., et al. [1993, p.495-512, eng] **47-3610**

Wet-mix silica fume shotcrete: effect of silica fume form. Morgan, D.R., et al. [1993, p.1251-1271, eng] **47-3614**

Freeze thaw resistance of underwater concrete aggregates. Fukudome, K., et al. [1993, p.1565-1582, eng] **47-3618**

Silica fume replacement of cement—effects on concrete durability. Hooton, R.D., [1993, p.143-151, eng] **47-4351**

Effect of freeze-thaw on the hydraulic conductivity and morphology of compacted clay. Othman, M.A., et al. [1993, p.236-246, eng] **47-4512**

Evaluation of concrete and aggregate durability test. [1993, 64p., eng] **47-4615**

High strength concrete resistance to cold weather. Ernzen, J.J., et al. [1993, 304p., eng] **47-5061**

Freezeup

Effects of severe freezing periods and discharge on the formation of ice jams. Zufelt, J.E., et al. [1992, 12p., eng] **47-698**

Field studies of the freezing processes of the Amgun' River. Bolotnikov, G.I., et al. [1991, p.38-46, rus] **47-1047**

Estimating changes in dates for the initial phases of icing in relation to climatic changes. Shanochkin, S.V., [1991, p.69-74, rus] **47-1051**

Freeze-up and break-up of ice cover on the Shengli Reservoir, Heilongjiang Province. Xie, Y.G., [1992, p.168-173, chi] **47-1654**

Laboratory investigation of trash rack freezeup by frazil ice. Andersson, A., et al. [1992, 11p., eng] **47-1896**

Fluid line deicer. Wilson, D.W., [1989, 6 col., eng] **47-3112**

Analysis of conditions and long-term forecast of ice-dam levels on the Lena. Kilmianinov, V.V., [1992, p.64-69, eng] **47-3993**

Effect of the water-exchange index on the temperature regime of hydrostation pools. Gotlib, IA.L., et al. [1993, p.462-468, eng] **47-4014**

Stream cooling by heat transfer to partially-submerged rocks. Davis, R.E., [1992, p.193-201, eng] **47-4048**

Radar backscatter measurements from arctic sea ice during the fall freeze-up. Beaven, S.G., et al. [1993, 66p., eng] **47-4621**

Freezing

Freezing in confined geometries. Sokol, P.E., et al. [1992, p.777-779, eng] **47-180**

Freezing of water in hardboard: absence of changes in mechanical properties. George, M.F., et al. [1992, p.252-259, eng] **47-771**

Characteristics of the freezing heat transfer of layered air-water flow in a circular tube. Fukusako, S., et al. [1989, p.91-97, eng] **47-915**

Doppler radar wind and reflectivity signatures with overrunning and freezing-rain episodes: preliminary results. Prater, E.T., et al. [1992, p.1350-1358, eng] **47-1123**

Protection of membrane integrity in *Medicago sativa* L. by glycinebetaine against the effects of freezing. Zhao, Y., et al. [1992, p.541-543, eng] **47-1264**

Waste water reuse by freeze concentration with a falling film reactor. Müller, M., et al. [1992, p.1475-1482, eng] **47-1552**

NMR imaging of roots: effects after root freezing of containerised conifer seedlings. Southon, T.E., et al. [1992, p.329-334, eng] **47-1627**

Freezing flow in a subcooled permeable medium. Griffiths, S.K., et al. [1992, p.1036-1041, eng] **47-1672**

Effects of freezing on the measurement of solids in wastewater sludges. Roy, N.A., et al. [1990, p.191-197, fre] **47-1784**

Relation of acclimating bud water to winter hardiness. Vertucci, C.W., et al. [1992, p.503-511, eng] **47-1950**

[illegible]mental research on external factors affecting the [illegible]ng of supercooled water. Saito, A., et al. [1992, [illegible]-2536, eng] **47-2147**

[illegible]eneous freezing of sulfuric acid droplets. I. [illegible]ation of H2SO4 x 4H2O (SAT). Luo, B.P., et al. [illegible]92, p.225-228, eng] **47-2254**

Production and heat transfer characteristics of liquid ice as new PCM. Fukusako, S., et al. [1992, p.347-364, eng] **47-2298**

Thermal modeling of freezing in biological tissue. Eto, T.K., et al. [1991, p.291-298, eng] **47-2559**

Adaptive finite element analysis of axisymmetric freezing. Sutanto, E., et al. [1992, p.3301-3312, eng] 47-2609
Freeze risk to Florida citrus. Part 2: Temperature variability and circulation patterns. Downton, M.W., et al. [1993, p.364-372, eng] 47-2708
Solidification of a binary mixture saturating a bed of glass spheres. Cao, W.Z., et al. [1991, p.725-737, eng] 47-2861
Intensification of freezing earth hydraulic structures by natural cold. Panteleev, V.G., et al. [1991, p.691-694, rus] 47-2908
Dynamical criterion for freezing of colloidal liquids. Löwen, H., et al. [1993, p.1557-1560, eng] 47-4347
Freezing. Haymet, A.D.J., [1992, p.363-405, eng] 47-4367
Freezing of water between vertical tubes. Kim, C.J., et al. [1993, p.2647-2656, eng] 47-4414
Effects of freezing and moisture on impact properties of glass fiber reinforced RTM parts. Karbhari, V.M., et al. [1992, p.135-142, eng] 47-4627
On the characteristics of mass transfer during the freezing of peat. Brovka, G.P., et al. [1991, p.51-56, rus] 47-4809
Redistribution of moisture and cryogenic structural formation in freezing sapropel. Brovka, G.P., et al. [1991, p.67-74, rus] 47-4812
Recent advances in research on freezing and melting heat-transfer phenomena. Fukusako, S., et al. [1991, p.1157-1170, eng] 47-5109

See also: Artificial freezing; Concrete freezing; Ice formation; Pipeline freezing; Regelation; Sea water freezing; Seasonal freeze thaw; Soil freezing; Spray freezing; Vacuum freezing

Freezing depth

See also: Frost penetration

Freezing front

Predicting ice formation parameters in closed systems. Dubina, M.M., et al. [1992, p.91-97, rus] 47-68
Determining depth of phase change front of solid water in soil. Tsibul'skii, V.R., et al. [1992, p.193-201, chi] 47-1658
Winter water migration through deep-frozen soils of West Siberia. Panfilov, V.P., et al. [1992, P.111-115, eng] 47-1714
Electrical resistance as a function of mushy layer solid fraction. Shirtcliffe, T.G.L., et al. [1992, p.495-501, eng] 47-2607
Adaptive finite element analysis of axisymmetric freezing. Sutanto, E., et al. [1992, p.3301-3312, eng] 47-2609
Solidification in saline solutions. Rubinsky, B., et al. [1993, p.157-167, eng] 47-3288
Liquid freezing during laminar flow. Weigand, B., et al. [1993, p.294-301, eng] 47-3838
Sensitivity analysis of frost heave—a theoretical study. Sheng, D., et al. [1993, p.3-16, eng] 47-4115
Thermal effects on the shape of a solidifying interface near a foreign particle. Casses, P., et al. [1993, p.13-20, eng] 47-4756
Mechanics of bedrock frost heaving in permafrost regions. Michaud, Y., [1991, 128p., eng] 47-4900
Simplified numerical solution of the Miller model of secondary frost heave. Fowler, A.C., et al. [1993, p.327-336, eng] 47-5204
Soil sampling and methods of analysis. Carter, M.R., ed. [1993, 823p. (Pertinent p.755-814), eng] 47-5248
Frost heave potential. Konrad, J.M., [1993, p.797-806, eng] 47-5252
Depth of frost penetration. Schellekens, F.J., et al. [1993, p.807-814, eng] 47-5253
Complete model for the laminar flow of supercooled liquid water. Ismail, K.A.R., et al. [1992, p.335-349, eng] 47-5265

Freezing indexes

Growing season trends in the Alaskan climate record. Sharratt, B.S., [1992, p.124-127, eng] 47-518
Permafrost environment of the Daisetsu Mountains, Hokkaido, Japan. Sone, T., [1992, p.235-240, eng] 47-1777
Frost penetration beneath cleared pavements. McCormick, G., [1993, p.117-126, eng] 47-4130
Permafrost zonation in Russia under anthropogenic climatic change. Nelson, F.E., et al. [1993, p.137-148, eng] 47-4149

Freezing nuclei

Anomalous freezing point depression of solvents in a swollen homogeneous rubber network. Grobler, J.H.A., et al. [1993, p.575-577, eng] 47-3562

Freezing point depressants

See also: Antifreezes

Freezing points

Low temperature studies of stability of emulsion explosives. Ganguly, S., et al. [1992, p.243-256, eng] 47-194
Forecasting snow versus rain in Kulu Valley. Rangachary, N., et al. [1985, p.304-309, eng] 47-547
Geochemical basis for the geotechnology of metals in frozen ground conditions. Ptitsyn, A.B., [1991, 118p., rus] 47-1500
Freezing points of H2SO4 aqueous solutions and formation of polar stratospheric clouds. Ohtake, T., [1992, p.233-236, eng] 47-2256
Revised freezing point equation and table for H2O-NaCl solutions. Bodnar, R.J., [1993, p.683-684, eng] 47-2928
Freezing points of H2SO4 aqueous solutions and formation of stratospheric ice clouds. Ohtake, T., [1993, p.138-144, eng] 47-3534
Anomalous freezing point depression of solvents in a swollen homogeneous rubber network. Grobler, J.H.A., et al. [1993, p.575-577, eng] 47-3562
Spectroscopic determination of aviation fuel freezing point. Lysaght, M.J., et al. [1993, p.623-631, eng] 47-3985
Effects of surfaces on the melting-freezing behavior of fluids in derivatized- and nude-porous silica. Malhotra, V.M., et al. [1993, p.121-126, eng] 47-4709
Homogeneous ice nucleation and supercooled liquid water in orographic wave clouds. Heymsfield, A.J., et al. [1993, p.2335-2353, eng] 47-4891
Determination of salting frequency through examination of salt residue amounts. Dirnbock, G., [1990, 38p., ger] 47-4985
Heat transfer from a cylinder buried in a frozen medium. Oosthuizen, P.H., et al. [1992, p.457-475, eng] 47-5264

See also: Melting points

Freezing potential (electrical)

Oscillation of the freezing potential of aqueous lithium chloride solutions containing ethanol. Ozeki, S., et al. [1992, p.2511-2516, eng] 47-461

Freezing rate

Field-tested model for freeze protection of arctic multiphase pipelines. Eager, K., [1992, p.142-145, eng] 47-223
Scanning electron microscopy of ice cream. 2. Caldwell, K.B., et al. [1992, p.11-23, eng] 47-2015
Frazil ice formation due to difference in heat and salt exchange across a density interface. Krylov, A.D., et al. [1992, p.497-506, eng] 47-2250
Homogeneous freezing of sulfuric acid droplets. 2. Implications for PSCs and heterogeneous chemistry. Peter, T., et al. [1992, p.229-232, eng] 47-2255
Ocean interactions with the base of Amery Ice Shelf, Antarctica. Hellmer, H.H., et al. [1992, p.20,305-20,317, eng] 47-2342
Experimental study of freezing of binary solutions. Zampino, M.A., et al. [1993, p.133-138, eng] 47-2550
Solidification of a binary mixture in a rectangular cavity. Zampino, M.A., et al. [1992, p.629-639, eng] 47-4361

Fresh water

Ice formation on deep weakly stratified water. Walin, G. [1993, p.143-157, eng] 47-2890

Friction

Drag coefficients for winter antarctic pack ice. Wamser, C., et al. [1993, p.12,431-12,437, eng] 47-4520

See also: Glacier friction; Ice friction; Internal friction; Metal ice friction; Metal snow friction; Plastics ice friction; Plastics snow friction; Rubber ice friction; Rubber snow friction; Skid resistance; Wood ice friction; Wood snow friction

Fronts (meteorology)

Major cloud [illegible] the Arctic and their relation to fronts and [illegible] Fett, R.W., [1992, p.925-945, eng] 47-591
Two polar [illegible] Denmark. Rasmussen, E.A., et al. [1992, p[illegible]ng] 47-1173
Evolution of atmospheric circulation over the North Atlantic in the period of hydrological front displacement. Semenov, M.V., et al. [1991, p.85-89, eng] 47-1180
Front Range blizzard of 1990. Part 1: synoptic and mesoscale structure. Marwitz, J.D., et al. [1993, p.402-415, eng] 47-3676
Position, structure and characteristics of the dynamics of the polar frontal zone. Romantsov, V.A., [1991, p.157-181, rus] 47-3967
Case study of heavy snowfall in Oklahoma. Marwitz, J.D., et al. [1993, p.648-660, eng] 47-4256
Comments on paper by Wesley et al and reply. Auer, A.H., Jr., et al. [1991, p.19-21, eng] 47-5259

Frost

Effects of summer frosts and subsequent shade on foliage gas exchange in peatland tamarack and black spruce. Dang, Q.L., et al. [1992, p.973-979, eng] 47-1188
Dew and frost chemistry at a midcontinent site, United States. Wagner, G.H., et al. [1992, p.20,591-20,597, eng] 47-2052
Prediction of frost growth on a flat plate. Tao, Y.X., et al. [1993, p.278-281, eng] 47-2551
Characteristics of heat pump system operating with frost formation. Aoki, K., et al. [1991, p.391-396, eng] 47-2566
Mathematical model for predicting the densification and growth of frost on a flat plate. Tao, Y.X., et al. [1993, p.353-363, eng] 47-2608
Cryogenesis and frost genesis in soils. Vtorushin, V.A., [1992, p.38-42, rus] 47-3266
Frost, canker, and dieback of Douglas-fir in the central interior of British Columbia. Reich, R.W., et al. [1993, p.373-379, eng] 47-3843
Ground frost restriction of subarctic Picea abies forest in northern Sweden. Kullman, L., [1991, p.167-178, eng] 47-4339

Frost action

Durability of concrete incorporating high-volume of low-calcium (ASTM class F) fly ash. Malhotra, V.M., [1989, p.93-104, eng] 47-13
Frost-salt scaling tests on concrete-effects of test parameters and condensed silica fume. Sellevold, E.J., [1989, p.215-217, eng] 47-17
Effects of freeze-thaw cycles on reinforced concrete fatigue behavior. Radlan, T.A., [1990, 220p., eng] 47-84
Ice-blister observations on glaciers, sea ice and rivers. Kovacs, A., [1992, p.314-316, eng] 47-473
Opal cutans in the profile of mountain tundra sod soil in the extreme north-east of the USSR. Pustovoitov, K.E., [1990, p.12-17, eng] 47-474
Some typical problems encountered in roads and airfield pavements in snowbound areas. Arya, I.R., et al. [1985, p.279-286, eng] 47-578
Construction of concrete pavements in areas of snowfall. Phull, Y.R., et al. [1985, p.318-344, eng] 47-581
Pavements in seasonal frost areas. Aggarwal, R.C., et al. [1985, p.381-386, eng] 47-584
Cell shape and localisation of ice in leaves of overwintering wheat during frost stress in the field. Pearce, R.S., et al. [1992, p.324-331, eng] 47-795
Periglacial geomorphology: what, where, when. Thorn, C.E., [1992, p.1-30, eng] 47-845
Evaluation of frost action mitigation procedures for highly frost-susceptible soils. MacKay, M.H., et al. [1992, p.91-109, eng] 47-1134
Silt-enriched horizons due to vertical mesosorting in cryogenic soils. Regairaz, M.C., [1992, p.154-167, eng] 47-1722
Analysis and design for frost effect in soil-steel structures. Ghobrial, N., [1990, 117p., eng] 47-2104
Use of falling weight deflectometer (FWD) to characterize seasonal variation in pavement response. Janoo, V.C., et al. [1992, p.395-404, eng] 47-2628
Dilatometric variations of calcareous rock cylinders during freeze thaw cycles. Prick, A., et al. [1993, p.1-15, fre] 47-3114
Pleistocene periglacial structures and landforms in western Czechoslovakia. Czudek, T., [1993, p.65-75, eng] 47-3118
Frost action of rock faces within a glacier of the Juran Neuchâtel. Pancza, A., [1992, p.49-54, fre] 47-3126
Frost damage to stone cultural relics. Akagawa, S., [1993, p.23-40, eng] 47-3710
Use of steel meshes against longitudinal frost cracks in flexible pavements. Saimenkaita, S., [1993, p.79-82, eng] 47-4124
Shading effects on spruce frost damage. Örlander, G., [1993, p.27-36, eng] 47-4296
Slow soil movement in Tarfala Valley, Kebnekaise Mountains, Swedish Lapland. Jahn, A., [1991, p.93-107, eng] 47-4309
Mechanism of freeze-thaw deterioration of rock in the Great Lakes region. Lienhart, D.A., [1993, p.77-87, eng] 47-4888
Periglacial microjointing and faulting in Weichselian fluvio-aeolian deposits. Mol, J., et al. [1993, p.15-30, eng] 47-5005

Frost deposit

See also: Hoarfrost

Frost forecasting

Prediction of cycles of freeze-thaw in concrete located in cold sea environment. Sakurai, H., et al. [1992, p.290-294, jpn] 47-152
Bioclimatology of frost. Kalma, J.D., et al. [1992, 144p., eng] 47-1794
Freeze risk to Florida citrus. Part 2: Temperature variability and circulation patterns. Downton, M.W., et al. [1993, p.364-372, eng] 47-2708
Modelling of local climate with applications to winter road conditions. Gustavsson, T., [1990, 13p. + reprints, eng] 47-4691
Infrared thermography in applied road climatological studies. Gustavsson, T., et al. [1990, 22p., eng] 47-4692
Risk of road slipperiness during warm-air advections. Gustavsson, T., [1990, 23p., eng] 47-4693
Variation in road surface temperature due to topography and wind. Gustavsson, T., [1990, p.227-236, eng] 47-4694
Nocturnal air and road surface temperature variations in complex terrain. Bogren, J., et al. [1990, 17p., eng] 47-4695
Prediction of air and road surface temperatures. Gustavsson, T., et al. [1990, 45p., eng] 47-4696
Application of a local climatological model for prediction of air and road surface temperatures. Bogren, J., [1990, 12p. + reprints, eng] 47-4697
Screening effects on road surface temperature and road slipperiness. Bogren, J., [1990, 17p., eng] 47-4698
Road surface temperature and risk of slipperiness. Bogren, J., [1990, 17p., eng] 47-4699
Frost formation and heat transfer on circular cylinders in cross flow. Raju, S.P., et al. [1992, p.109-122, eng] 47-4704
Prediction of frost growth on a flat plate. Tao, Y.X., et al. [1992, p.131-139, eng] 47-4705
Study on methods for predicting road surface freezing. Suzuki, T., et al. [1993, p.38-42, jpn] 47-4791

Frost forecasting *(cont.)*
Development of a system for forecasting road surface freezing. Ishizaka, T., [1993, p.51-54, jpn] 47-4793
Soil sampling and methods of analysis. Carter, M.R., ed. [1993, 823p. (Pertinent p.755-814), eng] 47-5248
Frost heave potential. Konrad, J.M., [1993, p.797-806, eng] 47-5252
Depth of frost penetration. Schellekens, F.J., et al. [1993, p.807-814, eng] 47-5253

Frost heave
Active layers of Fildes Peninsula. Zhu, C., et al. [1991, p.24-37, eng] 47-38
Predicting pipeline frost load. Fielding, M.B., et al. [1988, p.62-69, eng] 47-75
Engineering geological conditions, bases and foundations of transport structures in Siberia: interuniversity collected scientific papers. Chernousov, S.I., ed. [1991, 109p., rus] 47-186
Characteristics of frost heave properties of freezing ground during engineering geological investigations for construction purposes. Puskov, V.I., [1991, p.21-28, rus] 47-187
Calculating the mutual effect of piles on the magnitude of frost heave forces. Puskov, V.I., et al. [1991, p.83-92, rus] 47-191
Effect of soil stress on its water permeability during freezing and forecasting frost heave intensity. Karlov, V.D., [1991, p.77-82, rus] 47-238
Discrete ice lens theory for frost heave beneath pipelines. Nixon, J.F., [1992, p.487-497, eng] 47-416
Frost heave and deformation of buried chilled pipelines. [1986, 71p., eng] 47-437
Frost heave and creep on an experimental slope. Coutard, J.P., et al. [1988, p.13-23, eng] 47-439
Influence of frost heave on houses under construction in Merthyr Tydfil. Statham, I., et al. [1989, p.31-33, eng] 47-1001
Ecology of recently-deglaciated terrain. Matthews, J.A., [1992, 386p., eng] 47-1066
Effect of a geotextile on water migration and frost heave in a large-scale test basin. Shoop, S.A., et al. [1991, p.309-318, eng] 47-1129
Evaluation of frost action mitigation procedures for highly frost-susceptible soils. MacKay, M.H., et al. [1992, p.91-109, eng] 47-1134
Strength characteristics of frozen ground at variable temperatures. Konovalov, A.A., [1991, 91p., rus] 47-1502
Root mechanical properties related to disturbed and stressed habitats in the Arctic. Jonasson, S., et al. [1992, p.179-186, eng] 47-1557
Frost heave and creep in the Sör Rondane Mountains, *Antarctica.* Matsuoka, N., et al. [1992, p.271-280, eng] 47-1584
Application limit for reducing heave of sulphate saline soil by mixing sodium chloride. Ding, Y.Q., et al. [1992, p.107-114, chi] 47-1646
Vertical movements of boulders in a subnival boulder pavement at 2800 m a.s.l. in the Alps (France). Pissart, A., et al. [1992, p.203-208, eng] 47-1771
Arctic pipeline limit states for secondary loadings. Khatib, I.F., et al. [1992, p.7-14, eng] 47-1830
New frost heave prediction method for design of northern pipelines. Nixon, J.F., [1992, p.32-39, eng] 47-1833
France-Canada joint study of deformation of an experimental pipeline by differential frost heave. Williams, P.J., et al. [1992, p.40-45, eng] 47-1834
Plastic buckling of pipes under bending and internal pressure. Kim, H.O., [1992, p.46-51, eng] 47-1835
Experience in full-scale tests of arctic gas pipelines. Kharionovskii, V.V., [1992, p.110-118, eng] 47-1836
Protection of pyramidal piles and driven blocks from frost heaving. Zhukov, N.V., et al. [1993, p.104-109, eng] 47-2060
Frost heave and the surface melting of ice. Dash, J.G., [1991, p.339-356, eng] 47-2302
Transport phenomena in frozen porous media. Perfect, E., et al. [1991, p.243-270, eng] 47-2860
New technical solution for the reliable anchoring of an underground pipeline in frost-heaving ground. Kharionovskii, V.V., et al. [1992, p.20-22, rus] 47-2900
Determination of pollen accumulation rates in frozen sediments. Wang, X.C., et al. [1993, p.87-93, eng] 47-3120
Frost heave forces on buried pipelines subject to freeze thaw. [1992, 68p., eng] 47-3150
Potential leachate production due to cold weather effects. Leskiw, E.J., et al. [1992, p.660-667, eng] 47-3345
Interfacial separator for concrete structures. Dahowski, D.E., [1988, 8 col., eng] 47-3640
Frost damage to stone cultural relics. Akagawa, S., [1993, p.23-40, eng] 47-3710
Frost in geotechnical engineering. Phukan, A., ed. [1993, 191p., eng] 47-4114
Sensitivity analysis of frost heave—a theoretical study. Sheng, D., et al. [1993, p.3-16, eng] 47-4115
Freezing pressure development on a buried chilled pipeline. Ladanyi, B., et al. [1993, p.23-33, eng] 47-4117
Evaluation of factors affecting frost susceptibility in soils. Kujala, K., [1993, p.83-87, eng] 47-4125
Experiments with frost-heave prevention in concrete troughs. Kubo, H., et al. [1993, p.89-96, eng] 47-4126
Swelling of frozen clay soils contaminated by sodium chloride. Kumor, M.K., [1993, p.97-102, eng] 47-4127
Field and laboratory tests on adfreeze strength of ground to model concrete piles. Suzuki, T., et al. [1993, p.103-109, eng] 47-4128
Use of frost insulation in the repair of frost heave damages. Saarelainen, S.M.I., [1993, p.113-116, eng] 47-4129
Seasonal deformations of underground utilidors on permafrost in Norilsk. Grebenets, V.I., et al. [1993, p.151-155, eng] 47-4133
Frost heave theories and design measures against frost heave. Phukan, A., [1993, p.173-189, eng] 47-4135
Proceedings. [1993, 170p., eng] 47-4267
Gas pipelines and the challenge of the cold regions: an experimental study. Williams, P.J., [1993, p.5-18, eng] 47-4268
Soil-pipeline interaction associated with a large diameter chilled pipeline in temperate climates. Greene, D.P., et al. [1993, p.25-33, eng] 47-4270
Stress history and vertical displacement matching for the pipeline at Caen, France subjected to frost heave. Rajani, B., et al. [1993, p.34-47, eng] 47-4271
Thermomechanical modelling of freezing soil. Frémond, M., et al. [1993, p.48-60, eng] 47-4272
Stress-strain behaviour of frozen soil in tension. Sayles, F.H., [1993, p.61-72, eng] 47-4273
Microstructural genesis of a frost susceptible soil adjacent to a buried chilled pipeline. White, T.L., et al. [1993, p.73-91, eng] 47-4274
Experimental study and numerical solution of frost heaving in specific materials. Padilla, F., [1993, p.116-136, fre] 47-4277
Current work, 1992. The Canada-France Pipeline-Frostheave Frozen Transition Experiment. Riseborough, D.W., [1993, p.162-170, eng] 47-4279
France-Canada joint study of deformation of an experimental pipe line by differential frost heave. Williams, P.J., et al. [1993, p.56-60, eng] 47-4301
Altitudinal zonation of selected geomorphological phenomena in an alpine periglacial area (Abisko, northern Sweden). Niessen, A., et al. [1992, p.183-196, eng] 47-4327
Detection of frost-prone highway beds from response-type surface roughness measurements. Scully, J., [1992, 15p. + appends., eng] 47-4616
Mathematical model of frost heave and thaw settlement in pavements. Guymon, G.L., et al. [1993, 126p., eng] 47-4870
Mechanics of bedrock frost heaving in permafrost regions. Michaud, Y., [1991, 128p., eng] 47-4900
Frost-susceptible soils as foundations of structures. Orlov, V.O., et al. [1992, 166p., rus] 47-4977
Frost heave damage to roads from abnormally low temperatures. Ito, N., [1985, p.73-76, jpn] 47-5086
Simplified numerical solution of the Miller model of secondary frost heave. Fowler, A.C., et al. [1993, p.327-336, eng] 47-5204
Frost heave potential. Konrad, J.M., [1993, p.797-806, eng] 47-5252

Frost line
See also: Frost penetration

Frost mounds
Ice-blister observations on glaciers, sea ice and rivers. Kovacs, A., [1992, p.314-316, eng] 47-473
Glacier, river and sea ice blister observations. Kovacs, A., [1992, 14p., eng] 47-785
Formation of seasonal ice bodies. Pollard, W.H., et al. [1992, p.281-304, eng] 47-856
Palsa-scale frost mounds. Nelson, F.E., et al. [1992, p.305-325, eng] 47-857
Short-pulse radar detection of groundwater in the Sagavanirktok River floodplain in early spring. Arcone, S.A., et al. [1992, p.2925-2936, eng] 47-1475
Formation and utilization of "stream icing" in the mountainous regions. Bai, C.Y., et al. [1985, p.172-185, chi] 47-1532
Morphology of Quaternary deposits in the southern Netherlands. Kasse, K., et al. [1992, p.327-342, eng] 47-2240

See also: Hummocks; Pingos

Frost penetration
Distinguishing feature of frost and salt penetration corrosion. Koreniuk, A.G., et al. [1992, p.57-60, rus] 47-185
Temperature and suction profiles beneath highway pavements: computed and measured. Pufahl, D.E., et al. [1991, p.268-276, eng] 47-1126
Proceedings of the 37th Annual Conference. [1992, 307p. + appends., eng] 47-1133
Evaluation of frost action mitigation procedures for highly frost-susceptible soils. MacKay, M.H., et al. [1992, p.91-109, eng] 47-1134
Performance of asphalt concrete airport pavements during thaw weakening periods. Janoo, V.C., et al. [1992, p.167-183, eng] 47-1135
Incorporating freeze-thaw calculations into a water balance model. Fox, J.D., [1992, p.2229-2244, eng] 47-1507
On spatial irregularities in the frost penetration of soils in river basins. Manukalo, V.A., et al. [1991, p.119-123, rus] 47-3282
Climate of Finland in relation to its hydrology, ecology and culture. Solantie, R., [1990, 130p., eng] 47-3540
Detection of nonconductive heat transport in soils using spectral analysis. Hinkel, K.M., et al. [1993, p.1017-1023, eng] 47-3579
Frost penetration beneath cleared pavements. McCormick, G., [1993, p.117-126, eng] 47-4130
Spring in the forest terrain at Svartberget, northern Sweden. Odin, H., et al. [1990, p.167-178, eng] 47-4311
Depth of snow and frost on a palsa mire, Finnish Lapland. Seppälä, M., [1990, p.191-201, eng] 47-4313
Pediments and cold-climate conditions, Barn Mountains, unglaciated northern Yukon, Canada. French, H.M., et al. [1992, p.145-157, eng] 47-4324
Mathematical model of frost heave and thaw settlement in pavements. Guymon, G.L., et al. [1993, 126p., eng] 47-4870
Frost-susceptible soils as foundations of structures. Orlov, V.O., et al. [1992, 166p., rus] 47-4977
Depth of frost penetration. Schellekens, F.J., et al. [1993, p.807-814, eng] 47-5253

See also: Thaw depth

Frost protection
Freeze-salt resistance of superplasticized concrete. Berntsson, L., [1989, p.18-22, eng] 47-11
Exposure test for protective coatings for concrete. Tanikawa, S., et al. [1992, p.150-154, jpn] 47-133
Protective coatings for aerated lightweight concrete. Irita, H., et al. [1992, p.155-159, jpn] 47-134
Field-tested model for freeze protection of arctic multiphase pipelines. Eager, K., [1992, p.142-145, eng] 47-223
Timed release of chemicals in concrete to improve durability. Dry, C.M., [1991, 224p., eng] 47-284
Evaluation of frost action mitigation procedures for highly frost-susceptible soils. MacKay, M.H., et al. [1992, p.91-109, eng] 47-1134
Measures against frost weathering of hydraulic concrete structures. Zhu, Q.H., [1992, p.271-276, chi] 47-1668
Bioclimatology of frost. Kalma, J.D., et al. [1992, 144p., eng] 47-1794
Tests on preventing pavement cracks in agricultural roads. Tagaino, S., et al. [1991, p.107-112, jpn] 47-2496
Study on sidewalk frost heave countermeasures (second report). Nohara, T., et al. [1992, p.149-154, jpn] 47-2515
Pavement admixtures compounded with antifreezes. Ninomiya, H., et al. [1992, p.155-160, jpn] 47-2516
Freeze retardants admixed to asphalt pavements. Sanjo, K., et al. [1992, p.161-166, jpn] 47-2517
Study on sidewalk frost heave countermeasures—studies under different environmental conditions. Nohara, T., et al. [1991, p.79-84, jpn] 47-2534
Test characteristics of asphalts with antifreeze admixtures. Ninomiya, H., et al. [1991, p.91-96, jpn] 47-2536
Freeze-thaw effects on pavements with antistripping agents. Ping, W.V., et al. [1992, p.512-520, eng] 47-2629
Frost-related performance of heated shallow foundation thermal insulation. Duquennoi, C., [1992, p.3-19, fre] 47-2665
Designing cold weather concrete mixes. Suprenant, B.A., [1990, p.882-884, eng] 47-2718
Frost in geotechnical engineering. Phukan, A., ed. [1993, 191p., eng] 47-4114
Where does the water go during ice lense thaw. Dysli, M., [1993, p.45-50, eng] 47-4119
Use of steel meshes against longitudinal frost cracks in *flexible pavements.* Salmenkaita, S., [1993, p.79-82, eng] 47-4124
Experiments with frost-heave prevention in concrete troughs. Kubo, H., et al. [1993, p.89-96, eng] 47-4126
Use of frost insulation in the repair of frost heave damages. Saarelainen, S.M.I., [1993, p.113-116, eng] 47-4129
Tire chips as insulation beneath gravel surfaced roads. Humphrey, D.N., et al. [1993, p.137-149, eng] 47-4132
Seasonal deformations of underground utilidors on permafrost in Norilsk. Grebenets, V.I., et al. [1993, p.151-155, eng] 47-4133
Frost heave theories and design measures against frost heave. Phukan, A., [1993, p.173-189, eng] 47-4135
Time- and temperature-dependent solute loading of isolated thylakoids during freezing. Bakaltcheva, I., et al. [1992, p.607-615, eng] 47-4370
Thermodynamics of fuel oil cloud-point depressant additives. Claudy, P., et al. [1993, p.821-827, eng] 47-4518
Cryogenic ambient air vaporizers: frost growth, wind and seismic design for safety. Bernert, R.E., Jr., et al. [1993, p.789-793, eng] 47-4876

Frost resistance
Freeze-salt resistance of superplasticized concrete. Berntsson, L., [1989, p.18-22, eng] 47-11

Effect of industrial by-products on the frost resistance of concrete. Fagerlund, G., (1989, p.33-52, eng) 47-12
Durability of concrete incorporating high-volume of low-calcium (ASTM class F) fly ash. Malhotra, V.M., (1989, p.93-104, eng) 47-13
Effect of condensed silica fume on the frost resistance of concrete. Opsahl, O.A., et al, (1989, p.149-160, eng) 47-14
Use of air-conditioning and plasticizing admixtures for producing concrete with good salt-frost resistance. Petersson, P.E., (1989, p.161-169, eng) 47-15
Salt-scaling resistance of concrete with air-entraining and superplasticizing admixtures. Ranisch, E.H., et al, (1989, p.170-178, eng) 47-16
Frost-salt scaling tests on concrete-effects of test parameters and condensed silica fume. Sellevold, E.J., (1989, p.215-217, eng) 47-17
Chemical resistance of alkali-activated concrete. Talling, B., (1989, p.252-257, eng) 47-18
Properties of no-fines concrete containing silica fume. Tamai, M., (1989, p.799-814, eng) 47-56
Behaviour of high erosion-resistant silica fume-mortars for repair of hydraulic structures. Berra, M., et al, (1989, p.827-847, eng) 47-57
Resistance of microsilica concrete to steel corrosion, erosion, and chemical attack. Berke, N.S., (1989, p.861-886, eng) 47-58
Cryogenic frost resistance of lightweight concrete containing silica fume. Khayat, K.H., et al, (1989, p.915-928, eng) 47-59
Concrete resistance to freeze-thaw and de-icing salt cycling. Bilodeau, A., et al, (1989, p.945-970, eng) 47-60
Influence of curing on the salt scaling resistance of concrete with and without silica fume. Langlois, M., et al, (1989, p.971-989, eng) 47-61
Properties of high-strength concrete with silica fume using high-range water reducer of slump retaining type. Mitsui, K., et al, (1989, p.79-97, eng) 47-62
Frost resistance of superplasticized air-entrained concrete. Siebel, E., (1989, p.297-319, eng) 47-63
Model for deicer scaling resistance of field concretes containing high-range water reducers. Whiting, D., et al, (1989, p.343-359, eng) 47-64
Use of concrete admixtures to provide long-term durability from steel corrosion. Berke, N.S., et al, (1989, p.383-403, eng) 47-65
Year-round accelerating admixture. Brook, J.W., et al, (1989, p.535-555, eng) 47-66
Evaluation of superplasticizers in concrete. Mukherjee, P.K., (1989, p.625-644, eng) 47-67
Upgrading sand, gravel to meet freeze-thaw specs. Magerowski, A., et al, (1989, p.62,64,66, eng) 47-76
Influence of soluble alkalies on air-entrainment in concrete admixtures. Pigeon, M., et al, (1992, p.24-31, eng) 47-82
Effects of freeze-thaw cycles on reinforced concrete fatigue behavior. Radian, T.A., (1990, 220p., eng) 47-84
Low-temperature properties of desorbed raffinates and their hydrocarbon group components. Alekhina, N.I., et al, (1992, p.44-48, eng) 47-206
Relationship between frost tolerance and sugar concentration of various bryophytes in summer and winter. Rütten, D., et al, (1992, p.260-265, eng) 47-774
Effect of sealers on the freeze-thaw resistance of mortar. Litvan, G.G., (1992, p.1141-1147, eng) 47-791
Alternative test for determining the frost resistance of bricks. Arnott, M.R., et al, (1990, p.105, eng) 47-824
Freeze-thaw durability of air-entrained CSF concrete. Sabir, B.B., et al, (1991, p.203-208, eng) 47-863
Laboratory tests for predicting coarse aggregate performance in Ontario. Senior, S.A., et al, (1991, p.97-106, eng) 47-1132
Convergence criterion in measuring building R-values. Flanders, S.N., (1992, p.204-209, eng) 47-1156
Impact of hygrothermal gradients on juvenile wood. Larson, T., et al, (1992, p.210-218, eng) 47-1157
Evaluation of recycled asphalt pavements in cold climates. Mushule, N.K.M., (1990, 123p., eng) 47-1316
Non-air-entrained high-strength concrete—is it frost resistant. Cohen, M.D., et al, (1992, p.406-415, eng) 47-1548
Effects of acidic water vapor on spruce seedling frost hardiness. L'Hirondelle, S.J., et al, (1992, p.611-622, eng) 47-1558
Application limit for reducing heave of sulphate saline soil by mixing sodium chloride. Ding, Y.Q., et al, (1992, p.107-114, chi) 47-1646
Mineral criterion for evaluating the frost-susceptibility of pavement structures and soils. Brandl, H., (1992, p.3034-3035, eng) 47-1818
API X65 grade normalized and tempered seamless tubes with improved low temperature toughness. Cumino, G., et al, (1992, p.134-141, eng) 47-1837
Tension and compression tests of 13-3/8" lbs/ft L-80 HF-ERW casings with buttress connections. Konno, N., et al, (1992, p.169-173, eng) 47-1838
Freezable, flotable water lines?. Ainsworth, L., (1992, p.42-43, eng) 47-1884
Effect of acid mist on spruce frost resistance. Eamus, D., et al, (1993, p.135-142, eng) 47-2017
Optimizing the composition of frost resistant concrete with a mixed filler. Osetinskii, IU.V., et al, (1991, p.44-46, rus) 47-2030
Frost-and-salt resistant concretes. Gurskis, V.V., (1992, p.18-20, rus) 47-2151
Quick-setting claydite-concrete for winter concreting. Ferronskaia, A.V., et al, (1992, p.12-14, rus) 47-2152
Predicting the frost resistance of concrete. Sizov, V.P., (1992, p.25-27, rus) 47-2153
Effect of the structure of cement stone with admixtures of micro-silica and super-plasticizer on concrete properties. Kaprielov, S.S., et al, (1992, p.4-7, rus) 47-2154
Application of the superplasticizer SFS as an antifrost admixture for concrete. D'iachenko, S.S., et al, (1991, p.11-12, rus) 47-2156
Superplasticizer based on poly-electrolytic compounds. Simonenko, L.I., et al, (1991, p.18-20, rus) 47-2159
Alkali-silicate concrete for salt-and-frost resistant structures. Guzeev, E.A., et al, (1990, p.4-6, rus) 47-2161
Frost resistance of concretes with air draw-in and gas-forming admixtures. IAnbykh, N.N., (1990, p.35-37, rus) 47-2163
Formation of cryoresistance and hardiness of plants to low temperatures. Manuil'skii, V.D., (1992, 185p., rus) 47-2282
Cold acclimation of pine trees measured by needle freezing tolerance. Lindgren, K., et al, (1992, p.309-315, eng) 47-2295
Frost hardiness of dormant *Salix* shoots. von Fircks, H.A., (1992, p.317-323, eng) 47-2296
Improving laboratory freezing tests. Saito, T., et al, (1991, p.85-90, jpn) 47-2535
Influence of immersion vibration on the void system of air entrained concrete. Simon, M.J., et al, (1992, p.99-126, eng) 47-2573
Durability of concrete in Iceland. Kristjánsson, R., et al, (1992, p.381-392, eng) 47-2576
Development of fracture energy of FRC materials. Freeze-thaw resistance of FRC materials. Larsen, E.S., (1992, 39p., eng) 47-2588
Frost effects on the microstructure of high strength concrete, and methods for their analysis. Kukko, H., (1992, 133p. + appends., eng) 47-3135
Frost resistance of high-strength concrete. Pigeon, M., et al, (1992, p.975-980, fre) 47-3342
Freeze-thaw durability and scaling resistance of concrete paving blocks. Boisvert, J., et al, (1992, p.1017-1024, fre) 47-3343
Tunnel kiln adapted for firing frost-resistant bricks in a reducing atmosphere. Mueller, M., (1988, 6 col., eng) 47-3420
Proceedings. (1993, 1681p. (2 vols.), eng) 47-3605
Deicer scaling resistance of concrete pavement aggregates. Marchand, J., et al, (1993, p.151-178, eng) 47-3606
Resistance of fly ash concrete to freezing and thawing. Nasser, K.W., et al, (1993, p.205-226, eng) 47-3607
Evaluation of pozzolanic activity of rice husk ash. Sugita, S., et al, (1993, p.495-512, eng) 47-3610
Silica fume in concrete—an overview. Khayat, K.H., et al, (1993, p.835-872, eng) 47-3611
Silica fume composition influence on concrete properties. Batrakov, V.G., et al, (1993, p.943-963, eng) 47-3612
Concrete durability related to curing rate. Johnston, C.D., (1993, p.1167-1187, eng) 47-3613
Wet-mix silica fume shotcrete: effect of silica fume form. Morgan, D.R., et al, (1993, p.1251-1271, eng) 47-3614
Silica fume-polymer mortars for rehabilitation of bridge decks. Bürge, T.A., (1993, p.1273-1286, eng) 47-3615
Performance of portland and blast furnace slag cement concretes in marine environments. Osborne, G.J., (1993, p.1303-1323, eng) 47-3616
Properties of granulated blast-furnace slag cement concrete. Sakai, K., et al, (1993, p.1367-1383, eng) 47-3617
Freeze thaw resistance of underwater concrete aggregates. Fukudome, K., et al, (1993, p.1565-1582, eng) 47-3618
Cultivation practice influence on conifer seedling frost tolerance. Calmé, S., et al, (1993, p.503-511, eng) 47-3844
Silicone emulsion having improved freeze/thaw resistance. Bakken, K.L., (1987, 8 col., eng) 47-3851
Frost resistance of roller compacted concrete. Osipov, A.D., et al, (1993, p.400-404, eng) 47-4013
Frost process and thermal degradation of frozen soils. Thimus, J.F., (1993, p.51-57, eng) 47-4120
Evaluation of factors affecting frost susceptibility in soils. Kujala, K., (1993, p.83-87, eng) 47-4125
Society of soil mechanics report on seasonal thaw weakening. Slunga, E., (1993, p.159-170, eng) 47-4134
Silica fume replacement of cement—effects on concrete durability. Hooton, R.D., (1993, p.143-151, eng) 47-4351
Mean spacing of air voids in hardened concrete. Attiogbe, E.K., (1993, p.174-181, eng) 47-4352
Molecular bases for adaptation of coniferous trees to cold climates. Durzan, D.J., (1993, p.15-42, eng) 47-4527
Genetic variation in early frost tolerance of spruce from northwestern North America. Dietrichson, J., (1993, p.383-391, eng) 47-4551
Evaluation of concrete and aggregate durability test. (1993, 64p., eng) 47-4615
Inverse relation between frost survival and atmospheric pressure. Halloy, S., et al, (1993, p.117-123, eng) 47-4744
Freezing tolerance of an arctic/subarctic cushion plant. Junttila, O., et al, (1993, p.423-426, eng) 47-4911
Photosynthetic photon flux effect on *Larix* frost hardiness. Hansen, J.M., et al, (1993, p.204-212, eng) 47-4998
High strength concrete resistance to cold weather. Ernzen, J.J., et al, (1993, 304p., eng) 47-5061
Frost heave potential. Konrad, J.M., (1993, p.797-806, eng) 47-5252

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Periglacial shoreline erosion of a rocky coast: George River estuary, northern Quebec. Fournier, A., et al, (1992, p.926-942, eng) 47-443
Breakup of limestone bedrock by frost shattering and chemical weathering, eastern Canadian Arctic. Dredge, L.A., (1992, p.314-323, eng) 47-1588
Some characteristics of alpine permafrost, Mt. Daisetsu, central Hokkaido, northern Japan. Fukuda, M., et al, (1992, p.159-167, eng) 47-4325
Frost-fissure patterns in the Nordic countries. Svensson, H., (1992, p.207-218, eng) 47-4329
Mechanism of freeze-thaw deterioration of rock in the Great Lakes region. Lienhart, D.A., (1993, p.77-87, eng) 47-4888

Frost weathering

Periglacial geomorphology: Proceedings. (1992, 354p., eng) 47-844
Freeze thaw at a glacier headwall. Gardner, J.S., (1992, p.89-102, eng) 47-848
Mechanical weathering in the Antarctic: a maritime perspective. Hall, K.J., (1992, p.103-123, eng) 47-849
Breakup of limestone bedrock by frost shattering and chemical weathering, eastern Canadian Arctic. Dredge, L.A., (1992, p.314-323, eng) 47-1588
Measures against frost weathering of hydraulic concrete structures. Zhu, Q.H., (1992, p.271-276, chi) 47-1668
Analysis of freeze-thaw cycles and rainfall on frozen soil at seven Canadian locations. Hayhoe, H.N., et al, (1992, p.135-142, eng) 47-2612
Investigations of cryogenic weathering in Europe and northern Asia. Konishchev, V.N., et al, (1993, p.49-64, eng) 47-3117
Frost damage to stone cultural relics. Akagawa, S., (1993, p.23-40, eng) 47-3710

Frostbite

New wind-chill nomogram. Rees, W.G., (1993, p.229-234, eng) 47-4703

Frozen cargo

Modeling the thermodynamic processes of permafrost. Mal'kov, IU.K., (1990, 155p., rus) 47-2317

Frozen ground

Frozen ground landscapes of Yakutia: methods of detection and problems in mapping. Fedorov, A.N., (1991, 140p., rus) 47-96
Proceedings of the 1st International Conference on Cryopedology. (1992, 272p., eng) 47-1699
Recent cryomorphic soils and underlying permafrost. Gubin, S.V., (1992, p.56-59, eng) 47-1704
Sublimational drainage of frozen soils in Zabaikalye. Zheleznlak, I.I., et al, (1992, p.122-126, eng) 47-1716
Humus accumulation and soil formation in Svalbard. Lag, J., (1992, p.222-228, eng) 47-1734
Sulfate-reducing bacteria in constant-frozen soils. Vainshtein, M.B., et al, (1992, p.243-247, eng) 47-1738
Load-controlled cone penetration tests in permafrost and ice. Ladanyi, B., et al, (1992, p.1-8, eng) 47-2677
Change detection on Alaska's North Slope using repeat-pass ERS-1 SAR images. Villasenor, J.D., et al, (1993, p.227-236, eng) 47-3360
Permafrost bibliography update 1988-1992. Brennan, A.M., ed, (1993, 401p., eng) 47-3672
Ground frost restriction of subarctic Picea abies forest in northern Sweden. Kullman, L., (1991, p.167-178, eng) 47-4339
Conditions and effectiveness of feed production in tundra. Archegova, I.B., et al, (1988, 102p., rus) 47-4655
Cryology of soils: collected scientific papers. Gilichinskii, D.A., ed, (1991, 131p., rus) 47-4801
Cryology of soils. Makeev, O.V., (1991, p.3-10, rus) 47-4802
Early and recent cryogenic phenomena in subaerial deposits and soils in southern Central Siberia. Vorob'eva, G.A., (1991, p.20-26, rus) 47-4804
Cryogenesis in the soil-plant cover in the floodplains of Mongolia. Maksimovich, S.V., et al, (1991, p.34-37, rus) 47-4806
Regularities in the vertical-zonal distribution of seasonally frozen taiga soils in the Lake Baykal basin. Tsybzhitov, Ts.Kh., et al, (1991, p.109-115, rus) 47-4819

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Mineral feeding of plants—to increase bioproductivity and protect frozen soils. Gershevich, E.G., et al. [1991, p.115-120, rus] **47-4820**

Results of the Fifth All-Union Conference on the Theoretical Principles of Soil Cryogenesis. [1991, p.121-128, rus] **47-4821**

See also: Geocryology; Soil freezing

Frozen ground chemistry

Improving the effectiveness of methods of bio-recultivating *disturbed soil.* Masalkin, S.D., et al. [1992, p.22-26, rus] **47-368**

Methane in permafrost sediments on the Kolyma-Indigirka lowland. Rivkina, E.M., et al. [1992, p.559-562, rus] **47-1497**

Transfer of ions within the system soil-snow and the role of ice surface in their migration. Ostroumov, V.E., et al. [1992, p.127-135, eng] **47-1717**

Effect of prolonged freezing on chemical properties of soils and clays. Polubesova, T.A., et al. [1992, p.140-145, eng] **47-1719**

Overwinter nitrate loss and denitrification potential of cultivated soils in Alberta. Heaney, D.J., et al. [1992, p.877-884, eng] **47-1795**

Geochemistry of soils of Spitsbergen. Dobrovol'skii, V.V., [1990, p.1-15, eng] **47-2758**

Permafrost methane content: 1. Experimental data from sites in northern Alaska. Rasmussen, R.A., et al. [1993, p.591-594, eng] **47-3437**

CO2 emissions in Siberian soils as greenhouse effect factor. Zimov, S.A., et al. [1993, p.5017-5023, eng] **47-3782**

Cryology of soils: collected scientific papers. Gilichinskii, D.A., ed. [1991, 131p., rus] **47-4801**

Gas-bio-geochemical characteristics of the seasonally thawing layer in the Anadyr' and Khatyrka lowlands. Glotov, V.E., [1991, p.80-86, rus] **47-4814**

Effect of the complexity of soil cover on the agricultural development of meadow-swamp soils. Butsenko, A.N., [1991, p.97-103, rus] **47-4817**

Bog fertilizer removal through surface runoff. Telitsyn, V.L., [1993, p.72-78, eng] **47-5192**

Residence time of carbon in soils of the boreal zone. Kobak, K., et al. [1993, p.51-57, eng] **47-5228**

Frozen ground compression

Settlement of lumpy frozen soil during thawing under conditions of compression. Solov'ev, IU.I., et al. [1991, p.72-76, rus] **47-189**

Constitutive relations of frozen soil in uniaxial compression. Zhu, Y.L., et al. [1992, p.210-217, chi] **47-1660**

Frozen ground expansion

Effect of tunnel wall rock refreeze on *lining stability.* Wu, Q.B., et al. [1992, p.218-225, chi] **47-1661**

Swelling of frozen clay soils contaminated by sodium chloride. Kumor, M.K., [1993, p.97-102, eng] **47-4127**

Frozen ground mechanics

Characteristics of frost heave properties of freezing ground during engineering geological investigations for construction purposes. Puskov, V.I., [1991, p.21-28, rus] **47-187**

Finite element modelling of pressuremeter tests and footings on frozen soils. Puswewala, U.G.A., et al, [1992, p.351-375, eng] **47-196**

Effect of soil stress on its water permeability during freezing and forecasting frost heave intensity. Karlov, V.D., [1991, p.77-82, rus] **47-238**

Some aspects of the statistical *evaluation of the mechanical* properties of soil and foundations. Gerasimov, A.S., [1991, p.82-91, rus] **47-239**

Assessment of the mathematical modelling of the creep of ice and frozen soils. Azizi, F., [1992, p.3-14, eng] **47-1014**

Effect of a geotextile on water migration and frost heave in a large-scale test basin. Shoop, S.A., et al, [1991, p.309-318, eng] **47-1129**

Mechanism of mass transfer and chemogenic deformation of frozen ground. Lebedenko, IU.P., [1990, p.55-66, rus] **47-1255**

Transfer of ions within the system soil-snow and the role of ice surface in their migration. Ostroumov, V.E., et al, [1992, p.127-135, eng] **47-1717**

Stresses in ground-freezing problems with infinite *boundaries.* Askar, H.G., [1993, p.58-73, eng] **47-1759**

Strength and creep behaviour of frozen saline fine sand. Jessberger, H.L., [1992, p.3033, eng] **47-1817**

Formation of a closure channel upon rupture of a frozen dam. Moroz, A.A., [1992, p.72-75, rus] **47-2032**

Mathematical modeling of the thermoerosion process and its use in the study of various regions of the cryolithozone. Baranova, N.A., [1992, p.29-36, rus] **47-2456**

Role of permafrost and seasonal frost in the hydrology of northern wetlands in North America. Woo, M.K., et al, [1993, p.5-31, eng] **47-2634**

Frost-related performance of heated shallow foundation thermal insulation. Duquennoi, C., [1992, p.3-19, fre] **47-2665**

Transport phenomena in frozen porous media. Perfect, E., et al, [1991, p.243-270, eng] **47-2860**

Changes in microstructure of fine-grained soils due to freezing. Grechishchev, S.E., et al, [1992, p.1-10, eng] **47-3121**

Potential leachate production due to cold weather effects. Leskiw, E.J., et al, [1992, p.660-667, eng] **47-3345**

Laws of the kinetic theory of strength of frozen soils. Konovalov, A.A., [1993, p.892-897, eng] **47-3506**

Long-term deformation of freeze saline soils. Alifanova, A.A., [1992, p.74-79, eng] **47-3834**

Central pit and dome craters: exposing the interiors of Ganymede and Callisto. Schenk, P.M., [1993, p.7475-7498, eng] **47-3839**

Determination of creep properties of frozen soils by means of the borehole stress relaxation test. Ladanyi, B., et al, [1993, p.170-186, eng] **47-4164**

Preconsolidation pressures *in the Battleford Formation*, southern Saskatchewan, Canada. Sauer, E.K., et al, [1991, p.1613-1623, eng] **47-4257**

Proceedings. [1993, 170p., eng] **47-4267**

Stress history and vertical displacement matching for the pipeline at Caen, France subjected to frost heave. Rajani, B., et al, [1993, p.34-47, eng] **47-4271**

Thermomechanical modelling of freezing soil. Frémond, M., et al, [1993, p.48-60, eng] **47-4272**

Stress-strain behaviour of frozen soil in tension. Sayles, F.H., [1993, p.61-72, eng] **47-4273**

Experimental study and numerical solution of frost heaving in specific materials. Padilla, F., [1993, p.116-136, fre] **47-4277**

Creep response of laterally loaded piles in ice and permafrost. Puswewala, U.G.A., et al, [1993, p.223-240, eng] **47-4285**

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Slow soil movement in Tarfala Valley, Kebnekaise Mountains, Swedish Lapland. Jahn, A., [1991, p.93-107, eng] **47-4309**

Effect of freeze-thaw on the hydraulic conductivity and morphology of compacted clay. Othman, M.A., et al, [1993, p.236-246, eng] **47-4512**

Creep behavior of fine-grained frozen soils: discussion and *reply.* Juárez-Badillo, E., et al, [1993, p.385-389, eng] **47-4515**

Dynamics of seasonal heat, moisture, and salt transfer in frozen ground. Permiakov, P.P., et al, [1991, p.47-51, rus] **47-4808**

Ground freezing. Bell, F.G., [1992, p.321-333, eng] **47-4890**

Mechanics of bedrock frost heaving in permafrost regions. Michaud, Y., [1991, 128p., eng] **47-4900**

Frost-susceptible soils as foundations of structures. Orlov, V.O., et al, [1992, 166p., rus] **47-4977**

Simplified numerical solution of the Miller model of secondary frost heave. Fowler, A.C., et al, [1993, p.327-336, eng] **47-5204**

Frozen ground physics

Mechanism of mass transfer and chemogenic deformation of frozen ground. Lebedenko, IU.P., [1990, p.55-66, rus] **47-1255**

Mass *transfer in frozen soil.* Padilla, F., et al, [1988, p.121-126, eng] **47-1580**

Dielectric properties of frozen clay and silt soils. Moore, J.C., et al, [1993, p.265-273, eng] **47-3930**

Automorphic soil formation in the tundra zone of northern Yakutia. Gubin, S.V., [1991, p.11-20, rus] **47-4803**

Seasonal variability of hydraulic conductivity. Asare, S.N., et al, [1993, p.451-457, eng] **47-5146**

Characteristics of forest biogeocenoses. Pervova, N., [1993, p.79-85, eng] **47-5231**

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Settlement of lumpy frozen soil during thawing under conditions of compression. Solov'ev, IU.I., et al, [1991, p.72-76, rus] **47-189**

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Frozen ground strength

Design method for frozen-soil retaining wall. Soo, S., et al, [1992, p.73-89, eng] **47-3**

Regional characteristics governing permafrost thickness. Kalinin, V.M., et al, [1990, 142p., rus] **47-99**

Engineering geological conditions, bases and foundations of transport structures in Siberia: interuniversity collected *scientific papers.* Chernousov, S.I., ed. [1991, 109p., rus] **47-186**

Forecasting the bearing strength of a thawing railroad embankment. Prokudin, I.V., et al, [1991, p.76-83, rus] **47-190**

Temperature-independent relationships for frozen soils. Wijeweera, H., et al, [1992, p.1-21, eng] **47-516**

Sharp cone testing of creep properties of frozen sand. Ladanyi, B., et al, [1992, p.757-764, eng] **47-1440**

Strength characteristics of frozen ground at variable *temperatures.* Konovalov, A.A., [1991, 91p., rus] **47-1502**

Deformation properties of warm permafrost. Shields, D.H., et al, [1985, p.473-486, eng] **47-1616**

Constitutive relations of frozen soil in uniaxial compression. Zhu, Y.L., et al, [1992, p.210-217, chi] **47-1660**

Cavity development in ice-rich permafrost, Pangnirtung, *Baffin Island, Northwest Territories.* Hyatt, J.A., [1992, p.293-313, eng] **47-2238**

Analysis of freeze-thaw cycles and rainfall on frozen soil at seven Canadian locations. Hayhoe, H.N., et al, [1992, p.135-142, eng] **47-2612**

Estimating thaw-strain settlement of frozen fill. Crowther, G.S., [1992, p.152-159, eng] **47-2641**

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Laws of the kinetic theory of strength of frozen soils. Konovalov, A.A., [1993, p.892-897, eng] **47-3506**

Long-term deformation of freeze saline soils. Alifanova, A.A., [1992, p.74-79, eng] **47-3834**

Frost in geotechnical engineering. Phukan, A., ed. [1993, 191p., eng] **47-4114**

Dielectric properties of road aggregates and their effect on GPR surveys. Ravaska, O., et al, [1993, p.17-22, eng] **47-4116**

Freezing pressure development on a buried chilled pipeline. Ladanyi, B., et al, [1993, p.23-33, eng] **47-4117**

Frost process and thermal degradation of frozen soils. Thimus, J.F., [1993, p.51-57, eng] **47-4120**

Determination of the elastic stiffness of thawing subgrade soil. Palolahti, A., et al, [1993, p.65-68, eng] **47-4122**

Laboratory study of the compaction properties of frozen soils. Viklander, P., et al, [1993, p.69-77, eng] **47-4123**

Evaluation of factors affecting frost susceptibility in soils. Kujala, K., [1993, p.83-87, eng] **47-4125**

Swelling of frozen clay soils contaminated by sodium chloride. Kumor, M.K., [1993, p.97-102, eng] **47-4127**

Field and laboratory tests on adfreeze strength of ground to model concrete piles. Suzuki, T., et al, [1993, p.103-109, eng] **47-4128**

Creep movements in soils at shallow depths and their *effects on engineering structures.* Eigenbrod, K.D., [1993, p.127-136, eng] **47-4131**

Society of soil mechanics report on seasonal thaw weakening. Slunga, E., [1993, p.159-170, eng] **47-4134**

Field pile load tests in saline permafrost. 1. Test procedures and results. Biggar, K.W., et al, [1993, p.34-45, eng] **47-4162**

Field pile load tests in saline permafrost. 2. Analysis of results. Biggar, K.W., et al, [1993, p.46-59, eng] **47-4163**

Creep behavior of fine-grained frozen soils: discussion and reply. Juárez-Badillo, E., et al, [1993, p.385-389, eng] **47-4515**

Frost-susceptible soils as foundations of structures. Orlov, V.O., et al, [1992, 166p., rus] **47-4977**

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Subsurface temperatures and geothermal gradients on the North Slope of Alaska. Collett, T.S., et al, [1993, p.275-293, eng] **47-3931**

Modeling the temperature regime of an arctic soil. Richeva, T.A., et al, [1993, p.1-11, eng] **47-4011**

Climate and permafrost. Gavrilova, M.K., [1993, p.99-111, eng] **47-4146**

Spring in the forest terrain at Svartberget, northern Sweden. Odin, H., et al, [1990, p.167-178, eng] **47-4311**

Ground temperature variations in a subarctic mountain valley, Abisko, northern Sweden. Josefsson, M., [1990, p.179-190, eng] **47-4312**

Depth of snow and frost on a palsa mire, Finnish Lapland. Seppälä, M., [1990, p.191-201, eng] **47-4313**

Pile behavior in saline frozen soils. Biggar, K.W., et al, [1993, p.319-337, eng] **47-4514**

Multipurpose underground structures in the extreme north. Samokhin, A.V., et al, [1993, p.461-465, eng] **47-4578**

Modeling the temperature regime of an arctic soil. Rycheva, T.A., et al, [1992, p.1-11, eng] **47-4875**

Frozen ground thermodynamics

Field testing of a model for water flow and heat transport *in variably saturated, variably frozen soil.* Xu, X., et al, [1991, p.300-308, eng] **47-1128**

Soil thermal conductivity: effects of saturation and dry density. Fricke, B.A., et al, [1992, p.158-165, eng] **47-1154**

Determination of the phase interface of the aggregate state of water in soil. Kitaev, V.V., [1989, p.84-92, eng] **47-1222**

Geochemical basis for the geotechnology of metals in frozen ground conditions. Ptitsyn, A.B., [1991, 118p., rus] **47-1500**

Effect of freezing-thawing cycles on the heat-mass-exchangeable properties of cryogenic soils. Stepanov, A.V., et al. [1992, p.136-139, eng] 47-1718

Heat energetics of cryopedogenesis. Kulikov, A.I., et al. [1992, p.173-177, eng] 47-1724

Numerical solution to the problem of heat transfer during borehole drilling. Starovoltova, E.R., [1988, p.120-126, rus] 47-2233

Seed-zone temperature and moisture conditions under conventional and no-tillage in Alaska. Bidlake, W.R., et al. [1992, p.1904-1910, eng] 47-2299

Mathematical modeling of the thermoerosion process and its use in the study of various regions of the cryolithozone. Baranova, N.A., [1992, p.29-36, rus] 47-2456

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Thermal equilibrium in porous media with concurrent flow and freezing. Tao, Y.X., et al. [1993, p.323-332, eng] 47-4065

Sensitivity analysis of frost heave—a theoretical study. Sheng, D., et al. [1993, p.3-16, eng] 47-4115

Thermomechanical modelling of freezing soil. Frémond, M., et al. [1993, p.48-60, eng] 47-4272

Model for the hydrologic and climatic behavior of water on Mars. Clifford, S.M., [1993, p.10,973-11,016, eng] 47-4409

Heat transfer from a heated cylinder buried in a frozen porous medium in an enclosure. Oosthuizen, P.H., et al. [1992, p.315-326, eng] 47-4707

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Modeling the temperature regime of an arctic soil. Rycheva, T.A., et al. [1992, p.1-11, eng] 47-4875

Soil sampling and methods of analysis. Carter, M.R., ed. [1993, 823p. (Pertinent p.755-814), eng] 47-5248

Hydrological properties of frozen soil. Perfect, E., et al. [1993, p.767-781, eng] 47-5250

Thermal properties of frozen soils. Van Loon, W.K.P., et al. [1993, p.783-795, eng] 47-5251

Frozen lakes

Spectral irradiance in dry valley lakes. Lizotte, M.P., et al. [1992, p.1-14, eng] 47-2868

Global change implications for antarctic lakes. Lindner, B.L., et al. [1993, p.276-279, eng] 47-3047

Some illustrations of roles of lake ice in limnology. Adams, W.P., et al. [1992, p.219-226, eng] 47-4051

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Freezing in confined geometries. Sokol, P.E., et al. [1992, p.777-779, eng] 47-180

Transitions in frozen gelatinized-starch systems studied by differential scanning calorimetry. Liu, H., et al. [1992, p.179-183, eng] 47-743

Poly(vinyl alcohol) hydrogels prepared by freezing-thawing cyclic processing. Stauffer, S.R., et al. [1992, p.3932-3936, eng] 47-744

Liquid microphases at ice-solid interface of microelectrodes in solid water. Bond, A.M., et al. [1992, p.281-295, eng] 47-768

Monomer polymerization in frozen liquids via UV irradiation. Egorov, V.V., et al. [1992, p.95-97, eng] 47-1118

Scanning electron microscopy of ice cream. 1. Caldwell, K.B., et al. [1992, p.1-9, eng] 47-2014

Scanning electron microscopy of ice cream. 2. Caldwell, K.B., et al. [1992, p.11-23, eng] 47-2015

Detection of radical pairs in glassy systems. Harrison, N., et al. [1993, p.59-61, eng] 47-2110

Parametric analysis for thawing frozen spheroidal (prolate and oblate) or finitely cylindrical food. Sheen, S., et al. [1992, p.236-240, eng] 47-2606

Estimation of casings strength properties. Medvedskii, R.I., et al. [1992, p.68-69, eng] 47-3265

Dielectric study of frozen aqueous ionic solutions. Laudát, J., et al. [1991, p.211-224, eng] 47-3998

Simulation of extraterrestrial ammonia-water ice system. Yarger, J., et al. [1993, p.13,109-13,117, eng] 47-4412

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Development of mining excavations under difficult mining engineering conditions. Kartozia, B.A., ed. [1991, 319p. (Pertinent p.156-176), rus] 47-362

Effect of low temperature on dynamic tensile strength of rocks. Dutta, P.K., et al. [1992, p.61-69, eng] 47-1233

Effect of tunnel wall rock refreeze on lining stability. Wu, Q.B., et al. [1992, p.218-225, chi] 47-1661

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Mechanism of freeze-thaw deterioration of rock in the Great Lakes region. Lienhart, D.A., [1993, p.77-87, eng] 47-4888

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Nonstationary heat and mass transfer in disturbed rock massifs. Cherniak, V.P., et al. [1992, 224p., rus] 47-3863

Permafrost distribution changes in Pleistocene Soviet Union. Kondratieva, K.A., et al. [1993, p.113-119, eng] 47-4147

Frozen rocks

Geographical forecasting of the consequences of hydropower construction. Malik, L.K., [1990, 316p. (Pertinent p.49-52), rus] 47-70

Development of mining excavations under difficult mining engineering conditions. Kartozia, B.A., ed. [1991, 319p. (Pertinent p.156-176), rus] 47-362

Studying recent ice formation in rocks by tritium analysis. Chizhov, A.B., [1991, p.20-31, rus] 47-396

Anomalies in the electrical conductivity of ground surface at high latitudes. Zakharenko, V.N., et al. [1992, p.32-34, eng] 47-413

Purple non-sulphur bacterium from ancient cryogenic rocks of the Kolyma Lowland. Burashnikova, E.N., et al. [1992, p.232-240, eng] 47-1736

Modeling the thermodynamic processes of permafrost. Mal'kov, IU.K., [1990, 155p., rus] 47-2317

Fundamentals of amplitude-phase measurements using induced polarization. Mel'nikov, V.P., et al. [1974, 222p., rus] 47-2911

Studying engineering-geocryological and hydrogeological conditions of the upper zones of rocks in the cryolithozone. Mel'nikov, E.S., ed. [1992, 288p., rus] 47-3866

Observations on rock moisture variability in gneiss and basalt under natural, arctic conditions. Humlum, O., [1992, p.197-205, eng] 47-4328

Computerized simulation of permafrost mass transfer. Kozlov, A.N., et al. [1992, p.63-67, eng] 47-4384

Frozen rock abrasiveness effect on tool wear. Polovinko, V.A., et al. [1993, p.546-550, eng] 47-4579

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Microorganisms in permafrost. Zviagintsev, D.G., [1992, p.229-232, eng] 47-1735

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Integration of remote sensing and nuclear geophysics in seasonal snow cover assessment. Bardhan, M., [1985, p.112-119, eng] 47-529

Some studies in gamma attenuation for application in snow gauging. Rao, M.V.N., et al. [1985, p.144-148, eng] 47-533

Supernova shock ensemble model using Vostok Be-10 radioactivity. Sonett, C.P., [1992, p.239-245, eng] 47-1480

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Interpretation of ice age-gas differences in polar ice cores. Sowers, T., et al. [1992, p.15,683-15,697, eng] 47-996

Review of greenhouse gases in the Vostok ice core. Raynaud, D., et al. [1992, p.381-386, eng] 47-1282

Global change related to gas hydrate stability. Judge, A.S., et al. [1992, p.251-263, eng] 47-2025

Ice record of greenhouse gases. Raynaud, D., et al. [1993, p.926-934, eng] 47-2028

Global carbon dioxide budget. Sundquist, E.T., [1993, p.934-941, eng] 47-2045

Permafrost methane content. 1. Experimental data from sites in northern Alaska. Rasmussen, R.A., et al. [1993, p.591-594, eng] 47-3437

Permafrost methane content. 2. Modeling theory and results. Moraes, F., et al. [1993, p.595-607, eng] 47-3438

Methane in permafrost—preliminary results from coring at Fairbanks, Alaska. Kvenvolden, K.A., et al. [1993, p.609-616, eng] 47-3439

Statistics of firn closure: a simulation study. Enting, I.G., [1993, p.133-142, eng] 47-3947

Ice mill for chemical analysis of trace gases in ice bubbles. Fuchs, A., et al. [1993, p.199-203, eng] 47-3952

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Freezing system plugs pipeline segments for repair. [1992, p.64, eng] 47-2637

Ice plugs help in pipeline retrofit. [1993, p.67, eng] 47-3526

Russia pins energy hopes on western Siberia gas. [1992, p.17-20, eng] 47-3528

Site surveys of pipelines in the Far North. Kharionovskii, V.V., [1993, p.30-35, rus] 47-4083

Proceedings. [1993, 170p., eng] 47-4267

Gas pipelines and the challenge of the cold regions: an experimental study. Williams, P.J., [1993, p.5-18, eng] 47-4268

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France-Canada joint study of deformation of an experimental pipe line by differential frost heave. Williams, P.J., et al. [1993, p.56-60, eng] 47-4301

Gas production

Ensuring reliable gas supply in Yakutia. Dement'ev, IU.L., [1991, p.24-25, rus] 47-2479

Gas field production in an area with permafrost development. Mikhailov, N.V., [1991, p.4-5, rus] 47-2480

Yamal: problems in geocryology and hydrology. Makhonin, G.I., et al. [1991, p.12-13, rus] 47-2484

Russia pins energy hopes on western Siberia gas. [1992, p.17-20, eng] 47-3528

U.S. rangeland technology: rehabilitating Russia's oil, gas production sites. McKendrick, J.D., et al. [1993, p.4-7, eng] 47-4096

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Emissions of biogenic sulfur gases from Alaskan tundra. Hines, M.E., et al. [1992, p.16,703-16,707, eng] 47-1464

Chemistry of a Wyoming snowpack related to global budgets. Sommerfeld, R.A., et al. [1993, p.140-142, eng] 47-1595

Annual gas-geochemical cyclic recurrence in a seasonally thawed layer in the lowlands of the cryolithozone. Glotov, V.E., [1992, p.150-153, rus] 47-3336

Gas-bio-geochemical characteristics of the seasonally thawing layer in the Anadyr' and Khatyrka lowlands. Glotov, V.E., [1991, p.80-86, rus] 47-4814

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Annual gas-geochemical cyclic recurrence in a seasonally thawed layer in the lowlands of the cryolithozone. Glotov, V.E., [1992, p.150-153, rus] **47-3336**

Results of the Third Joint US-USSR Bering & Chukchi Seas Expedition (BERPAC), Summer 1988. Nagel, P.A., ed. [1988, 415p., eng] **47-3864**

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Characteristics of radiogeochemical anomalies in landscapes with water-saturated glacial formations. Poleshchuk, A.L., et al. [1991, p.26-34, rus] **47-169**

Early diagenesis and biogeochemistry of iodine in west antarctic ocean. Cheng, X.H., et al. [1992, p.115-123, chi] **47-219**

Effects of material mixing on planetary gamma ray spectroscopy. Squyres, S.W., et al. [1992, p.14,701-14,715, eng] **47-377**

Occurrence of platinum-group elements in some gold-mining districts of Alaska. Cathrall, J.B., et al. [1992, p.33-43, eng] **47-610**

Uranium resource potential in the Kenai Peninsula. Dickinson, K.A., et al. [1992, p.81-99, eng] **47-612**

Geochemically anomalous areas in southwest Alaska. *Kilburn*, J.E., et al. [1992, p.156-162, *eng*] **47-615**

Isotopic peculiarities of meteoric water in polar regions. Wetzel, K., [1990, p.52-56, eng] **47-874**

Canada-Russia geotechnical studies of permafrost; Bovanenkovo test site. Kurfurst, P.J., ed. [1992, 402p., eng] **47-977**

Theoretical and methodological aspects of an eco-geochemical evaluation of large industrial regions in the arctic zone. Dodin, D.A., et al. [1990, p.81-93, rus] **47-980**

Hydrocarbon pollution of ocean sediments. Steinhauer, M.S., et al. [1992, p.223-253, eng] **47-1170**

Geochemistry and environmental evolution at the Great Wall Station. Zhao, J.L., [1991, 178p., chi] **47-1438**

Geochemistry of Haines-Klukwan-Porcupine area, southeastern Alaska. Gilbert, W.G., et al. [1991, 75p. + 2 sheets, eng] **47-1488**

Geochemical basis for the geotechnology of metals in frozen ground conditions. Ptitsyn, A.B., [1991, 118p., *rus*] **47-1500**

Biogeochemistry and zoogeography of lakes and rivers in arctic Alaska. Kling, G.W., et al. [1992, p.1-14, eng] **47-1599**

Cation export from Alaskan arctic watersheds. Cornwell, J.C., [1992, p.15-22, eng] **47-1600**

Silicon budget for an Alaskan arctic lake. Cornwell, J.C., et al. [1992, p.37-44, eng] **47-1602**

Biogeochemistry of manganese- and iron-rich sediments in Toolik Lake, Alaska. Cornwell, J.C., et al. [1992, p.45-59, eng] **47-1603**

Geochemistry of a tundra stream on the North Slope of Alaska. *Peterson*, B.J., et al. [1992, p.61-69, eng] **47-1604**

Influence of light and nutrient addition upon the sediment chemistry of iron in an arctic lake. Sugai, S.F., et al. [1992, p.91-101, eng] **47-1606**

Regolith exploration geochemistry in arctic and temperate terrains. Kauranne, K., et al. [1992, 443p., eng] **47-1643**

Cryogenic systems of some gold-quartz deposits. Taisaev, T.T., [1992, p.440-443, rus] **47-2008**

Geochemical exploration for hidden deposits in the cryolithozone. Makarov, V.N., et al. [1988, 108p., *rus*] **47-2315**

Geochemical processes during naled formation. Ivanov, A.V., [1991, p.45-54, rus] **47-2428**

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Environmental geology at a Canadian sulphide deposit site. Claridge, P.G., et al. [1993, p.50-57, eng] **47-2630**

Geochemistry of salmon rivers during snowmelt. Campbell, P.G.C., et al. [1992, p.1938-1952, eng] **47-2659**

Geochemistry of soils of Spitsbergen. Dobrovol'skii, V.V., [1990, p.1-15, eng] **47-2758**

Chemical composition of snow cover on drifting ice in the Arctic. Bardin, V.I., et al. [1991, p.129-135, rus] **47-2802**

Effect of Be-10 deposition at Vostok during the last 50 ky. Raisbeck, G.M., et al. [1993, p.127-139, eng] **47-2864**

Be-10 peaks as time markers in polar ice cores. Beer, J., et al. [1993, p.141-153, eng] **47-2865**

Sediments from the Kerguelen Plateau and the Norwegian Sea. Pittenger, H.A., [1992, 163p., eng] **47-2893**

Kinetic enrichment of stable isotopes in cryogenic calcites. Clark, I.D., et al. [1992, p.217-228, eng] **47-3159**

Organic contaminants in Canadian lake sediments. Mudroch, A., et al. [1992, p.10-19, eng] **47-3349**

Mathematical analysis of ice-water isotopic relationships. Burn, C.R., et al. [1993, p.109-112, eng] **47-3786**

Cryogenic (frost-related) systems of some gold-quartz deposits. Talsaev, T.T., [1991, p.178-182, eng] **47-3799**

Cretaceous chemosynthetic carbonate mounds in the Canadian Arctic. *Beauchamp*, B., et al. [1992, p.434-450, eng] **47-3987**

Biochemical indicators of gold deposits in permafrost. Taisaev, T.T., et al. [1993, p.215-220, eng] **47-4059**

Geochemistry of the McMurdo Dry Valleys lakes. Matsumoto, G.I., [1993, p.95-118, eng] **47-4399**

Geochemistry of Mackenzie river sediments. Yunker, M.B., et al. [1993, p.3041-3061, *eng*] **47-4458**

Heavy mineral analysis from Alaska placer mines. Wood, J.E., [1992, 7p., eng] **47-4771**

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Geochemical processes at the soil-snow boundary. Fedoseeva, V.I., et al. [1991, p.60-67, rus] **47-4811**

Gas-bio-geochemical characteristics of the seasonally *thawing layer in the Anadyr' and Khatyrka lowlands.* Glotov, V.E., [1991, p.80-86, rus] **47-4814**

Isotopic geochemistry of an ice-covered antarctic lake. Wharton, R.A., Jr., et al. [1993, p.159-172, eng] **47-4906**

Hydrology and hydrochemistry of natural waters of East Antarctica. Shmideberg, N.A., [1992, p.65-76, rus] **47-4923**

Laboratory simulation of a cometary nucleus: experimental setup and first results. Kochan, H., et al. [1989, p.487-492, eng] **47-5124**

On the accuracy of cometary nuclei simulation experiments. Klinger, J., et al. [1989, p.493-497, eng] **47-5125**

Hydrocarbon gas traces in snow cover. Vyshemirskii, V.S., et al. [1993, p.1-4, eng] **47-5194**

Global beryllium 10 cycle. McHargue, L.R., et al. [1991, p.141-158, eng] **47-5261**

Geochronology

Periglacial geomorphology. Boardman, J., [1992, p.339-345, eng] **47-425**

Geology of the Innuitian orogen and arctic platform of Canada and Greenland. Trettin, H.P., ed. [1991, 569p. + maps in separate book jacket (Pertinent p.27-56,497-553), eng] **47-766**

Late Quaternary glaciation and deglaciation of the Bunger Hills, Antarctica. Adamson, D.A., et al. [1992, p.435-446, eng] **47-904**

Shallow ice core drilling project at Byrd Station. Langway, C.C., Jr., [1991, p.60-61, eng] **47-2463**

Marine oxygen isotope record: constraints on timing and extent of ice-growth events (120-65 ka). Mix, A.C., [1992, p.19-30, eng] **47-2681**

Uranium-series dating of coastal deposits. Muhs, D.R., [1992, p.31-51, eng] **47-2682**

Age of air in Greenland firn and ice. Schwander, J., et al. [1993, p.2831-2838, eng] **47-2703**

Start of a glacial. Kukla, G.J., ed. [1992, 353p., eng] **47-2831**

Last deglaciation event in Antarctica. Jouzel, J., et al. [1993, p.229-266, eng] **47-2866**

Th/U dating of calcareous concretions. Causse, C., [1992, p.33-39, eng] **47-3545**

Swedish varve chronology—a review. Boygle, J., [1993, p.1-19, eng] **47-4073**

Short notes on Alaskan geology 1993. Solie, D.N., ed. [1993, 99p., eng] **47-4773**

Penultimate great earthquake in Alaska. Combellick, R.A., [1993, p.7-15, eng] **47-4774**

Dating Holocene moraines of Black Rapids Glacier, Delta River valley, central Alaska Range. Reger, R.D., et al. [1993, p.51-59, eng] **47-4778**

Paleosoils of the southern Yenisey region of Siberia: chronology, paleogeography, and cryogenesis. [Amskikh, A.F., [1991, p.27-34, rus] **47-4805**

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Frozen ground landscapes of Yakutia: methods of detection and problems in mapping. Fedorov, A.N., [1991, 140p., rus] **47-96**

Performance of piles in thawing ground. Torgashev, V.V., et al. [1990, 96p., rus] **47-98**

Regional characteristics governing permafrost thickness. Kalinin, V.M., et al. [1990, 142p., rus] **47-99**

Thermal and moisture dust control treatment of a perennially frozen disturbed coal mine. Kudriashov, V.V., et al. [1991, 135p., rus] **47-101**

Characteristics of the occurrence of gas hydrates in the cryolithozone. Ershov, E.D., et al. [1991, p.788-791, rus] **47-103**

Characteristics of radiogeochemical anomalies in landscapes with water-saturated glacial formations. *Poleshchuk*, A.L., et al. [1991, p.26-34, *rus*] **47-169**

Investigation of evolution of the Arctic shelf cryolithozone by mathematical simulation. Sigunov, IU.A., et al. [1992, p.13-19, eng] **47-244**

Basic problems in the geoecology of the cryolithozone. Solomatin, V.I., et al. [1992, p.10-14, rus] **47-367**

Upper surface layer of permafrost; collected scientific *papers.* Mel'nikov, P.I., ed. [1991, 100p., rus] **47-392**

Physical-mechanical types of cryogenesis. Konishchev, V.N., et al. [1991, p.9-14, rus] **47-394**

Studying recent ice formation in rocks by tritium analysis. Chizhov, A.B., [1991, p.20-31, rus] **47-396**

Formation of the structure and properties of flood-plain deposits by major rivers. Zaikanov, V.G., [1991, p.31-47, rus] **47-397**

Role of quasi-syngenesis in the formation of the cryogenic structure of quaternary deposits. Kanevskii, M.Z., [1991, p.47-63, rus] **47-398**

Engineering geocryological properties of deposits of cryogenic weathering crusts. Vasil'ev, A.A., [1991, p.63-70, rus] **47-399**

Using geophysical methods to study an ice-rich intermediate layer in permafrost. Pugach, V.B., et al. [1991, p.87-91, rus] **47-402**

Ecological-geological regionalization of the cryolithozone in the USSR. Chizhov, A.B., et al. [1991, p.92-100, rus] **47-403**

Analysis of ice body formation within the west and central sections of Baikal-Amur main line. Burykina, N.I., [1991, p.83-86, *eng*] **47-421**

Glaciation of the Verkhoyansk-Kolyma region. Koreisha, M.M., [1989, 143p., rus] **47-869**

Periglacial geomorphology in the Netherlands. Vandenberghe, J., [1992, p.65-75, eng] **47-1006**

Glaciological and periglacial investigation in Inner Mongolia. Hofmann, J., [1992, p.139-154, eng] **47-1009**

Ecology of recently-deglaciated terrain. Matthews, J.A., [1992, 386p., eng] **47-1066**

New reports theorizing on the periglacial zone and historical geocryology. Velichko, A.A., et al. [1982, *p.113-119, rus*] **47-1246**

Frost heave and creep in the Sör Rondane Mountains, Antarctica. Matsuoka, N., et al. [1992, p.271-280, eng] **47-1584**

Breakup of limestone bedrock by frost shattering and chemical weathering, eastern Canadian Arctic. Dredge, L.A., [1992, p.314-323, eng] **47-1588**

Proceedings of the 1st International Conference on Cryopedology. [1992, 272p., eng] **47-1699**

Cryopedology: fundamental and technical basis. Makeev, O.V., [1992, p.7-15, eng] **47-1700**

Formation and properties of soils in the permafrost regions of Canada. Tarnocai, C., et al. [1992, p.21-42, eng] **47-1702**

Cryogenesis and forest soil formation in Middle Siberia. Ershov, IU.I., et al. [1992, p.66-71, eng] **47-1706**

European North: soil degradation due to technogenic *pollution.* Kriuchkov, V.V., [1992, p.94-97, *eng*] **47-1710**

Experience in compiling the soil-ecological and soil conservation maps of circumpolar regions. Naumov, E.M., [1992, p.98-104, eng] **47-1711**

Resistance of cryogenic soils to anthropogenic *influences.* Vasil'evskaia, V.D., [1992, p.104-107, eng] **47-1712**

Investigations of primary minerals cryogenic weathering as related to podzolization. Martynenko, I.A., et al. [1992, p.149-153, eng] **47-1721**

Vertical movements of boulders in a subnival boulder pavement at 2800 m a.s.l. in the Alps (France). Pissart, A., et al. [1992, p.203-208, eng] **47-1771**

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Cryogenic wedge within gravels, north of Kempten, Bavaria, F.R.G. Menzies, J., et al. [1992, p.365-374, eng] **47-2057**

Evidence of periglacial influence on fragipan formation. Payton, R.W., [1992, p.621-644, eng] **47-2190**

Recent microweathering phenomena in southern and central Sweden. Swantesson, J.O.H., [1992, p.275-292, eng] **47-2237**

Periglacial microforms in the Lesotho Highlands. Hanvey, P.M., et al. [1992, p.353-361, eng] **47-2242**

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Cryoprotective properties of water in the earth cryolithosphere and its role in exobiology. Gilichinskii, D.A., et al. [1993, p.65-75, eng] **47-2658**

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Central pit and dome craters: exposing the interiors of Ganymede and Callisto. Schenk, P.M., [1993, p.7475-7498, eng] 47-3839

Engineering geology of the USSR: platform regions in European USSR. Komarov, I.S., ed. [1992, 2 vols., rus] 47-3858

Studying engineering-geocryological and hydrogeological conditions of the upper zones of rocks in the cryolithozone. Mel'nikov, E.S., ed. [1992, 288p., rus] 47-3866

Free meandering in the conditions of a cryolithic zone of the Yamal Peninsula. Savitskii, V.A., [1992, p.27-33, eng] 47-3990

Permafrost changes in Europe during the last Glacial. Vandenberghe, J., et al. [1993, p.121-135, eng] 47-4148

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Origin of rock glaciers: stagnant ice or ice segregation?. Tricart, J., [1992, p.96-98, eng] 47-4168

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Weathering of basaltic rocks under cold arid conditions: Antarctica and Mars. Allen, C.C., et al. [1991, p.711-717, eng] 47-4636

Geoecology of the North (an introduction to *geocryoecology*). Solomatin, V.I., ed. [1992, 270p., rus] 47-4653

Oxygen isotope composition of ground ice (application to paleogeocryological reconstruction). Vasil'chuk, IU.K., [1992, 2 vols. (684p.) + 2 foldouts, rus] 47-4656

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Kaltag fault, northern Yukon, Canada: constraints on evolution of arctic Alaska. Lane, L.S., [1992, p.653-656, eng] 47-2599

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Organic-rich shale and bentonite in the Arctic Creek unit. Mull, C.G., et al. [1993, p.41-49, eng] 47-4777

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Silurian pinnacle reefs of the Canadian Arctic. De Freitas, T.A., et al. [1993, p.172-182, eng] 47-4912

Geological maps

Geological map of the Arctic. Shlezinger, A.E., [1991, p.52-53, rus] 47-1252

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Ecological-geological regionalization of the cryolithozone in the USSR. Chizhov, A.B., et al. [1991, p.92-100, rus] 47-403

Geologic studies in Alaska by the U.S. Geological Survey, 1990. Bradley, D.C., ed. [1992, 244p., eng] 47-608

Deformation history at Kenai Peninsula glaciers. Bradley, D.C., et al. [1992, p.17-32, eng] 47-609

1991 annual report on Alaska's mineral resources. Schneider, J.L., ed. [1991, 69p., eng] 47-626

Geology of the Innuitian orogen and arctic platform of Canada and Greenland. Trettin, H.P., ed. [1991, 569p. + maps in separate book jacket (Pertinent p.27-56,497-553), eng] 47-766

Excursion guide for northern Finland-Norway-Sweden. Revised edition. Sollid, J.L., ed. [1989, 105p., eng] 47-2116

Quaternary sediments east of the Rocky Mountains. Soller, D.R., [1992, 54p., eng] 47-2593

Rock glacier dynamics in Kazakhstan. Gorbunov, A.P., et al. [1992, p.29-39, eng] 47-3124

Review of the Late Pleistocene stratigraphy of Reykjavik, Iceland. Eiriksson, J., et al. [1991, p.143-150, eng] 47-3486

Test of airborne, side-looking synthetic aperture radar. Graham, D.F., et al. [1991, p.257-265, eng] 47-4161

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Influence of snow upon rates of granodiorite weathering, Colorado Front Range, USA. Benedict, J.B., [1993, p.87-92, eng] 47-4850

Teshekpuk Lake oil and gas resource assessment. Bascle, R.J., [1993, 20p., eng] 47-4893

Kodiak National Wildlife Refuge oil and gas resource assessment. Bascle, R.J., et al. [1993, 21p., eng] 47-4894

Innoko National Wildlife Refuge oil and gas resource assessment. Bascle, R.J., et al. [1993, 20p., eng] 47-4895

Dating of weathered Peruvian Pleistocene mountain moraines. Rodbell, D.T., [1993, p.133-143, eng] 47-5121

Neoglacial glacier fluctuations in the Canadian Rockies. Luckman, B.H., et al. [1993, p.144-153, eng] 47-5122

Geology

Geology and geohydrology at CRREL, Hanover, New Hampshire: relationship to subsurface contamination. Shoop, S.A., et al. [1992, 83p., eng] 47-2568

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Geomorphological evidence of Holocene climatic change from northwest Ellesmere Island, Canadian high arctic. Evans, D.J.A., et al. [1992, p.148-158, eng] 47-55

Geology of Quaternary deposits and recent tectonics in glacial regions of eastern Europe. Evzerov, V.IA., ed. [1992, 55p., rus] 47-241

Periglacial geomorphology. Boardman, J., [1992, p.339-345, eng] 47-425

Revision of Kuhle's ice sheet hypothesis related to Tibetan glaciation. Shi, Y.F., et al. [1992, p.19-35, eng] 47-777

Periglacial and eolian processes in southern France. Ambert, P., et al. [1992, p.55-71, fre] 47-778

Periglacial geomorphology: what, where, when. Thorn, C.E., [1992, p.1-30, eng] 47-845

Geomorphology of James Ross Island. Strelin, J., et al. [1992, p.7-36, spa] 47-866

Late Quaternary glaciation and deglaciation of the Bunger Hills, Antarctica. Adamson, D.A., et al. [1992, p.435-446, eng] 47-904

Report on the Franz Josef Glacier. Brazier, V., et al. [1992, p.35-49, eng] 47-1004

Glaciers and glacial geomorphology in China. Shi, Y.F., [1992, p.51-63, eng] 47-1005

Periglacial geomorphology in the Netherlands. Vandenberghe, J., [1992, p.65-75, eng] 47-1006

Further evidence for a glacial maximum in Antarctica during the Late Neogene. Höfle, H.C., et al. [1992, p.125-137, eng] 47-1008

Glaciological and periglacial investigation in Inner Mongolia. Hofmann, J., [1992, p.139-154, eng] 47-1009

Arctic push moraines, a case study of the Thompson Glacier moraine, Axel Heiberg Island, N.W.T., Canada. Lehmann, R., [1992, p.161-171, eng] 47-1011

Nature and geomorphological relationships of earth hummocks (thufa) in Iceland. Gerrard, J., [1992, p.173-182, eng] 47-1012

On the mathematical description of glaciated valley cross sections. Harbor, J.M., et al. [1992, p.477-485, eng] 47-1052

Morphology and development of sea terraces on the shores of Bunger Hills. Verkulich, S.R., [1991, p.9-14, rus] 47-1573

Observations supporting the Pleistocene inland glaciation of High Asia. Kuhle, M., [1991, p.133-231, eng] 47-1608

Observations on the rock glaciers of Monte Emilius (Valle d'Aosta, Italy). Smiraglia, C., [1992, p.163-168, eng] 47-1757

Geomorphological and glaciological research during the 2nd P.N.R.A. expedition to Terra Nova Bay, 1986-1987. Baroni, C., et al. [1991, p.83-90, ita] 47-1792

Morphology of Quaternary deposits in the southern Netherlands. Kasse, K., et al. [1992, p.327-342, eng] 47-2240

Holocene mire development at a Japanese alpine site. Takahashi, N., [1990, p.93-156, eng] 47-2603

Active rock glaciers in central northern Tian Shan. Schröder, H., [1992, p.109-119, ger] 47-2666

Evidence of periglacial processes in Virginia mountains. Whittecar, G.R., et al. [1992, p.487-494, eng] 47-2704

Geomorphology of erosional forms in a glacial valley. Musial, A., et al. [1987, p.97-109, eng] 47-2770

Southern boundary of the last Kara ice sheet. Grosval'd, M.G., et al. [1991, p.154-159, rus] 47-2806

Periglacial features in the Söderasen canyons, south Sweden. Nyberg, R., [1991, p.145-156, eng] 47-2853

Rock glacier geomorphology in the Canadian Arctic. Evans, D.J.A., [1993, p.17-35, eng] 47-3115

Freeze-thaw activity in the Abisko Mountains, Sweden. Nyberg, R., [1993, p.37-47, eng] 47-3116

Pleistocene periglacial structures and landforms in western Czechoslovakia. Czudek, T., [1993, p.65-75, eng] 47-3118

Characteristics of two landslide-dammed lakes in a glaciated alpine environment. Butler, D.R., et al. [1993, p.441-445, eng] 47-3563

Geomorphology *(cont.)*
Problem of palaeokarst in Tibet. Sweeting, M.M., et al. [1991, p.316-325, eng] **47-3780**
Mountain structure and glaciation of the Caucasus Mountains. Marcinek, J., et al. [1990, p.242-251,270, ger] **47-3793**
Central pit and dome craters: exposing the interiors of Ganymede and Callisto. Schenk, P.M., [1993, p.7475-7498, eng] **47-3839**
Exceptionally long, narrow drumlins formed in subglacial cavities, North Dakota. Bluemle, J.P., et al. [1993, p.15-24, eng] **47-4016**
Physical signatures of Pleistocene ice advance in Norway. Lönne, I., [1993, p.59-70, eng] **47-4018**
Morphosedimentological dynamics and coastal evolution in the Kongsfjorden area, Spitsbergen. Héquette, A., [1992, p.321-328, eng] **47-4076**
Plant colonization in a polar oceanic environment. André, M.F., [1992, p.329-347, eng] **47-4077**
Permafrost changes in Europe during the last Glacial. Vandenberghe, J., et al. [1993, p.121-135, eng] **47-4148**
Geomorphological effects of glaciation in arctic Canada. Blake, W., Jr., [1992, p.1958-1980, eng] **47-4156**
Quaternary stratigraphy, paleoecology, and glacial geology, Iles de la Madeleine, Quebec. Dredge, L.A., et al. [1992, p.1981-1996, eng] **47-4157**
Glaciation in the Yukon Territory. Ward, B.C., et al. [1992, p.2007-2012, eng] **47-4158**
On the extent and thickness of the Innuitian Ice Sheet: a postglacial-adjustment approach. Tushingham, A.M., [1991, p.231-239, eng] **47-4160**
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Mega-scale glacial lineations and cross-cutting ice-flow landforms. Clark, C.D., [1993, p.1-29, eng] **47-4250**
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Geomorphic features as indicators of climatic fluctuations in a periglacial environment, northern Sweden. Nyberg, R., et al. [1990, p.203-210, eng] **47-4314**
Thresholds for channel change on two contrasting proglacial river fans, West Greenland. De Jong, C., [1992, p.1-12, eng] **47-4318**
Debris flows and snow avalanche landforms in the Lairig Ghru, Cairngorm Mountains, Scotland. Luckman, B.H., [1992, p.109-121, eng] **47-4321**
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Hydrographic characteristics of the Strokdammane Plain, west Spitsbergen, Svalbard. Akerman, H.J., [1992, p.169-182, eng] **47-4326**
Altitudinal zonation of selected geomorphological phenomena in an alpine periglacial area (Abisko, northern Sweden). Niessen, A., et al. [1992, p.183-196, eng] **47-4327**
Frost-fissure patterns in the Nordic countries. Svensson, H., [1992, p.207-218, eng] **47-4329**
Multiple glaciation in Scandinavia—seen in gross morphology or not?. Rudberg, S., [1992, p.231-243, eng] **47-4332**
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Glacial landforms and the age of deglaciation in the Tiksi area, East Siberia. Grosval'd, M.G., et al. [1992, p.295-304, eng] **47-4341**
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Ice in the northern lowlands and southern highlands of Mars and its enrichment beneath the Elysium lavas. Cave, J.A., [1993, p.11,079-11,097, eng] **47-4411**
Applications of ERS-1 SAR data for analyzing riverine and coastal processes and geomorphology. Gatto, L.W., et al. [1993, p.873-878, eng] **47-4449**
Deposition of the Late Wisconsin Johnston moraine, southcentral Wisconsin. Lundqvist, J., et al. [1993, p.53-59, eng] **47-4751**
Stratigraphy and origin of an area of hummocky glacial topography, northern Wisconsin, U.S.A. Attig, J.W., et al. [1993, p.61-67, eng] **47-4752**
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Conditions of the Pleistocene glaciation of mountainous regions. Klimaszewski, M., [1993, p.1-18, eng] **47-4982**
Use of meltwater stream material loads in the estimation of glacial erosion rates. Warburton, J., et al. [1993, p.19-28, eng] **47-4983**
Debris flow in Canadian continuous permafrost area. Harris, S.A., et al. [1993, p.41-56, eng] **47-4984**
Dating of ice-marginal moraines of a Norwegian glacier. Bickerton, R.W., et al. [1993, p.45-66, eng] **47-5006**
Soil tongues: periglacial relics or active zones. Hinkel, K.M., [1993, p.75-83, eng] **47-5203**
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Canada-Russia geotechnical studies of permafrost: Bovanenkovo test site. Kurfurst, P.J., ed. [1992, 402p., eng] **47-977**
Thermal maturity and source-rock potential in northwestern Melville Island, arctic Canada. Gentzis, T., et al. [1992, p.423-442, eng] **47-983**
Interpretation of seismic data collected on floating ice. Beaudoin, B.C., et al. [1992, p.1359-1372, eng] **47-984**
Classification of snow cover and precipitation using SSM/I measurements: case studies. Fiore, J.V., Jr., et al. [1992, p.3349-3361, eng] **47-1442**
Arctic Boundary Layer Expedition (ABLE 3A): July-August 1988. Harriss, R.C., et al. [1992, p.16,383-16,394, eng] **47-1444**
Emissivity of terrestrial materials in the 8-14 micron atmospheric window. Salisbury, J.W., et al. [1992, p.83-106, eng] **47-1555**
Prospecting and mapping of mountain permafrost and associated phenomena. King, L., et al. [1992, p.73-81, eng] **47-1746**
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Statistical analysis of the spatial distribution of rock glaciers, Spanish Central Pyrenees. Chueca, J., [1992, p.261-265, eng] **47-1782**
Southern Lake Michigan coastal ice and sediment sample data: shoreface and ice profiles (winter 1990/91). McCormick, M., et al. [1991, 32p., eng] **47-1916**
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Climate change inferred from borehole temperatures. Pollack, H.N., [1993, p.173-179, eng] **47-4589**
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Bearing capacity tests on ice reinforced with Geogrid. Haynes, F.D., et al. [1992, 12p., eng] **47-2925**
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Reduced geothermal gradients in the shallow West-Siberian Platform. Duchkov, A.D. et al. [1992, p.245-250, eng] **47-2024**
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Recent sedimentary processes in Scoresby Sund, East Greenland. Marienfeld, P., [1992, p.169-186, eng] **47-227**
High porosity of basal till at Burroughs glacier, southeastern Alaska. Rohnert, L., et al. [1992, p.849-852, eng] **47-246**
Stratigraphy of Wisconsinan deposits in Maine. Weddle, T.K., [1991, 422p. (2 vols.), eng] **47-303**
Irregular oscillations of the west antarctic ice sheet. MacAyeal, D.R., [1992, p.29-32, eng] **47-352**
Role of quasi-syngenesis in the formation of the cryogenic structure of quaternary deposits. Kanevskii, M.Z., [1991, p.47-63, rus] **47-398**
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Late Proterozoic glaciation in the Mackenzie Mountains. Aitken, J.D., [1991, 43p., eng] **47-435**
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Ages of the Fossvogur layers and the Álftanes end-moraine, SW-Iceland. Hjartarson, Á., [1989, p.21-31, eng] **47-711**
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Pleistocene montane glaciations in the Mackenzie Mountains, Northwest Territories. Duk-Rodkin A., et al. [1992, p.69-83, eng] **47-829**
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Glacial and lake fluctuations in the area of the west Kunlun mountains during the last 45,000 years. Li, S.J., et al. [1992, p.79-84, eng] **47-1090**

Karginsky sea terraces in northern West Siberia and the problem of the Sartan glaciation. Avdalovich, S.A., et al, {1982, p.89-100, rus} 47-1245

Ground moraines in European northeastern Russia and their lithostratigraphic significance Andreicheva, L.N., {1992, 124p., rus} 47-1499

Preliminary research of sedimentary fabric of modern till in Qilian Mountains. Wu, A.B., {1985, p.73-81, chi} 47-1521

Regolith exploration geochemistry in arctic and temperate terrains. Kauranne, K., et al, {1992, 443p., eng} 47-1643

Properties and genesis of cryosols at Marble Point, *McMurdo Sound region*, Antarctica. Campbell, I.B., et al, {1992, p.59-66, eng} 47-1705

Tyrol's ice-man. Ambach, W., et al, {1992, p.1471, eng} 47-1902

Discovery of human bones in the Prägratkees (Tyrolean Alps) *in 1953 and 1990*. *Ambach, E.*, et al, {1992, p.37-41, ger} 47-1905

Corpses released from glacier ice: glaciological and forensic aspects. Ambach, W., et al, {1992, p.372-376, eng} 47-1906

Homo tirolensis, a mummy frozen in time. Ambach, E., et al, {1992, p.296, eng} 47-1907

Fatal accidents on glaciers: forensic, criminological, and glaciological conclusions. Ambach, E., et al, {1991, p.1469-1473, eng} 47-1908

Is mummification possible in snow. Ambach, E., *et al.* {1992, p.191-192, eng} 47-1909

Seismic profiles of alpine glacial basins. Pugin, A., et al, {1992, p.491-502, eng} 47-1912

Applications of ground-penetrating radar in Quaternary geology. Grasmück, M.P., {1992, p.471-490, ger} 47-1993

Lichenometric dating of a Norwegian moraine sequence. Bickerton, R.W., et al, {1992, p.227-237, eng} 47-1999

Mid-Holocene glacial activity in the Pyrenees. *Gellatly*, A.F., et al, {1992, p.266-270, eng} 47-2000

Weichselian stratigraphy and palaeoenvironments at Bellsund, western Svalbard. Landvik, J.Y., et al, {1992, p.335-358, eng} 47-2044

Cryogenic wedge within gravels, north of Kempten, Bavaria, F.R.G. Menzies, J., et al, {1992, p.365-374, eng} 47-2057

Evidence for east antarctic continental glaciation. Breza, J.R., et al, {1992, p.161-178, eng} 47-2459

Sandstones and conglomerates formed by precipitation of CaCO3 under stagnant ice sheet. Drozdowski, E., {1991, p.253-266, eng} 47-2570

Labrador Sea bottom sediments related to iceberg rafting. Andrews, J.T., et al, {1992, p.1087-1090, eng} 47-2631

Outline of stratigraphy of the Pleistocene and the Holocene in south and central Spitsbergen. Lindner, L., et al, {1991, p.165-172, eng} 47-2769

Southern boundary of the last Kara ice sheet. Grosval'd, M.G., et al, {1991, p.154-159, rus} 47-2806

Geologic modeling of glacial fan deltas. Tuttle, K.J., *{1992, p.4/1-4/13, eng}* 47-2824

Contributions to antarctic research III. Elliot, D.H., ed, {1992, 155p., eng} 47-2867

Late Pleistocene ice sheet grounding in the Ross Sea. Anderson, J.B., et al, {1992, p.39-62, eng} 47-2871

Glacial history of the Antarctic Peninsula's continental shelf. Pope, P.G., et al, {1992, p.63-91, eng} 47-2872

Pliocene-Pleistocene seismic stratigraphy of the Ross Sea. Alonso, B., et al, {1992, p.93-103, eng} 47-2873

Sedimentary record of antarctic climate change. Barker, P.F., {1992, p.259-267, eng} 47-3142

Glacial geology and glacial sediment geochemistry in the Clyde Forks-Westport area of Ontario. Kettles, I.M., {1992, 34p. + maps, eng} 47-3148

Composition and properties of glacigenic sediments in the southwestern Barents Sea. Saettem, J., et al, {1991, p.229-255, eng} 47-3175

Early Pleistocene paleoclimate indicated by Greenland sediments. Penney, D.N., {1993, p.49-66, eng} 47-3460

Paleoclimatic implications of a South Wales moraine. Shakesby, R.A., et al, {1993, p.69-79, eng} 47-3471

Glacial stratigraphy, engineering geology and earth construction. Kauranne, K., ed, {1992, 167p., eng} 47-3543

Th/U dating of calcareous concretions. Causse, C., {1992, p.33-39, eng} 47-3545

Glacial stratigraphy in Lapland. Hirvas, H., {1992, p.41-42, eng} 47-3546

Glacial stratigraphy in Sweden. Lundqvist, J., {1992, p.43-59, eng} 47-3547

Glacial stratigraphy in Norway. Andersen, B.G., {1992, p.61-71, eng} 47-3548

Quaternary deposit chronology derived from varve dating. Björck, S., et al, {1992, p.25-44, eng} 47-3556

Glaciomarine sediment indicators of Weddell Sea depositional processes. Kuhn, G., et al, {1993, p.477-487, eng} 47-3644

Radar stratigraphy of massive ground ice at Yaya Lake. Robinson, S.D., et al, {1993, p.23-32, eng} 47-3703

Late Quaternary glacial marine sediment record. Praeg, D., et al, {1992, p.133-150, eng} 47-3787

Stratigraphy of a moraine deposited in a marine environment. *Brandal, M.K.*, et al, {1991, p.3-14, eng} 47-3832

Quaternary engineering geology. Forster, A., ed, {1991, 724p., eng} 47-3867

Engineering geology of Quaternary soils: I. Processes and properties. Culshaw, M.G., et al, {1991, p.3-38, eng} 47-3868

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Glacially deformed bedrock at Wylfa Head, Anglesey, North Wales. Harris, C., {1991, p.13[illegible]142, eng} 47-3873

Processes and materials of [illegible] deposits. Hawkins, A.B., et al, {19[illegible]71-180[illegible] 47-3874

Report on Session 1b. {En[illegible]ering [illegible]ons of glacially derived deposits} [illegible] Little, [illegible] {1991, p.183-193, eng} 47-3875

Multidisciplinary offshore site in[illegible]tions. Butenko, G., et al, {1991, p.195-202, eng} 47-3876

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Glaciers. Hambrey, M.J., et al, {1992, 207p., eng} 47-4009

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High-energy geomorphic events in the Polish Tatra Mountains. Kotarba, A., {1992, p.123-131, eng} 47-4322

Moraines and late glacial activity in southern Värmland, *southwestern Sweden.* *Lundqvist, J.*, {1992, p.245-252, eng} 47-4333

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Till stratigraphy and glacial history of the Vestfold Hills area, East Antarctica. Hirvas, H., et al, {1993, p.81-95, eng} 47-4753

Short notes on Alaskan geology 1993. Solie, D.N., ed, {1993, 99p., eng} 47-4773

Dating Holocene moraines of Black Rapids Glacier, Delta River valley, central Alaska Range. Reger, R.D., et al, {1993, p.51-59, eng} 47-4778

Characteristics of the microstructure of deposits from the ice complexes in northern Yakutia. Slagoda, E.A., {1991, p.38-47, rus} 47-4807

Salinization mechanism of the deposits of an ice complex in Yakutia. Konishchev, V.N., et al, {1991, p.74-80, rus} 47-4813

Circumantarctic benthic foraminifers. Ishman, S.E., {1993, p.105-133, eng} 47-4822

Antarctic glacial-marine sedimentation. Anderson, J.B., {1993, p.1-88, eng} 47-4824

Stratigraphy and paleoclimatic analysis of deep water antarctic *glacial marine sediments.* *Domack, E.W.*, {1993, p.89-104, eng} 47-4825

Dating of ice-marginal moraines of a Norwegian glacier. Bickerton, R.W., et al, {1993, p.45-66, eng} 47-5006

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Glacial history of the Ellsworth Mountains. Denton, G.H., et al, {1992, p.403-432, eng} 47-2700

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Multiple glaciations and sea level changes, northern Ellesmere Island, high arctic Canada. Lemmen, D.S., et al, {1992, p.137-152, eng} 47-225

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Arctic push moraines, a case study of the Thompson Glacier moraine, Axel Heiberg Island, N.W.T., Canada. Lehmann, R., [1992, p.161-171, eng] **47-1011**

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Late Neogene glacio-eustatic record. Ishman, S.E., et al, [1992, p.327-347, eng] **47-2047**

Excursion guide for northern Finland-Norway-Sweden. Revised edition. Sollid, J.L., ed, [1989, 105p., eng] **47-2116**

Glacial history of the Ellsworth Mountains. Denton, G.H., et al, [1992, p.403-432, eng] **47-2700**

Geomorphology of erosional forms in a glacial valley. Musial, A., et al, [1987, p.97-109, eng] **47-2770**

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Meteorological data and hydrogram of the river at Juan Carlos I Station. Antiguedad, I., et al, [1989, p.32-40, spa] **47-810**

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Subglacial flow of a mountain glacier. Fountain, A.G., [1993, p.143-156, eng] **47-3948**

Preconsolidation pressures in the Battleford Formation, southern Saskatchewan, Canada. Sauer, E.K., et al, [1991, p.1613-1623, eng] **47-4257**

Boulder ring structures produced during jökulhlaup flows. Maizels, J., [1992, p.21-33, eng] **47-4320**

Spatial patterns in backscatter strength across the Greenland ice sheet. Jezek, K.C., [1993, p.269-272, eng] **47-4424**

Changes of alpine climate and glacier water resources. Chen, J.Y., [1991, 196p., eng] **47-4462**

Glacial lake bathymetry at Bering Piedmont Glacier, AK. Fleisher, P.J., et al, [1993, p.267-274, eng] **47-4566**

Bedrock water erosion typified by subglacial flutes. Dreimanis, A., [1993, p.110-112, eng] **47-4852**

Industrial potential of hydropower in West Greenland. Thomsen, H.H., et al. [1993, p.59-62, eng] 47-4917
Hydrology and hydrochemistry of natural waters of East Antarctica. Shmideberg, N.A., [1992, p.65-76, rus] 47-4923

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Glacial lakes

Grímsvötn Caldera, Vatnajökull: subglacial topography and structure of caldera infill. Gudmundsson, M.T., [1989, p.1-20, eng] 47-710
Volume of Gracnalón and changes in the size and frequency of jökulhlaups. Björnsson, H., et al. [1989, p.90-95, ice] 47-712
Jökulhlaups in the Kunmalike River, southern Tien Shan mountains, China. Liu, J.S., [1992, p.85-88, eng] 47-1091
Jökulhlaups in Iceland: prediction, characteristics and simulation. Björnsson, H., [1992, p.95-106, eng] 47-1093
Investigation of glacier bursts of the Yarkant River in Xinjiang, China. Zhang, X.S., [1992, p.135-139, eng] 47-1099
Glacier lake outburst flood disasters in China. Ding, Y.J., et al. [1992, p.180-184, eng] 47-1108
Real time system for flood forecasting of an ice dam outburst. Fernández, P., et al. [1990, p.85-91, eng] 47-1169
Sedimentology of glaciolacustrine deposits from an ice-dammed tributary. Fitzsimons, S.J., [1992, p.393-410, eng] 47-1551
Development of an ice-dammed lake: the contemporary and older sedimentary record. Johnson, P.G., et al. [1992, p.304-313, eng] 47-1587
Characteristics of glacier outburst flood in the Yarkant River, Karakorum Mountains. Feng, Q.H., [1991, p.255-263, eng] 47-1612
Morphological and human changes of Swiss lakeshores. Huber, A., [1992, p.334-336, ger] 47-2202
Stability of moraine lakes in high alpine glacier regions. Haeberli, W., [1992, p.361-364, ger] 47-2203
Nature of lakes in the West Siberian subarctic. Savchenko, N.V., [1992, p.85-92, rus] 47-3274
Postglacial history of Kemijoki. Saarnisto, M., [1992, p.151-159, eng] 47-3553
Characteristics of two landslide-dammed lakes in a glaciated alpine environment. Butler, D.R., et al. [1993, p.441-445, eng] 47-3563
Preliminary study of the surficial geology of Virden area, southwestern Manitoba. Sun, S., [1993, p.57-61, eng] 47-3705
Ice scours in the sediments of glacial Lake Iroquois, Prince Edward County, eastern Ontario. Gilbert, R., et al. [1992, p.189-194, eng] 47-3789
Swedish varve chronology—a review. Boygle, J., [1993, p.1-19, eng] 47-4073
Reconstructing Holocene glacier variations from glacial lake sediments. Karlén, W., et al. [1992, p.327-348, eng] 47-4343
Glacial lake bathymetry at Bering Piedmont Glacier, AK. Fleisher, P.J., et al. [1993, p.267-274, eng] 47-4566

Glacial meteorology

Glacier system of Afghanistan: morphology, climate, mass exchange, and runoff. Lebedeva, I.M., et al. [1991, p.76-87, rus] 47-324
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Some glacio-micrometeorological features on the north side of Mount Qogir (K2), Karakoram mountains. Ding, Y.J., [1992, p.67-72, eng] 47-1088
Influence of humidity on the ablation of continental-type glaciers. Ohno, H., et al. [1992, p.107-114, eng] 47-1094
Evaluation of scale-dependent effects of atmosphere-glacier interactions on heat supply to glaciers. Ohata, T., [1992, p.115-122, eng] 47-1095
Air temperature at the surface of Qilian glaciers. Liu, C.H., [1992, p.34-39, chi] 47-1536
Characteristics of the recent climatic variations over the Qilian Mountain area. Kang, X.C., [1992, p.45-53, chi] 47-1538
Study on local circulation and temperature in alpine glaciated area. Kang, X.C., [1992, p.141-152, chi] 47-1651
JARE-32 wintering party activities at Showa Station, 1991. Fujii, Y., [1992, p.441-472, jpn] 47-3368
Local climate and mass balance of a blue-ice area in western Dronning Maud Land, Antarctica. Jonsson, S., [1990, p.11-29, eng] 47-3571
Modeled variations of precipitation over the Greenland ice sheet. Bromwich, D.H., et al. [1993, p.1253-1268, eng] 47-5210

Glacial oscillation

Glacials-interglacials in Vostok: climate and greenhouse gases. Lorius, C.J., et al. [1993, p.131-143, eng] 47-4587

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Glacial rivers

Loven-East glacier ice sheet: a distinctive site due to the subglacial run-off. Griselin, M., [1991, p.35-67, fre] 47-24
Glacier system of Afghanistan: morphology, climate, mass exchange, and runoff. Lebedeva, I.M., et al. [1991, p.76-87, rus] 47-324
Correlation between discharge and hydrochemical parameters in the river at Juan Carlos I Station. Antiguedad, I., et al. [1989, p.24-31, spa] 47-809
Meteorological data and hydrogram of the river at Juan Carlos I Station. Antiguedad, I., et al. [1989, p.32-40, spa] 47-810
Features of interior rivers and feeding of glacial meltwater in the Hexi region, Gansu Province. Gao, Q.Z., et al. [1985, p.131-141, chi] 47-1528
Analysis and reasonable utilization of runoff in the Shiyang River. Zhou, B.C., [1985, p.142-149, chi] 47-1529
Estimating glacier-derived runoff from mountain rivers in model predictions. Shentsis, I.D., [1991, p.32-40, rus] 47-2786
Postglacial history of Kemijoki. Saarnisto, M., [1992, p.151-159, eng] 47-3553
Thresholds for channel change on two contrasting proglacial river fans, West Greenland. De Jong, C., [1992, p.1-12, eng] 47-4318

Glaciation

Lichenometric and radiocarbon dating of Holocene glaciation, Cordillera Blanca, Peru. Rodbell, D.T., [1992, p.19-29, eng] 47-52
Problem of paleoglacioclimatic reconstruction of Pleistocene glaciations in Western Siberia. Sukhorukova, S.S., [1991, p.78-84, rus] 47-170
Glaciers of Novaya Zemlya and the climate. Koriakin, V.S., [1990, p.23-29, rus] 47-172
Multiple glaciations and sea level changes, northern Ellesmere Island, high arctic Canada. Lemmen, D.S., et al. [1992, p.137-152, eng] 47-225
Postglacial deformation. James, T.S., [1991, 198p., eng] 47-291
Glaciological zonation and seasonal snow resources throughout the world. Kotliakov, V.M., et al. [1991, p.4-19, rus] 47-315
Interrelations of the characteristics of glaciation in regional glacier systems. Glebova, L.N., et al. [1991, p.67-76, rus] 47-323
Effect of glaciation on the paleoecological situation in northeastern USSR. Shishorina, Zh.G., [1991, p.190-195, rus] 47-342
Computerized simulation of Barents Sea glaciation. Isaksson, E., [1992, p.295-301, eng] 47-470
Revision of Kuhle's ice sheet hypothesis related to Tibetan glaciation. Shi, Y.F., et al. [1992, p.19-35, eng] 47-777
Advance and retreat of Cordilleran ice sheets in Washington, U.S.A. Easterbrook, D.J., [1992, p.51-68, eng] 47-828
Pleistocene montane glaciations in the Mackenzie Mountains, Northwest Territories. Duk-Rodkin, A., et al. [1992, p.69-83, eng] 47-829
Glaciation of the Verkhoyansk-Kolyma region. Koreisha, M.M., [1989, 143p., rus] 47-869
Late Quaternary glaciation and deglaciation of the Bunger Hills, Antarctica. Adamson, D.A., et al. [1992, p.435-446, eng] 47-904
Glaciers and glacial geomorphology in China. Shi, Y.F., [1992, p.51-63, eng] 47-1005
On the mathematical description of glaciated valley cross sections. Harbor, J.M., et al. [1992, p.477-485, eng] 47-1052
Ecology of recently-deglaciated terrain. Matthews, J.A., [1992, 386p., eng] 47-1066
Can the mass balance of the entire glacier area of the Tien Shan be estimated. Diurgerov, M.B., et al. [1992, p.173-179, eng] 47-1107
Is the extent of glaciation limited by marine gas-hydrates. Paull, C.K., et al. [1991, p.432-434, eng] 47-1241
Karginsky sea terraces in northern West Siberia and the problem of the Sartan glaciation. Avdalovich, S.A., et al. [1982, p.89-100, rus] 47-1245
Sedimentology of glaciolacustrine deposits from an ice-dammed tributary. Fitzsimons, S.J., [1992, p.393-410, eng] 47-1551
Observations supporting the Pleistocene inland glaciation of High Asia. Kuhle, M., [1991, p.133-231, eng] 47-1608
Quaternary glaciation of the north slope of Karakorum Mountains. Xu, D.M., [1991, p.233-242, eng] 47-1609
Impact of glaciation on paleoecological conditions in northeastern Russia. Shishorina, Zh.G., [1992, p.160-166, eng] 47-1766
Evidence for east antarctic continental glaciation. Breza, J.R., et al. [1992, p.161-178, eng] 47-2459
Quaternary sediments east of the Rocky Mountains. Soller, D.R., [1992, 54p., eng] 47-2593
Last interglacial-glacial transition in North America. Clark, P.U., ed. [1992, 317p., eng] 47-2678
Last interglacial-glacial transition in North America: introduction. Clark, P.U., [1992, p.1-11, eng] 47-2679
Historical overview of early Wisconsin glaciation. Goldthwait, R.P., [1992, p.13-18, eng] 47-2680
Marine oxygen isotope record: constraints on timing and extent of ice-growth events (120-65 ka). Mix, A.C., [1992, p.19-30, eng] 47-2681
Uranium-series dating of coastal deposits. Muhs, D.R., [1992, p.31-51, eng] 47-2682
Wisconsinan ice-sheet initiation. Peteet, D.M., et al. [1992, p.53-69, eng] 47-2683
Last interglacial-glacial transition in Illinois: 123-25 ka. Curry, B.B., et al. [1992, p.71-88, eng] 47-2684
Ages of the Whitewater and Fairhaven tills in southwestern Ohio and southeastern Indiana. Miller, B.B., et al. [1992, p.89-98, eng] 47-2685
Reevaluation of early Wisconsinan stratigraphy of northern Ohio. Szabo, J.P., [1992, p.99-107, eng] 47-2686
Early Wisconsinan in the north-central part of the Lake Erie basin: a new interpretation. Dreimanis, A., [1992, p.109-118, eng] 47-2687
Sedimentary and biological record of the last interglacial-glacial transition at Toronto, Canada. Eyles, N., et al. [1992, p.119-137, eng] 47-2688
Sunnybrook drift in the Toronto area, Canada: reinvestigation and reinterpretation. Hicock, S.R., et al. [1992, p.139-161, eng] 47-2689
On the age of the penultimate full glaciation of New England. Oldale, R.N., et al. [1992, p.163-170, eng] 47-2690
Early Wisconsinan events in southern Quebec. Lamothe, M., et al. [1992, p.171-184, eng] 47-2691
Pre-late Wisconsinan chronology of Nova Scotia, Canada. Stea, R.R., et al. [1992, p.185-206, eng] 47-2692
Hudson Bay lowland Quaternary stratigraphy. Thorleifson, L.H., et al. [1992, p.207-221, eng] 47-2693
Last interglacial-glacial transition in Baffin Bay. Miller, G.H., et al. [1992, p.223-231, eng] 47-2694
Sangamonian and early Wisconsinan glacial record in the western Canadian Arctic. Vincent, J.S., [1992, p.233-252, eng] 47-2695
Sangamonian and early Wisconsinan stages in western Canada and northwestern United States. Clague, J.J., et al. [1992, p.253-268, eng] 47-2696
Early Wisconsin lakes and glaciers in the Great Basin, U.S.A. Oviatt, C.G., et al. [1992, p.279-287, eng] 47-2698
Outline of stratigraphy of the Pleistocene and the Holocene in south and central Spitsbergen. Lindner, L., et al. [1991, p.165-172, eng] 47-2769
Ice sheet glaciations in Northern Eurasia and their role in the history of the ocean. Grosval'd, M.G., et al. [1991, p.3-15, rus] 47-2782
Response of authors to commentary on their "Reconstruction of the Holocene climate". Barkov, N.I., et al. [1991, p.233-236, rus] 47-2817
Start of a glacial. Kukla, G.J., ed. [1992, 353p., eng] 47-2831
Interglacial-glacial transitions. Kukla, G.J., et al. [1992, p.1-13, eng] 47-2832
Transition from interglaciation to glaciation in North America. Dreimanis, A., [1992, p.225-251, eng] 47-2838
Caspian transgression as an indicator of the interglacial-glacial transition. Zubakov, V.A., [1992, p.253-271, eng] 47-2839
Working hypotheses for glaciation/deglaciation mechanisms. Oeschger, H., [1992, p.273-289, eng] 47-2840
Insolation regime of the warm to cold transitions. Kukla, G.J., et al. [1992, p.307-339, eng] 47-2842
Equilibrium climate model and high latitude glaciation. Oglesby, R.J., [1990, 243p., eng] 47-2894
Can greenhouse warming induce ice sheet growth. Ledley, T.S., et al. [1993, p.272-275, eng] 47-3046
Sedimentary record of antarctic climate change. Barker, P.F., [1992, p.259-267, eng] 47-3145
Eocene-Oligocene climatic and biotic evolution. Prothero, D.R., ed. [1992, 568p., eng] 47-3165
Evidence from the antarctic continental margin of Late Paleogene ice sheets. Barrett, L.R., et al. [1992, p.131-159, eng] 47-3166
Some aspects of studying present glaciation in the northwestern Baikal region. Aleshin, G.V., [1991, p.118-124, rus] 47-3284
Pleistocene glaciation in Iceland. Eiríksson, J., et al. [1992, p.733-757, eng] 47-3473
Last interglaciation in Alaska: stratigraphy and paleoecology of potential sites. Hamilton, T.D., et al. [1991, p.49-71, eng] 47-3480
Review of the Late Pleistocene stratigraphy of Reykjavík, Iceland. Eiríksson, J., et al. [1991, p.143-150, eng] 47-3486
Late Quaternary land-sea interactions: Fennoscandia and Svalbard—the Nordic seas. Larsen, E., et al. [1991, p.151-159, eng] 47-3487
Last interglacial in northernmost Sweden. Robertsson, A.M., [1991, p.173-181, eng] 47-3489
Climatic rhythm of the last interglacial in northern Eurasia. Velichko, A.A., et al. [1991, p.191-213, eng] 47-3490
Problems of the last interglacial in arctic Siberia. Sher, A.V., [1991, p.215-222, eng] 47-3491
Glacial stratigraphy, engineering geology and earth construction. Kauranne, K., ed. [1992, 167p., eng] 47-3543
Deglaciation of Finnish Lapland. Kujansuu, R., [1992, p.21-31, eng] 47-3544

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Glacial stratigraphy in Lapland. Hirvas, H., [1992, p.41-42, eng] **47-3546**

Glacial stratigraphy in Sweden. Lundqvist, J., [1992, p.43-59, eng] **47-3547**

Glacial stratigraphy in Norway. Andersen, B.G., [1992, p.61-71, eng] **47-3548**

Postglacial history of Kemijoki. Saarnisto, M., [1992, p.151-159, eng] **47-3553**

Quaternary deposit chronology derived from varve dating. Björck, S., et al, [1992, p.25-44, eng] **47-3556**

Characteristics of two landslide-dammed lakes in a glaciated alpine environment. Butler, D.R., et al, [1993, p.441-445, eng] **47-3563**

Initiation of maritime ice sheets. Kerr, A.D., [1990, p.69-79, eng] **47-3574**

On the world's ice ages and changing environments. Eronen, M., et al, [1990, 72p., eng] **47-3701**

Preliminary study of the surficial geology of Virden area, southwestern Manitoba. Sun, S., [1993, p.57-61, eng] **47-3705**

Shear-induced folding in Arsia Mons aureole: evidence for low-latitude Martian glaciations. Anguita, F., et al, [1992, p.11-22, eng] **47-3722**

Mountain structure and glaciation of the Caucasus Mountains. Marcinek, J., et al, [1990, p.242-251,270, ger] **47-3793**

Quaternary engineering geology. Fookes, P.G., [1991, p.73-98, eng] **47-3870**

Some influences of ice thrusting in geotechnical engineering. Cruden, D.M., et al, [1991, p.127-134, eng] **47-3872**

Onshore and offshore investigations of relict glaciated areas. Stewart, F.S., [1991, p.573-578, eng] **47-3897**

Modelling of rock mass responses to glaciation at Finnsjön, central Sweden. Rosengren, L., et al, [1993, p.75-82, eng] **47-3920**

Glaciation and deglaciation mechanisms in a coupled two-dimensional climate—ice-sheet model. Berger, A., et al, [1993, p.45-49, eng] **47-3939**

Glacigenic deposits of the Central Deep: a key to the Late Quaternary evolution of the eastern Barents Sea. Gataullin, V., et al, [1993, p.47-58, eng] **47-4017**

Physical signatures of Pleistocene ice advance in Norway. Lönne, I., [1993, p.59-70, eng] **47-4018**

Glaciation in the Yukon Territory. Ward, B.C., et al, [1992, p.2007-2012, eng] **47-4158**

Reconstruction of glacial events in southeastern New Brunswick. Foisy, M., et al, [1991, p.1594-1612, eng] **47-4159**

Analysis of glacial landforms from relief maps. Lidmar-Bergström, K., et al, [1991, p.61-91, eng] **47-4308**

Subglacial meltwater channel systems and ice sheet overriding, Asgard Range, Antarctica. Sugden, D.E., et al, [1991, p.109-121, eng] **47-4310**

Cirques at low altitudes need not necessarily have been cut by small glaciers. *Holmlund, P., [1991, p.9-16, eng]* **47-4316**

Glacial ice-flows on the islands of Bornholm and Christiansö, Denmark. *Lindström, E., [1991, p.17-35, eng]* **47-4317**

Multiple glaciation in Scandinavia—seen in gross morphology or not?. Rudberg, S., [1992, p.231-243, eng] **47-4332**

Moraines and late glacial activity in southern Värmland, southwestern Sweden. Lundqvist, J., [1992, p.245-252, eng] **47-4333**

Glacial landform distribution in Yunnan Province, China. Aniya, M., [1992, p.1-12, eng] **47-4360**

Last glacial maximum on Spitsbergen, Svalbard. Mangerud, J., et al, [1992, p.1-31, eng] **47-4406**

Compression properties of Canadian intertill clays. Sauer, E.K., et al, [1993, p.257-275, eng] **47-4513**

Paleoclimatology of Atacama Altiplano, northern Chile. Messerli, B., et al, [1993, p.117-127, eng] **47-4710**

Stratigraphy and origin of an area of hummocky glacial topography, northern Wisconsin, U.S.A. Attig, J.W., et al, [1993, p.61-67, eng] **47-4752**

Pre-Holocene marine limit on Hopen, Svalbard. Zale, R., et al, [1993, p.159-164, eng] **47-4853**

Conditions of the Pleistocene glaciation of mountainous regions. Klimaszewski, M., [1993, p.1-18, eng] **47-4982**

Dating of weathered Peruvian Pleistocene mountain moraines. Rodbell, D.T., [1993, p.133-143, eng] **47-5121**

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Mass balance, terminus behavior and runoff of North Cascade, Washington glaciers. Pelto, M.S., [1990, 135p., eng] **47-83**

Glacier recession in Iceland and Austria. Hall, D.K., et al, [1992, p.10-13, eng] **47-178**

Current state of the regime of glacier systems in the world. Krenke, A.N., et al, [1991, p.55-66, rus] **47-322**

Mass balance of Spitsbergen glaciers in 1988/89 and 1989/90 balance years. Troitskii, L.S., [1991, p.167-170, rus] **47-337**

Impact of summer snowfalls on glacier regimes in the Akshiyrak Massif. Ushnurtsev, S.N., et al, [1991, p.176-181, rus] **47-339**

Mass balances of the Gergeti Glacier and fluctuations in the regimes of glaciers in the Caucasus. Tsomaia, V.Sh., [1990, p.72-88, rus] **47-418**

Calculated ablation variations at the Greenland ice sheet margin. Braithwaite, R.J., et al, [1992, p.266-272, eng] **47-467**

Summer energy balance on West Gulkana Glacier, Alaska, and linkages to a temporal synoptic index. Brazel, A.J., et al, [1992, p.15-34, eng] **47-1003**

Experimental study of the water and heat balance in the source of the Ürümqi River in the Tien Shan mountains. Kang, E.S., et al, [1992, p.55-66, eng] **47-1087**

Prediction of mountain glacier mass balance changes. Ageta, Y., et al, [1992, p.89-94, eng] **47-1092**

Influence of humidity on the ablation of continental-type glaciers. Ohno, H., et al, [1992, p.107-114, eng] **47-1094**

Dramatic retreat of Mount Kenya's glaciers between 1963 and 1987: greenhouse forcing. Hastenrath, S., et al, [1992, p.127-133, eng] **47-1097**

Study of ablation variations on the tongue of Hintereisferner, Austrian Alps. Van de Wal, R.S.W., et al, [1992, p.319-324, eng] **47-1384**

Seismicity associated with icebergs calving from glaciers near Mawson, East Antarctica. Gaull, B.A., et al, [1992, p.473-480, eng] **47-1883**

Unusual case: backpack moves through a glacier. Ambach, W., et al, [1992, p.219-220, eng] **47-1904**

Corpses released from glacier ice: glaciological and forensic aspects. Ambach, W., et al, [1992, p.372-376, eng] **47-1906**

Erosive-accumulative activity of glaciers of northern Tien Shan during the Little Ice Age. Orlov, A.V., [1991, p.59-65, rus] **47-2789**

Mass balance fluctuations of the Sary-Tor Glacier in inner Tien Shan and its reconstruction for 1930-1988. Ushnurtsev, S.N., [1991, p.70-80, rus] **47-2791**

Characteristics of climate and glacier ablation in the intertropical Andes. *Kadomtseva, T.G., et al, [1991, p.99-107, rus]* **47-2795**

Air inclusions as an index of ice formation conditions on *polar glaciers.* Samoilov, O.IU., [1991, p.118-121, rus] **47-2799**

Interrelation between the altitude of the equilibrium line, air temperature, and runoff in the Sary-Tor Glacier. Diurgerov, M.B., et al, [1991, p.136-139, rus] **47-2803**

Using structural-petrographic analysis for studying glacier movement. Golubev, V.N., et al, [1991, p.139-143, rus] **47-2804**

Studies of the tidewater Hansbreen Glacier on Spitsbergen. Glazovskii, A.F., et al, [1991, p.143-149, rus] **47-2805**

Internal drainage system of a valley glacier. Hock, R., et al, [1993, p.537-546, eng] **47-3173**

Hydroclimatological variations in an alpine glacier basin. Gurnell, A.M., et al, [1992, p.821-839, eng] **47-3679**

Effects of climatic perturbations on the equilibrium-line altitude, West Greenland. Ambach, W., [1993, p.5-9, eng] **47-3935**

Mass wasting on valley-side ice-cored moraines, Boundary Glacier, Alberta Canada. Mattson, L.E., et al, [1991, p.123-128, eng] **47-4335**

Rockslides on the terminus of "Jökulsárgilsjökull," southern Iceland. Sigurdsson, O., et al, [1991, p.129-140, eng] **47-4336**

Glacier alimentation

Current state of the regime of glacier systems in the world. Krenke, A.N., et al, [1991, p.55-66, rus] **47-322**

Interrelations of the characteristics of glaciation in regional glacier systems. Glebova, L.N., et al, [1991, p.67-76, rus] **47-323**

Evaluating the distribution and regime of Karakorum glaciers using data from space images. Nosenko, G.A., [1991, p.87-94, rus] **47-325**

Calculating and mapping the fields of components in the water-ice balance of glaciers. Bazhev, A.B., et al, [1991, p.94-102, rus] **47-326**

Mass balance of the Altay glaciers and its climatic causes. Narozhnyi, IU.K., [1991, p.107-116, rus] **47-328**

Numerical studies of the temperature, ice age and conditions of a glacier bed. Larina, T.B., [1991, p.123-131, rus] **47-329**

Impact of summer snowfalls on glacier regimes in the Akshiyrak Massif. Ushnurtsev, S.N., et al, [1991, p.176-181, rus] **47-339**

Mass balances of the Gergeti Glacier and fluctuations in the regimes of glaciers in the Caucasus. Tsomaia, V.Sh., [1990, p.72-88, rus] **47-418**

Climatic effects on the development of Qilian glaciers. Ding, L.F., et al, [1985, p.9-15, chi] **47-1514**

Ice formation of glaciers in Qilian Mountains. Xie, Z.C., et al, [1985, p.27-40, chi] **47-1517**

Meltwater refreezing in the accumulation area of the *Greenland ice sheet: Pâkitsoq, summer 1991.* Braithwaite, R.J., et al, [1992, p.13-17, eng] **47-1632**

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Erosive-accumulative activity of glaciers of northern Tien Shan during the Little Ice Age. Orlov, A.V., [1991, p.59-65, rus] **47-2789**

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Using structural-petrographic analysis for studying glacier movement. Golubev, V.N., et al, [1991, p.139-143, rus] **47-2804**

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Movement mechanisms of Urumqi Glacier No.1, Tien Shan mountains, China. Huang, M.H., [1992, p.39-44, eng] **47-1084**

Basal deformation of Ürümqi Glacier No.1, Tien Shan mountains, China. Jing, X.P., et al, [1992, p.123-126, eng] **47-1096**

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Drilling boreholes in glacial and subglacial rocks, with core selection by an electromechanical drill on a load- bearing cable. Kudriashov, B.B., et al, [1991, p.165-170, rus] **47-2808**

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Mega-scale glacial lineations and cross-cutting ice-flow landforms. Clark, C.D., [1993, p.1-29, eng] **47-4250**

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Hydrologic control of sliding velocity in two Alaskan glaciers: observation and theory. Fahnestock, M.A., [1992, 120p., eng] **47-283**

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Determination of glacier speed by time-lapse photography under unfavorable conditions. Harrison, W.D., et al, [1992, p.257-265, eng] **47-466**

Theoretical calving rates from glaciers along ice walls grounded in water of variable depths. Hughes, T., [1992, p.282-294, eng] **47-469**

Measurement, analysis, and modeling of deformation of the shelf flow, Byrd Glacier. Zhao, Z.H.M., [1990, 108p., eng] **47-486**

Numerical modeling of the development of U-shaped valleys by glacial erosion. Harbor, J.M., [1992, p.1364-1375, eng] **47-770**

Geomorphology of James Ross Island. Strelin, J., et al, [1992, p.7-36, spa] **47-866**

Further evidence for a glacial maximum in Antarctica during the Late Neogene. Höfle, H.C., et al, [1992, p.125-137, eng] **47-1008**

Arctic push moraines, a case study of the Thompson *Glacier moraine, Axel Heiberg Island, N.W.T., Canada.* Lehmann, R., [1992, p.161-171, eng] **47-1011**

Proceedings. [1992, 239p., eng] **47-1076**

Movement mechanisms of Ürümqi Glacier No.1, Tien Shan mountains, China. Huang, M.H., [1992, p.39-44, eng] **47-1084**

Basal deformation of Ürümqi Glacier No.1, Tien Shan mountains, China. Jing, X.P., et al, [1992, p.123-126, eng] **47-1096**

Terminus of Hubbard Glacier, Alaska. Krimmel, R.M., et al, [1992, p.151-157, eng] **47-1103**

Identification of glaciers with surge characteristics on the Tibetan Plateau. Zhang, W.J., [1992, p.168-172, eng] **47-1106**

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General features of glacier motion in Qilian Mountains. Sun, Z.Z., et al, [1985, p.61-72, chi] 47-1520
Surface movement velocity of the Qiyi Glacier in Qilian Mountain. Song, G.P., et al, [1992, p.40-44, chi] 47-1537
Influence of glacier hydrology on the dynamics of a large Quaternary ice sheet. Arnold, N., et al, [1992, p.109-124, eng] 47-1559
Deglacial chronology for Baffin I. and Hudson Strait. Stravers, J.A., et al, [1992, p.1000-1017, eng] 47-1797
Unusual case: backpack moves through a glacier. Ambach, W., et al, [1992, p.219-220, eng] 47-1904
Fatal accidents on glaciers: forensic, criminological, and glaciological conclusions. Ambach, E., et al, [1991, p.1469-1473, eng] 47-1908
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Climate at the equilibrium line of glaciers. Ohmura, A., et al. [1992, p.397-411, eng] **47-1391**

Observational evidence of changes in global snow and ice cover. Barry, R.G., [1991, p.329-345, eng] **47-1505**

Mass balance of glaciers in Qilian Mountains. Wang, Z.X., et al. [1985, p.41-53, chi] **47-1518**

Mass balance of a Qilian glacier. Liu, C.H., et al. [1992, p.21-33, chi] **47-1535**

Reconstruction of mass balance variations for Franz Josef Glacier, New Zealand, 1913-1989. Woo, M.K., et al. [1992, p.281-290, eng] **47-1585**

Simultaneous monitoring of mass balance fluctuations and runoff of the Tianshan glaciers. Diurgerov, M.B., et al. [1992, p.226-232, chi] **47-1662**

Variations of climate and glacier mass balance, Svartisen, Norway. Theakstone, W.H., et al. [1992, p.703-710, eng] **47-1982**

Volumetric changes at the East Svartisen ice cap during 1945-85. Knudsen, N.T., et al. [1992, p.728-735, eng] **47-1985**

Mass balance fluctuations of the Sary-Tor Glacier in inner *Tien Shan and its reconstruction for* 1930-1988. Ushnurtsev, S.N., [1991, p.70-80, rus] **47-2791**

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Interrelation between the altitude of the equilibrium line, air temperature, and runoff in the Sary-Tor Glacier. Diurgerov, M.B., et al. [1991, p.136-139, rus] **47-2803**

Studies of the tidewater Hansbreen Glacier on Spitsbergen. Glazovskii, A.F., et al. [1991, p.143-149, rus] **47-2805**

Mass balance and fluctuations of glaciers in the USSR, 1985-1987. [1991, p.211-222, rus] **47-2814**

Response of large ice sheets to climatic change. Drewry, D.J., et al. [1992, p.235-242, eng] **47-3143**

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Glacier inventory and atlas of West Greenland. Weidick, A., et al. [1992, 194p., *eng*] **47-3519**

Comparison of altimetry profiles over East Antarctica from Seasat and Geosat: an interim report. Bentley, C.R., et al. [1990, p.1-9, eng] **47-3570**

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Glacier mass balance bulletin. Bulletin No.2 (1990-1991). [1993, 73p., eng] **47-3712**

Fluctuations of glaciers 1985-1990. Volume VI. [1993, 319p. + maps, eng] **47-3910**

Effects of climatic perturbations on the equilibrium-line altitude, West Greenland. Ambach, W., [1993, p.5-9, eng] **47-3935**

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Interpretation of short-term ice-sheet elevation changes inferred from satellite altimetry. Van der Veen, C.J., [1993, p.383-405, eng] **47-4137**

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Equilibrium line altitude correlation of Norwegian glaciers. Torsnes, I., et al. [1993, p.106-116, eng] **47-4743**

Glacier study using wavenumber domain synthetic aperture radar. Hamran, S.E., et al. [1993, p.559-570, eng] **47-5120**

Modeled variations of precipitation over the Greenland ice sheet. Bromwich, D.H., et al. [1993, p.1253-1268, eng] **47-5210**

Glacial icemelt in the Wind River Range, Wyoming. Pochop, L.O., et al. [1990, p.118-124, eng] **47-5216**

Glacier melting

Drainage of the Cazadora Glacier at Juan-Carlos I Base, Eraso, A., et al. [1991, p.69-91, eng] **47-25**

Mass balance of the Altay glaciers and its climatic causes. Narozhnyi, IU.K., [1991, p.107-116, rus] **47-328**

Nomograms for estimating rate of snow-melting from routine meteorological data. Daoo, V.J., et al. [1985, p.22-31, eng] **47-559**

Seasonal heat balance of the Franz Josef Glacier, New Zealand. Ishikawa, N., et al. [1992, p.397-410, *eng*] **47-793**

Correlation between discharge and hydrochemical parameters in the river at Juan Carlos I Station. Antiguedad, I., et al. [1989, p.24-31, spa] **47-809**

Meteorological data and hydrogram of the river at Juan Carlos I Station. Antiguedad, I., et al. [1989, p.32-40, spa] **47-810**

Flood generation and destruction of "Drift" Glacier by the 1989-90 eruption of Redoubt Volcano, Alaska. Trabant, D.C., et al. [1992, p.33-38, eng] **47-1083**

Study of glacier meltwater resources in *China.* Yang, Z.N., et al. [1992, p.141-145, eng] **47-1101**

Estimation of streamflow change by global warming. Fukushima, Y., et al. [1991, p.181-188, eng] **47-1305**

Melting of ice shelves and the mass balance of Antarctica. Jacobs, S.S., et al. [1992, p.375-387, eng] **47-1389**

Reconstruction of mass balance variations for Franz Josef Glacier, New Zealand, 1913-1989. Woo, M.K., et al. [1992, p.281-290, eng] **47-1585**

Greenland glaciers and the "greenhouse effect," status 1991. Braithwaite, R.J., et al. [1992, p.9-13, eng] **47-1631**

Melting of the Greenland ice sheet under a warmer climate. Braithwaite, R.J., [1992, p.79-83, eng] **47-1642**

Forecasting meltwater runoff from snow-covered areas and from glacier basins. Lang, H., [1986, p.99-127, eng] **47-2312**

Recent trends in glaciers and glacier runoff, Wind River Range, Wyoming. Marston, R.A., *et al.* [1989, p.159-169, eng] **47-2578**

Meltwater and tidal currents: controls on circulation in a small glacial fjord. Cowan, E.A., [1992, p.381-392, eng] **47-2602**

Observed climate variations and change. Folland, C.K., et al. [1990, p.198-238, eng] **47-2652**

Estimating glacier-derived runoff from mountain rivers in *model predictions. Shentsis, I.D., [1991, p.32-40, rus]* **47-2786**

Interrelation between the altitude of the equilibrium line, air temperature, and runoff in the Sary-Tor Glacier. Diurgerov, M.B., et al. [1991, p.136-139, rus] **47-2803**

Strength of the Nordic heat pump. Broecker, W.S., [1992, p.173-181, eng] **47-3557**

Reconstructed paleoclimatic meltwater anomalies. Sarnthein, M., et al. [1992, p.183-200, eng] **47-3558**

Reconstruction of paleoclimatic sea surface salinity. Duplessy, J.-C., et al. [1992, *p.201-217, eng*] **47-3559**

Ice-core evidence for a Holocene meltwater cap. Fisher, D.A., [1992, p.267-293, eng] **47-3560**

Sedimentary record and Neoglacial history of Tide Lake, northwestern British Columbia. Clague, J.J., et al. [1992, p.2383-2396, eng] **47-3715**

Observations of postglacial uplift at Churchill, Manitoba. Tushingham, A.M., [1992, p.2418-2425, eng] **47-3716**

Consolidation of sediments by glaciers. Boulton, G.S., et al. [1993, p.26-44, eng] **47-3938**

Internal melting and ice accretion at the bottom of temperate glaciers. Lliboutry, L.A., [1993, p.50-64, eng] **47-3940**

Chemical composition of precipitation in Uzbekistan. Kulmatov, R.A., et al. [1993, p.413-419, eng] **47-4068**

Subglacial meltwater channel systems and ice sheet overriding, Asgard Range, Antarctica. Sugden, D.E., et al. [1991, p.109-121, eng] **47-4310**

Changes of alpine climate and *glacier water resources.* Chen, J.Y., [1991, 196p., eng] **47-4462**

Stratigraphy and origin of an area of hummocky glacial topography, northern Wisconsin, U.S.A. Attig, J.W., et al. [1993, p.61-67, eng] **47-4752**

Industrial potential of hydropower in West Greenland. Thomsen, H.H., et al. [1993, p.59-62, eng] **47-4917**

Ice sheet firn temperature and meltwater refreezing in *Greenland. Braithwaite,* R.J., [1993, p.109-114, eng] **47-4920**

Use of meltwater stream material loads in the estimation of glacial erosion rates. Warburton, J., et al. [1993, p.19-28, eng] **47-4983**

Glacial icemelt in the Wind River Range, Wyoming. Pochop, L.O., et al. [1990, p.118-124, eng] **47-5216**

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Glacier oscillation

What were the primary forcing mechanisms of high-frequency Holocene climate and glacier variations. Nesje, A., et al. [1992, p.79-84, eng] **47-53**

Behaviour of New Zealand glaciers and atmospheric circulation changes over the past 130 years. Fitzharris, B.B., et al. [1992, p.97-106, eng] **47-54**

Geomorphological evidence of Holocene climatic change from northwest Ellesmere Island, Canadian high arctic. Evans, D.J.A., et al. [1992, p.148-158, eng] **47-55**

Growth of the Müller Ice Shelf during the Little Ice Age. Stein, A.B., [1992, 56p., *eng*] **47-71**

Probing an iceberg barrier. Carroll, M., [1992, p.24-33, eng] **47-177**

Glacier recession in Iceland and Austria. Hall, D.K., et al. [1992, p.10-13, eng] **47-178**

How to measure a glacier. [1991, p.6-7, eng] **47-179**

Equilibrium line altitude variations with latitude, today and during the late Wisconsin. Pelto, M.S., [1992, p.41-46, *eng*] **47-198**

Multiple glaciations and sea level changes, northern Ellesmere Island, high arctic Canada. Lemmen, D.S., et al. [1992, p.137-152, eng] **47-225**

Current state of the regime of glacier systems in the world. Krenke, A.N., et al. [1991, p.55-66, rus] **47-322**

Effect of the morphology of Alpine glaciers on their termini displacement and annual mass balance. Tiulina, T.IU., [1991, p.142-147, rus] **47-332**

Mass balances of the Gergeti Glacier and fluctuations in the regimes of glaciers in the Caucasus. Tsomaia, V.Sh., [1990, p.72-88, rus] **47-418**

Iceberg calving and the glacioclimatic record. Warren, C.R., [1992, p.253-282, eng] **47-424**

Topographical effects on the equilibrium-line altitude on glaciers. Nesje, A., [1992, p.383-391, eng] **47-447**

Use of energy-balance model to reflect climate sensitivity of glaciers. Oerlemans, J., [1992, p.223-232, eng] **47-463**

Numerical modelling of glacier mass-balance variations. Greuell, W., [1992, p.233-244, eng] **47-464**

Recent fluctuations of glaciers in Valtellina (Italian Alps) and *climatic variations.* Pelfini, M., et al. [1992, p.309-313, eng] **47-472**

Recent advance and retreat of Bara Shigri glacier of eastern *Lahaul.* Bandyopadhyay, M.K., *et al.* [1985, p.121-125, eng] **47-565**

Greenland observed at high resolution by the Seasat scatterometer. Long, D.G., et al. [1992, p.327-329, eng] **47-646**

Glacier variations: 1930-1960, 1960-1980, 1980-1987 and 1987-1988. Sigurdsson, O., [1989, p.108-113, ice] **47-714**

Advance and retreat of Cordilleran ice sheets in Washington, U.S.A. Easterbrook, D.J., [1992, p.51-68, eng] **47-828**

Paleoclimatology of continental ice sheet in response to CO2 variations. Gallée, H., et al. [1992, p.15,713-15,740, eng] **47-998**

Climate and glacier change: the dilemma of the representative station. Marcus, M.G., et al. [1992, p.1-14, eng] **47-1002**

Report on the Franz Josef Glacier. Brazier, V., et al. [1992, p.35-49, eng] **47-1004**

Further evidence for a glacial maximum in Antarctica during the Late Neogene. Höfle, H.C., et al. [1992, p.125-137, eng] **47-1008**

Proceedings. [1992, 239p., eng] **47-1076**

Glacioclimatological features in the Tanggula mountains, China. Ding, Y.J., et al. [1992, p.1-6, eng] **47-1077**

Relation between recent glacier variations and *climate in* the Tien Shan mountains, central Asia. Liu, C.H., et al. [1992, p.11-16, eng] **47-1079**

Glacial and lake fluctuations in the area of the west Kunlun mountains during the last 45,000 years. Li, S.J., et al. [1992, p.79-84, eng] **47-1090**

Evaluation of scale-dependent effects of atmosphere-glacier interactions on heat supply to glaciers. Ohata, T., [1992, p.115-122, eng] **47-1095**

Dramatic retreat of Mount Kenya's glaciers between 1963 *and 1987: greenhouse forcing. Hastenrath,* S., et al. [1992, p.127-133, eng] **47-1097**

Reactions of a calving glacier to large changes in water level. Laumann, T., et al. [1992, p.158-162, eng] **47-1104**

Recent fluctuations of glaciers in the Gongga mountains. Su, Z., et al. [1992, p.163-167, eng] **47-1105**

Identification of glaciers with surge characteristics on the Tibetan Plateau. Zhang, W.J., [1992, p.168-172, eng] **47-1106**

Oscillations of mountain glaciers in post-glacial time. Solomina, O.N., [1992, p.56-65, rus] **47-1251**

Climate at the equilibrium line of glaciers. Ohmura, A., et al. [1992, p.397-411, eng] **47-1391**

Observational evidence of changes in global snow and ice cover. Barry, R.G., [1991, p.329-345, eng] **47-1505**

Recent advance and retreat of glaciers in Qilian Mountains. Xie, Z.C., et al. [1985, p.82-90, chi] **47-1522**

Climatic and glacier changes in the Qilian Mountains. Ding, Y.J., et al. [1985, p.91-96, chi] **47-1523**

Tree ring climatology as reflected in Qilian glaciers. Liu, G.Y., et al. [1985, p.97-108, chi] **47-1524**

Cold desert soils and glacier variation in the Qilian Mountains. Hu, S.X., [1985, p.109-115, chi] **47-1525**

On problems of Quaternary Ice Age in *Qilian Mountains.* Wu, G.H., [1985, p.116-123, chi] **47-1526**

Recent change and trend prediction of glaciers in Qilian Mountain. Liu, C.H., et al. [1992, p.1-9, chi] **47-1533**

Mass balance of a Qilian glacier. Liu, C.H., et al. [1992, p.21-33, chi] 47-1535
Study on the climatic variation in the Qilian Mountain region for the historical period. Kang, X.C., [1992, p.54-63, chi] 47-1539
Jakobshavn Isbrae area during the climatic optimum. Weidick, A., [1992, p.67-72, eng] 47-1640
Simultaneous monitoring of mass balance fluctuations and runoff of the Tianshan glaciers Dturgerov, M.B., et al. [1992, p.226-232, chi] 47-1662
Mountain glacier fluctuations and climatic change during the last 100 years. Wang, N.L., et al. [1992, p.242-250, chi] 47-1664
Geomorphological and glaciological research during the 2nd P.N.R.A. expedition to Terra Nova Bay, 1986-1987. Baroni, C., et al. [1991, p.83-90, ita] 47-1792
Discovery of human bones in the Prägratkees (Tyrolean Alps) in 1953 and 1990. Ambach, E., et al. [1992, p.37-41, ger] 47-1905
Glacier hydrology in a changing climate. Jóhannesson, T., et al. [1992, p.683-692, eng] 47-1980
Variations of climate and glacier mass balance, Svartisen, Norway Theakstone, W.H., et al. [1992, p.703-710, eng] 47-1982
Volumetric changes at the East Svartisen ice cap during 1945-85. Knudsen, N.T., et al. [1992, p.728-735, eng] 47-1985
Lichenometric dating of a Norwegian moraine sequence. Bickerton, R.W., et al. [1992, p.227-237, eng] 47-1999
Mid-Holocene glacial activity in the Pyrenees. Gellatly, A.F., et al. [1992, p.266-270, eng] 47-2000
Labrador Sea bottom sediments related to iceberg rafting. Andrews, J.T., et al. [1992, p.1087-1090, eng] 47-2631
Last interglacial-glacial transition in North America: introduction. Clark, P.U., [1992, p.1-11, eng] 47-2679
Erosive-accumulative activity of glaciers of northern Tien Shan during the Little Ice Age. Orlov, A.V., [1991, p.59-65, rus] 47-2789
Mass balance fluctuations of the Sary-Tor Glacier in inner Tien Shan and its reconstruction for 1930-1988. Ushnurtsev, S.N., [1991, p.70-80, rus] 47-2791
Reconstruction of humidification conditions of eastern Issyk-Kul' areas. Mel'nikova, N.G., et al. [1991, p.80-86, rus] 47-2792
Using structural-petrographic analysis for studying glacier movement. Golubev, V.N., et al. [1991, p.139-143, rus] 47-2804
Mass balance and fluctuations of glaciers in the USSR, 1985-1987. [1991, p.211-222, rus] 47-2814
Reports on the Glaciological Survey of 1990. Armando, E., et al. [1991, p.263-310, ita] 47-3171
Some aspects of studying present glaciation in the northwestern Baikal region. Aleshin, G.V., [1991, p.118-124, rus] 47-3284
Glacial retreat in the Pyrenees. [1993; p.116-117, eng] 47-3318
Tree-ring dating of moraines. McCarthy, D.P., et al. [1993, p.63-68, eng] 47-3430
Pleistocene glaciation in Iceland. Eirfksson, J., et al. [1992, p.733-757, eng] 47-3473
Late Pleistocene ice age scenarios based on observational evidence. Deblonde, G., et al. [1993, p.709-727, eng] 47-3475
Last interglacial evidence in Northern Hemisphere high latitudes. Anderson, P., et al. [1991, p.9-28, eng] 47-3478
Land-ocean-atmosphere relationships during last interglacial. Anderson, P., et al. [1991, p.29-48, eng] 47-3479
Framework for interpreting paleoclimatic variations in eastern Beringia. Bartlein, P.J., et al. [1991, p.73-83, eng] 47-3481
Paleoenvironments in the northwest North Atlantic. De Vernal, A., et al. [1991, p.95-106, eng] 47-3483
Isotope stage 5 (130-74 ka) in Greenland—a review. Funder, S., et al. [1991, p.107-122, eng] 47-3484
Last interglacial as recorded in the Greenland ice sheet and Canadian arctic ice caps. Rech, N., [1991, p.123-142, eng] 47-3485
Late Quaternary land-sea interactions: Fennoscandia and Svalbard—the Nordic seas. Larsen, E., et al. [1991, p.151-159, eng] 47-3487
Eemian-Early Weichselian N-S temperature gradients: North Atlantic-NW Europe. Sejrup, H.P., et al. [1991, p.161-166, eng] 47-3488
Glacier inventory and atlas of West Greenland. Weidick, A., et al. [1992, 194p., eng] 47-3519
Proceedings. [1992, 344p., eng] 47-3[illegible]
Palynological correlation of paleoclimatic changes. Peteet, D.M., [1992, p.327-344, eng] 47-3561
Comparison of altimetry profiles over East Antarctica from Seasat and Geosat: an interim report. Bentley, C.R., et al. [1990, p.1-9, eng] 47-3570
Local climate and mass balance of a blue-ice area in western Dronning Maud Land, Antarctica. Jonsson, S., [1990, p.11-29, eng] 47-3571
Mass balance simulation of the antarctic ice sheet. Fortuin, J.P.F., et al. [1990, p.31-56, eng] 47-3572
Mass balance variations on Filchner-Ronne Ice Shelf. Determann, J., et al. [1990, p.57-68, eng] 47-3573
Astronomical theory of glaciation cycles. Grieger, B., [1990, p.81-96, eng] 47-3575
Degree-day glacier mass balance modelling Johannesson, T., et al. [1993, 40p., eng] 47-3707
Geology of bay after breakup of Hubbard Glacier ice dam. Carlson, P.R., et al. [1992, 41p., eng] 47-3708
Glacier mass balance bulletin. Bulletin No.2 (1990-1991) [1993, 73p., eng] 47-3712
Sedimentary record and Neoglacial history of Tide Lake, northwestern British Columbia. Clague, J.J., et al. [1992, p.2383-2396, eng] 47-3715
Mountain structure and glaciation of the Caucasus Mountains. Marcinek, J., et al. [1990, p.242-251,270, ger] 47-3793
Satellite image atlas of glaciers of the world. Glaciers of the Middle East and Africa. Williams, R.S., Jr., ed. [1991, 70p., eng] 47-3822
Glaciers of Turkey. Kurter, A., [1991, p.G1-G30, eng] 47-3823
Glaciers of Iran. Ferrigno, J.G., [1991, p.G31-G47, eng] 47-3824
Glaciers of Africa. Young, J.A.T., et al. [1991, p.G49-G70, eng] 47-3825
Paleoclimate sensitivity to glacial ice cover. deMenocal, P.B., et al. [1993, p.7265-7287, eng] 47-3831
Fluctuations of glaciers 1985-1990. Volume VI. [1993, 319p. + maps, eng] 47-3910
Glaciation and deglaciation mechanisms in a coupled two-dimensional climate - ice-sheet model. Berger, A., et al. [1993, p.45-49, eng] 47-3939
Thermo-mechanically coupled ice-sheet response—cold, polythermal, temperate. Hutter, K., [1993, p.65-86, eng] 47-3941
Mass balance of a cirque glacier in the Italian Alps. Catasta, G., et al. [1993, p.87-90, eng] 47-3942
Rapid advance of Pumarikish Glacier, Hispar Glacier basin, Karakoram Himalaya. Wake, C.P., et al. [1993, p.204-207, eng] 47-3953
Glaciers. Hambrey, M.J., et al. [1992, 207p., eng] 47-4009
Radiocarbon dating of west Spitsbergen Quaternary deposits. Forman, S.L., et al. [1993, p.1-6, eng] 47-4015
Constraints on ice-sheet thickness over Tibet during the last 40,000 years. Gupta, S.K., et al. [1992, p.283-290, eng] 47-4022
Swedish varve chronology—a review. Boygle, J., [1993, p.1-19, eng] 47-4073
Paleoclimate record for Northwind Ridge, western Arctic Ocean. Poore, R.Z., et al. [1993, p.149-159, eng] 47-4152
Patterns of ice-rafted detritus in the glacial North Atlantic (40-55 deg N). Grousset, F.E., et al. [1993, p.175-192, eng] 47-4154
Geomorphological effects of glaciation in arctic Canada. Blake, W., Jr., [1992, p.1958-1980, eng] 47-4156
On the extent and thickness of the Innuitian Ice Sheet: a postglacial-adjustment approach. Tushingham, A.M., [1991, p.231-239, eng] 47-4160
Glaciers of the Swiss Alps 1985/86 and 1986/87. Aellen, M., et al. [1991, 140p., ger] 47-4219
Reconstructing Holocene glacier variations from glacial lake sediments. Karlén, W., et al. [1992, p.327-348, eng] 47-4343
Glacial landform distribution in Yunnan Province, China. Aniya, M., [1992, p.1-12, eng] 47-4360
Marine sediment records of Pleistocene climate. Birchfield, G.E., et al. [1993, p.10,385-10,399, eng] 47-4392
Last glacial maximum on Spitsbergen, Svalbard. Mangerud, J., et al. [1992, p.1-31, eng] 47-4406
Modeling the deltaO-18-derived record of Quaternary climatic change with low dynamical systems. Saltzman, B., [1987, p.355-380, eng] 47-4453
Ice sheet dynamics and the Pleistocene ice ages. Birchfield, G.E., [1987, p.381-398, eng] 47-4454
Relaxation oscillator model of the ice age cycle. Peltier, W.R., [1987, p.399-416, eng] 47-4455
Land ice and climate. Van der Veen, C.J., [1992, p.437-450, eng] 47-4500
Glacial geology in Peruvian mountains. Rodbell, D.T., [1993, p.923-934, eng] 47-4580
Effects of CO2 increase on climate dynamics. Saltzman, B., et al. [1993, p.1051-1054, eng] 47-4630
Comparison of VLBI data with the ICE-3G glacial rebound model. James, T.S., et al. [1993, p.871-874, eng] 47-4631
Late-Quaternary glaciation as a proxy for climate change in the central Andes. Seltzer, G.O., [1993, p.129-138, eng] 47-4711
Ice sheets: growing or shrinking. Van der Veen, C.J., [1993, p.5-9, eng] 47-4740
Location of mechanical controls on Columbia Glacier, Alaska, U.S.A., prior to its rapid retreat. Van der Veen, C.J., et al. [1993, p.99-105, eng] 47-4742
Equilibrium line altitude correlation of Norwegian glaciers. Torsnes, I., et al. [1993, p.106-116, eng] 47-4743
Rhine-Linth glacier in the upper Wurm: a model of the last alpine glaciation. Keller, O., et al. [1993, p.15-17, eng] 47-4749
Dendrochronology of an iceberg-calving glacier. Wiles, G.C., et al. [1993, p.35-42, eng] 47-4750
Dating Holocene moraines of Black Rapids Glacier, Delta River valley, central Alaska Range Reger, R.D., et al. [1993, p.51-59, eng] 47-4778
Strategies for modelling climate changes Lliboutry, L.A., [1993, p.385-398, eng] 47-4845
Ice sheet dynamics. Lliboutry, L.A., [1993, p.399-416, eng] 47-4846
Moraine-ridge formation along a stationary ice front in Iceland. Kruger, J., [1993, p.101-109, eng] 47-4851
Neoglacial change of ice cover and the related response of the Earth's crust in West Greenland Weidick, A., [1993, p.121-126, eng] 47-4921
Conditions of the Pleistocene glaciation of mountainous regions Klimaszewski, M., [1993, p.1-18, eng] 47-4982
Dating of ice-marginal moraines of a Norwegian glacier Bickerton, R.W., et al. [1993, p.45-66, eng] 47-5006
Neoglacial glacier fluctuations in the Canadian Rockies Luckman, B.H., et al. [1993, p.144-153, eng] 47-5122
First annual West Antarctic ice sheet (WAIS) science workshop. Bindschadler, R.A., ed. [1993, 58p., eng] 47-5245
Glacial and climatic history of the central Peruvian Andes Wright, H.E., Jr., et al. [1989, p.439-445, eng] 47-5256
Glacier fluctuation relation to moraine cushion plant variation. Frenot, Y., et al. [1993, p.140-144, eng] 47-5269

Glacier surfaces

Radiative temperature of ice surface in Svalbard, 1991. Takahashi, S., et al. [1992, p.286-289, jpn] 47-151
Studying the stability of a snow catchment on a glacier Kunakhovich, M.G., [1991, p.102-107, rus] 47-327
Numerical studies of the temperature, ice age and conditions of a glacier bed. Larina, T.B., [1991, p.123-131, rus] 47-329
Ice thickness and subglacial topography of the Fridtjof Glacier based on data from ground-based radar sounding Glazovskii, A.F., et al. [1991, p.161-166, rus] 47-336
Use of energy-balance model to reflect climate sensitivity of glaciers. Oerlemans, J., [1992, p.223-232, eng] 47-463
Analysis of scattering behavior and radar penetration in AIRSAR data. Rignot, E.J., et al. [1992, p.134-136, eng] 47-642
New fractal texture classification of cloud and ice cap surface features from LANDSAT imagery. Lin, I.I., et al. [1992, p.137-139, eng] 47-643
Combined surface/volume scattering retracking algorithm for ice sheet satellite altimetry. Davis, C.H., [1992, p.969-971, eng] 47-667
Anthropogenic sulfate and Asian dust signals in snow from Tien Shan, northwest China. Wake, C.P., et al. [1992, p.45-52, eng] 47-1085
Application of nonlinear colour enhancement on transparencies for interpretation of glacier surface characteristics. Cao, M.S., et al. [1992, p.190-192, eng] 47-1110
Determination of a flow center on an ice cap. Van der Veen, C.J., et al. [1992, p.412-416, eng] 47-1392
Air temperature at the surface of Qilian glaciers. Liu, C.H., [1992, p.34-39, chi] 47-1536
Pollen and spores from glaciers and from the proglacial zone in the Arctic and Antarctica. Surova, T.G., et al. [1992, p.167-173, eng] 47-1767
Radioactive fallout on Tyrolean glaciers. Ambach, W., et al. [1991, p.7-17, ger] 47-1901
Satellite radiometric mapping of glacier surfaces. Parrot, J.F., et al. [1992, p.425-440, eng] 47-2661
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Topological approach to the strain-rate pattern of ice sheets. Nye, J.F., [1993, p.10-14, eng] 47-3936
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Investigations of arctic ice-sheets and glaciers using ERS-1 SAR. Rees, W.G., et al. [1993, p.263-268, eng] 47-4423

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How to measure a glacier. [1991, p.6-7, eng] **47-179**

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Greenland observed at high resolution by the Seasat scatterometer. Long, D.G., et al. [1992, p.327-329, *eng]* **47-646**

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Seasonal heat balance of the Franz Josef Glacier, New Zealand. Ishikawa, N., et al. [1992, p.397-410, eng] **47-793**

Record of the 1988-1989 expedition at the Spanish Juan Carlos I Station. Eraso, A., et al. [1989, p.3-22, spa] **47-808**

Glaciation of the Verkhoyansk-Kolyma region. Korolsha, M.M., [1989, 143p., rus] **47-869**

Summer energy balance on West Gulkana Glacier, Alaska, and linkages to a temporal synoptic index. Brazel, A.J., et al. [1992, p.15-34, eng] **47-1003**

Report on the Franz Josef Glacier. Brazier, V., et al, [1992, p.35-49, eng] **47-1004**

Glaciers and glacial geomorphology in China. Shi, Y.F., *[1992, p.51-63, eng]* **47-1005**

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Study *of glacier meltwater resources* in China. Yang, Z.N., et al, [1992, p.141-145, eng] **47-1101**

Recent fluctuations of glaciers in the Gongga *mountains.* Su, Z., et al. [1992, p.163-167, eng] **47-1105**

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Progress and prospect for research on mountain glaciers in China. Xie, Z.C., [1992, p.207-211, eng] **47-1113**

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Mass balance of glaciers in Qilian Mountains. Wang, Z.X., et al, [1985, p.41-53, chi] **47-1518**

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Melting of the Greenland ice sheet under a warmer climate. Braithwaite, R.J., [1992, p.79-83, eng] **47-1642**

Sino-USSR joint glaciological expedition to Mt. Xixabangma. Su, Z., et al, [1992, p.184-186, chi] **47-1657**

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Glacier hydrology in a changing climate. Jóhannesson, T., et al, [1992, p.683-692, eng] **47-1980**

Variations of climate and glacier mass balance, Svartisen, Norway. Theakstone, W.H., et al, [1992, p.703-710, eng] **47-1982**

Discharge from a glacier in Norway. Knudsen, N.T., et al, [1992, p.718-727, eng] **47-1984**

Volumetric changes at the East Svartisen ice cap during 1945-85. Knudsen, N.T., et al, [1992, p.728-735, eng] **47-1985**

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Mass balance and fluctuations of glaciers in the USSR, 1985-1987. [1991, p.211-222, rus] **47-2814**

Mass balance variations of an alpine glacier. Giada, M., et al, [1991, p.221-227, ita] **47-3170**

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Comparison of altimetry profiles over East Antarctica from Seasat and Geosat: an interim report. Bentley, C.R., et al, [1990, p.1-9, *eng]* **47-3570**

Local climate and mass balance of a blue-ice area in western Dronning Maud Land, Antarctica. Jonsson, S., [1990, p.11-29, eng] **47-3571**

Glacier mass balance bulletin. Bulletin No.2 (1990-1991), [1993, 73p., eng] **47-3712**

Satellite image atlas of glaciers of the world. Glaciers of the Middle East and Africa. Williams, R.S., Jr., ed. [1991, 70p., eng] **47-3822**

Glaciers of Turkey. Kurter, A., [1991, p.G1-G30, eng] **47-3823**

Glaciers of Iran. Ferrigno, J.G., [1991, p.G31-G47, eng] **47-3824**

Glaciers of Africa. Young, J.A.T., et al, [1991, p.G49-G70, eng] **47-3825**

Fluctuations of glaciers 1985-1990. Volume VI. [1993, 319p. + maps, eng] **47-3910**

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Antarctic ice sheet topography mapped with the ERS-1 radar altimeter. Ridley, J.K., et al, [1993, p.1649-1650, *eng]* **47-5119**

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Giant avalanche on K2 Mount, Karakorum. Shen, Y.P., [1991, p.249-254, eng] 47-1611
Tyrol's ice-man. Ambach, W., et al. [1992, p.1471, eng] 47-1902
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Working session and seminar of the Glaciology Section, autumn 1990. Ushakov, A.I., [1991, p.223-230, rus] 47-2815
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Icing on a small horizontal-axis wind turbine--part 1: glaze ice profiles. Bose, N., [1992, p.75-85, eng] 47-3921
Icing on a small horizontal-axis wind turbine--part 2: three dimensional ice and wet snow formations. Bose, N., [1992, p.87-96, eng] 47-3922
Glaze ice measurement with microprocessor. Provencal, G., et al. [1988, 8 col., eng] 47-4008
Overhead line ice accretion due to freezing rain. Poots, G., et al. [1992, p.390-398, eng] 47-4069
Computer model of glaze accretion on wires. Draganoiu, G., et al. [1993, p.89-95, eng] 47-4235
See also: Hoarfrost

Global change
Anticipated human modifications of global climate. Budyko, M.I., et al. [1990, p.11-23, eng] 47-171
Significance of global snow and ice cover for global change studies. Barry, R.G., [1992, p.293-297, eng] 47-448
Interannual variations in tundra methane emission: a 4-year time series at fixed sites. Whalen, S.C., et al. [1992, p.139-159, eng] 47-1053
Relationship between the Earth's thermal regime and snow-ice cover during climate warming and cooling. Baikova, I.M., [1989, p.21-27, eng] 47-1229
Global changes in the environment as "mirrored" in an ice core. Kotlakov, V.M., [1992, p.59-68, rus] 47-1250
Global warming and future agroclimatic resources of the Russian Plain. Sirotenko, O.D., et al. [1991, p.83-88, rus] 47-1253
Observational evidence of changes in global snow and ice cover. Barry, R.G., [1991, p.329-345, eng] 47-1505
Global climatic changes in water and heat transfer accumulation processes. Dobrovol'skii, S.G., [1992, 265p., eng] 47-1512
Nature and causes of climate change: assessing the long-term future. Goodess, C.M., et al. [1992, 248p., eng] 47-2223
Anomalies in global heat-water exchange: stochastic models. Dobrovol'skii, S.G., [1991, 128p., rus] 47-2285
Reflection of 20th-century climatic warming in the glacier cores of Nordauslandet. Sin'kevich, S.A., [1991, p.53-59, rus] 47-2788
Start of a glacial. Kukla, G.J., ed. [1992, 353p., eng] 47-2831
Marine palynology of interglacial-glacial transitions. Dupont, L.M., [1992, p.137-155, eng] 47-2834
Evidence of rapid climate change in North Atlantic deep sea cores. Bond, G., et al. [1992, p.185-205, eng] 47-2836
Global climate change: a three million year perspective. Raymo, M.E., [1992, p.207-223, eng] 47-2837
Transition from interglaciation to glaciation in North America. Dreimanis, A., [1992, p.225-251, eng] 47-2838
Caspian transgression as an indicator of the interglacial-glacial transition. Zubakov, V.A., [1992, p.253-271, eng] 47-2839
Working hypotheses for glaciation/deglaciation *mechanisms.* Oeschger, H., [1992, p.273-289, eng] 47-2840
Recent temperature trends: are they reinforced by insolation shifts. Kukla, G.J., et al. [1992, p.291-305, eng] 47-2841
Insolation regime of the warm to cold transitions. Kukla, G.J., et al. [1992, p.307-339, eng] 47-2842
Preprints. [1993, 438p., eng] 47-3042
Low-frequency climate variations over the Northern Hemisphere. Hurrell, J.W., et al. [1993, p.355-360, eng] 47-3050
ENSO-snow-monsoon associations and seasonal prediction. Yang, S., [1993, p.418-422, eng] 47-3051
Intrinsic thermodynamical time-scales of the atmosphere-ocean-cryosphere climate system. Chu, P.C., [1993, p.433-438, eng] 47-3052
Global and regional changes in atmospheric composition. Mészáros, E., [1993, 175p., eng] 47-3136
Inconsistencies in modern notions about the greenhouse effect and future environmental conditions. Reznikov, A.P., [1992, p.165-170, rus] 47-3268
Atmospheric and climatic changes. Golitsyn, G.O., et al. [1992, p.33-43, rus] 47-3285
Permafrost methane content: 2. Modeling theory and results. Moraes, F., et al. [1993, p.595-607, eng] 47-3438
Methane in permafrost - preliminary results from coring at Fairbanks, Alaska. Kvenvolden, K.A., et al. [1993, p.609-616, eng] 47-3439
On the world's ice ages and changing environments. Eronen, M., et al. [1990, 72p., eng] 47-3701
Southern Oscillation signal in Antarctica. Savage, M.L., et al. [1988, p.141-144, eng] 47-4203
Preprints. [1991, 528p. + joint papers, eng] 47-4480
Temperature trends and circulation changes on the Northern Hemisphere in winter. Van Loon, H., [1991, p.12-15, eng] 47-4481
Faint young sun paradox: climate model with sea-ice. Molnar, G.I., et al. [1991, p.135-138, eng] 47-4482
Comparison of global climate model simulations of polar regions. Crane, R.G., et al. [1991, p.488-491, eng] 47-4495
Astronomical theory of ice ages. Lin, R.Q., et al. [1991, p.495-496, eng] 47-4496
Climate system modeling. Trenberth, K.E., ed. [1992, 788p., eng] 47-4497
Global coupled models: atmosphere, ocean, sea ice. Meehl, G.A., [1992, p.555-581, eng] 47-4501
Modeling large climatic changes of the past. Kutzbach, J.E., [1992, p.669-688, eng] 47-4502
Late Quaternary continental paleohydrology as related to *future environmental change.* Starkel, L., [1993, p.95-108, eng] 47-4586
Glacials-interglacials in Vostok: climate and greenhouse gases. Lorius, C.J., et al. [1993, p.131-143, eng] 47-4587
Constraints imposed by the ice core data on the budgets of nitrous oxide and methane. Khalil, M.A.K., et al. [1989, p.403-410, eng] 47-4639
Climate model sensitivity to sea ice albedo parameterization. Morassutti, M.P., [1991, p.25-36, eng] 47-4640
Effects of global changes on social life in the Arctic and possible response strategies. Lange, M.A., ed. [1993, 64p., eng] 47-4877

Global change *(cont.)*

Polaarialueiden tutkimus ja globaalinen ilmaston-ja ympäristönmuutos. Launiainen, J., (1993, p.21-31, fin) 47-4996

Carbon cycling in boreal forest and sub-arctic ecosystems: biospheric responses and feedbacks to global climate change. Vinson, T.S., ed. (1993, 282p., eng) 47-5222

Warming the North: what happens? Woodwell, G.M., et al. (1993, p.1-8, eng) 47-5223

Boreal carbon pools: approaches and constraints in global extrapolations. Chapin, F.S., III, et al. (1993, p.9-20, eng) 47-5224

Planetary maximum CO2 and ecosystems of the North. Zimov, S.A., et al. (1993, p.21-34, eng) 47-5225

Carbon storage in peat based on regionality of Russian mires. Botch, M.S., (1993, p.101-107, eng) 47-5232

First annual West Antarctic ice sheet (WAIS) science workshop. Bindschadler, R.A., ed. (1993, 58p., eng) 47-5245

Global warming

Anticipated human modifications of global climate. Budyko, M.I., et al. (1990, p.11-23, eng) 47-171

Recent tendencies in climatic changes in the Arctic. Aleksandrov, E.I., et al. (1992, p.865-868, rus) 47-237

Global warming and sea level rise—discussions and report from IPCC workshop. Higashi, A., (1991, p.58-65, jpn) 47-407

Significance of global snow and ice cover for global change studies. Barry, R.G., (1992, p.293-297, eng) 47-448

Applying a climatic change scenario to a semi-distributed watershed model. Kite, G.W., (1992, p.113-120, eng) 47-500

Pliocene climates of the Northern Hemisphere. Thompson, R.S., ed. (1991, 45p., eng) 47-629

Research program on global warming at NCAR. Washington, W.M., et al. (1991, Var. p., eng) 47-882

Variations of sea ice area and thickness in the southern ocean due to climate warming. Baikova, I.M., (1991, p.41-45, eng) 47-1179

Relationship between the Earth's thermal regime and snow-ice cover during climate warming and cooling. Baikova, I.M., (1989, p.21-27, eng) 47-1229

Is the extent of glaciation limited by marine gas-hydrates. Paull, C.K., et al. (1991, p.432-434, eng) 47-1241

Global warming and future agroclimatic resources of the Russian Plain. Sirotenko, O.D., et al. (1991, p.83-88, rus) 47-1253

Greenhouse gas-induced climate change simulated with the CCC second-generation general circulation model. Boer, G.J., et al, (1992, p.1045-1077, eng) 47-1270

Impacts of summer warming on the energy and water balance of wetland tundra. Rouse, W.R., et al. (1992, p.305-326, eng) 47-1375

Arctic environment: past, present and future. Woo, M.K., ed. (1992, 164p., eng) 47-1421

Arctic climate in the future. Etkin, D., et al, (1992, p.17-34, eng) 47-1423

Ice and snow in the Arctic and global change. Adams, P., (1992, p.35-44, eng) 47-1424

Climate change and its effects on Canadian arctic plant communities. Edlund, S.A., (1992, p.121-137, eng) 47-1432

Greenland glaciers and the "greenhouse effect," status 1991. Braithwaite, R.J., et al, (1992, p.9-13, eng) 47-1631

Melting of the Greenland ice sheet under a warmer climate. Braithwaite, R.J., (1992, p.79-83, eng) 47-1642

Global warming: myth or reality. Nichols, A.B., (1990, p.48-55, eng) 47-1698

Global changes during the latest glacial-interglacial cycle. Kotliakov, V.M., et al. (1992, p.89-113, eng) 47-1762

Reflection of twentieth-century climatic warming in glacier cores from Nordaustlandet. Sin'kevich, S.A., (1992, p.114-122, eng) 47-1763

Response of the Canadian permafrost environment to climatic change. Woo, M.K., et al, (1992, p.287-317, eng) 47-2018

Global change related to gas hydrate stability. Judge, A.S., et al, (1992, p.251-263, eng) 47-2025

Estimating permafrost zone dynamics in northern Eurasia under global climatic warming. Velichko, A.A., et al, (1992, p.667-671, rus) 47-2037

Anomalies in global heat-water exchange: stochastic models. Dobrovol'skiĭ, S.G., (1991, 128p., rus) 47-2285

Atmospheric CO2 and global warming: a critical review. Jaworowski, Z., et al, (1992, 76p., eng) 47-2289

Climate change 1992. The supplementary report to the IPCC scientific assessment. Houghton, J.T., ed. (1992, 200p., eng) 47-2592

Observed climate variations and change. Folland, C.K., et al. (1990, p.198-238, eng) 47-2652

Managing water resources during global change. Herrmann, R., ed. (1992, 860p., eng) 47-2721

Dynamics of plant communities related to global changes of climate. Puzachenko, IU.G., (1992, p.481-487, eng) 47-2733

Smoky futures, blurred visions: fire, boreal forests, and global warming forecasts. Kadonaga, L., (1992, p.517-525, eng) 47-2736

Hydroclimate response to climate change in the Lake Tahoe basin. Shelton, M.L., (1992, p.557-566, eng) 47-2737

Climate-change scenarios for the Sierra Nevada Dettinger, M.D., et al. (1992, p.681-690, eng) 47-2744

Reflection of 20th-century climatic warming in the glacier cores of Nordaustlandet. Sin'kevich, S.A., (1991, p.53-59, rus) 47-2788

Climatic change effects on Swedish periglacial environment. Akerman, H.J., (1991, p.176-187, eng) 47-2854

Preprints. (1993, 438p., eng) 47-3042

Apparent moratorium on greenhouse warming. Kellogg, W.W., (1993, p.265-267, eng) 47-3045

Can greenhouse warming induce ice sheet growth. Ledley, T.S., et al. (1993, p.272-275, eng) 47-3046

Global change implications for antarctic lakes. Lindner, B.L., et al. (1993, p.276-279, eng) 47-3047

Estimation of arctic precipitation from water vapor flux convergence. Walsh, J.E., et al. (1993, p.324-328, eng) 47-3048

Recent trends in Northern Hemisphere snow cover. Robinson, D.A., (1993, p.329-334, eng) 47-3049

Air temperature fluctuations in Austria, 1775-1991. Boehm, R., (1993, p.326-330, eng) 47-3080

Inconsistencies in modern notions about the greenhouse effect and future environmental conditions. Reznikov, A.P., (1992, p.165-170, rus) 47-3268

Atmospheric and climatic changes. Golitsyn, G.O., et al, (1992, p.33-43, rus) 47-3285

Thaw depth effects on tundra methane flux. Vourlitis, G.L., et al. (1993, p.329-337, eng) 47-3434

Recent variations of sea ice and air temperature in high latitudes. Chapman, W.L., et al, (1993, p.33-47, eng) 47-3477

Changes of characteristics of arctic sea ice in case of a doubling of carbon dioxide. Kolomeev, M.P., et al, (1992, p.34-40, eng) 47-3991

Correlation between ice core isotope levels and air temperature. Jones, P.D., et al, (1993, p.14-26, eng) 47-4143

Climate and permafrost. Gavrilova, M.K., (1993, p.99-111, eng) 47-4146

Permafrost zonation in Russia under anthropogenic climatic change. Nelson, F.E., et al, (1993, p.137-148, eng) 47-4149

Climate warming and the carbon cycle in the permafrost zone of the former Soviet Union. Kolchugina, T.P., et al. (1993, p.149-163, eng) 47-4150

Mountain permafrost and climatic change. Haeberli, W., et al, (1993, p.165-174, eng) 47-4151

Land ice and climate. Van der Veen, C.J., (1992, p.437-450, eng) 47-4500

Predicting afforestation success during climatic warming at the northern limit of forests. Solomon, A.M., et al, (1993, p.167-188, eng) 47-4536

Climate change as seen by trees and by climate modelers. Bowling, S.A., (1993, p.189-202, eng) 47-4537

"Recent warming": ice core evidence from tropical ice cores with emphasis on Central Asia. Thompson, L.G., et al, (1993, p.145-156, eng) 47-4588

Climate change inferred from borehole temperatures. Pollack, H.N., (1993, p.173-179, eng) 47-4589

Isotopic analysis of carbon dioxide from air trapped in polar ice. Lang, S.J., (1991, 148p., eng) 47-4604

Greenhouse effect and global warming: a Canadian perspective. Kemp, D., (1991, p.121-130, eng) 47-4729

Pacific warming and antarctic ozone depletion. Mo, K.C., (1993, p.1375-1391, eng) 47-5213

Arctic climatic change: comment and reply. Burn, C.R., et al, (1993, p.1473-1478, eng) 47-5215

Carbon cycling in boreal forest and sub-arctic ecosystems: biospheric responses and feedbacks to global climate change. Vinson, T.S., ed. (1993, 282p., eng) 47-5222

Warming the North: what happens?. Woodwell, G.M., et al. (1993, p.1-8, eng) 47-5223

Boreal carbon pools: approaches and constraints in global extrapolations. Chapin, F.S., III, et al. (1993, p.9-20, eng) 47-5224

Planetary maximum CO2 and ecosystems of the North. Zimov, S.A., et al. (1993, p.21-34, eng) 47-5225

Equilibrium analysis of projected climate change effects on the global soil organic matter pool. Turner, D.P., et al, (1993, p.59-63, eng) 47-5229

Glossaries

See also: Dictionaries

Gold

Gold placers, gold source, and high terrace gravels in the Fortymile River area, Alaska. Yeend, W., (1992, p.228-230, eng) 47-620

Cryogenic systems of some gold-quartz deposits. Talsaev, T.T., (1992, p.440-443, rus) 47-2008

Geochemical exploration for hidden deposits in the cryolithozone. Makarov, V.N., et al, (1988, 108p., rus) 47-2315

Cryogenic (frost-related) systems of some gold-quartz deposits. Talsaev, T.T., (1991, p.178-182, eng) 47-3799

Biochemical indicators of gold deposits in permafrost. Talsaev, T.T., et al. (1993, p.215-220, eng) 47-4059

Vinasale Mountain gold deposit. DiMarchi, J.J., (1993, p.17-29, eng) 47-4775

Grain size

Sublimation and reformation of icy grains in the primitive solar nebula. Lunine, J.I., et al. (1991, p.333-344, eng) 47-990

Monitoring grain size of suspended sediments in rivers. Bogen, J., (1992, p.183-190, eng) 47-1813

Multiple scattering model for the atmosphere-snow system. Aoki, T., (1992, p.77-83, eng) 47-3007

Optical properties of snow. Brandt, R.E., et al, (1991, p.272-275, eng) 47-3056

Small-scale patterned ground, Comeragh Mountains, southeast Ireland. Wilson, P., (1992, p.63-70, eng) 47-3128

Estimating snow grain size using AVIRIS data. Nolin, A.W., et al, (1993, p.231-238, eng) 47-3919

On the reproduction of ice from a common seed. Barrette, P., et al, (1993, p.153-156, eng) 47-4290

Frozen rock abrasiveness effect on tool wear. Polovinko, V.A., et al, (1993, p.546-550, eng) 47-4579

Model for the anisotropic reflectance of pure snow. Li, S.S., (1982, 60p., eng) 47-4644

On the ductile-to-brittle transition in ice under compression. Batto, R.A., et al, (1993, p.2219-2225, eng) 47-4731

See also: Ice crystal size

Grasses

Growth forms of a tundra grass of northern Alaska. Dobson, J.L., (1991, 73p., eng) 47-312

Structure, productivity and energy flow in an alpine grassland in the Garhwal Himalaya. Sundriyal, R.C., (1992, p.15-20, eng) 47-511

Annual nutrient budget for an alpine grassland in the Garhwal Himalaya. Sundriyal, R.C., et al, (1992, p.21-26, eng) 47-512

Ecology of cryogenic anthropogenically disturbed soils of the Yamal and peculiarities of their recultivation. Firsova, V.P., et al, (1992, p.108-111, eng) 47-1713

Grass plants in Yakutia. Petrova, A.N., (1990, 125p., rus) 47-4654

Conditions and effectiveness of feed production in tundra. Archegova, I.B., et al, (1988, 102p., rus) 47-4655

Graupel

Polarimetric signatures in the stratiform region of a mesoscale convective system. Zrnic, D.S., et al, (1993, p.678-693, eng) 47-3508

See also: Snow pellets

Gravel

Cryogenic wedge within gravels, north of Kempten, Bavaria, F.R.G. Menzies, J., et al, (1992, p.365-374, eng) 47-2057

Tire chips as insulation beneath gravel surfaced roads. Humphrey, D.N., et al, (1993, p.137-149, eng) 47-4132

Gravity

Gravity wave dynamics within the polar atmosphere. Wu, Y.F., et al, (1992, p.1781-1789, eng) 47-1474

Siple Coast seismic and gravity studies. Bentley, C.R., et al, (1991, p.63-65, eng) 47-2465

Effects of polar ice on the earth's rotation and gravitational potential. Trupin, A.S., (1993, p.273-283, eng) 47-4253

Gravity anomalies

Hudson Bay free-air gravity anomaly and glacial rebound. James, T.S., (1992, p.861-864, eng) 47-2598

Great Lakes

35th conference, University of Waterloo, Ontario, May 31-June 4, 1992. (1992, 193p., eng) 47-600

Simulation of oil slick transport in Great Lakes connecting channels: user's manual. Shen, H.T., et al, (1991, 69p., eng) 47-693

Early Wisconsinan in the north-central part of the Lake Erie basin: a new interpretation. Dreimanis, A., (1992, p.109-118, eng) 47-2687

Climate change impacts on Great Lakes water supplies. Croley, T.E., II, (1992, p.241-250, eng) 47-2730

Effect of climate change on C:N pools in a boreal watershed ecosystem. Stottlemyer, R., (1992, p.451-460, eng) 47-2731

Simulation of the regional climate and hydrology of the Great Lakes basin. Bates, G.T., et al, (1993, p.32-33, eng) 47-3043

Nested grid model for the prediction of lake-effect snows. Niziol, T.A., et al, (1992, p.89-99, eng) 47-4037

"Tea kettle" effect snow. Woolley, R., et al, (1992, p.101-106, eng) 47-4038

Preliminary numerical simulations of the 31 January 1991 lake-effect snowstorm. Ballentine, R.J., et al, (1992, p.115-123, eng) 47-4040

Multiple lake interaction in a lake-effect snowstorm. Byrd, G., et al, (1992, p.125-134, eng) 47-4041

February 1972 Eastern Snow Conference weather experience at Oswego, New York. Sykes, R.B., Jr., et al, (1992, p.135-144, eng) 47-4042

Lake-induced convection from Lake Ontario. Penc, R.S., (1992, p.149-159, eng) 47-4044

Lake-Effect Snow Observation Network (LESON) report for the 1991-1992 snow season. Ferlito, J., et al, (1992, p.227-234, eng) 47-4052

Look at lake effect snow cloudbands with satellite imagery. Niziol, T.A., et al. [1992, p.235-242, eng] 47-4053

Greenhouse effect

CO2 emissions in Siberian soils as greenhouse effect factor. Zimov, S.A., et al. [1993, p.5017-5023, eng] 47-3782

Effects of climatic perturbations on the equilibrium-line altitude, West Greenland. Ambach, W., [1993, p.5-9, eng] 47-3935

Permafrost zonation in Russia under anthropogenic climatic change. Nelson, F.E., et al. [1993, p.137-148, eng] 47-4149

Parameterization of the radiative properties of cirrus clouds. Fu, Q., et al. [1993, p.2008-2025, eng] 47-4459

Late Quaternary continental paleohydrology as related to future environmental change. Starkel, L., [1993, p.95-108, eng] 47-4586

Glacials-interglacials in Vostok: climate and greenhouse gases. Lorius, C.J., et al. [1993, p.131-143, eng] 47-4587

Effects of CO2 increase on climate dynamics. Saltzman, B., et al. [1993, p.1051-1054, eng] 47-4630

Greenhouse effect and global warming: a Canadian perspective. Kemp, D., [1991, p.121-130, eng] 47-4729

Greenland

Glacier studies from the Greenland '90 Expedition. Eraso, A., et al. [1991, p.171-184, eng] 47-32

Lithologic mapping in Greenland and Egypt. Rivard, B., [1991, 238p., eng] 47-292

Parameters which influence the air content in polar ice. Martinerie, P., et al. [1992, p.1-13, eng] 47-458

Merely the tip of the ice core. Peel, D.A., [1992, p.274-275, eng] 47-483

Greenland ice core shows irregular glacial interstadials. Johnsen, S.J., et al. [1992, p.311-313, eng] 47-485

Greenland observed at high resolution by the Seasat scatterometer. Long, D.G., et al. [1992, p.327-329, eng] 47-646

Measuring water level and discharge—practical experiences in Greenland. Kern-Hansen, C., [1988, p.67-84, eng] 47-720

Geology of the Innuitian orogen and arctic platform of Canada and Greenland. Trettin, H.P., ed. [1991, 569p. + maps in separate book jacket (*Pertinent* p.27-56,497-553), eng] 47-766

Study of ice borehole closure by finite element method. Li, F., et al. [1992, p.77-89, eng] 47-1020

Black carbon concentration in a Greenland Dye-3 ice core. Chýlek, P., et al. [1992, p.1951-1953, eng] 47-1181

Frozen archives. [1992, 37p., eng] 47-1234

Greenland glaciers and the "greenhouse effect," status 1991. Braithwaite, R.J., et al. [1992, p.9-13, eng] 47-1631

Meltwater refreezing in the accumulation area of the Greenland ice sheet: Pâkitsoq, summer 1991. Braithwaite, R.J., et al. [1992, p.13-17, eng] 47-1632

GGU's mineral resource activities and their role for the mineral industry. Schönwandt, H.K., [1992, p.17-19, eng] 47-1633

Mineral resources in Precambrian supracrustal belts. Dawes, P.R., et al. [1992, p.19-23, eng] 47-1634

Björnesund Project, west Greenland. Appel, P.W.U., [1992, p.24-27, eng] 47-1635

Petroleum-geological activities in 1991 in Greenland. Christiansen, F.G., et al. [1992, p.28-30, eng] 47-1636

Renewed petroleum geological studies onshore west Greenland. Christiansen, F.G., et al. [1992, p.31-35, eng] 47-1637

Disko Bugt Project 1991, west Greenland. Kalsbeek, F., et al. [1992, p.36-41, eng] 47-1638

Gold and base metal potential of the Lower Proterozoic Karrat Group, west Greenland. Thomassen, B., [1992, p.57-66, eng] 47-1639

Jakobshavn Isbrae area during the climatic optimum. Weidick, A., [1992, p.67-72, eng] 47-1640

Tourmalinites in supracrustal rocks in the Björnesund area, west Greenland. Appel, P.W.U., [1992, p.73-78, eng] 47-1641

Melting of the Greenland ice sheet under a warmer climate. Braithwaite, R.J., [1992, p.79-83, eng] 47-1642

Investigation of icequakes on the Greenland icesheet near Jakobshavn Icestream, June-July 1980. Qamar, A., et al. [1983, 38p., eng] 47-1688

Aspects of the genesis, geography and evolution of the soils of Greenland. Jakobsen, B.H., [1992, p.71-84, eng] 47-1707

'Flickering switch' of Late Pleistocene climate change. Taylor, K.C., et al. [1993, p.432-436, eng] 47-1938

Ice record of greenhouse gases. Raynaud, D., et al. [1993, p.926-934, eng] 47-2028

Ice sheets and climate. Alley, R.B., [1989, p.41-45, eng] 47-2196

Precipitation variations over the Greenland ice sheet during the last three decades. Bromwich, D.H., et al. [1992, p.125-128, eng] 47-2398

Katabatic winds at the edge of the Greenland ice sheet. Van den Broeke, M.R., et al. [1992, p.J133-J136, eng] 47-2419

Studies of the arctic aerosol in Greenland. Heidam, N.Z., [1990, 116p., dan] 47-2585

Age of air in Greenland firn and ice. Schwander, J., et al. [1993, p.2831-2838, eng] 47-2703

Isotopic pleiad of oxygen in atmospheric precipitation in the polar regions. Nikolaev, V.I., et al. [1991, p.109-112, rus] 47-2796

Dating stable isotope records from Greenland ice cores. Johnsen, S.J., et al. [1993, p.13-24, eng] 47-2863

Be-10 peaks as time markers in polar ice cores. Beer, J., et al. [1993, p.141-153, eng] 47-2865

Source of lead in Greenland snows. Rosman, K.J.R., et al. [1993, p.333-335, eng] 47-2891

Abrupt increase in Greenland snow accumulation. Alley, R.B., et al. [1993, p.527-529, eng] 47-2892

Microorganisms entrapped in glacial ice. Catranis, C., et al. [1991, p.234-236, eng] 47-3054

Homogeneity problems in Danish and Greenlandic temperature time series. Frich, P., [1993, p.139-142, eng] 47-3081

Glacier inventory and atlas of West Greenland. Weidick, A., et al. [1992, 194p., eng] 47-3519

Thresholds for channel change on two contrasting pro-glacial river fans, West Greenland. De Jong, C., [1992, p.1-12, eng] 47-4318

Observations on rock moisture variability in gneiss and basalt under natural, arctic conditions. Humlum, O., [1992, p.197-205, eng] 47-4328

Greenland Ice Core Project. Stauffer, B., [1993, p.1766-1767, eng] 47-4503

GRIP ice core record of climate instability. [1993, p.203-207, eng] 47-4570

Climate instability indicated in a 250-kyr ice core record. Dansgaard, W., et al. [1993, p.218-220, eng] 47-4572

Coast Guard and the Greenland Patrol. Tilley, J.A., [1992, 17p., eng] 47-4605

Greenland Ice Sheet Project Two. GISP2 core data report 1991. [1991, Var. p., eng] 47-4666

Greenland Ice Sheet Project Two. GISP2 internal data report 1991. [1991, Var. p., eng] 47-4669

Ion chromatography of Greenland ice cores. Legrand, M.R., et al. [1993, p.251-258, eng] 47-4754

Ice conditions offshore West Greenland. Thomsen, H.H., [1993, p.43-47, eng] 47-4916

Industrial potential of hydropower in West Greenland. Thomsen, H.H., et al. [1993, p.59-62, eng] 47-4917

Firn density of the Greenland ice sheet. Braithwaite, R.J., et al. [1993, p.62-65, eng] 47-4918

Palaeo-environmental studies on the Greenland ice sheet margin. Reeh, N., et al. [1993, p.66-68, eng] 47-4919

Ice sheet firn temperature and meltwater refreezing in Greenland. Braithwaite, R.J., [1993, p.109-114, eng] 47-4920

Neoglacial change of ice cover and the related response of the Earth's crust in West Greenland. Weidick, A., [1993, p.121-126, eng] 47-4921

Source of volcanic ash in a Greenland ice core. Fiacco, R.J., Jr., et al. [1993, p.267-273, eng] 47-5141

Modeled variations of precipitation over the Greenland ice sheet. Bromwich, D.H., et al. [1993, p.1253-1268, eng] 47-5210

Atmosphere during the Younger Dryas. Mayewski, P.A., et al. [1993, p.195-197, eng] 47-5221

—Jakobshavns Isbrae

Glacier, river and sea ice blister observations. Kovacs, A., [1992, 14p., eng] 47-785

—Summit

Greenland: a temptation and a challenge. Dansgaard, W., et al. [1993, p.12-16, eng] 47-4728

Bore-hole survey at dome GRIP 1991. Gundestrup, N.S., et al. [1993, p.399-402, eng] 47-5209

—Thule

Aerosols and ozone behavior over Thule. Di Sarra, A., [1992, p.1823-1826, eng] 47-871

Greenland Sea

Analysis of the estimates of mean climatological rate of the bottom and deep water renewal. Popov, A.V., [1990, p.94-97, eng] 47-1230

Three dimensional pseudovorticity field in the west Spitsbergen current. Chu, P.C., [1992, p.101-104, eng] 47-2392

Air-ice-ocean processes in the seasonal ice zone. Johannessen, O.M., et al. [1992, p.261-289, eng] 47-3027

Cloud limitations to satellite mapping of sea ice. Nielsen, P., et al. [1991, p.263-276, eng] 47-3390

Possibility of forecasting the conditions of ice edges in the Greenland Sea up to 30 days in advance. Kuznetsov, I.M., [1990, p.89-93, rus] 47-3593

Thermohaline water circulation in the Norwegian energy-active zone during spring 1987. Proshutinskii, A.IU., et al. [1991, p.42-49, rus] 47-3689

Formation mechanism of the vertical structure of the Greenland convective gyre. Bogorodskii, P.V., et al. [1992, p.138-144, rus] 47-3812

Initial instrument measurements of the current in the region of the cold bottom water dome in the Greenland Sea. Alekseev, G.V., et al. [1992, p.165-168, rus] 47-3815

Deep and bottom waters of the Greenland Sea: formation and transformation processes. Popov, A.V., [1991, p.44-55, rus] 47-3957

Large-scale structure and characteristics of the average circulation of waters. Romantsov, V.A., [1991, p.75-97, rus] 47-3960

Effect of bottom relief on the circulation of water in the northern European basin. Semenov, G.A., [1991, p.133-144, rus] 47-3964

Potential transport of radionuclides and other pollutants by arctic sea ice. Pfirman, S.L., et al. [1993, p.267-284, eng] 47-5036

Ground based smoke generators

See also: Smoke generators

Ground effect machines

See also: Air cushion vehicles

Ground freezing

See also: Soil freezing

Ground ice

Evolution of alassy in Central Yakutia. Bosikov, N.P., [1991, 127p., rus] 47-102

Studying recent ice formation in rocks by tritium analysis. Chizhov, A.B., [1991, p.20-31, rus] 47-396

Analysis of ice body formation within the west and central sections of Baikal-Amur main line. Burykina, N.I., [1991, p.83-86, eng] 47-421

Numerical simulation of self-organized stone stripes. Werner, B.T., et al. [1993, p.142-145, eng] 47-1596

Cheng's theory on the formation of thick layered ground ice. Zhou, Y.W., et al. [1992, p.97-100, chi] 47-1644

Circumarctic map of permafrost and ground ice conditions. Brown, J., [1992, p.15-21, eng] 47-1701

Resistance of cryogenic soils to anthropogenic influences. Vasil'evskaia, V.D., [1992, p.104-107, eng] 47-1712

Sublimational drainage of frozen soils in Zabaikalye. Zheleznyak, I.I., et al. [1992, p.122-126, eng] 47-1716

Structure and genesis of layered ground ice in Western Siberia. Shpolianskaia, N.A., [1991, p.73-83, rus] 47-1988

Morphology of Quaternary deposits in the southern Netherlands. Kasse, K., et al. [1992, p.327-342, eng] 47-2240

Passability of naled areas in river valleys. Alekseev, V.R., [1991, p.189-205, rus] 47-2447

Geographic variations in the thermal and diffusive stability of ground ice on Mars. Mellon, M.T., et al. [1993, p.3345-3364, eng] 47-2672

Characteristics of the spatial structure of subsurface ice in the vicinity of Vostok Station, Antarctica. Chashchinov, IU.M., et al. [1991, p.121-125, rus] 47-2800

Origin of ground ice in arctic caves. Lauriol, B., et al. [1993, p.77-85, eng] 47-3119

Hydrogen and oxygen isotopes and the origin of the ice in peat plateaus. Harris, S.A., et al. [1992, p.19-27, eng] 47-3123

Oxygen-18 in permafrost ice. Vaikmäe, R., [1992, p.587-601, eng] 47-3151

Kinetic enrichment of stable isotopes in cryogenic calcites. Clark, I.D., et al. [1992, p.217-228, eng] 47-3159

Radar stratigraphy of massive ground ice at Yaya Lake. Robinson, S.D., et al. [1993, p.23-32, eng] 47-3703

Martian permafrost. Costard, F., [1993, p.91-100, eng] 47-3835

Fossil ice wedge formation near Tiksi. Fukuda, M., [1993, p.101-103, eng] 47-3980

Palsa formation in floating peat and related vegetation cover as illustrated by a fen bog in the MacMillan Pass, Yukon Territory, Canada. Harris, S.A., et al. [1992, p.349-362, eng] 47-4344

Model for the hydrologic and climatic behavior of water on Mars. Clifford, S.M., [1993, p.10,973-11,016, eng] 47-4409

Ice in the northern lowlands and southern highlands of Mars and its enrichment beneath the Elysium lavas. Cave, J.A., [1993, p.11,079-11,097, eng] 47-4411

Diapirism on Triton: a record of crustal layering and instability. Schenk, P.M., et al. [1993, p.299-302, eng] 47-4593

Oxygen isotope composition of ground ice (application to paleogeocryological reconstruction). Vasil'chuk, IU.K., [1992, 2 vols. (684p.) + 2 foldouts, rus] 47-4656

Sampling frozen soils. Tarnocai, C., [1993, p.755-765, eng] 47-5249

See also: Ice lenses; Ice veins; Ice wedges

Ground temperature

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Ground thawing

Performance of piles in thawing ground. Torgashev, V.V., et al. [1990, 96p., rus] 47-98

Engineering geological conditions, bases and foundations of transport structures in Siberia: interuniversity collected scientific papers. Chernousov, S.I., ed. [1991, 109p., rus] 47-186

Settlement of lumpy frozen soil during thawing under conditions of compression. Solov'ev, IU.I., et al. [1991, p.72-76, rus] 47-189

Forecasting the bearing strength of a thawing railroad embankment. Prokudin, I.V., et al. [1991, p.76-83, rus] 47-190

Ground thawing *(cont.)*

Some aspects of the statistical evaluation of the mechanical properties of soil and foundations. Gerasimov, A.S., [1991, p.82-91, rus] 47-239

Recent warming of permafrost in the Yukon Territory. Burn, C.R., [1992, p.327-350, eng] 47-858

Climatic change and the permafrost landscape. Lewkowicz, A.G., [1992, p.91-104, eng] 47-1429

Determining depth of phase change front of solid water in soil. Tsibul'skii, V.R., et al. [1992, p.193-201, chi] 47-1658

Dynamics of heat-mass transfer in cryogenic soils of northeast Yakutia. Davydov, S.P., et al. [1992, p.180-184, eng] 47-1726

Gas-geochemical processes as a result of soil seasonal freezing and thawing in the cryolithozone. Glotov, V.E., [1992, p.216-220, eng] 47-1732

Comparison of thawing soil strength measurements for predicting vehicle performance. Shoop, S.A., [1992, 11p., eng] 47-1895

Human-induced permafrost degradation and thermokarst. Gallinger, B.J., et al. [1991, 228p., eng] 47-2106

Mathematical modelling of the thawing of permafrost beneath a pipeline. Semerikov, A.V., et al. [1992, p.23-24, rus] 47-2903

Permafrost methane content: 2. Modeling theory and results. Moraes, F., et al. [1993, p.595-607, eng] 47-3438

Multifunctional combined foundations on permafrost soils. Nekliudov, V.S., et al. [1993, p.164-167, eng] 47-3576

Effects of a straw mulch on the thermal conditions in soil after snow-cover loss. Gusev, E.M., et al. [1993, p.12-23, eng] 47-4012

Where does the water go during ice lense thaw. Dysli, M., [1993, p.45-50, eng] 47-4119

Society of soil mechanics report on seasonal thaw weakening. Slunga, E., [1993, p.159-170, eng] 47-4134

Permafrost zonation in Russia under anthropogenic climatic change. Nelson, F.E., et al. [1993, p.137-148, eng] 47-4149

Mountain permafrost and climatic change. Haeberli, W., et al. [1993, p.165-174, eng] 47-4151

Multipurpose underground structures in the extreme north. Samokhin, A.V., et al. [1993, p.461-465, eng] 47-4578

Mathematical model of frost heave and thaw settlement in pavements. Guymon, G.L., et al. [1993, 126p., eng] 47-4870

Ground water

Regional characteristics governing permafrost thickness. Kalinin, V.M., et al. [1990, 142p., rus] 47-99

Geochemical heterogeneity in a glacial outwash aquifer. Barbar, L.B., II, [1991, 247p., eng] 47-294

Softening of rigid polyvinyl chloride by high concentrations of aqueous solutions of methylene chloride. Parker, L.V., et al. [1992, 40p., eng] 47-696

Isotopic peculiarities of meteoric water in polar regions. Wetzel, K., [1990, p.52-56, eng] 47-874

Potential of common well casing materials to influence aqueous metal concentrations. Hewitt, A.D., [1992, p.131-136, eng] 47-879

Accumulation of water in freezing river beds. Markov, M.L., [1991, p.77-84, rus] 47-897

Short-pulse radar detection of groundwater in the Sagavanirktok River floodplain in early spring. Arcone, S.A., et al. [1992, p.2925-2936, eng] 47-1475

Ground-water resources of the Palmer area, Alaska. LaSage, D.M., [1992, 39p. + 1 sheet, eng] 47-1486

Recharge area evaluation for Moonlight Springs, Nome, Alaska. Munter, J.A., et al. [1992, 69p. + 2 sheets, eng] 47-1487

Winter water migration through deep-frozen soils of West Siberia. Panfilov, V.P., et al. [1992, P.111-115, eng] 47-1714

Review of recent findings in well-casing studies. Parker, L.V., [1992, p.83-91, eng] 47-1892

Significance of groundwater levels for discharge peak flows. Lundin, L.C., [1992, p.316-323, eng] 47-1967

Comparison of cartridge and membrane solid-phase extraction with salting-out solvent extraction. Jenkins, T.F., et al. [1992, 31p., eng] 47-2232

Problems in the study of naleds; collected scientific papers. Alekseev, V.R., ed. [1991, 238p., rus] 47-2424

Physical and terrain-indicating bases for satellite monitoring of naleds in ground water. Topchiev, A.G., [1991, p.40-45, rus] 47-2427

Naled systems in river basins as a result of the interaction of surface and ground waters. Kravchenko, V.V., et al. [1991, p.66-76, rus] 47-2430

Annual dynamics of naleds in ground water and methods for calculating them. Markov, M.L., [1991, p.103-116, rus] 47-2434

Studying naleds to estimate fresh ground water reserves. Kulakov, V.V., et al. [1991, p.131-137, rus] 47-2438

Geology and geohydrology at CRREL, Hanover, New Hampshire: relationship to subsurface contamination. Shoop, S.A., et al. [1992, 83p., eng] 47-2568

Groundwater contributions in an alpine basin in the Sierra Nevada. Kattelmann, R., [1989, p.361-369, eng] 47-2580

Spatial and seasonal patterns of streambed water temperatures in an Alaskan subarctic stream. Irons, J.G., III, et al. [1989, p.381-390, eng] 47-2581

Effect of climatic changes on water balance of a lake-ground water system. Crowe, A.S., [1993, p.33-73, eng] 47-2635

Hydrogeology of the Gardermoen Airport. Englund, J.O., ed. [1992, Var. p., eng] 47-2822

Hydrogeology at Romerike. Jorgensen, P., et al. [1992, p.3-1-3-10, eng] 47-2823

Biodegradation of organic pollutants in soil and groundwater. Breedveld, G.D., et al. [1992, p.15.1-15.13, eng] 47-2827

Modeling of contaminant transport. Englund, J.O., et al. [1992, p.17/1-17/12, eng] 47-2828

Kinetic enrichment of stable isotopes in cryogenic calcites. Clark, I.D., et al. [1992, p.217-228, eng] 47-3159

Heat mechanism of groundwater flow (part 1). Higashiura, M., et al. [1991, p.69-88, jpn] 47-3293

Groundwater discharge in Boggy Creek catchment, Manitoba. Stephenson, M., et al. [1992, p.2640-2652, eng] 47-3714

Studying engineering-geocryological and hydrogeological conditions of the upper zones of rocks in the cryolithozone. Mel'nikov, E.S., ed. [1992, 288p., rus] 47-3866

Ice in the northern lowlands and southern highlands of Mars and its enrichment beneath the Elysium lavas. Cave, J.A., [1993, p.11,079-11,097, eng] 47-4411

Ground-water-quality data collected during 1991, west Nikiski, Alaska. Maurer, M.A., [1993, 64p., eng] 47-4762

Analysis of potable water-supply options for Gambell, Alaska. Munter, J.A., et al. [1992, 39p., eng] 47-4768

Effect of concentration on sorption of dissolved organics by well casings. Parker, L.V., et al. [1993, 17p., eng] 47-4868

Groundwater contamination due to road de-icing chemicals—salt balance implications. Howard, K.W.F., et al. [1993, p.1-8, eng] 47-5190

See also: Soil water; Subpermafrost ground water; Suprapermafrost ground water; Water table

Grounded ice

Recent iceberg groundings and scours on the Grand Banks of Newfoundland. [1989, 80p. + append., eng] 47-429

Theoretical calving rates from glaciers along ice walls grounded in water of variable depths. Hughes, T., [1992, p.282-294, eng] 47-469

Numerical computation of river ice jams. Beltaos, S., [1993, p.88-99, eng] 47-3720

Basal ice accretion and debris entrainment within the coastal ice margin, Law Dome, Antarctica. Goodwin, I.D., [1993, p.157-166, eng] 47-3949

Load transmission through ice rubble on the Gulf Molikpaq. Timco, G.W., [1993, p.135-143, eng] 47-4241

Grounding

See also: Electrical grounding

Grouting

Laboratory and field performance of high alumina cement based grout for piling in permafrost. Biggar, K.W., et al. [1991, p.42/1-42/9, eng] 47-2228

Field pile load tests in saline permafrost. 1. Test procedures and results. Biggar, K.W., et al. [1993, p.34-45, eng] 47-4162

Field pile load tests in saline permafrost. 2. Analysis of results. Biggar, K.W., et al. [1993, p.46-59, eng] 47-4163

Pile behavior in saline frozen soils. Biggar, K.W., et al. [1993, p.319-337, eng] 47-4514

Growth

Growing season trends in the Alaskan climate record. Sharratt, B.S., [1992, p.124-127, eng] 47-518

Winter injury to Subalpine red spruce: influence of prior vigor and effects on subsequent growth. Peart, D.R., et al. [1992, p.888-892, eng] 47-1481

Recent dynamics of jack pine at its northern distribution limit in northern Quebec. Desponts, M., et al. [1992, p.1157-1167, eng] 47-1482

Effects of acidic water vapor on spruce seedling frost hardiness. L'Hirondelle, S.J., et al. [1992, p.611-622, eng] 47-1558

Estimating effects of snow on shrub availability for black-tailed deer in southwestern British Columbia. Hovey, F.W., et al. [1992, p.308-313, eng] 47-1760

Dynamics of ice algae and phytoplankton in Frobisher Bay. Hsiao, S.I.C., [1992, p.645-651, eng] 47-1790

Pine response to fertilization through snow cover. Marshall, V.G., et al. [1992, p.225-238, eng] 47-2016

Plankton ecology in an ice-covered lake. Vanderploeg, H.A., et al. [1992, p.175-183, eng] 47-2287

Performance and phenology of alpine herbs along a snowmelting gradient. Kudo, G., [1992, p.297-304, eng] 47-3340

Ecological genetic variation in seed banks. McGraw, J.B., [1993, p.45-49, eng] 47-3427

Seasonal variations in dissolved inorganic nitrogen utilization in a subarctic Alaskan lake. Gu, B.H., et al. [1993, p.273-288, eng] 47-3647

Effect of snow-free duration on leaf life-span of four alpine plant species. Kudo, G., [1992, p.1684-1688, eng] 47-3826

Frost canker, and dieback of Douglas-fir in the central interior of British Columbia. Reich, R.W., et al. [1993, p.373-379, eng] 47-3843

Cultivation practice influence on conifer seedling frost tolerance. Calme, S., et al. [1993, p.503-511, eng] 47-3844

Fertilizer placement for conventional and no-tillage barley in the subarctic. Cochran, V.L., et al. [1992, p.1973-1978, eng] 47-4356

Growth and development of northern forest trees as affected by temperature and light. Junttila, O., et al. [1993, p.43-57, eng] 47-4528

Growth of mountain birch *(Betula pubescens* Ehrh.) in response to changing temperature. Skre, O., [1993, p.65-78, eng] 47-4530

Seed bank composition in a subarctic forest. Vieno, M., et al. [1993, p.379-384, eng] 47-4583

Plant competition over winter in alpine shrubland and grassland, Snowy Mountains, Australia. Egerton, J.J.G., et al. [1993, p.124-129, eng] 47-4745

Pinus development related to soil preparation. Fries, C., [1993, p.73-80, eng] 47-4997

Glacier fluctuation relation to moraine cushion plant variation. Frenot, Y., et al. [1993, p.140-144, eng] 47-5269

Hail

Kinetic energy of hailfalls. Part 4: patterns of hailpad and radar data. Schmid, W., et al. [1992, p.1165-1178, eng] 47-460

Dual-polarization radar measurements in an Oklahoma hailstorm. Aydin, K., et al. [1992, p.1734-1736, eng] 47-691

Statistical-mathematical processing of data from a land-based network of passive hail indicators. Zhakamikhov, Kh.M., et al. [1991, p.112-122, rus] 47-759

Hail occurrences in India. Nizamuddin, S., [1993, p.90-92, eng] 47-2709

Hail: the white plague. Hughes, P., et al. [1993, p.16-21, eng] 47-3924

Destructive hailstorms in Essex on 26 May 1985. Elsom, D.M., et al. [1993, p.166-173, eng] 47-4405

Hail clouds

Model for managing the formation of the microstructure of hail clouds. Ashabokov, B.A., et al. [1991, p.3-8, rus] 47-746

Algorithm for calculating the components and spatial orientation of air flow and water drops in a hail cloud. Baragunov, V.S., et al. [1991, p.8-14, rus] 47-747

Third central moment of falling velocity of water drops and its relationship to hailstorm clouds. Marchenko, P.E., et al. [1991, p.19-31, rus] 47-749

Finite-difference Lyapunov functions used in creating an algorithm for calculating radar and radiometer equations. Karmov, L.N., et al. [1991, p.32-[illegible] 47-750

Algorithms for mapping radar dat[illegible]ev, M.T., et al. [1991, p.44-50, rus] 47-752

Characteristics of the structure and [illegible]s of the development of hail clouds. Safarov, S.G., [1991, p.74-93, rus] 47-755

Distribution of paths of movement of multi-cell hail clouds in the Northern Caucasus. Gazaeva, Z.A., et al. [1991, p.93-99, rus] 47-756

Interrelationship of the structure of hail clouds with the vertical structure of wind in the troposphere. Mal'bakhova, N.M., [1991, p.99-106, rus] 47-757

Statistical evaluation of the correlations among the parameters of hail clouds during cloud seeding. Kozhevnikova, I.A., et al. [1991, p.136-143, rus] 47-761

Variations in the diameter of hailstones during the seeding of hail clouds. Bocharova, V.A., et al. [1991, p.143-149, rus] 47-762

Use of radar measurements to investigate hail formation in clouds. Alvazian, G.M., [1991, p.208-217, eng] 47-2543

Radar analysis of hail clouds during seeding. Fedchenko, L.M., et al. [1992, p.87-92, eng] 47-4346

Scattering indices for water drops and ice particles in clouds. Ajvazyan, H.M., [1993, p.1137-1154, eng] 47-4509

Hail detection using active and passive radars. Ajvazyan, H.M., et al. [1993, p.1155-1174, eng] 47-4510

Automated dual polarization complex for studying the characteristics of cumulonimbus. Dinevich, L.A., et al. [1992, p.79-95, rus] 47-4659

Polarimetric measurements in a severe hailstorm. Zrnić, D.S., et al. [1993, p.2223-2238, eng] 47-4706

Hail prevention

Methodology of airborne tests of anti-hail products in stratiform clouds. Berezinskii, N.A., et al. [1991, p.68-74, rus] 47-754

Designing technology for cloud modification. Dinevich, L.A., et al. [1991, p.106-112, rus] 47-758

Evaluating the effectiveness of hail modification products. Abshaev, M.T., et al. [1991, p.122-136, rus] 47-760

Statistical evaluation of the correlations among the parameters of hail clouds during cloud seeding. Kozhevnikova, I.A., et al. [1991, p.136-143, rus] 47-761

Estimating the time needed for hail cloud modifications to take effect. Berezkin, V.V., et al. (1991, p.149-156, rus) 47-763

Evaluating the possibility of using hail prevention shells and rockets in high-mountain regions. Dubinin, B.N., et al. (1991, p.156-160, rus) 47-764

Technical and economic analysis of anti-hail launching devices. Dubinin, B.N., (1991, p.160-171, rus) 47-765

Automated dual polarization complex for studying the characteristics of cumulonimbus. Dinevich, L.A., et al. (1992, p.79-95, rus) 47-4659

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See also: Hail prevention

Hail suppression

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Heat and mass transfer processes during the nucleation, growth and melting of hailstones. Filatkin, V.N., et al. (1991, p.50-68, rus) 47-753

Measurements of water film surface temperature on gyrating hailstones. García-García, F., et al. (1992, p.2058-2073, eng) 47-1508

Storm simulation with and without ice microphysics. Johnson, D.E., et al. (1993, p.745-759, eng) 47-3510

Hail growth hysteresis. Johnson, D.B., et al. (1992, p.2525-2532, eng) 47-3674

Automated dual polarization complex for studying the characteristics of cumulonimbus. Dinevich, L.A., et al. (1992, p.79-95, rus) 47-4659

Mass transfer measurements of graupel growth. Cober, S.G., et al. (1993, p.1591-1609, eng) 47-4832

Hailstones

Polarimetric radar remote sensing of hailstorms. Zhao, Y., (1990, 256p., eng) 47-85

Possibility of using the third central moment of doppler spectra to indicate ice particles. Marchenko, P.E., et al. (1991, p.14-18, rus) 47-748

Third central moment of falling velocity of water drops and its relationship to hailstorm clouds. Marchenko, P.E., et al. (1991, p.19-31, rus) 47-749

Problem of evaluating the accuracy of radar measurements. Abshaev, M.T., et al. (1991, p.40-44, rus) 47-751

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Variations in the diameter of hailstones during the seeding of hail clouds. Bocharova, V.A., et al. (1991, p.143-149, rus) 47-762

Scattering from melting ice spheres at microwave and millimeter-wave frequencies. Fletcher, P.N., et al. (1992, p.545-548, eng) 47-1561

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Handbooks

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See also: Ports

Hardening

See also: Concrete hardening

Hardness

See also: Ice hardness; Snow hardness

Haze

Microphysical, chemical and meteorological aspects of aerosol hazes in the Arctic. Brock, C.A., (1991, 323p., eng) 47-308

Meteorological overview of the Arctic Boundary Layer Expedition (ABLE 3A) flight series. Shipham, M.C., et al. (1992, p.16,395-16,419, eng) 47-1445

Carbon monoxide and methane in the North American arctic and subarctic troposphere: July-August 1988. Harriss, R.C., et al. (1992, p.16,589-16,599, eng) 47-1456

Atmospheric chemistry in the Arctic and subarctic. Wofsy, S.C., et al. (1992, p.16,731-16,746, eng) 47-1467

Thermodynamics of pollutant removal as an indicator of possible source areas for arctic haze. Bowling, S.A., et al. (1992, p.2953-2961, eng) 47-1949

One-dimensional modeling study of carbonaceous haze effects on the springtime arctic environment. Emery, C.A., et al. (1992, p.20,599-20,613, eng) 47-2053

Long-term variations in the turbidity of the arctic atmosphere in Russia. Radionov, V.F., et al. (1992, p.531-549, eng) 47-2877

Arctic haze: patterns and relationships to regional signatures of trace gases. Khalil, M.A.K., et al. (1993, p.27-36, eng) 47-3461

"Major" arctic haze event north of Point Barrow, Alaska, April 1986. Schnell, R.C., et al. (1988, p.112-115, eng) 47-4195

Atmospheric transport of aerosols and haze to Barrow, Alaska. Herbert, G.A., et al. (1988, p.116-118, eng) 47-4196

Health

Estimated inventory of radionuclides in former Soviet Union naval reactors dumped in the Kara Sea. Mount, M.E., et al. (1993, p.105-118, eng) 47-5024

Heat

See also: Latent heat; Specific heat

Heat balance

Method of determining the heat balance components of snow cover during a melting period. Shutov, V.A., (1991, p.87-96, rus) 47-387

Correlation of turbulent coefficients in vertical heat flux and moisture in the surface boundary layer. Postnikov, A.N., (1991, p.123-125, rus) 47-391

Energy balance of a snow cover and simulation of snowmelt in the western Tien Shan mountains, China. Ma, H., et al. (1992, p.73-78, eng) 47-1089

Snowmelt and heat balance in snow-covered forested areas. Yamazaki, T., et al. (1992, p.1322-1327, eng) 47-1122

Physically based snowcover model. Vehviläinen, B., (1991, p.113-135, eng) 47-1380

Turbulent transports over tundra. Fitzjarrald, D.R., et al. (1992, p.16,717-16,729, eng) 47-1466

Climatic factors and snow surface energy exchange, pt.1. Marks, D., et al. (1992, p.3029-3042, eng) 47-1476

Climatic factors and snow surface energy exchange, pt.2. Marks, D., et al. (1992, p.3043-3054, eng) 47-1477

Numerical model for prediction of road temperature and ice. Sass, B.H., (1992, p.1499-1506, eng) 47-1582

Heat circulation in soil under North conditions. Pavlov, A.V., (1992, p.168-173, eng) 47-1723

Ice sheet growth simulation including ice albedo feedback. Deblonde, G., et al. (1992, p.37-55, eng) 47-1885

Computationally efficient approximations to stratiform cloud microphysics parameterization. Ghan, S.J., et al. (1992, p.1572-1582, eng) 47-1998

Seed-zone temperature and moisture conditions under conventional and no-tillage in Alaska. Bidlake, W.R., et al. (1992, p.1904-1910, eng) 47-2299

Heat and water balance of naleds. Deikin, B.N., (1991, p.76-89, rus) 47-2431

Thermal regime of a naled valley in the BAM zone. Gavrilova, M.K., (1991, p.146-151, rus) 47-2440

Martian atmospheric circulation simulation. Pollack, J.B., et al. (1993, p.3149-3181, eng) 47-2669

Hemispherical asymmetry in the Martian polar caps. Lindner, B.L., (1993, p.3339-3344, eng) 47-2671

Geographic variations in the thermal and diffusive stability of ground ice on Mars. Mellon, M.T., et al. (1993, p.3345-3364, eng) 47-2672

Thermal nonequilibrium of freezing bodies of water with the environment. Fatko, L.I., (1991, p.115-118, rus) 47-2798

Sensitivity of a thermodynamic model of sea ice to parametrization of short-wave and long-wave radiation. Makshtas, A.P., et al. (1992, p.116-137, rus) 47-3811

Evaluating the role of the West Spitsbergen current in the formation of a sea ice boundary. Makshtas, A.P., et al. (1992, p.157-164, rus) 47-3814

Variability of the heat balance component in the northern Norwegian Sea. Seriakov, E.I., et al. (1991, p.66-74, rus) 47-3959

Changes of characteristics of arctic sea ice in case of a doubling of carbon dioxide. Kolomeev, M.P., et al. (1992, p.34-40, eng) 47-3991

Thermal equilibrium in porous media with concurrent flow and freezing. Tao, Y.X., et al. (1993, p.323-332, eng) 47-4065

Cloud-ice-vapor feedbacks in a global climate model. Jentsch, V., (1987, p.417-437, eng) 47-4456

Polaarialuciden tutkimus ja globaalinen ilmaston-ja ympäristönmuutos. Launiainen, J., (1993, p.21-31, fin) 47-4996

See also: Glacier heat balance; Permafrost heat balance

Heat capacity

Heat of transport of water. Takeyama, N., et al. (1991, p.1134-1135, eng) 47-916

Comment on paper by Larson and Hsui. Lunardini, V.J., et al. (1992, p.1644-1645, eng) 47-2001

Thermal processes caused by the formation of defects in materials at cryogenic temperatures. Deviatkin, E.A., et al. (1992, p.541-545, rus) 47-2035

Thermal properties of frozen soils. Van Loon, W.K.P., et al. (1993, p.783-795, eng) 47-5251

Heat conductivity

See also: Thermal conductivity

Heat flux

Solution of inverse heat conduction problems with phase changes by the mollification method. Murio, D.A., (1992, p.45-57, eng) 47-265

Correlation of turbulent coefficients in vertical heat flux and moisture in the surface boundary layer. Postnikov, A.N., (1991, p.123-125, rus) 47-391

Sea ice melting and floe geometry in a simple ice-ocean model. Steele, M., (1992, p.17,729-17,738, eng) 47-1062

Effect of severe storms on the ice cover of the northern Tatarskiy Strait. Martin, S., et al. (1992, p.17,753-17,764, eng) 47-1064

Uncertainty in a path-averaged measurement of the friction velocity u*. Andreas, E.L., (1992, p.1312-1321, eng) 47-1121

Energy-balance and surface layer measurements in Antarctica. Georgiadis, T., et al. (1992, p.213-218, eng) 47-1203

Energy balance of dry tundra in West Greenland. Rott, H., et al. (1992, p.352-362, eng) 47-1592

Carbon dioxide changes in Arctic tundra ecosystems. Oechel, W.C., et al. (1993, p.520-523, eng) 47-1942

One-dimensional modeling study of carbonaceous haze effects on the springtime arctic environment. Emery, C.A., et al. (1992, p.20,599-20,613, eng) 47-2053

Evolution theory for optimal control of a Couette icefoam design model. LaFleur, R.S., (1992, p.2617-2629, eng) 47-2148

Site survey for heat flow in the Prince Albert Mountains. Delisle, G., et al. (1992, p.138-139, eng) 47-2186

Anomalies in global ice-water exchange, stochastic models. Dobrovol'skii, S.G., (1991, 128p., rus) 47-2285

Mathematical model of sea ice cover variability. Fleming, G.H., (1992, p.479-499, eng) 47-2881

Late Pleistocene ice age scenarios based on observational evidence. Deblonde, G., et al. (1993, p.709-727, eng) 47-3475

Comments on paper by K.F. Jones. Levi, L., et al. (1993, p.599-609, eng) 47-3646

Influence of evaporator and condenser inclination on the performance of a right-angled thermosyphon. Lock, G.S.H., et al. (1993, p.213-217, eng) 47-4249

Visualization of liquid crystals during solidification. Nishimura, T., et al. (1992, p.456-460, eng) 47-4393

Sea ice-ocean interaction. Lemke, P., (1987, p.439-451, eng) 47-4457

See also: Heat transfer; Ice heat flux; Snow heat flux

Heat loss

New wind-chill nomogram. Rees, W.G., (1993, p.229-234, eng) 47-4703

High latitude ocean convection. Rudels, B., (1993, p.323-356, eng) 47-4843

Ocean convection and the creation of polynyas. Schmalzl, J., et al. (1993, p.371-383, eng) 47-4844

Measurement of heat losses from a conduit-type heat distribution system. Lunardini, V.J., (1990, p.435-449, eng) 47-4862

Measurement of heat losses from an operating district heating system. Phetteplace, G., (1992, p.100-111, eng) 47-4897

Heat measurement

See also: Temperature measurement

Heat pipes

Freeze/thaw characteristics of a copper/water heat pipe: effects of noncondensible gas charge. Ochterbeck, J.M., et al. (1993, p.127-132, eng) 47-2549

Influence of filling charge, evaporator length and condenser length on the performance of a right-angled thermosyphon. Lock, G.S.H., et al. (1993, p.207-211, eng) 47-4248

Influence of evaporator and condenser inclination on the performance of a right-angled thermosyphon. Lock, G.S.H., et al. (1993, p.213-217, eng) 47-4249

Heat transfer from a heated cylinder buried in a frozen porous medium in an enclosure. Oosthuizen, P.H., et al. (1992, p.315-326, eng) 47-4707

Measurement of heat losses from a conduit-type heat distribution system. Lunardini, V.J., (1990, p.435-449, eng) 47-4862

Measurement of heat losses from an operating district heating system. Phetteplace, G., (1992, p.100-111, eng) 47-4897

Heat recovery

Freeze-control strategy and air-to-air energy recovery performance. Phillips, E.G., et al. (1992, p.44-45,48-49, eng) 47-1936

Water freezing enhancement for thermal storage brine tube. Holowczenko, A., et al. (1988, 6 col., eng) 47-3641

Heat sinks

Ice dam preventer. Daniel, G.S., (1988, 4 col., eng) 47-3497

Study of the arctic heat sink. Ripley, E.A., (1990, 95p. + appends., eng) 47-4910

Heat transfer

Dependence of ice formation on arrangement of submerged tubes. Hirata, T., et al. (1992, p.681-687, eng) 47-8

Heat transfer and population in phase change media. Core, K.L., (1991, 99p., eng) 47-304

Arctic sea ice cover effect on summer atmospheric circulation. Yang, X.Q., et al. (1992, p.401-411, eng) 47-353

Mathematic modeling of conductive and convective heat transfer in the taliks of a cryolite zone. Buldovich, S.N., et al. (1991, p.55-64, eng) 47-420

Thermal effects due to air flow and vapor transport in dry snow. Albert, M.R., et al. (1992, p.273-281, eng) 47-468

Heat and mass transfer processes during the nucleation, growth and melting of hailstones. Filatkin, V.N., et al. (1991, p.50-68, rus) 47-753

Thermogravitational convection of low temperature water in pipes with electric heating elements. Agapkin, V.M., et al. (1991, p.115-120, eng) 47-825

Ice cold storage using direct contact phase change. Utaka, Y., et al. (1989, p.469-475, eng) 47-914

Characteristics of the freezing heat transfer of layered air-water flow in a circular tube. Fukusako, S., et al. (1989, p.91-97, eng) 47-915

Heat transfer (cont.)

Analysis of cool storage for air conditioning. Chen, S.L., et al. (1992, p.553-563, eng) 47-1055

Evaluation of scale-dependent effects of atmosphere-glacier interactions on heat supply to glaciers. Ohata, T., (1992, p.115-122, eng) 47-1095

Thermal analysis of dynamic wall structures. Virtanen, M., et al. (1992, p.240-251, eng) 47-1159

Internal waves and mixing in the Arctic Ocean. D'Asaro, E.A., et al. (1992, p.S459-S484, eng) 47-1274

Measurements of water film surface temperature on gyrating hailstones. Garcia-Garcia, F., et al. (1992, p.2058-2073, eng) 47-1508

Global climatic changes in water and heat transfer accumulation processes. Dobrovol'skii, S.G., (1992, 265p., eng) 47-1512

Three-dimensional simulation of electrothermal deicing systems. Yaslik, A.D., et al. (1992, p.1035-1042, eng) 47-1563

Finite area element snow loading prediction - applications and advancements. Gamble, S.L., et al. (1992, p.1537-1548, eng) 47-1583

Holography of solidification of an aqueous solution around a cylinder. Spatz, T.L., et al. (1992, p.998-1010, eng) 47-1671

Thermocapillary convection during solid-liquid phase change. Voth, T.E., et al. (1992, p.1068-1070, eng) 47-1673

Effect of freezing-thawing cycles on the heat-mass-exchangeable properties of cryogenic soils. Stepanov, A.V., et al. (1992, p.136-139, eng) 47-1718

Dynamics of heat-mass transfer in cryogenic soils of north-east Yakutia. Davydov, S.P., et al. (1992, p.180-184, eng) 47-1726

Application of infinite elements to phase change situations on deforming meshes. Sullivan, J.M., Jr., et al. (1992, p.1861-1874, eng) 47-1915

Fundamental research on external factors affecting the *freezing of supercooled water.* Saito, A., et al. (1992, p.2527-2536, eng) 47-2147

Example of the Couette iceform design model: flat plate ice formation. LaFleur, R.S., (1992, p.2631-2642, eng) 47-2149

Numerical and experimental study of wavy ice structure in a parallel plate channel. Weigand, B., et al. (1992, p.233-235, eng) 47-2188

Numerical solution to the problem of heat transfer during borehole drilling. Starovoitova, E.R., (1988, p.120-126, rus) 47-2233

Anomalies in global heat-water exchange; stochastic models. Dobrovol'skii, S.G., (1991, 128p., rus) 47-2285

Mathematical modelling of heat transfer in freeze drying. Nastaj, J., (1991, p.405-413, eng) 47-2305

Freeze/thaw characteristics of a copper/water heat pipe: effects of noncondensible gas charge. Ochterbeck, J.M., et al. (1993, p.127-132, eng) 47-2549

Freezing of a supercooled water droplet on a heat transfer surface. Saito, A., et al. (1991, p.319-326, eng) 47-2560

Heat transfer characteristics of ice capsules for encapsulated cool storage systems. Arnold, D., (1991, p.335-342, eng) 47-2562

Cooling and freezing of water between concentric cylinders. Narumi, A., et al. (1991, p.391-398, eng) 47-2563

Concurrent freezing and sublimation of a liquid-saturated porous slab. Vaidyanathan, N., et al. (1991, p.251-259, eng) 47-2565

Characteristics of heat pump system operating with frost formation. Aoki, K., et al. (1991, p.391-396, eng) 47-2566

Melting of ice in pure and saline water inside a square cavity. Schütz, W., et al. (1992, p.311-319, eng) 47-2638

Submerged warm water jet discharge in an ice-covered *reservoir* or lake. Gu, R.C., et al. (1993, p.151-168, eng) 47-2647

Solution of solidification problem using a microcomputer. Rabin, Y., et al. (1993, p.673-683, eng) 47-2653

Wavy ice formation inside a cooled parallel plate channel. Weigand, B., et al. (1993, p.685-693, eng) 47-2654

Thermal nonequilibrium of freezing bodies of water with the environment. Falko, L.I., (1991, p.115-118, rus) 47-2798

Transport phenomena in frozen porous media. Perfect, E., et al. (1991, p.243-270, eng) 47-2860

Solidification of a binary mixture saturating a bed of glass spheres. Cao, W.Z., et al. (1991, p.725-737, eng) 47-2861

Recent advances in research on water-freezing and ice-melting problems. Fukusako, S., et al. (1993, p.90-105, eng) 47-3287

Solidification in saline solutions. Rubinsky, B., et al. (1993, p.157-167, eng) 47-3288

New concept in runback water modeling for anti-iced aircraft surfaces. Al-Khalil, K.M., et al. (1993, p.41-49, eng) 47-3316

Thermal insulation and research in heat transfer. Bankvall, C., (1992, p.29-35, eng) 47-3449

Mathematical modeling of melting and freezing processes. Alexiades, V., et al. (1993, 323p., eng) 47-3541

Contact melting during sliding on ice. Fowler, A.J., et al. (1993, p.1171-1179, eng) 47-3578

Detection of nonconductive heat transport in soils using spectral analysis. Hinkel, K.M., et al. (1993, p.1017-1023, eng) 47-3579

Numerical modeling of heat transfer in irregular solidification of a liquid. Nikolenko, N.I., et al. (1993, p.519-528, eng) 47-3800

Liquid freezing during laminar flow. Weigand, B., et al. (1993, p.294-301, eng) 47-3836

Nonstationary heat and mass transfer in disturbed rock massifs. Chernik, V.P., et al. (1992, 224p., rus) 47-3863

Variability of the heat balance component in the northern Norwegian Sea. Seriakov, E.I., et al. (1991, p.66-74, rus) 47-3959

Thermal equilibrium in porous media with concurrent flow and freezing. Tao, Y.X., et al. (1993, p.323-332, eng) 47-4065

Overhead line ice accretion due to freezing rain. Poots, G., et al. (1992, p.390-398, eng) 47-4069

High-pressure melting—solidification of a substance. Zelenetskii, A.B., et al. (1993, p.1037-1044, eng) 47-4075

Influence of filling charge, evaporator length and condenser length on the performance of a right-angled thermosyphon. Lock, G.S.H., et al. (1993, p.207-211, eng) 47-4248

Influence of evaporator and condenser inclination on the *performance of a right-angled thermosyphon.* Lock, G.S.H., et al. (1993, p.213-217, eng) 47-4249

Snow-disposal unit and method. Jackson, P.H., (1986, 8 col., eng) 47-4265

Numerical study of three-dimensional natural convection and freezing in water. Yeoh, G.H., et al. (1992, p.640-650, eng) 47-4362

Study of snow melting mechanism by solar radiative absorption material. Inaba, H., et al. (1992, p.715-726, eng) 47-4363

Ice formation in sea water through turbulent exchange. Zatsepin, A.G., et al. (1992, p.38-42, eng) 47-4563

Frost formation and heat transfer on circular cylinders in cross flow. Raju, S.P., et al. (1992, p.109-122, eng) 47-4704

Prediction of frost growth on a flat plate. Tao, Y.X., et al. (1992, p.131-139, eng) 47-4705

Heat transfer from a heated cylinder buried in a frozen porous medium in an enclosure. Oosthuizen, P.H., et al. (1992, p.315-326, eng) 47-4707

Onset and evolution of penetrative convection during the melting process in a porous medium. Nguyen, T.H., et al. (1992, p.381-392, eng) 47-4708

Dynamics of seasonal heat, moisture, and salt transfer in frozen ground. Permiakov, P.P., et al. (1991, p.47-51, rus) 47-4808

Redistribution of moisture and cryogenic structural formation in freezing sapropel. Brovka, G.P., et al. (1991, p.67-74, rus) 47-4812

Mass transfer measurements of graupel growth. Ober, S.G., et al. (1993, p.1591-1609, eng) 47-4832

Measurement of heat losses from a conduit-type heat *distribution system.* Lunardini, V.J., (1990, p.435-449, eng) 47-4862

Mathematical model of frost heave and thaw settlement in pavements. Guymon, G.L., et al. (1993, 126p., eng) 47-4870

Measurement of heat losses from an operating district heating system. Phetteplace, G., (1992, p.100-111, eng) 47-4897

Thermal analysis of ice melting from surface friction. Pushkarev, O.E., et al. (1992, p.25-30, eng) 47-5004

Numerical and experimental study on supercooled laminar flow of water. Ismail, K.A.R., et al. (1991, p.899-903, eng) 47-5108

Recent advances in research on freezing and melting heat-transfer phenomena. Fukusako, S., et al. (1991, p.1157-1170, eng) 47-5109

On the accuracy of cometary nuclei simulation experiments. Klinger, J., et al. (1989, p.493-497, eng) 47-5125

Heat transfer from a cylinder buried in a frozen medium. Oosthuizen, P.H., et al. (1992, p.457-475, eng) 47-5264

See also: Heat flux; Permafrost heat transfer

Heat transfer coefficient

Effects of natural convection on ice formation inside a horizontal cylinder. Chen, S.L., et al. (1992, p.131-145, eng) 47-790

Determining the mean parameters of heat transfer through snow cover. Zviagin, V.V., et al. (1991, p.1085-1088, rus) 47-2009

Production and heat transfer characteristics of liquid ice as new PCM. Fukusako, S., et al. (1992, p.347-364, eng) 47-2298

Experimental study of melting of ice about horizontal cylinders. Torikoshi, K., et al. (1991, p.269-274, eng) 47-2557

Melting process of packed beds of ice particles by water flow. Okada, M., et al. (1991, p.327-333, eng) 47-2561

Parametric analysis for thawing frozen spheroidal (prolate and oblate) or finitely cylindrical food. Sheen, S., et al. (1992, p.236-240, eng) 47-2606

Convection heat transfer to melting ice. Jakubowski, G.S., et al. (1991, p.41-48, eng) 47-2767

Ice spillways, construction and analytical-experimental bases. Finageev, O.M., et al. (1992, 47p., rus) 47-2935

Economic effectiveness of the production and use of lignovermiculite as thermal insulation products. Rabchenuk, G.P., et al. (1991, p.85-95, rus) 47-2937

Solution freezing characteristics in an immersed tube. Yamada, M., et al. (1993, p.54-62, eng) 47-3792

Nonstationary heat and mass transfer in disturbed rock massifs. Chernik, V.P., et al. (1992, 224p., rus) 47-3863

Immersed tube heat transfer in a melting ice bed. Fukusako, S., et al. (1993, p.353-359, eng) 47-4064

Computer model of glaze accretion on wires. Draganoiu, G., et al. (1993, p.89-95, eng) 47-4235

Complete model for the laminar flow of supercooled liquid water. Ismail, K.A.R., et al. (1992, p.335-349, eng) 47-5265

Heat transmission

Clamp for arctic pipeline support. Morton, A.W., (1988, 4 col., eng) 47-3414

Heating

Winter operability: equipment problems and their remedies. Diemand, D., (1992, p.124-137, eng) 47-587

Heat Wave introduced for cold weather starting. (1992, p.42, eng) 47-592

Compact, disengaging pump drive aids cold weather starts. (1992, p.56-57, eng) 47-594

Transitions in frozen gelatinized-starch systems studied by differential scanning calorimetry. Liu, H., et al. (1992, p.179-183, eng) 47-743

Accelerated heating of a hydraulic system in subzero ambient temperatures. Gulin, S.D., et al. (1990, p.6, rus) 47-1420

Characteristics of heat pump system operating with frost formation. Aoki, K., et al. (1991, p.391-396, eng) 47-2566

Low energy small house 50°. Experimental house *research.* Nieminen, J., et al. (1992, 39p. + append., fin) 47-2584

Using heaters safely during cold weather concreting. Owens, F., (1990, p.876-881, eng) 47-2717

Simulation of heating profiles in freeze-drying. Lombraña, J.I., et al. (1993, p.85-102, eng) 47-2882

Snow and ice melting system for automotive vehicles. Ahmed, M.I., (1989, 12 col., eng) 47-3105

Swirl anti-ice system. Rosenthal, H.A., (1987, 6 col., eng) 47-3853

Apparatus for deicing exterior parts of a railway vehicle. Björklund, B., (1987, 6 col., eng) 47-4002

Effect of power plant construction on river hydrological regime. Filippov, A.M., (1992, p.61-64, eng) 47-4345

Simulation of extraterrestrial ammonia-water ice system. Yarger, J., et al. (1993, p.13.109-13.117, eng) 47-4412

Road heating in Sapporo. (1990, 18p., eng) 47-4781

Current status and problems of road heating facilities for expressways. Murakuni, M., (1985, p.27-33, jpn) 47-5164

Non-sprinkler snow melting by water pipe heating. (1985, p.40-44, jpn) 47-5166

See also: Concrete heating; Electric heating; Pipeline *heating*; Radiant heating; Transition heating

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See also: Frost heave

Heavy water

Simulation of oxygen isotope variations in atmospheric flow. Fisher, D.A., (1992, p.61-77, eng) 47-804

Study on dynamical structure in water and heavy water by low-frequency Raman spectroscopy. Mizoguchi, K., et al. (1992, p.1961-1968, eng) 47-1056

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See also: Snow hedges

Height

See also: Altitude

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Ranging performance of satellite laser altimeters. *Gardner, C.S., (1992, p.1061-1072, eng)* 47-1261

Electromagnetic communications through the seawater-ice-air interface. Steeves, G., et al. (1991, p.638-644, eng) 47-2182

Comparison of altimetry profiles over East Antarctica from Seasat and Geosat: an interim report. Bentley, C.R., et al. (1990, p.1-9, eng) 47-3570

Analysis of errors in satellite altimetry. Minster, J.F., et al. (1993, p.410-419, eng) 47-3774

Interpretation of short-term ice-sheet elevation changes inferred from satellite altimetry. Van der Veen, C.J., (1993, p.383-405, eng) 47-4137

Analysis of ERS-1 altimeter data over polar ice sheets. Rapley, C.G., et al. (1993, p.235-240, eng) 47-4418

Some results of the derivation of ice sheet elevations in Antarctica from ERS-1 altimeter data. Ihde, J., et al. (1993, p.241-245, eng) 47-4419

Utilisation of ERS-1 data for mapping of Antarctica. Sievers, J., et al. (1993, p.247-251, eng) 47-4420

Monitoring of the Greenland ice sheet using ERS-1 synthetic aperture imagery. Bindschadler, R.A., et al, [1993, p.253-257, eng] 47-4421

Preliminary evaluation of ERS-1 altimetry over Filchner-Ronne Ice Shelf, Antarctica. Doake, C., et al, [1993, p.259-261, eng] 47-4422

Greenland ice sheet mapping by ERS-1. Tscherning, C.C., et al, [1993, p.413-418, eng] 47-4443

Validating the UK-PAF land ice product surface elevation. Mantripp, D.R., et al, [1993, p.483-488, eng] 47-4444

Review of GEOSAT data over Canadian east coast waters. Topliss, B.J., et al, [1993, p.117-130, eng] 47-4590

Airborne measurement of absolute sea-surface heights. Brozena, J.M., et al, [1993, p.875-878, eng] 47-4632

Antarctic ice sheet topography mapped with the ERS-1 radar altimeter. Ridley, J.K., et al, [1993, p.1649-1650, eng] 47-5119

See also: Cloud height indicators

Helicopters

Helicopter-borne scatterometer for remote sensing pt. 1. Hallikainen, M., et al, [1993, p.161-169, eng] 47-3358

European Helicopters' ICE detection system enters final trials stage. [1988, p.23, eng] 47-4609

Heterogeneous nucleation

Stratospheric composition and temperatures poleward of 60N. Remsberg, E.E., et al, [1992, p.13,001-13,014, eng] 47-78

Reactive nitrogen, ozone, and nitrate aerosols observed in the arctic stratosphere in January 1990. Kondo, Y., et al, [1992, p.13,025-13,038, eng] 47-80

Dendritic crystallization of supercooled solutions. Harrison, K.M., [1989, 113p., eng] 47-86

Model of heterogeneous nucleation on polar stratospheric clouds. Nelson, C.M., et al, [1992, p.6112-6115, eng] 47-248

Ice nucleation in emulsified aqueous salt solutions: a differential scanning calorimetry study. Ganguly, S., et al, [1992, p.105-111, eng] 47-798

Interaction of HCl vapor with water-ice: implications for the stratosphere. Abbatt, J.P.D., et al, [1992, p.15,819-15,826, eng] 47-999

Observations of heterogeneous nucleation of water vapor on a cold substrate. Shinagawa, H., et al, [1992, p.448-450, eng] 47-1054

Spectroscopic studies of model polar stratospheric cloud films. Tolbert, M.A., et al, [1992, p.1303-1313, eng] 47-1172

Heterogeneous interactions of ClONO2 and HCl on nitric acid trihydrate at 202 K. Abbatt, J.P.D., et al, [1992, p.7674-7679, eng] 47-1768

Protein interaction with ice. Hew, C.L., et al, [1992, p.33-42, eng] 47-1786

Ice nucleation in electrolyte solutions. Fornazero, J., et al, [1992, p.413-418, eng] 47-2011

Scavenging of atmospheric constituents by alpine snow. Baltensperger, U., et al, [1991, p.483-493, eng] 47-2215

Numerical model of aerosol scavenging, part 2: simulation of a large city fire. Bradley, M.M., et al, [1991, p.591-601, eng] 47-2217

Expression of a bacterial ice nucleation gene in plants. Baertlein, D.A., et al, [1992, p.1730-1736, eng] 47-2249

Freezing points of H2SO4 aqueous solutions and formation of polar stratospheric clouds. Ohtake, T., [1992, p.233-236, eng] 47-2256

Ice nucleus concentrations measured in a cloud chamber. Aksenov, M.IA., et al, [1992, p.241-243, eng] 47-2258

Laboratory studies of the ice-forming characteristics of natural aerosol models. Gorbunov, B.Z., et al, [1992, p.245-247, eng] 47-2259

Laboratory investigations of ice-forming properties transformation of crystallizing agent aerosol. Kerimov, A.M., et al, [1992, p.255-257, eng] 47-2261

Memory effect in the nucleation of ice on mercuric iodide. Vali, G., [1992, p.259-262, eng] 47-2262

Mechanistic studies of heterogeneous ice nucleation by AgI-AgCl and AgI-AgCl-4NaCl aerosols. DeMott, P.J., et al, [1992, p.263-266, eng] 47-2263

Ice nucleation studies on AgI-NaCl system. Radhakrishnan, T., et al, [1992, p.267-270, eng] 47-2264

Preliminary study of ice nucleating properties of loess particles. Feng, D.X., et al, [1992, p.275-277, eng] 47-2266

Common features of ice nuclei concentration—temperature dependencies. Kim, N.S., et al, [1992, p.279-281, eng] 47-2267

Potential role of heterogeneous nucleation in the cloud element formation at high altitudes. Hagen, D.E., et al, [1992, p.291-294, eng] 47-2270

Study of ice nuclei in the area of hail suppression operations in Moldavia. Potapov, E.I., et al, [1992, p.301-303, eng] 47-2272

Ice-producing processes in North Dakota clouds. Detwiler, A.G., et al, [1992, p.305-308, eng] 47-2273

Supersaturation spectra of ice nuclei. Hussain, K., [1992, p.309-312, eng] 47-2274

Ice forming capability of various aerosols under haloid influence. Kim, N.S., et al, [1992, p.313-315, eng] 47-2275

Freezing nucleus spectra in the rain samples and their possible application on cloud conditions. Dubrovsky, M., [1992, p.321-324, eng] 47-2277

Analysis of ice nucleus observation over Huhehot area in winter season. Kong, Y.Y., [1992, p.325-326, eng] 47-2278

Modification of aerosol chemistry by reactions in atmospheric ice crystals. Finnegan, W.G., et al, [1992, p.399-402, eng] 47-2280

Dependence of cloud chemistry on drop size. Collett, J.L., Jr., et al, [1993, p.33-42, eng] 47-2705

Laboratory measurements of the loss of ClO on Pyrex, ice and NAT at 183 K. Kenner, R.D., et al, [1993, p.193-196, eng] 47-2857

Comment on porosities of ice films used to simulate stratospheric cloud surfaces. Keyser, L.F., et al, [1993, p.2800-2803, eng] 47-3178

Uptake of HNO3 onto ice, NAT, and frozen sulfuric acid. Hanson, D.R., [1992, p.2063-2066, eng] 47-3319

HNO3 variations in volcanic layers of polar ice. Laj, P., et al, [1993, p.219-230, eng] 47-3463

Modeling of trace species in the arctic stratosphere. Chipperfield, M.P., et al, [1993, p.7199-7218, eng] 47-3828

Vertical structure and size distributions of Martian aerosols from solar occultation measurements. Chassefière, E., et al, [1992, p.46-69, eng] 47-3923

Simulation of water-ice layers on a silver iodide substrate. Taylor, J.H., et al, [1993, p.9732-9741, eng] 47-3984

Effect of competitive adsorption on polar stratospheric cloud reactions. Mozurkewich, M., [1993, p.355-358, eng] 47-4140

Laboratory simulations of PSC particle formation. Marti, J., et al, [1993, p.359-362, eng] 47-4141

Spectroscopic probe of model polar stratospheric cloud films. Koehler, B.G., et al, [1993, p.10,563-10,571, eng] 47-4294

Antarctic polar stratospheric cloud chemistry. Drdla, K., et al, [1993, p.8965-8981, eng] 47-4382

Acid snow over coastal Japan, pt.1. Kitada, T., et al, [1993, p.1061-1076, eng] 47-4581

Acid snow over coastal Japan, pt.2. Kitada, T., et al, [1993, p.1077-1090, eng] 47-4582

Evaluation of bacterial ice nucleation. Watabe, S., et al, [1993, p.603-606, eng] 47-4734

High pressure ice

Inelastic incoherent neutron scattering study of D2O and H2O ice VIII in the range 2-140 meV. Kolesnikov, A.I., et al, [1992, p.308-312, eng] 47-195

Anomalies of the shock compressibility of water. Bogdanov, G.E., et al, [1992, p.162-165, eng] 47-2458

Neutron diffraction studies of high pressure ice. Londono, J.D., et al, [1993, p.4878-4888, eng] 47-3234

Ab initio studies on the structural and dynamical properties of ice. Lee, C.Y., et al, [1993, p.4863-4872, eng] 47-3583

High-pressure melting—solidification of a substance. Zelenetskiĭ, A.B., et al, [1993, p.1037-1044, eng] 47-4075

Thermodynamics of high-pressure ice. Chizhov, V.E., [1993, p.253-262, eng] 47-5266

High pressure tests

Comparison of four aggregates using the Washington hydraulic fracture test. Janssen, D.J., et al, [1991, p.57-67, eng] 47-1131

Simulation of extraterrestrial ice solution melting curves. Boone, S., et al, [1991, p.603-610, eng] 47-4635

Highway planning

Study on road construction for the 21st century in snowy and cold regions. [1991, p.5-24, jpn] 47-2530

Roads in Hokkaido. [1992, 27p., eng] 47-4690

Winter road traffic sensors. Nagata, N., et al, [1993, p.9-12, jpn] 47-4785

Current status and future trends for road snow and ice countermeasures in North America. Special lecture. Minsk, L.D., [1993, 4p., jpn] 47-4795

Winter road maintenance by the Hokkaido Development Bureau. [1992, 39p., eng] 47-4799

Safeguarding of high speed highways. Hirai, M., [1984, p.40-44, jpn] 47-5065

Safeguarding the main roads in Hokkaido. Bando, T., [1984, p.58-63, jpn] 47-5068

Study on winter traffic volume. Seki, N., et al, [1984, p.101-106, jpn] 47-5076

Road snow removal in Hokuriku regional construction. Yasui, K., et al, [1985, p.42-48, jpn] 47-5098

Highways

See also: Roads

Himalaya Mountains

Data base for runoff forecasting from Himalayan snow cover. Ramamoorthi, A.S., et al, [1991, p.347-355, eng] 47-431

Proceedings. [1985, 2 vols., eng] 47-523

Satellite snow cover mapping and snowmelt runoff modelling in Beas basin. Kumar, V.S., et al, [1991, p.101-109, eng] 47-1297

Sino-USSR joint glaciological expedition to Mt. Xixabangma. Su, Z., et al, [1992, p.184-186, chi] 47-1657

Dendroclimatic evidence from the western Himalaya. Hughes, M.K., [1992, p.415-431, eng] 47-2094

History

Climate, history and the modern world. Lamb, H.H., [1982, 387p., eng] 47-1680

New England's disastrous weather. Watson, B., ed, [1990, 228p., eng] 47-2778

Last "Terra incognita". Pasetskiĭ, V., [1992, p.49-50, rus] 47-2904

Novorossiysk bora. Basevich, V., [1992, p.51-53, rus] 47-2905

First ice-navigating ships for the Far East. Smirnov, K.D., [1992, p.49-51, rus] 47-2921

Probability analysis of historical ice jam flood data for a complex reach: a case study. Stanley, S.J., et al, [1992, p.875-885, eng] 47-3306

Arctic exploration & international relations 1900-1932. Fogelson, N., [1992, 220p., eng] 47-3865

Historical overview of the DEW system in Alaska, and documentation of facilities at POW-3, Bullen Point, Alaska. [1993, 96p., eng] 47-4209

History of the Northern Sea Route. Armstrong, T., [1992, p.34-42, eng] 47-4212

Coast Guard and the Greenland Patrol. Tilley, J.A., [1992, 17p., eng] 47-4605

International and American efforts to coordinate glaciological programs. Field, W.O., [1991, 17p., eng] 47-4643

Cryology of soils. Makeev, O.V., [1991, p.3-10, rus] 47-4802

Hoarfrost

Atmospheric scavenging during surface frost formation. Georgiadis, T., et al, [1993, p.267-276, eng] 47-3474

Rime-ice accretion on fixed stranded conductors. Skelton, P.L.I., et al, [1993, p.45-52, eng] 47-3529

Comments on paper by K.F. Jones. Levi, L., et al, [1993, p.599-609, eng] 47-3646

Process and measuring probe for the determination of ice or snow formation. Meyer, F., [1988, 6 col., eng] 47-3762

See also: Depth hoar

Holography

Holography of solidification of an aqueous solution around a cylinder. Spatz, T.L., et al, [1992, p.998-1010, eng] 47-1671

Using nondestructive diagnostic methods to evaluate the condition of the material in foundations on permafrost. Izotov, V.N., ed, [1989, 44p., rus] 47-2316

Microholographic study of cloud layers. Borrmann, S., et al, [1993, p.277-293, eng] 47-3772

Homogeneous nucleation

Low temperature studies of stability of emulsion explosives. Ganguly, S., et al, [1992, p.243-256, eng] 47-194

Theoretical studies on binary homogeneous nucleation. Laaksonen, A., [1992, 12p., eng] 47-229

Thermodynamic analysis of supercooled liquid water. Walrafen, G.E., et al, [1992, p.3840-3846, eng] 47-247

Ice nucleation in emulsified aqueous salt solutions: a differential scanning calorimetry study. Ganguly, S., et al, [1992, p.105-111, eng] 47-798

Homogeneous freezing of sulfuric acid droplets. 1. Formation of H2SO4 x 4H2O (SAT). Luo, B.P., et al, [1992, p.225-228, eng] 47-2254

Homogeneous freezing of sulfuric acid droplets. 2. Implications for PSCs and heterogeneous chemistry. Peter, T., et al, [1992, p.229-232, eng] 47-2255

Ice crystal nucleation scheme applying by 3-D simulation of cirrus clouds. Levkov, L., et al, [1992, p.237-240, eng] 47-2257

On the homogeneous nucleation of water and ice in the supersaturated water vapour at temperatures below -41 C. Merzhanov, K.M., [1992, p.249-254, eng] 47-2260

Ice crystal formation in cirrus cloud. Matsuo, T., et al, [1992, p.283-286, eng] 47-2268

Ice nuclei availability in the higher troposphere. Sassen, K., [1992, p.287-290, eng] 47-2269

Structural stability in cloud physics using parameterized microphysics. Wacker, U., [1992, p.231-242, eng] 47-2656

Ice crystals produced by expansion: experiments and application to aircraft-produced ice. Foster, T.C., et al, [1993, p.716-728, eng] 47-3509

Storm simulation with and without ice microphysics. Johnson, D.E., et al, [1993, p.745-759, eng] 47-3510

Strongly temperature dependent microphysical processes and the atmosphere. Stewart, R.E., et al, [1992, p.309-315, eng] 47-3996

Nucleation. Oxtoby, D.W., [1992, p.407-442, eng] 47-4368

Measurements of high number densities of ice crystals in the tops of tropical cumulonimbus. Knollenberg, R.G., et al, [1993, p.8639-8664, eng] 47-4379

Influence of solar wind on cloud microphysics. Tinsley, B.A., et al, [1993, p.10,375-10,384, eng] 47-4391

Homogeneous ice nucleation and supercooled liquid water in orographic wave clouds. Heymsfield, A.J., et al, [1993, p.2335-2353, eng] 47-4891

Hot air curtain

See also: Transition heating

Hot oil lines

Special challenge: cathodic protection on trans-Alaska pipeline. Peabody, A.W., [1976, p.40,42,43, eng] 47-4866

Hot springs

Geothermy at the Mount Spurr volcanic complex. Motyka, R.J., et al, [1993, p.31-40, eng] 47-4776

Houses

Influence of frost heave on houses under construction in Merthyr Tydfil. Statham, I., et al, [1989, p.31-33, eng] 47-1001

Low energy small house 50°c. Experimental house research. Nieminen, J., et al, [1992, 39p. + append., fin] 47-2584

Ecological aspects in the design of low-rise housing in Siberia. Baklanova, E.I., [1992, p.125-131, rus] 47-2779

Re-application of traditional architectural schemes in the snow country. Mizuno, I., [1992, p.365-371, eng] 47-3214

Snow recycling house in a heavy snowfall district. Higuchi, T., [1992, p.405-408, eng] 47-3218

Hovercraft

See also: Air cushion vehicles

Human factors

Stratospheric trace constituents, ozone and nitric acid. Hanson, D.R., [1989, 85p., eng] 47-350

Temperature forecast biases associated with snow cover in the Northeast. Wojcik, G.S., et al, [1992, p.501-506, eng] 47-1059

Snowpack characteristics associated with avalanche accidents. Jamieson, J.B., et al, [1992, p.862-866, eng] 47-1441

Enclosures keep workers warm and more productive in cold weather. Smith, A., [1990, p.857-862, eng] 47-2716

Aircraft ground deicing, a flight crew perspective. Haase, D.J., [1993, p.19-23, eng] 47-3313

Late Quaternary continental paleohydrology as related to future environmental change. Starkel, L., [1993, p.95-108, eng] 47-4586

Constraints imposed by the ice core data on the budgets of nitrous oxide and methane. Khalil, M.A.K., et al, [1989, p.403-410, eng] 47-4639

Effects of global changes on social life in the Arctic and possible response strategies. Lange, M.A., ed, [1993, 64p., eng] 47-4877

Driver behavior during winter conditions. Gabestad, K.O., et al, [1988, 54p. + appends., nor] 47-4992

Human factors engineering

Multilayered insulation ensuring human activity in extreme climatic conditions. Bosniatskii, G.P., et al, [1991, p.33, rus] 47-2477

Arctic supply ship *Ivan Papanin*. Nikonov, V., [1992, p.26-30, rus] 47-2915

Study on providing pedestrian space in snowy regions. Nishiue, H., [1985, p.58-62, jpn] 47-5155

Humidity

Influence of humidity on the ablation of continental-type glaciers. Ohno, H., et al, [1992, p.107-114, eng] 47-1094

Dramatic retreat of Mount Kenya's glaciers between 1963 and 1987: greenhouse forcing. Hastenrath, S., et al, [1992, p.127-133, eng] 47-1097

Advective contributions to boundary layer moisture profiles in mountainous terrain. Wooldridge, G.L., et al, [1991, p.123-126, eng] 47-1490

Reconstruction of humidification conditions of eastern Issyk-Kul' areas. Mel'nikova, N.G., et al, [1991, p.80-86, rus] 47-2792

Pre-EUCREX in-flight humidity intercomparison. Ström, J., et al, [1993, p.479-483, eng] 47-3078

High-altitude and polar humidity. Schlatter, T., [1992, p.39-40, eng] 47-3457

Observations on rock moisture variability in gneiss and basalt under natural, arctic conditions. Humlum, O., [1992, p.197-205, eng] 47-4328

Air temperature variations on Spitsbergen in 1979-1983. Przybylak, R., [1992, p.113-129, eng] 47-4651

Diode laser humidity sensor for cold environments. Phase I. Final technical report. Stanton, A.C., et al, [1988, 35p., eng] 47-4861

Hummocks

Nature and geomorphological relationships of earth hummocks (thufa) in Iceland. Gerrard, J., [1992, p.173-182, eng] 47-1012

Hummocks and hummocky landscapes as indicators of the natural conditions of Tien Shan. Tarakanov, A.G., [1991, p.112-118, rus] 47-2042

Stratigraphy and origin of an area of hummocky glacial topography, northern Wisconsin, U.S.A. Attig, J.W., et al, [1993, p.61-67, eng] 47-4752

See also: Frost mounds; Pingos

Hydrates

Characteristics of the occurrence of gas hydrates in the cryolithozone. Ershov, E.D., et al, [1991, p.788-791, rus] 47-103

Structure and thermodynamic properties of water-methanol mixtures: role of the water-water interaction. Tanaka, H., et al, [1992, p.2626-2634, eng] 47-208

Hydrate dissociation enthalpy and guest size. Sloan, E.D., et al, [1992, p.123-140, eng] 47-588

Calculation of phase diagrams of gas-hydrates. Lundgaard, L., et al, [1992, p.141-149, eng] 47-589

Global change related to gas hydrate stability. Judge, A.S., et al, [1992, p.251-263, eng] 47-2025

On the thermodynamic stability of clathrate hydrate. I. Tanaka, H., et al, [1993, p.4098-4109, eng] 47-2673

Methane hydrate layers in deep sea mud. Hyndman, R.D., [1992, p.21-26, eng] 47-2821

Thermodynamic stability of clathrate, pt.2. Tanaka, H., et al, [1993, p.8110-8118, eng] 47-3582

Subsurface temperatures and geothermal gradients on the North Slope of Alaska. Collett, T.S., et al, [1993, p.275-293, eng] 47-3931

Simulation of extraterrestrial ammonia-water ice system. Yarger, J., et al, [1993, p.13,109-13,117, eng] 47-4412

Simulation of extraterrestrial ice solution melting curves. Boone, S., et al, [1991, p.603-610, eng] 47-4635

Thermodynamic properties of ice and of tetrahydrofuran hydrate in confined geometries. Zakrzewski, M., et al, [1993, p.631-637, eng] 47-4738

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Hydraulic jets

Penetration of rocks by continuous water jets. Harris, H.D., et al, [1974, p.H1/1-H1/15, eng] 47-2200

Submerged warm water jet discharge in an ice-covered reservoir or lake. Gu, R.C., et al, [1993, p.151-168, eng] 47-2647

Hydraulic structures

Behaviour of high erosion-resistant silica fume-mortars for repair of hydraulic structures. Berra, M., et al, [1989, p.827-847, eng] 47-57

Geographical forecasting of the consequences of hydropower construction. Malik, L.K., [1990, 316p. (Pertinent p.49-52), rus] 47-70

Thermal regime of filtrating taliks in the foundation of a hydraulic power system and reservoir banks. Sobol', S.V., et al, [1992, p.106-110, rus] 47-366

Accelerated heating of a hydraulic system in subzero ambient temperatures. Gulin, S.D., et al, [1990, p.6, rus] 47-1420

New method for assessing frost damage in non-air entrained hydraulic structures. Hooton, R.D., et al, [1992, p.339-355, eng] 47-2575

Intensification of freezing earth hydraulic structures by natural cold. Panteleev, V.G., et al, [1991, p.691-694, rus] 47-2908

Removable bottom founded structure. Beskow, R.H., et al, [1988, 16 col., eng] 47-3763

Icing problems at Corps projects. Haynes, F.D., et al, [1993, 18p. + figs., eng] 47-4608

See also: Dams; Docks; Locks (waterways); Offshore structures; Piers; Sluices (hydraulic engineering); Wharves

Hydraulics

Laboratory studies of hydraulic resistance to ice jams. Kiselev, A.A., [1991, p.30-37, rus] 47-1046

Fluid line deicer. Wilson, D.W., [1989, 6 col., eng] 47-3112

Bend ice jams: laboratory observations. Urroz, G.E., et al, [1992, p.855-864, eng] 47-3305

Subglacial flow of a mountain glacier. Fountain, A.G., [1993, p.143-156, eng] 47-3948

Probablistic computation of maximum ice-dam water levels. Buzin, V.A., [1992, p.56-62, eng] 47-4025

Structural and ice effects on salt water marsh hydrology. Ballestero, T.P., et al, [1993, p.150-155, eng] 47-4451

Hydrocarbons

Frozen assets. [1992, p.33-36, eng] 47-51

Low-temperature properties of desorbed raffinates and their hydrocarbon group components. Alekhina, N.I., et al, [1992, p.44-48, eng] 47-206

Arctic contaminants: sources, occurrence and pathways. Barrie, L.A., et al, [1992, p.1-74, eng] 47-261

Poly(vinyl alcohol) hydrogels prepared by freezing-thawing cyclic processing. Stauffer, S.R., et al, [1992, p.3932-3936, eng] 47-744

Detecting organic chemical contaminants by spectral-induced polarization method in glacial till environment. Vanhala, H., et al, [1992, p.1014-1017, eng] 47-779

Natural cleaning processes of arctic waters and ice from petroleum hydrocarbons. Il'inskii, V.V., et al, [1991, p.91-101, rus] 47-889

Thermal maturity and source-rock potential in northwestern Melville Island, arctic Canada. Gentzis, T., et al, [1992, p.423-442, eng] 47-983

Hydrocarbon pollution of ocean sediments. Steinhauer, M.S., et al, [1992, p.223-253, eng] 47-1170

Analysis of the Beaufort-Mackenzie Basin, Canada: burial, thermal and hydrocarbon histories. Tang, J., et al, [1992, p.510-525, eng] 47-1171

Microbial ecology of the 1989 antarctic oil spill. Karl, D.M., [1992, p.77-89, eng] 47-1257

Nonmethane hydrocarbons in the arctic boundary layer. Blake, D.R., et al, [1992, p.16,559-16,588, eng] 47-1455

Carbon monoxide and methane in the North American arctic and subarctic troposphere: July-August 1988. Harriss, R.C., et al, [1992, p.16,589-16,599, eng] 47-1456

Hydrocarbon solubility related to ice formation within solutions. Shinoda, K., [1992, p.81-100, eng] 47-1550

Hydrocarbon pollution in Arthur Harbor subtidal sediments. Kennicutt, M.C., II, et al, [1992, p.499-506, eng] 47-1931

Hydrocarbon contamination of limpets in Arthur Harbor. Kennicutt, M.C., II, et al, [1992, p.506-511, eng] 47-1932

Determinations of methyl iodide in the antarctic atmosphere and the south polar sea. Reifenhäuser, W., et al, [1992, p.2905-2912, eng] 47-1948

Major hydrocarbon structures in Barents Sea, Kara Sea regions. [1993, p.34-35, eng] 47-2004

Measurements of airborne carbonaceous aerosols in the eastern Arctic. Hansen, A.D.A., et al, [1992, p.429-433, eng] 47-2544

Sedimentary source-rock potential from the Sverdrup basin, arctic Canada. Gentzis, T., et al, [1993, p.33-54, eng] 47-2596

Organic contaminants in Canadian lake sediments. Mudroch, A., et al, [1992, p.10-19, eng] 47-3349

Temperature dependence of crystalline methane refractive indices. Ngoh, M.A., et al, [1993, p.5511-5515, eng] 47-3651

Spectroscopic determination of aviation fuel freezing point. Lysaght, M.J., et al, [1993, p.623-631, eng] 47-3985

Geochemistry of Mackenzie river sediments. Yunker, M.B., et al, [1993, p.3041-3061, eng] 47-4458

Selective accumulation of polychlorocamphenes in aquatic biota from the Canadian Arctic. Bidleman, T.F., et al, [1993, p.701-709, eng] 47-4629

Effects of surfaces on the melting/freezing behavior of fluids in derivatized- and nude-porous silica. Malhotra, V.M., et al, [1993, p.121-126, eng] 47-4709

Organic-rich shale and bentonite in the Arctic Creek unit. Mull, C.G., et al, [1993, p.41-49, eng] 47-4777

Silurian pinnacle reefs of the Canadian Arctic. De Freitas, T.A., et al, [1993, p.172-182, eng] 47-4912

Hydrocarbon gas traces in snow cover. Vyshemirskii, V.S., et al, [1993, p.1-4, eng] 47-5194

Hydrodynamics

Experimental and theoretical investigation of the icebreaking cycle in two dimensions. Valanto, P.U., [1990, 129p., eng] 47-89

Integrating the equations of motion of an ice sheet. Ivanov, A.I., [1991, p.131-136, rus] 47-330

Influence of convection and currents on bottom melting of ice during spring heating of a body of water. Blokhina, N.S., [1989, p.82-87, eng] 47-1227

Thermocapillary convection during solid-liquid phase change. Voth, T.E., et al, [1992, p.1068-1070, eng] 47-1673

Hydrodynamics of lakes. Filatov, N.N., [1991, 196p., rus] 47-2283

Interactions of frazil and anchor ice with sedimentary particles in a flume. Kempema, E.W., et al, [1993, p.137-149, eng] 47-2646

Mathematical modeling of ice and thermal regime of water bodies under heavy thermal load. Aleksandrov, I.IA., et al, [1992, p.55-61, eng] 47-2713

Using hydrodynamic surface fields at a geopotential of 500 gPa for medium-range forecasting of a surface pressure field. Baranov, G.I., et al, [1989, p.113-117, rus] 47-3663

Propagation of M2 waves in the Arctic Ocean. Proshutinskii, A.IU., et al, [1991, p.6-13, rus] 47-3685

Sediment dynamics in the St. Lawrence estuary. Drapeau, G., [1992, p.233-242, fre] 47-3791

Sparse parameter quasi-solenoidal model of large-scale atmospheric movements. Bekriaev, R.V., [1992, p.56-74, rus] 47-3806

Formation mechanism of the vertical structure of the Greenland convective gyre. Bogorodskii, P.V., et al, [1992, p.138-144, rus] 47-3812

Elastohydrodynamic response of an ice sheet to forced sub-surface uplift. Dempsey, J.P., et al, [1993, p.487-506, eng] 47-3827

Semi-discrete element approach to the river ice breakup and jamming process. Guo, Q.Z., et al, [1993, p.65-69, eng] 47-4450

Hydrodynamic pressure during propeller/ice interaction. Newbury, S., et al, [1993, 10p., eng] 47-4864

Hydroelectric power

See also: Electric power

Hydrogen

Preferential adsorption on amorphous ice surfaces. Buch, V., et al, [1993, p.4195-4206, eng] 47-2674

Rifting, ozone layer and the level of the world ocean. Syvorotkin, V.L., et al, [1992, p.731-733, rus] 47-3335

Adsorbate spectra for amorphous ice. Buch, V., et al, [1993, p.2265-2268, eng] 47-4464

Diffusion of atomic hydrogen in ice-Ih. Bartels, D.M., et al, [1993, p.129-134, eng] 47-4855

Hydrogen bonds

Geometry of OH- defect in condensed water phase. Defect localization and cooperative interaction of H-bonds. Isaev, A.N., et al, [1992, p.14-19, eng] 47-203

Study of proton transfer in ice. Isaev, A.N., et al, [1992, p.19-25, eng] 47-204

Energy and structure of Bjerrum defects in ice Ih determined with an additive and a nonadditive potential. Hassan, R., et al. [1992, p.4326-4335, eng] 47-222

Binding energy of molecular systems. White, J.C., [1992, 159p., eng] 47-268

Electro-optical parameters of hydrogen-bonded water molecules. [Ukhnevich, G.V., et al. [1992, p.211-234, eng] 47-924

Low-frequency light scattering from disordered hydrogen-bonded solids. Mazzacurati, V., et al. [1992, p.2845-2852, eng] 47-1511

Supercooled water self-diffusion related to hydrogen bond cooperativity. Lamanna, R., et al. [1992, p.R7367-R7370, eng] 47-1891

Solvated water molecules and hydrogen-bridged networks in liquid water. Corongiu, G., et al. [1993, p.2241-2249, eng] 47-2109

Liquid water: theory & experiment. Teixeira, J., [1990, p.167-187, eng] 47-2193

Hydrogen-bond structures in water & ice. Dore, J., [1990, p.188-197, eng] 47-2194

Neutron diffraction studies of high pressure ice. Londono, J.D., et al. [1993, p.4878-4888, eng] 47-3234

Inclusion-exclusion calculation of the dipole-dipole energy of hexagonal ice and of cubic ice. Huckaby, D.A., et al. [1993, p.8105-8109, eng] 47-3581

Ab initio studies on the structural and dynamical properties of ice. Lee, C.Y., et al. [1993, p.4863-4872, eng] 47-3583

Defect theory for the glass transition and residual entropy of hyperquenched water. Johari, G.P., [1993, p.7324-7329, eng] 47-3684

Proton transfer in ice. Lee, C., et al. [1993, p.279-284, eng] 47-4856

Hydrogen ion concentration

Physical-mechanical types of cryogenesis. Konishchev, V.N., et al. [1991, p.9-14, rus] 47-394

Hydrogeochemistry

Different water types found in the vicinity of Juan Carlos I Station. Antiguedad, I., et al. [1989, p.41-49, spa] 47-811

Spatial patterns of geochemical denudation in a Colorado alpine environment. Caine, N., [1992, p.63-88, eng] 47-847

Simulation of natural acid sulfate weathering in an alpine watershed. Bassett, R.L., et al. [1992, p.2197-2209, eng] 47-1506

Hydrochemical characteristics in Binggou basin of Heihe River in Qilian Mountain. Sheng, W.K., et al. [1992, p.111-120, chi] 47-1545

Nitrogen mineralization and streamwater chemistry, Rock Creek watershed, Denali National Park, U.S.A. Stottlemyer, R., [1992, p.291-303, eng] 47-1586

Comment on "The episodic acidification of Adirondack Lakes during snowmelt" by Douglas A. Schaefer et al. Eshleman, K.N., et al. [1992, p.2869-2878, eng] 47-1788

Acid deposition and global change in Sequoia National Park. Tonnessen, K.A., [1992, p.497-507, eng] 47-2735

Nitrate transport in subalpine streams. Coats, R., et al. [1993, p.17-21, eng] 47-2850

Sulfate sources in the Glacier Lakes catchment, Snowy Range, Wyoming, U.S.A. Finley, J.B., et al. [1993, p.185-188, eng] 47-2851

Hydrology and hydrochemistry of Scotia Sea waters. Tokarczyk, R., et al. [1991, p.495-505, eng] 47-3087

Snowmelt-induced stream acidity in a subarctic catchment. Davies, T.D., et al. [1993, p.267-300, eng] 47-4171

Identifying sources of snowmelt acidification with a watershed mixing model. Schaefer, D.A., et al. [1993, p.345-365, eng] 47-4758

Ground-water-quality data collected during 1991, west Nikiski, Alaska. Maurer, M.A., [1993, 64p., eng] 47-4762

Water quality study of Hoseanna Creek basin. Ray, S.R., et al. [1992, 51p., eng] 47-4766

Water quality in the Gold Creek drainage basin. Noll, R.S., [1992, 32p., eng] 47-4767

Analysis of potable water-supply options for Gambell, Alaska. Munter, J.A., et al. [1992, 39p., eng] 47-4768

Evaluation of two springs at Anchor Point, Alaska, for water-supply potential. Munter, J.A., et al. [1992, 27p., eng] 47-4769

Water quality sampling for the Fairbanks airport. Ray, S.R., et al. [1992, 15p., eng] 47-4772

Geothermy at the Mount Spurr volcanic complex. Motyka, R.J., et al. [1993, p.31-40, eng] 47-4776

Groundwater contamination due to road de-icing chemicals —salt balance implications. Howard, K.W.F., et al. [1993, p.1-8, eng] 47-5190

Bog fertilizer removal through surface runoff. Telitsyn, V.L., [1993, p.72-78, eng] 47-5192

Hydrogeology

Mathematic modeling of conductive and convective heat transfer in the taliks of a cryolite zone. Buldovich, S.N., et al. [1991, p.55-64, eng] 47-420

Analysis of ice body formation within the west and central sections of Baikal-Amur main line. Burykina, N.I., [1991, p.83-86, eng] 47-421

Specific hydrogeological conditions of the North-Muya Ridge. Shabinin, L.L., et al. [1991, p.76-80, eng] 47-1674

Hummocks and hummocky landscapes as indicators of the natural conditions of Tien Shan. Tarakanov, A.G., [1991, p.112-118, rus] 47-2042

Role of permafrost and seasonal frost in the hydrology of northern wetlands in North America. Woo, M.K., et al. [1993, p.5-31, eng] 47-2634

Hydrogeology at Romerike. Jörgensen, P., et al. [1992, p.3/1-3/10, eng] 47-2823

Groundwater discharge in Boggy Creek catchment, Manitoba. Stephenson, M., et al. [1992, p.2640-2652, eng] 47-3714

Free meandering in the conditions of a cryolithic zone of the Yamal Peninsula. Savitskii, V.A., [1992, p.27-33, eng] 47-3990

Ground freezing. Bell, F.G., [1992, p.321-333, eng] 47-4890

Hydrography

Hydrometric network evaluation: an assessment of user needs. Wedel, J.H., et al. [1991, 110p., eng] 47-434

Calculating winter runoff from rivers in a cryolithozone. Kravchenko, V.V., et al. [1991, p.41-60, rus] 47-894

Polar Ocean Profiler: new generation sensor platform. May, C.W., et al. [1992, p.73-81, eng] 47-1060

1991 cruise report of ARKTIS VIII/2. Rachor, E., ed. [1992, 150p., eng] 47-1218

Tracing upper waters of the Nansen Basin in the Arctic Ocean. Anderson, L.G., et al. [1992, p.S425-S433, eng] 47-1272

Halocarbon ratio and tritium/He-3 dating of water masses in the Nansen Basin, Arctic Ocean. Wallace, D.W.R., et al. [1992, p.S435-S458, eng] 47-1273

Internal waves and mixing in the Arctic Ocean. D'Asaro, E.A., et al. [1992, p.S459-S484, eng] 47-1274

Distribution of dominant copepods in the Nansen Basin, Arctic Ocean, in summer. Hirche, H.J., et al. [1992, p.S485-S505, eng] 47-1275

Recent distribution of planktonic foraminifera in the Nansen Basin, Arctic Ocean. Carstens, J., et al. [1992, p.S507-S524, eng] 47-1276

Obtaining smooth hydrographic profiles from a buoy deployed in sea ice. Steele, M., et al. [1992, p.812-826, eng] 47-1472

Acoustical measurement of current and vorticity beneath ice. Menemenlis, D., et al. [1992, p.827-849, eng] 47-1473

Polar Ocean Profiler: a new generation of oceanographic and meteorological sensory platform. Morison, J.H., et al. [1991, p.627-632, eng] 47-2180

Detection of Labrador current by radar tracking of ice floe movement. Ikeda, M., et al. [1992, p.223-245, eng] 47-2349

Annual dynamics of naleds in ground water and methods for calculating them. Markov, M.L., [1991, p.103-116, rus] 47-2434

Hydrologic analysis of the Gulkana National Wild River, Alaska. Ellerbroek, D.A., et al. [1989, p.331-340, eng] 47-2579

Winter plankton assemblages at the Weddell and Scotia Seas ice edge. Garrison, D.L., et al. [1993, p.311-338, eng] 47-3628

Hydrographic characteristics of the Strokdammane Plain, west Spitsbergen, Svalbard. Akerman, H.J., [1992, p.169-182, eng] 47-4326

Greenland Sea hydrographic studies. Budéus, G., et al. [1993, p.9985-10,000, eng] 47-4371

Hydrography and vertical fluxes of heat and salt northeast of Svalbard in autumn. Steele, M., et al. [1993, p.10,013-10,024, eng] 47-4373

Water volume transport through Green Bay, Lake Michigan. Miller, G.S., et al. [1993, p.361-367, eng] 47-4564

Ship of opportunity section to the North Pole: upper ocean temperature observations. Quadfasel, D., et al. [1993, p.777-789, eng] 47-4854

Hydroinsulation

See also: Waterproofing

Hydrologic cycle

Seasonal river runoff calculated from a global atmospheric model. Kuhl, S.C., et al. [1992, p.2029-2039, eng] 47-776

Simulation of oxygen isotope variations in atmospheric flow. Fisher, D.A., [1992, p.61-77, eng] 47-804

Isotopic peculiarities of meteoric water in polar regions. Wetzel, K., [1990, p.52-56, eng] 47-874

Recent advances and future implications of remote sensing for hydrologic modeling. Engman, E.T., et al. [1991, p.471-495, eng] 47-1381

Problems of runoff modeling which are particular to the area or climate being modeled. Dawdy, D.R., [1991, p.541-547, eng] 47-1382

Glaciological mapping and global seasonal snow storage. Kotliakov, V.M., et al. [1992, p.123-147, eng] 47-1764

Evaporation and ice growth in Mackenzie Delta lakes. Marsh, P., [1991, p.257-266, eng] 47-1812

Coupled subsurface-boundary layer model of water on Mars. Zent, A.P., et al. [1993, p.3319-3337, eng] 47-2670

Opportunities to improve hydrologic data. Dozier, J., [1992, p.315-331, eng] 47-3645

Mathematical analysis of ice-water isotopic relationships. Burn, C.R., et al. [1993, p.109-112, eng] 47-3786

Vertical structure and size distributions of Martian aerosols from solar occultation measurements. Chassefière, E., et al. [1992, p.46-69, eng] 47-3923

Size distribution of particles in precipitation and river waters in the Baikal Lake region. Anokhin, Iu.A., et al. [1992, p.19-26, eng] 47-3989

Dynamic modeling of the spatial distribution of precipitation in remote mountainous areas. Barros, A.P., et al. [1993, p.1195-1214, eng] 47-4254

Model for the hydrologic and climatic behavior of water on Mars. Clifford, S.M., [1993, p.10,973-11,016, eng] 47-4409

Ice in the northern lowlands and southern highlands of Mars and its enrichment beneath the Elysium lavas. Cave, J.A., [1993, p.11,079-11,097, eng] 47-4411

Late Quaternary continental paleohydrology as related to future environmental change. Starkel, L., [1993, p.95-108, eng] 47-4586

Formation features of the structure and variability of the hydrological processes of the Kara Sea area. Pavlov, V.K., [1993, p.251-265, eng] 47-5035

Hydrology

Parameter uncertainty and simulation of design floods in Sweden. Harlin, J., et al. [1992, p.209-230, eng] 47-174

Polar hydrology—Svalbard. [1992, 49p., eng] 47-1889

Water balance study in Svalbard—inspection of various forms of snow erosion, June 5-10, 1991. Frisvold, H., et al. [1991, 16p., nor] 47-2013

Hydrology of naleds: basic results and research tasks. Sokolov, B.L., [1991, p.24-40, rus] 47-2426

Yamal: problems in geocryology and hydrology. Makhonin, G.I., et al. [1991, p.12-13, rus] 47-2484

Geology and geohydrology at CRREL, Hanover, New Hampshire: relationship to subsurface contamination. Shoop, S.A., et al. [1992, 83p., eng] 47-2568

Hydrology of four headwater basins in the Sierra Nevada. Kattelmann, R., [1989, p.141-147, eng] 47-2577

Hydrologic analysis of the Gulkana National Wild River, Alaska. Ellerbroek, D.A., et al. [1989, p.331-340, eng] 47-2579

Groundwater contributions in an alpine basin in the Sierra Nevada. Kattelmann, R., [1989, p.361-369, eng] 47-2580

Spatial and seasonal patterns of streambed water temperatures in an Alaskan subarctic stream. Irons, J.G., III, et al. [1989, p.381-390, eng] 47-2581

Validation of stream flow temperature model. Mattax, B.L., et al. [1989, p.391-400, eng] 47-2582

Effect of climatic changes on water balance of a lake/ground water system. Crowe, A.S., [1993, p.33-73, eng] 47-2635

Water resources data for Alaska, water year 1991. Lamke, R.D., et al. [1992, 415p., eng] 47-2776

Hydrology and hydrochemistry of Scotia Sea waters. Tokarczyk, R., et al. [1991, p.495-505, eng] 47-3087

Climatic regime of the Arctic at the transition from the 20th to the 21st century. Krutskikh, B.A., ed. [1991, 200p., rus] 47-3334

Water resource modelling using remote sensing and object-oriented simulation. McKim, H.L., et al. [1993, p.153-165, eng] 47-3346

Hydrometeorological conditions characteristic of separated and connected Severnaya Zemlya and Kara Sea ice massifs. Egorov, A.G., [1990, p.35-41, rus] 47-3587

Problem of separating gradation of irregularity in a series of hydrometeorological elements. Brovin, A.I., et al. [1990, p.84-88, rus] 47-3592

Opportunities to improve hydrologic data. Dozier, J., [1992, p.315-331, eng] 47-3645

Methodical plan for compiling hydrometeorological forecasts and results of its use. Ashik, I.M., [1991, p.86-95, rus] 47-3694

Some results of the arctic expedition of the scientific research vessel *Akademik Shokal'skii*. Dunaev, A.L., et al. [1991, p.117-121, rus] 47-3698

Effect of deep Atlantic waters on the ice-hydrological processes in the northern Barents Sea. Lebedev, I.A., [1992, p.145-156, rus] 47-3813

Once more on calculations of maximum spring flood runoff. Vodogretskii, V.E., [1992, p.74-78, eng] 47-3994

GIS modelling of winter orographic precipitation. Hay, L.E., et al. [1993, p.491-499, eng] 47-4460

New South African research programme in the southern ocean. Lucas, M.I., et al. [1993, p.61-67, eng] 47-4723

Seasonal variability of hydraulic conductivity. Asare, S.N., et al. [1993, p.451-457, eng] 47-5146

See also: Glacial hydrology; Permafrost hydrology; Snow hydrology; Surface waters

Hydrometeors

See also: Precipitation (meteorology)

Hydrothermal processes

Volumetric hydrothermal state and regime of Spitsbergen glaciers. Macheret, Iu.IA., et al. [1991, p.40-53, rus] 47-2787

Hydrothermy of slope soils in Transbaikal. Kulikov, A.I., et al. [1991, p.69-76, rus] 47-3280

Hydrothermal processes *(cont.)*

Effect of the water-exchange index on the temperature regime of hydrostation pools. Gotlib, IA.L., et al. [1993, p.462-468, eng] 47-4014

Observations of large-size river water temperature and accuracy of hydrothermal calculations. Korenkov, V.A., et al. [1991, p.95-98, eng] 47-4924

Hygrometers

CR-1 cryogenic hygrometer mounted on a jet aircraft. Busen, R., et al. [1993, p.117-120, eng] 47-3067

Pre-EUCREX in-flight humidity intercomparison. Ström, J., et al. [1993, p.479-483, eng] 47-3078

Diode laser humidity sensor for cold environments. Phase I. Final technical report. Stanton, A.C., et al. [1988, 35p., eng] 47-4861

See also: Moisture meters

Hygroscopic water

Electro-optical parameters of hydrogen-bonded water *molecules.* IUkhnevich, G.V., et al. [1992, p.211-234, eng] 47-924

Hygroscopicity

Effect of sealers on the freeze-thaw resistance of mortar. Litvan, G.G., [1992, p.1141-1147, eng] 47-791

Hypothermia

See also: Cold exposure

Ice

Status of polar ice under international law. Machowski, J., [1992, p.149-175, eng] 47-4561

See also: Amorphous ice; Artificial ice; Bottom ice; Capillary ice; Colored ice; Cubic ice; Dendritic ice; Deuterium oxide ice; Doped ice; Dry ice (trademark); Extraterrestrial ice; Fast ice; Floating ice; Fossil ice; Frazil ice; Glacier ice; Glaciology; Glaze; Ground ice; Grounded ice; High pressure ice; Interstitial ice; Lake ice; Land ice; Naleds; Pack ice; River ice; Salt ice; Sea ice; Snow ice; Spongy ice; Superheated ice; Underwater ice; *Vitreous ice; Young ice*

Ice accretion

Effects of high liquid water content on thunderstorm charging. Saunders, C.P.R., et al. [1992, p.14,671-14,676, eng] 47-252

Topside icing probabilities for naval combatants in the Bering Sea. Thomas, W.L., III, [1992, p.51-63, eng] 47-1018

Simulating marine icing conditions in the refrigerated marine icing wind tunnel. Lozowski, E.P., et al. [1991, 85p. + appends., eng] 47-1370

Ice accretion *on energized line* insulators. Farzaneh, M., et al. [1992, p.618-624, eng] 47-1849

Effect of voltage polarity on icicles grown on line *insulators.* Farzaneh, M., et al. [1992, p.625-631, eng] 47-1850

Numerical simulation model of cable icing using an elliptical ice shape. McComber, P., et al. [1992, p.632-640, eng] 47-1851

Ice sheets and climate. Alley, R.B., [1989, p.41-45, eng] 47-2196

Study on icing of marine structures. Hirasawa, M., et al. [1991, p.271-276, jpn] 47-2499

Alpha Jet surface icing at different flight velocities: the results. Hoffmann, H.E., et al. [1992, 61p., ger] 47-2586

Structure of ice layers on electrical transmission cables with Raman microprobe spectroscopy. Sonwalkar, N., et al. [1992, p.1869-1873, eng] 47-2639

Estimating icing in the design of seagoing ships. Pavliuchenko, IU.N., [1992, p.9-11, rus] 47-2922

Fiber optic probe system. Brossia, C.E., et al. [1989, 20 col., eng] 47-3108

Photoelectric ice accumulation monitor using dual detectors. Rein, R.G., Jr., [1989, 16 col., eng] 47-3328

Rime-ice accretion on fixed stranded conductors. Skelton, P.L.I., et al. [1993, p.45-52, eng] 47-3529

Comments on paper by K.F. Jones. Levi, L., et al. [1993, p.599-609, eng] 47-3646

Microwave ice accretion measuring instruments. Magenheim, B., et al. [1987, 20 col., eng] 47-3854

Icing on a small horizontal-axis wind turbine—part 1: glaze ice profiles. Bose, N., [1992, p.75-85, eng] 47-3921

Icing on a small horizontal-axis wind turbine—part 2: three *dimensional ice and wet snow formations.* Bose, N., [1992, p.87-96, eng] 47-3922

Internal melting and ice accretion at the bottom of temperate glaciers. Lliboutry, L.A., [1993, p.50-64, eng] 47-3940

Basal ice accretion and debris entrainment within the coastal ice margin, Law Dome, Antarctica. Goodwin, I.D., [1993, p.157-166, eng] 47-3949

Numerical simulation model of cable icing in freezing rain conditions. McComber, P., et al. [1992, p.71-80, eng] 47-4035

Overhead line ice accretion due to freezing rain. Poots, G., et al, [1992, p.390-398, eng] 47-4069

Icing of turbine intake louvers. Walsh, M.R., et al. [1993, 37p., eng] 47-4095

Computer model of glaze accretion on wires. Draganoiu, G., et al. [1993, p.89-95, eng] 47-4235

Ice accretion *on energized line insulators.* Farzaneh, M., et al. [1992, p.228-233, eng] 47-4307

Instrument for measuring ice depth in aircraft fuel tanks. [1991, 36p., eng] 47-4404

PIXE analysis as a tool for dating of ice cores from the Greenland ice sheet. Hansson, H.C., et al. [1993, *p.428-434, eng*] 47-4592

Frost formation and heat transfer on circular cylinders in cross flow. Raju, S.P., et al. [1992, p.109-122, eng] 47-4704

Prediction of frost growth on a flat plate. Tao, Y.X., et al. [1992, p.131-139, eng] 47-4705

Ice detectors for aircraft. Horne, T.A., [1993, p.T-11,T-14, eng] 47-5002

Cylinder ice accretion determined by laser-Doppler analysis. Yoon, B., et al. [1993, p.381-397, eng] 47-5208

See also: Ice growth; Icing rate

Ice acoustics

Treatments of incoherent scattering for the parabolic *equation and astral propagation models.* Dozier, L.B., et al. [1991, p.265-281, eng] 47-1075

Acoustic probing of the bottom surface of sea ice. Williams, K.L., et al. [1992, p.2075-2092, eng] 47-1125

Attenuation of acoustic waves in *antarctic ice.* Price, P.B., [1993, p.346-356, eng] 47-3097

Acoustic scattering from elemental arctic ice features: numerical modeling results. Fricke, J.R., [1993, p.1784-1796, eng] 47-3231

Determination of sea ice acoustical properties by tomography. Rajan, S.D., et al. [1993, p.721-738, *eng*] 47-3431

Sea ice flexure noise attenuation during seismic surveys. Ostrander, W.J., [1986, 14 col., eng] 47-4260

Scattering of low frequency sound waves under sea ice. LePage, K., et al, [1992, p.3-16, eng] 47-4714

Matched field tomography results in the Arctic. Diachok, O.I., et al, [1992, p.24-27, eng] 47-4716

Ice edge noise observations from the 1988-89 Greenland Sea tomography experiment. Lynch, J.F., et al. [1992, p.611-619, eng] 47-4719

Source mechanisms for arctic ocean ambient noise. Dyer, I., [1993, p.537-551, eng] 47-4835

Arctic pack ice thermal stress related to under-ice noise. Lewis, J.K., et al, [1993, p.573-590, eng] 47-4838

Sea ice constitutive behavior and under-ice noise. Pritchard, R.S., [1993, p.591-610, eng] 47-4839

Wave induced noise generation in the marginal ice zone. Rottier, P., [1993, p.611-624, eng] 47-4840

Predictions and measurements of the directivity of a *monopole source in a floating ice plate.* Stein, P.J., [1993, p.625-639, eng] 47-4841

Acoustic radiation beneath the arctic ice cover. Xie, Y.B., et al, [1993, p.641-647, eng] 47-4842

Development of a portable ice-measuring instrument. *Doundoulakis, G.J., [1991, 31p. + appends., eng]* 47-4884

Ice adhesion

Ice-pavement bond prevention: fundamental study. Penn, L.S., et al, [1992, 102p., eng] 47-881

Continued study of the frictional and cohesive-like behaviour of floating model ice rubble. Case, P.C., [1991, 24p. + appends., eng] 47-1364

Model-scale study of the frictional and cohesive properties of floating ice rubble. Case, P.C., [1991, 113p., eng] 47-2118

Adhesion of ice to coatings and the performance of ice release coatings. Croutch, V.K., et al, [1992, p.41-53, eng] 47-2201

Use of silicone masses to prevent the formation of ice on substrates. Achtenberg, T., et al, [1988, 8 col., eng] 47-3494

Field and laboratory tests on adfreeze strength of ground to model concrete piles. Suzuki, T., et al, [1993, p.103-109, eng] 47-4128

Ice age

See also: Pleistocene

Ice age theory

Wisconsinan ice-sheet initiation. Peteet, D.M., et al, [1992, p.53-69, eng] 47-2683

Working hypotheses for glaciation/deglaciation *mechanisms.* Oeschger, H., [1992, p.273-289, eng] 47-2840

Insolation regime of the warm to cold transitions. Kukla, G.J., et al, [1992, p.307-339, eng] 47-2842

On the world's ice ages and changing environments. Eronen, M., et al, [1990, 72p., eng] 47-3701

Faint young sun paradox: climate model with sea-ice. Molnar, G.I., et al, [1991, p.135-138, eng] 47-4482

Oceanic boundary layer in the tropics during the last ice age. Betts, A.K., et al, [1991, p.480-483, eng] 47-4494

Astronomical theory of ice ages. Lin, R.Q., et al, [1991, *p.495-496, eng*] 47-4496

Modeling large climatic changes of the past. Kutzbach, J.E., [1992, p.669-688, eng] 47-4502

Snow line plunge and the Ice Age. Kuhle, M., [1988, p.15-18, eng] 47-4645

Ice air interface

Evolution of stratiform cirrus simulated in a lifting layer. *Zhang, Y., et al, [1992, p.23-33, eng]* 47-6

Calculation of hydrometeor growth via water vapor diffusion. Srivastava, R.C., et al, [1992, p.1643-1651, eng] 47-7

Behaviour of New Zealand glaciers and atmospheric circulation changes over the past 130 years. Fitzharris, B.B., et al, [1992, p.97-106, eng] 47-54

Momentum and heat fluxes over open water, sea ice and snow cover on an arctic lagoon. Shirasawa, K., et al, [1992, p.75-80, eng] 47-119

Case studies of the atmospheric boundary layer structure *over sea ice for weakly unstable conditions.* Myrhaug, D., [1992, p.93-99, eng] 47-266

Major cloud plumes in the Arctic and their relation to fronts and ice movement. Fett, R.W., [1992, p.925-945, eng] 47-591

Seasonal heat balance of the *Franz Josef Glacier,* New Zealand. Ishikawa, N., et al, [1992, p.397-410, eng] 47-793

Air-ice drag coefficient in the Weddell Sea deduced from profile measurements. Andreas, E.L., et al, [1992, *p.J5/109-J5/112, eng*] 47-868

Satellite observation of katabatic-wind propagation for great distances across the Ross Ice Shelf. Bromwich, D.H., et al, [1992, p.1940-1949, eng] 47-876

Cold air outbreak near Spitsbergen in springtime—boundary-layer modification and cloud development. Brümmer, B., et al, [1992, p.13-46, eng] 47-900

Climate and glacier change: the dilemma of the representative station. Marcus, M.G., et al, [1992, p.1-14, eng] 47-1002

Summer energy balance on West Gulkana Glacier, Alaska, and linkages to a temporal synoptic index. Brazel, A.J., *et al, [1992, p.15-34, eng]* 47-1003

Computational modeling of antarctic lake ice. Lindner, B.L., et al, [1992, p.105-116, eng] 47-1022

Proceedings. [1992, 239p., eng] 47-1076

Some glacio-micrometeorological features on the north side of Mount Qogir (K2), Karakoram mountains. Ding, Y.J., [1992, p.67-72, eng] 47-1088

Influence of humidity on the ablation of continental-type glaciers. Ohno, H., et al, [1992, p.107-114, eng] 47-1094

Evaluation of scale-dependent effects of atmosphere-glacier interactions on heat supply to glaciers. Ohata, T., [1992, *p.115-122, eng*] 47-1095

Effect of arctic ice cover on the monthly temperature and precipitation in China. Chen, Y.S., et al, [1992, p.275-286, eng] 47-1124

Variations of sea ice area and thickness in the southern *ocean due to climate warming.* Balkova, I.M., [1991, p.41-45, eng] 47-1179

Turbulent structure of wind flow over ice-covered sea surface. Naito, G., et al, [1992, p.283-294, eng] 47-1192

Galloping instability of ice coated poles. Durgin, F.H., et al, [1992, p.675-686, eng] 47-1193

Air temperature at the surface of Qilian glaciers. Liu, C.H., [1992, p.34-39, chi] 47-1536

Characteristics of the recent climatic variations over the Qilian Mountain area. Kang, X.C., [1992, p.45-53, chi] 47-1538

Synoptic *scale ice-atmosphere interaction off the east coast* of Canada. Nazarenko, D.M., [1990, 158p., eng] 47-2105

Arctic automatic weather station field data 1990-91. Alt, B.T., et al, [1992, 54p. + appends., eng] 47-2339

Air ice drag coefficients during high wind over the Beaufort Sea. Walter, B.A., et al, [1992, p.48-49, eng] 47-2377

Study of the factors controlling the value of the surface temperature of sea ice. Guest, P.S., et al, [1992, p.54-57, eng] 47-2379

Spatial structure of the surface temperature field of arctic pack ice determined with AVHRR. Lindsay, R., et al, [1992, p.76-79, eng] 47-2385

Modeling the interactions of sea ice and climate in the central Arctic. Moritz, R.E., et al, [1992, p.105-108, eng] 47-2393

Interactive atmospheric surface-layer modifications for a large-scale sea-ice model. Stössel, A., et al, [1992, p.109-110, eng] 47-2394

Katabatic wind dynamics at Terra Nova Bay, Antarctica from the satellite image perspective. Bromwich, D.H., *et al, [1992, p.J125-J128, eng]* 47-2417

Katabatic winds at the edge of the Greenland ice sheet. Van den Broeke, M.R., et al, [1992, p.J133-J136, eng] 47-2419

Numerical simulation of katabatic winds crossing the Siple Coast area of West Antarctica. Bromwich, D.H., et al, [1992, p.J137-J140, eng] 47-2420

Convection heat transfer to melting ice. Jakubowski, G.S., et al, [1991, p.41-48, eng] 47-2767

Relation between arctic sea ice extent and ozone levels. Marko, J.R., et al, [1993, p.37-40, eng] 47-2843

Propagation of coastal-trapped waves under an ice cover in *Hudson Bay.* Reynaud, T., et al, [1992, p.593-620, eng] 47-2580

Antarctic atmospheric conditions and sea ice interannual variations. Enomoto, H., et al, [1992, p.132-142, eng] 47-3013

Response of large ice sheets to *climatic change.* Drewry, D.J., et al, [1992, p.235-242, eng] 47-3143

Rime-ice accretion on fixed stranded conductors. Skelton, P.L.I., et al, [1993, p.45-52, eng] 47-3529

Mass balance simulation of the antarctic ice sheet. Fortuin, J.P.F., et al, [1990, p.31-56, eng] 47-3572

Analysis of strong wind events simulated in a GCM near Casey in the Antarctic. Murphy, B.F., et al. (1993, p.522-534, eng) 47-3677

Icing on a small horizontal-axis wind turbine—part 1: glaze ice profiles. Bose, N., (1992, p.75-85, eng) 47-3921

Icing on a small horizontal-axis wind turbine—part 2: three dimensional ice and wet snow formations. Bose, N., (1992, p.87-96, eng) 47-3922

Spacing of icicles. Makkonen, L., et al. (1993, p.317-322, eng) 47-3934

Statistics of firn closure: a simulation study. Enting, I.G., (1993, p.133-142, eng) 47-3947

Strongly *temperature dependent microphysical processes* and the atmosphere. Stewart, R.E., et al. (1992, p.309-315, eng) 47-3996

Overhead line ice accretion due to freezing rain. Poots, G., et al. (1992, p.390-398, eng) 47-4069

Relative dispersion of ice crystals in seeded *cumuli*. Weil, J.C., et al. (1993, p.1055-1073, eng) 47-4080

Roughness parameters and air drag over MIZ sea ice. Burns, B.A., et al. (1988, p.75-78, eng) 47-4186

Numerical simulation of antarctic drainage flows. Parish, T.R., et al. (1988, p.97-99, eng) 47-4192

East Siberian Arctic Region Expedition '92: the Laptev Sea—its significance for arctic sea-ice formation and transpolar sediment flux. Dethleff, D., et al. (1993, p.3-44, eng) 47-4220

Ice accretion on energized line insulators. Farzaneh, M., et al. (1992, p.228-233, eng) 47-4307

Climatology of the East Antarctic ice sheet (100E to 140E) derived from automatic weather stations. Allison, I., et al. (1993, p.8815-8823, eng) 47-4380

Climatic effects on glacier thermodynamics. Blatter, H., (1991, 98p., eng) 47-4461

Changes of alpine climate and glacier water resources. Chen, J.Y., (1991, 196p., eng) 47-4462

Land ice and climate. Van der Veen, C.J., (1992, p.437-450, eng) 47-4500

Roughness of Weddell Sea ice and estimates of the air-ice *drag coefficient*. Andreas, E.L., et al. (1993, p.12,439-12,452, eng) 47-4521

Frost formation and heat transfer on circular cylinders in cross flow. Raju, S.P., et al. (1992, p.109-122, eng) 47-4704

Prediction of frost growth on a flat plate. Tao, Y.X., et al. (1992, p.131-139, eng) 47-4705

Mass transfer measurements of graupel growth. Cober, S.G., et al. (1993, p.1591-1609, eng) 47-4852

Recent advances in research on freezing and melting heat-transfer *phenomena*. Fukusako, S., et al. (1991, p.1157-1170, eng) 47-5109

On the accuracy of cometary nuclei simulation experiments. Klinger, J., et al. (1989, p.493-497, eng) 47-5125

Model for thermally-induced stresses in multi-year sea ice. Lewis, J.K., (1993, p.337-348, eng) 47-5205

First annual West Antarctic ice sheet (WAIS) science workshop. Bindschadler, R.A., ed. (1993, 58p., eng) 47-5245

Ice bearing capacity

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Ice booms

Characteristic of the ice boom for control of the ice floes movement. Enoki, K., et al. (1992, p.111-115, jpn) 47-126

Characteristic of new type ice boom and environmental force. Enoki, K., et al. (1992, p.116-120, jpn) 47-127

Effects of severe freezing periods and discharge on the formation of ice jams. Zufelt, J.E., et al. (1992, 12p., eng) 47-698

Salmon River experimental ice boom: 1989-90 and 1990-91 winter seasons. White, K.D., (1992, 17p., eng) 47-702

On the 1990-1991 operation of the Lake Erie-Niagara River ice boom. (1991, 32p. + figs., eng) 47-4667

Ice bottom surface

On the melt rate of drifting ice heated from below. Omstedt, A., et al. (1992, p.91-100, eng) 47-806

Contour mapping of Arctic basin ice draft and roughness parameters. Bourke, R.H., et al. (1992, p.17,715-17,728, eng) 47-1061

Treatments of incoherent scattering for the parabolic equation and astral propagation models. Dozier, L.B., et al. (1991, p.265-281, eng) 47-1075

Acoustic probing of the bottom surface of sea ice. Williams, K.L., et al. (1992, p.2075-2092, eng) 47-1125

In situ patterns of intracellular photosynthate allocation by sea ice algae in the Canadian High Arctic. Smith, R.E.H., et al. (1992, p.545-551, eng) 47-1789

Accuracy of submarine ice draft measurements. Tucker, W.B., et al. (1992, p.B22-B24, eng) 47-3245

Upward looking sonar ice draft series from the Greenland Sea. Kvambekk, A.S., et al. (1992, p.B25-B28, eng) 47-3246

Sampling the temporal variability of sea ice draft distribution. Moritz, R.E., (1992, p.B29-B38, eng) 47-3247

Very-low-frequency under-ice reflectivity. Wolf, J.W., et al. (1993, p.1329-1334, eng) 47-3432

Green iceberg formation on antarctic ice shelf bases. Warren, S.G., et al. (1993, p.6921-6928, eng) 47-4138

Static analysis of floating ice block stability. Coutermarsh, B.A., et al. (1993, p.147-160, eng) 47-4172

Roughness of Weddell Sea ice and estimates of the air-ice drag coefficient. Andreas, E.L., et al. (1993, p.12,439-12,452, eng) 47-4521

Topography of the upper and lower surfaces of 10 hectares of deformed sea ice. Melling, H., et al. (1993, p.349-369, eng) 47-5206

Ice breaking

Experimental and theoretical investigation of the icebreaking cycle in two dimensions. Valanto, P.U., (1990, 129p., eng) 47-89

Whales save USCG icebreaker. (1989, p.40-41, eng) 47-105

Ice edge contact and failure. Daley, C., (1992, p.1-23, eng) 47-800

Two-dimensional extrusion of crushed ice. Part 1: experimental. Sayed, M., et al. (1992, p.25-36, eng) 47-801

Two-dimensional extrusion of crushed ice. Part 2: analysis. Savage, S.B., et al. (1992, p.37-47, eng) 47-802

Electromagnetic emission (EME) from ice crack formation: preliminary observations. Thiel, D.V., (1992, p.49-60, eng) 47-803

Use of stress waves in removing ice from concrete. Bruss, P.T., (1992, 9p., eng) 47-951

Development of a component-based scaling system for ship-ice model tests. Colbourne, D.B., et al. (1992, p.77-87, eng) 47-1146

Proposed standard method for conduct and analysis of ice resistance model tests. Spencer, D.S., et al. (1992, 10p., eng) 47-1341

Some exploratory tests on circular and sidewall air cushion icebreaker bows. Hinchey, M.J., et al. (1990, 60p., eng) 47-1347

Surface flaw density from three-point bend tests on ice beams. Lal, M., (1991, 91p., eng) 47-1369

Clearing of ice fragments in continuous-mode icebreaking. Hsiung, C.C., et al. (1991, 102p., eng) 47-1371

1:8 R-class model ice tests: resistance and captive *experiments*. Carroll, W.J., (1990, 11p. + appends., eng) 47-1372

Numerical modeling of an advanced pneumatic impulse ice protection system for aircraft. Ramamurthy, S., et al. (1992, p.1057-1063, eng) 47-1564

Influence of beam size on the flexural strength of sea ice, freshwater ice and iceberg ice. Parsons, B.L., et al. (1992, p.1017-1036, eng) 47-1626

Icebreaking trials with the polar research vessel *Polarstern*. Schwarz, J., (1985, p.131-133, eng) 47-2913

Oscillations of an ice sheet under a periodically varying load. Kozin, V.M., et al. (1993, p.746-750, eng) 47-3169

Mobile marine operations structure. Bhalaik, A., et al. (1989, 38 col., eng) 47-3323

Icebreaking defense buoy. Coleman, R.K., (1988, 4 col., eng) 47-3639

Fracture analysis of penetration through floating sea ice plate and size effect. Bažant, Z.P., et al. (1993, p.131-144, eng) 47-3748

Response of a floating ice sheet to rapid edge loading. Fox, C., (1993, p.145-150, eng) 47-3749

Indentation and splitting of freshwater ice floes. Sodhi, D.S., et al. (1993, p.165-175, eng) 47-3751

Canadian experience with air cushion vehicle skirts. Sullivan, P.A., et al. (1993, p.23-34, eng) 47-3797

Floating drilling platform. Mäkinen, E., et al. (1988, 4 col., eng) 47-3846

Improvements to expulsive separation ice protection blankets. Goldberg, J., et al. (1992, p.213-218, eng) 47-4050

Investigation of the icebreaking pattern at the bow of the *IB Kapitan Sorokin on the Yenisei River estuary in May* 1991. Valanto, P.U., (1993, p.127-134, eng) 47-4240

Mobile marine operations structure. Bhalaik, A., et al. (1988, 30 col., eng) 47-4261

Model study of cable-moored conical platform. Nixon, W.A., et al. (1993, p.12-31, eng) 47-4284

Contact force and damage evolution in a moving uniaxial *ice bar*. Shin, J.G., et al. (1992, p.129-134, eng) 47-4287

Stresses and forces under ice compacting. Nikitin, V.A., et al. (1993, p.139-142, eng) 47-4299

Ice forces in dynamic ice structure interaction. Eranti, E., (1992, p.204-211, eng) 47-4304

Effect of confining stress on brittle indentation failure of columnar ice. Grape, J.A., et al. (1992, p.212-221, eng) 47-4305

Deep ice penetrator/instrumented test results. Rychnovsky, R.E., (1988, 25p., eng) 47-4641

Ice penetration tests of a water/ice penetrator. Rychnovsky, R.E., (1987, 50p., eng) 47-4642

Learning behavior of sea ice. Denner, W.W., (1993, p.527-536, eng) 47-4834

Source mechanisms for arctic ocean ambient noise. Dyer, I., (1993, p.537-551, eng) 47-4835

Vertical directivity measurements of ice cracking Greening, M.V., et al. (1993, p.553-562, eng) 47-4836

Predictions and measurements of the directivity of a monopole source in a floating ice plate. Stein, P.J., (1993, p.625-639, eng) 47-4841

Acoustic radiation beneath the arctic ice cover. Xie, Y.B., et al. (1993, p.641-647, eng) 47-4842

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Ice breakup

Ice jam flood forecasting: Hay River, N.W.T. Stanley, S.J., et al. (1992, p.212-223, eng) 47-200

Hydrometeorological analysis of ice breakup on the Nashwaak River, New Brunswick. Hebabi, S., et al. (1992, p.349-354, fre) 47-201

Statistical model for *prediction of ice breakup in river* Torneälven. Forsius, J., et al. (1988, p.195-204, eng) 47-732

On computer simulation of motion of broken ice. Vinogradov, O., (1992, p.15-24, eng) 47-1015

Large amplitude sea/ice coupling. Fox, C., (1992, p.293-304, eng) 47-1036

Freeze-up and break-up of ice cover on the Shengli Reservoir, Heilongjiang Province. Xie, Y.G., (1992, p.168-173, chi) 47-1654

Near breakup of the surface-flooded ice wharf at McMurdo Station, Antarctica. Barthelemy, J.L., (1992, p.592-599, eng) 47-1846

River surge propagation modeling. Hicks, F.E., et al. (1992, p.454-462, eng) 47-3308

Breakup of shore fast sea ice. Squire, V.A., (1993, p.211-218, eng) 47-3925

Probablistic computation of maximum ice-dam water levels. Buzin, V.A., (1992, p.56-62, eng) 47-4025

Development of a field technique for measuring fresh water ice density. Mulherin, N.D., et al. (1992, p.203-212, eng) 47-4049

Suspended sediment concentration during river ice break-up. Prowse, T.D., (1992, p.263-267, eng) 47-4057

Semi-discrete element approach to the river ice breakup and jamming process. Guo, Q.Z., et al. (1993, p.65-69, eng) 47-4450

Snow and floating ice. Gray, D.M., et al. (1993, p.7/1-7/58, eng) 47-4637

Numerical and experimental investigation of river ice cover cracking. Abdel-Zaher, A.K., (1992, 201p., eng) 47-4887

Kinematic model of river ice motion *during dynamic* breakup. Ferrick, M.G., et al. (1993, p.111-134, eng) 47-4907

Ice bridges

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Ice caves

Naleds in the Kungur cave. Dorofeev, E.P., (1991, p.181-188, rus) 47-2446

Origin of ground ice in arctic caves. Lauriol, B., et al. (1993, p.77-85, eng) 47-3119

Frost action of rock faces within a glacier of the Juran Neuchâtel. Pancza, A., (1992, p.49-54, fre) 47-3126

Seismic properties of artificial polar bear dens. Blix, A.S., et al. (1992, p.20-24, eng) 47-3350

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Ice composition

Study of methanesulfonic acid in ice cores. Whung, P.Y., (1991, 173p., eng) 47-46

Mineralization of natural waters on Spitsbergen. Gokhman, V.V., (1991, p.147-155, rus) 47-333

Distribution of chemical elements in the glacier cores obtained at Nordaustlandet. Punning, IU.-M.K., et al. (1991, p.170-176, rus) 47-338

Measurement on the dielectric properties of acid-doped ice at 9.7 GHz. Fujita, S., et al. (1992, p.799-803, eng) 47-359

Big savings at the ice margin. Knight, P., et al. (1992, p.22-26, eng) 47-445

Salinity profiles of antarctic sea ice: field data and model results. Eicken, H., (1992, p.15,545-15,557, eng) 47-514

Environmental information from ice cores. Delmas, R.J., (1992, p.1-21, eng) 47-787

Stable isotope distribution in the Cazadora Glacier. Eraso, A., et al. (1989, p.50-60, spa) 47-812

Vertical distribution of some oligo-elements in the Cazadora Glacier near the Juan Carlos I Station. Eraso, A., et al. (1989, p.61-70, spa) 47-813

Mineralogic and microsonde analysis of *volcanic ash in the* vicinity of Juan Carlos I Station. Eraso, A., et al. (1989, p.80-88, spa) 47-815

Changes in tropospheric methane, 1841-1978, from ice core. Etheridge, D.M., et al. (1992, p.282-294, eng) 47-832

Ratio of MSA to non-sea-salt sulphate in Antarctic Peninsula ice cores. Mulvaney, R., et al. (1992, p.295-303, eng) 47-833

1000 years of explosive volcanism recorded at the South Pole. Delmas, R.J., et al. (1992, p.335-350, eng) 47-834

Ice composition *(cont.)*

Pattern of ocean-atmosphere exchange in a Weddell Sea ice core. Peel, D.A., et al. [1992, p.430-442, eng] **47-837**

Sublimation and reformation of icy grains in the primitive solar nebula. Lunine, J.I., et al. [1991, p.333-344, eng] **47-990**

Brine volcanism and the interior structures of asteroids and icy satellites. Kargel, J.S., [1991, p.368-390, eng] **47-991**

Black carbon concentration in a Greenland Dye-3 ice core. Chýlek, P., *et al.* [1992, *p.1951-1953, eng*] **47-1181**

Diatom assemblages in arctic sea ice—indicator for ice drift pathways. Abelmann, A., [1992, p.S525-S538, eng] **47-1277**

Temperature evolution and vapour pressure build-up in porous ices. Kömle, N.I., et al. [1992, p.1311-1323, eng] **47-1468**

Cosmogenic nuclides in ice sheets. Lal, D., et al. [1992, p.227-233, eng] **47-1478**

Supernova shock ensemble model using Vostok Be-10 radioactivity. Sonett, C.P., [1992, p.239-245, eng] **47-1480**

Recent results from drill cores on Jostedalsbreen. Gjessing, Y., [1988, 18p., nor] **47-1690**

In situ patterns of intracellular photosynthate allocation by sea ice algae in the Canadian High Arctic. Smith, R.E.H., et al. [1992, p.545-551, eng] **47-1789**

Dynamics of ice algae and phytoplankton in Frobisher Bay. Hsiao, S.I.C., [1992, p.645-651, eng] **47-1790**

Marine ice transfer along the bottom of a small ice shelf. Souchez, R., et al. [1991, p.503-506, eng] **47-1793**

Southern Lake Michigan coastal ice and sediment sample *data: shoreface and ice profiles (winter 1990/91).* McCormick, M., et al. [1991, 32p., eng] **47-1916**

Experimental study of the influence of mixing silt on ice creep. Li, G., et al. [1992, *p.1827-1830, eng*] **47-1952**

Occurrence of heavy metals in antarctic and Greenland ancient ice and recent snow. Boutron, C.F., et al. [1990, p.137-151, eng] **47-2071**

Spot tests for the detection of nitrate and sulfate particles in ice crystals. Oraltay, R.G., et al. [1992, p.395-398, eng] **47-2279**

Atmospheric CO2 and global warming: a critical review. Jaworowski, Z., et al. [1992, 76p., eng] **47-2289**

Laboratory observational and theoretical studies of *interstellar ices. Tielens, A.G.G.M., et al.* [*1991, p.29-58, eng*] **47-2311**

Energy density of water and ice nucleation. [Response]. Lahav, M., et al. [*1993, p.1469-1470, eng*] **47-2319**

Origin of green icebergs in Antarctica. Kipfstuhl, J., et al. [1992, p.20,319-20,324, eng] **47-2343**

Geochemical processes during naled formation. Ivanov, A.V., [1991, p.45-54, rus] **47-2428**

Naleds in the Kungur cave. Dorofeev, E.P., [1991, p.181-188, rus] **47-2446**

MSA and non-seasalt sulfate in the Vostok ice core. Saltzman, E.S., *et al.* [*1991, p.88-89, eng*] **47-2473**

Beach profile modification and sediment transport by ice: an overlooked process on Lake Michigan. Barnes, P.W., et al. [1993, p.65-86, eng] **47-2633**

Isotopic pleiad of oxygen in atmospheric precipitation in the polar regions. Nikolaev, V.I., et al. [1991, p.109-112, rus] **47-2796**

Last deglaciation event in Antarctica. Jouzel, J., et al. [1993, p.229-266, eng] **47-2866**

Total organic carbon and polar organic compounds in ice core from Greenland. Kawamura, K., et al. [1992, p.99-105, eng] **47-3010**

Measurement of helium isotopes in Vostok ice core. Jean-Baptiste, P., et al. [1993, p.491-497, fre] **47-3041**

Nitrate signal of solar flares in polar snow and ice. Dreschhoff, G.A.M., et al. [1992, 23p., eng] **47-3631**

Influence of sea ice particulate matter on ocean irradiance. Fritsen, C.H., et al. [1992, p.527-541, eng] **47-3736**

Mathematical analysis of ice-water isotopic relationships. Burn, C.R., et al. [1993, p.109-112, eng] **47-3786**

Cold answers to hot issues. Peel, D.A., [1993, p.403-404, *eng*] **47-3855**

Statistics of firn closure: a simulation study. Enting, I.G., [1993, p.133-142, eng] **47-3947**

Basal ice accretion and debris entrainment within the coastal ice margin, Law Dome, Antarctica. Goodwin, I.D., [1993, p.157-166, eng] **47-3949**

Particulate matter in pack ice of the Beaufort Gyre. Reimnitz, E., et al. [1993, p.186-198, eng] **47-3951**

Ice mill for chemical analysis of trace gases in ice bubbles. Fuchs, A., et al. [1993, p.199-203, eng] **47-3952**

Evolution of a porous H2O-CO2-ice sample in response to *irradiation.* Steiner, G., et al. [1993, p.9065-9073, eng] **47-4508**

Radar absorption due to impurities in antarctic ice. Corr, H., et al. [1993, *p.1071-1074, eng*] **47-4562**

Model comet made from mineral dust and H2O-CO2 ice: sample preparation development. Roessler, K., et al. [1990, p.379-388, eng] **47-4567**

Crustal evolution and dust emission of artificial cometary nuclei. Thiel, K., et al. [1990, p.389-399, eng] **47-4568**

Winter ecology of the sea ice biota in Weddell Sea pack ice. Garrison, D.L., et al. [1993, p.17-31, eng] **47-4575**

Isotopic analysis of carbon dioxide from air trapped in polar ice. Lang, S.J., [1991, 148p., eng] **47-4604**

Oxygen isotope composition of ground ice (application to palæogeocryological reconstruction). Vasil'chuk, IU.K., [1992, 2 vols. (684p.) + 2 foldouts, rus] **47-4656**

Greenland Ice Sheet Project Two. GISP2 internal data report 1991. [1991, Var. p., eng] **47-4669**

Discovery of a new sea ice diatom genus. Poulin, M., [1993, p.223-233, eng] **47-4735**

Sediment export by ice rafting from a coastal polynya, arctic Alaska, U.S.A. Reimnitz, E., et al. [1993, p.83-98, *eng*] **47-4741**

Cadmium concentration changes in antarctic ice and snow. Boutron, C.F., et al. [1993, p.431-441, eng] **47-4833**

Electron diffraction of molecules on vitreous and hexagonal ice. Majewski, J., et al. [1993, p.899-902, eng] **47-4880**

Hydrology and hydrochemistry of natural waters of East Antarctica. Shmideberg, N.A., [1992, p.65-76, rus] **47-4923**

Phase composition of Triton's polar caps. Duxbury, N.S., et al. [1993, p.748-751, eng] **47-5130**

Phase composition and temperature of nitrogen ice on Triton. Tryka, K.A., et al. [1993, p.751-754, eng] **47-5131**

Source of volcanic ash in a Greenland ice core. Fiacco, R.J., Jr., et al. [1993, p.267-273, eng] **47-5141**

Ice conditions

Bothnian Experiment in Preparation for ERS-1, 1988 (BEPERS-88)—an overview. Askne, J., et al. [1992, p.2377-2398, eng] **47-254**

River ice forecasting. Bengtsson, L., [1988, p.113-137, eng] **47-725**

Ice forecasting model helps operators extend arctic exploration periods. [1992, p.34, eng] **47-921**

Estimating changes in dates for the initial phases of icing *in relation to climatic changes.* Shanochkin, S.V., [1991, p.69-74, rus] **47-1051**

Basic characteristics of river ice in the Urumqi River Basin. Zhang, Z.Z., [1992, *p.267-270, chi*] **47-1667**

Circumarctic map of permafrost and ground ice conditions. Brown, J., [1992, p.15-21, eng] **47-1701**

River and lake ice conditions as interpreted from microwave imagery. Melloh, R.A., et al. [1992, p.381-395, eng] **47-1914**

Designing for ice conditions in marinas. Wortley, C.A., [1992, p.48-50, eng] **47-1921**

Effects of Alta's development on ice conditions. Asvall, R.P., [1992, p.469-478, nor] **47-1973**

Sea level variations during ice-covered periods in the Baltic Sea. Omstedt, A., et al. [1991, *p.41-61, eng*] **47-1992**

Sea-ice properties off Labrador and Newfoundland during *LIMEX '89.* Prinsenberg, S.J., et al. [1992, p.207-222, eng] **47-2348**

Mathematical approach to the segmentation of sea-ice SAR images. Korsnes, R., [1993, p.313-332, eng] **47-2753**

Hydrography under fast ice in Lützow-Holm Bay. Takizawa, T., et al. [1992, p.106-125, eng] **47-3011**

Analysis of sea ice compactness by image processing. Muramoto, K., et al. [1992, p.126-131, eng] **47-3012**

Climatic regime of the Arctic at the transition from the 20th to the 21st century. Krutskikh, B.A., ed. [1991, *200p., rus*] **47-3334**

Barents Sea ice conditions as observed by passive microwave and other techniques. Lövas, S.M., et al. [1991, p.101-115, eng] **47-3379**

MOS-1 multi-sensor data set and sea ice study. Nishio, F., et al. [1991, p.277-287, eng] **47-3391**

Discrimination of open water and sea ice from SAR image. Similä, M., [1991, p.89-106, eng] **47-3401**

Polynomial analysis of AVHRR images for arctic leads. Eppler, D.T., et al. [1991, p.161-189, eng] **47-3406**

Hydrometeorological and ice conditions in the arctic seas *of the USSR during* 1990-1991. *Siniurin, IU.N.*, [1992, p.93-96, eng] **47-3459**

Problem of separating gradation of irregularity in a series *of hydrometeorological elements. Brovin, A.I., et al.* [1990, p.84-88, rus] **47-3592**

Possibility of forecasting the conditions of ice edges in the Greenland Sea up to 30 days in advance. Kuznetsov, I.M., [1990, p.89-93, rus] **47-3593**

Studying the possibility of a long range forecast of summer ice conditions in the southwestern Kara Sea. Tiuriakov, A.B., [1990, p.105-111, rus] **47-3596**

Movement of icebreakers in complicated ice conditions. Rubanov, A.N., [1991, p.153-156, rus] **47-3966**

Short-period changes in sea ice and atmospheric conditions. Maslanik, J.A., et al. [1988, p.28-31, eng] **47-4178**

North Atlantic sea ice sensitivities of monthly dynamical *forecasts.* Walsh, J.E., *et al.* [1988, p.32-35, eng] **47-4179**

Synoptic ice melt from Nimbus-7 SMMR. Crane, R.G., et al. [1988, p.36-39, eng] **47-4180**

Summer cryospheric and atmospheric variability in the Arctic Basin. Robinson, D.A., et al. [1988, p.44-47, eng] **47-4182**

Long-range forecasts of arctic sea level pressure Ross, B., et al. [1988, p.48-51, eng] **47-4183**

Arctic ice conditions and the 500 mb component *Englebretson, R.E.*, [1988, *p.79-82, eng*] **47-4187**

Dynamics of ice cover interacting with ocean and atmosphere. Kheisin, D.E., [1993, p.51-55, eng] **47-4300**

Arctic Ocean ice balance: a Kalman smoother estimate Thomas, D.R., et al. [1993, p.10,053-10,067, eng] **47-4376**

Validation of ERS-1 SAR measurements of sea ice during ARCTIC-91. Askne, J., et al. [1993, p.289-294, eng] **47-4427**

Finnish ERS-1 Baltic Sea ice experiment in winter 1992. *Lepparanta, M., et al.* [*1993, p.307-312, eng*] **47-4430**

Experiences from the Swedish sea ice programme during BEERS-92. Thompson, T., et al. [1993, p.313-318, eng] **47-4431**

Greenland Sea observations. Gudmandsen, P., et al. [1993, p.319-323, eng] **47-4432**

Air-sea-ice interactions in the Weddell Sea. Viehoff, T., et al. [1993, p.325-327, eng] **47-4433**

Arctic sea ice microwave signature and geophysical processes study. Onstott, R.G., et al. [1993, p.329-332, eng] **47-4434**

Summer arctic ice concentrations and characteristics from SAR and SSM/I data. Comiso, J.C., et al. [1993, p.367-372, eng] **47-4441**

Impact of ERS-1 wind/wave/ice data on operational ocean forecasting. Guddal, J., [1993, p.695-699, eng] **47-4448**

Atmospheric circulation and sea-ice cover off northeast Canada. Wang, J., et al. [1991, p.358-361, eng] **47-4490**

Report of the International Ice Patrol in the North Atlantic, 1992 season. [1992, 45p., eng] **47-4603**

Icing problems at Corps projects. Haynes, F.D., et al. [1993, 18p. + figs., eng] **47-4608**

Comparison of conventional and passive microwave sea ice *data sets for Hudson Bay.* Etkin, D.A., [1991, 132p., eng] **47-4668**

Sea ice constitutive behavior and under-ice noise. Pritchard, R.S., [*1993, p.591-610, eng*] **47-4839**

Sea ice off the Icelandic coasts—October 1990-September 1991. [1992, 39p., ice] **47-4909**

Ice conditions offshore West Greenland. Thomsen, H.H., [1993, p.43-47, eng] **47-4916**

Manual for planning and implementing road surface condition studies in wintertime—vol.1 and 2. Gabestad, K.O., [1988, 2 vols., nor] **47-4991**

See also: Sea ice distribution

Ice (construction material)

Using ice and ice phenomena in the national economy: geophysical aspect. Faiko, L.I., [1986, 155p., rus] **47-94**

Laboratory test on construction of ice domes and their load-carrying capacity. Hannuki, T., et al. [1992, p.203-226, jpn] **47-975**

Landing and parking a C5 Galaxy on sea ice: McMurdo Station, Antarctica. Barthelemy, J.L., [1992, p.37-49, eng] **47-1017**

Ice plates as laminated composite structures. Vinogradov, A.M., [1992, p.65-75, eng] **47-1019**

On development of fibre-ice-composites. Vasil'ev, N.K., [1993, p.195-199, eng] **47-2650**

Ice spillways: construction and analytical-experimental bases. Finagenov, O.M., et al. [1992, 47p., rus] **47-2935**

Field survey of potential airstrip locations: Mt. Howe, Antarctica, 1991. DenHartog, S.L., [1991, 6p., eng] **47-3338**

Method of preparing and molding mortar or like. Suzuki, T., [1988, 8 col., eng] **47-3495**

Method and apparatus for constructing an ice structure. Erwin, R.E., [1988, 6 col., eng] **47-3635**

Model for the construction of artificial ice islands. Chouinard, L.E., [1993, p.187-198, eng] **47-4246**

Ice control

Interaction between sea ice floes and protective coastal structure. Roppongi, K., et al. [1992, p.86-90, jpn] **47-121**

Experimental study on overtopping of ice floes at breakwater. Sasajima, T., et al. [1992, p.91-95, jpn] **47-122**

On double-barriered ice-resistant structure. Hagiwara, K., et al. [1992, p.96-100, jpn] **47-123**

Characteristic of the ice boom for control of the ice floes movement. Enoki, K., et al. [1992, p.111-115, jpn] **47-126**

Characteristic of new type ice boom and environmental force. Enoki, K., et al. [1992, p.116-120, jpn] **47-127**

Deicing of roads. Ghosh, S., [1985, p.264-278, eng] **47-577**

What is being done to reduce ice jam damages. Gruntfest, E., [1992, p.243-245, eng] **47-622**

Ice jam flood mitigation: Salmon River, Idaho. White, K.D., [1992, p.250-253, eng] **47-624**

Unconventional energy sources for ice control at lock and dam installations. Nakato, T., et al. [1992, 37p., eng] **47-697**

Effects of severe freezing periods and discharge on the formation of ice jams. Zufelt, J.E., et al. (1992, 12p., eng) 47-698

Salmon River experimental ice boom: 1989-90 and 1990-91 winter seasons. White, K.D., (1992, 17p., eng) 47-702

Proceedings. (1988, 243p., eng) 47-716

Technical measures for reduction of ice damage. Carstens, T., et al. (1988, p.207-216, eng) 47-733

Reduction of damages from ice jam flooding in river Torneälven. Zachrisson, G., (1988, p.217-225, eng) 47-734

Ice problems in the Arendal River system, Norway. Björkenes, A., (1988, p.227-234, nor) 47-735

Ice problems in power plants and rivers in Norway. Results from an inquiry. Fossdal, M.L., et al. (1988, p.235-236, nor) 47-736

Israel River ice control structure. Axelson, K.D., (1991, p.349-352, eng) 47-1238

Discussion of "Minimization of frazil-ice production by river flow regulation". Ferrick, M.G., (1991, p.1406-1409, eng) 47-1286

Discussion of "Minimization of frazil-ice production by river flow regulation". Calkins, D.J., (1991, p.1402-1405, eng) 47-1287

Using the air containing stream for channel ice clearance. Hsiung, C.C., et al. (1992, 94p., eng) 47-1361

Technical problems of floating type ice barriers. Mizuno, Y., et al. (1991, p.265-270, jpn) 47-2498

Control of sea ice by the air bubbling method. Yamanaka, K., et al. (1991, p.277-282, jpn) 47-2500

Mathematical model of sea ice cover variability. Fleming, G.H., (1992, p.479-499, eng) 47-2881

Arctic production terminal facility. Williams, T.E., (1988, 4 col., eng) 47-3415

Deicer control system. Phillips, R.W., II. (1988, 6 col., eng) 47-3765

Effect of selective withdrawal on the annual thermal regime of a deep water body. Bocharov, O.B., et al. (1993, p.384-390, eng) 47-4066

Ice deflector. Marthinsen, A., (1988, 4 col., eng) 47-4101

Thin profile snow, sleet and moisture sensing detector. Murphy, J.P., (1987, 10 col., eng) 47-4102

Composite platform for petroleum workings in polar seas. Michel, D., et al. (1986, 6 col., eng) 47-4259

Icing problems at Corps projects. Haynes, F.D., et al. (1993, 18p. + figs., eng) 47-4608

On the 1990-1991 operation of the Lake Erie-Niagara River ice boom. (1991, 32p. + figs., eng) 47-4667

Investigation of air containing propeller stream. Wang, S.L., et al. (1993, 4p., eng) 47-4863

See also: Ice prevention

Ice cores

Firn stratigraphy, density and crystal structure on Law Dome. Li, J., et al. (1991, p.1-14, eng) 47-36

Chinese loess and antarctic ice core changes over the last 150,000 years. Kang, J.C., et al. (1991, p.15-23, eng) 47-37

Thermal properties of snow/firn on the Law Dome ice cap. Ren, J.W., et al. (1991, p.38-46, eng) 47-39

Study of methanesulfonic acid in ice cores. Whung, P.Y., (1991, 173p., eng) 47-46

What were the primary forcing mechanisms of high-frequency Holocene climate and glacier variations. Nesje, A., et al. (1992, p.79-84, eng) 47-53

Do glaciers tell a true atmospheric CO2 story. Jaworowski, Z., et al. (1992, p.227-284, eng) 47-235

Distribution of chemical elements in the glacier cores obtained at Nordaustlandet. Punning, IU.-M.K., et al. (1991, p.170-176, rus) 47-338

Continuous 770-year record of volcanic activity from East Antarctica. Moore, J.S., et al. (1991, p.17,353-17,359, eng) 47-348

Merely the tip of the ice core. Peel, D.A., (1992, p.274-275, eng) 47-483

Greenland ice core shows irregular glacial interstadials. Johnsen, S.J., et al. (1992, p.311-313, eng) 47-485

Salinity profiles of antarctic sea ice: field data and model results. Eicken, H., (1992, p.15,545-15,557, eng) 47-514

Surface water temperature changes in the high latitudes of the Southern Hemisphere over the last glacial-interglacial cycle. Pichon, J.J., et al. (1992, p.289-318, eng) 47-786

Environmental information from ice cores. Delmas, R.J., (1992, p.1-21, eng) 47-787

Simulation of oxygen isotope variations in atmospheric flow. Fisher, D.A., (1992, p.61-77, eng) 47-804

Changes in tropospheric methane, 1841-1978, from ice core. Etheridge, D.M., et al. (1992, p.282-294, eng) 47-832

Ratio of MSA to non-sea-salt sulphate in Antarctic Peninsula ice cores. Mulvaney, R., et al. (1992, p.295-303, eng) 47-833

1000 years of explosive volcanism recorded at the South Pole. Delmas, R.J., et al. (1992, p.335-350, eng) 47-834

Pattern of ocean-atmosphere exchange in a Weddell Sea ice core. Peel, D.A., et al. (1992, p.430-442, eng) 47-837

Tropical ice core paleoclimatic records, Quelccaya Ice Cap, Peru, A.D. 470 to 1984. Thompson, L.G., et al. (1992, 106p. + 5.25" floppy disk, eng) 47-839

Changing sources of impurities to the Greenland ice sheet over the last 250 years. Laj, P., et al. (1992, p.2627-2640, eng) 47-901

Crystallographic analyses of clathrate hydrates included in Vostok ice cores. Hondoh, T., et al. (1992, p.268-278, jpn) 47-976

Interpretation of ice age-gas differences in polar ice cores. Sowers, T., et al. (1992, p.15,683-15,697, eng) 47-996

Trends and features of climatic changes in the past 5000 years recorded by the Dunde ice core. Yao, T.D., et al. (1992, p.21-24, eng) 47-1081

Black carbon concentration in a Greenland Dye-3 ice core. Chylek, P., et al. (1992, p.1951-1953, eng) 47-1181

Postembryonic development of a copepod from Lützow-Holm Bay. Tanimura, A., (1992, p.109-128, eng) 47-1219

Frozen archives. (1992, 37p., eng) 47-1234

Global changes in the environment as "mirrored" in an ice core. Kotliakov, V.M., (1992, p.59-68, rus) 47-1250

Review of greenhouse gases in the Vostok ice core. Raynaud, D., et al. (1992, p.381-386, eng) 47-1282

Ice-core dating and chemistry by direct-current electrical conductivity. Taylor, K., et al. (1992, p.325-332, eng) 47-1385

Past climate changes as deduced from Canadian ice cores. Koerner, R.M., (1992, p.61-70, eng) 47-1426

Cosmogenic nuclides in ice sheets. Lal, D., et al. (1992, p.227-233, eng) 47-1478

Supernova shock ensemble model using Vostok Be-10 radioactivity. Sonett, C.P., (1992, p.239-245, eng) 47-1480

Present state of ice core bubble study. Zhang, L.M., et al. (1992, p.277-284, chi) 47-1669

Recent results from drill cores on Jostedalsbreen. Gjessing, Y., (1988, 18p., nor) 47-1690

Global changes during the latest glacial-interglacial cycle. Kotliakov, V.M., et al. (1992, p.89-113, eng) 47-1762

Reflection of twentieth-century climatic warming in glacier cores from Nordaustlandet. Sin'kevich, S.A., (1992, p.114-122, eng) 47-1763

'Flickering switch' of Late Pleistocene climate change. Taylor, K.C., et al. (1993, p.432-436, eng) 47-1938

Black carbon concentration in Byrd Station ice core: from 13,000 to 700 years before present. Chylek, P., et al. (1992, p.625-629, eng) 47-2005

Toward using borehole temperatures to calibrate an isotopic paleothermometer in central Greenland. Cuffey, K.M., et al. (1992, p.265-268, eng) 47-2026

Ice record of greenhouse gases. Raynaud, D., et al. (1993, p.926-934, eng) 47-2028

Global carbon dioxide budget. Sundquist, E.T., (1993, p.934-941, eng) 47-2045

Ice core climate signals from Mount Logan, Yukon, A.D. 1700-1897. Holdsworth, G., et al. (1992, p.483-504, eng) 47-2097

Arctic from Svalbard to Severnaya Zemlya: climatic reconstructions from ice cores. Tarussov, A.V., (1992, p.505-516, eng) 47-2098

Ice core evidence from Peru and China. Thompson, L.G., (1992, p.517-548, eng) 47-2099

Ice core evidence from the Antarctic Peninsula region. Peel, D.A., (1992, p.549-571, eng) 47-2100

Paleoenvironmental conditions in Antarctica since A.D. 1500: ice core evidence. Mosley-Thompson, E., (1992, p.572-591, eng) 47-2101

Sea salt dependent electrical conduction in polar ice. Moore, J.C., et al. (1992, p.19,803-19,812, eng) 47-2187

Extending the antarctic meteorological record using ice-sheet temperature profiles. Nicholls, K.W., et al. (1993, p.141-150, eng) 47-2462

Shallow ice core drilling project at Byrd Station. Langway, C.C., Jr., (1991, p.60-61, eng) 47-2463

"Taylor Ice-Dome" study: reconnaissance 1990-1991. Grootes, P.M., et al. (1991, p.69-71, eng) 47-2468

Geophysical survey at "Taylor Dome". Waddington, E.D., et al. (1991, p.71-73, eng) 47-2469

MSA and non-seasalt sulfate in the Vostok ice core. Saltzman, E.S., et al. (1991, p.88-89, eng) 47-2473

General circulation model under ice age conditions. Joussaume, S., (1993, p.2767-2805, eng) 47-2702

Age of air in Greenland firn and ice. Schwander, J., et al. (1993, p.2831-2838, eng) 47-2703

Reflection of 20th-century climatic warming in the glacier cores of Nordauslandet. Sin'kevich, S.A., (1991, p.53-59, rus) 47-2788

Drilling boreholes in glacial and subglacial rocks, with core selection by an electromechanical drill on a load- bearing cable. Kudriashov, B.B., et al. (1991, p.165-170, rus) 47-2808

Response of authors to commentary on their "Reconstruction of the Holocene climate". Barkov, N.I., et al. (1991, p.233-236, rus) 47-2817

Reassessment of Crete (Greenland) ice core acidity/volcanism link to climate change. Crowley, T.J., et al. (1993, p.209-212, eng) 47-2856

Dating stable isotope records from Greenland ice cores. Johnsen, S.J., et al. (1993, p.13-24, eng) 47-2863

Effect of Be-10 deposition at Vostok during the last 50 ky. Raisbeck, G.M., et al. (1993, p.127-139, eng) 47-2864

Be-10 peaks as time markers in polar ice cores. Beer, J., et al. (1993, p.141-153, eng) 47-2865

Last deglaciation event in Antarctica. Jouzel, J., et al. (1993, p.229-266, eng) 47-2866

Abrupt increase in Greenland snow accumulation. Alley, R.B., et al. (1993, p.527-529, eng) 47-2892

Pb-210 in an ice core from Spitsbergen. Suzuki, T., et al. (1992, p.84-87, eng) 47-3008

Total organic carbon and polar organic compounds in ice core from Greenland. Kawamura, K., et al. (1992, p.99-105, eng) 47-3010

Measurement of helium isotopes in Vostok ice core. Jean-Baptiste, P., et al. (1993, p.491-497, fre) 47-3041

Ice core record for past and future climate studies. Lorius, C.J., et al. (1992, p.227-234, eng) 47-3142

Ice cores: a bibliography. Macqueen, A.D., (1992, 48p., eng) 47-3152

HNO3 variations in volcanic layers of polar ice. Laj, P., et al. (1993, p.219-230, eng) 47-3463

Last interglacial as recorded in the Greenland ice sheet and Canadian arctic ice caps. Reeh, N., (1991, p.123-142, eng) 47-3485

Fast-ice properties and structure in McMurdo Sound. Jeffries, M.O., et al. (1991, p.94-95, eng) 47-3516

Proceedings. (1992, 344p., eng) 47-3555

Strength of the Nordic heat pump. Broecker, W.S., (1992, p.173-181, eng) 47-3557

Ice-core evidence for a Holocene meltwater cap. Fisher, D.A., (1992, p.267-293, eng) 47-3560

Nitrate signal of solar flares in polar snow and ice. Dreschhoff, G.A.M., et al. (1992, 23p., eng) 47-3631

Methanesulfonic acid in coastal antarctic snow related to sea-ice extent. Welch, K.A., et al. (1993, p.443-446, eng) 47-3728

Stratospheric denitrification indicated by firn core chemistry. Mulvaney, R., et al. (1993, p.5213-5220, eng) 47-3785

Cold answers to hot issues. Peel, D.A., (1993, p.403-404, eng) 47-3855

Constraints on ice-sheet thickness over Tibet during the last 40,000 years. Gupta, S.K., et al. (1992, p.283-290, eng) 47-4022

Correlation between ice core isotope levels and air temperature. Jones, P.D., et al. (1993, p.14-26, eng) 47-4143

Greenland Ice Core Project. Stauffer, B., (1993, p.1766-1767, eng) 47-4503

GRIP ice core record of climate instability. (1993, p.203-207, eng) 47-4570

Climate instability indicated in a 250-kyr ice core record. Dansgaard, W., et al. (1993, p.218-220, eng) 47-4572

Extension of the Vostok ice core paleoclimate record. Jouzel, J., et al. (1993, p.407-411, eng) 47-4573

Core drilling by electromechanical drill. Vasil'ev, N.I., et al. (1993, p.235-237, eng) 47-4576

Glacials-interglacials in Vostok: climate and greenhouse gases. Lorius, C.J., et al. (1993, p.131-143, eng) 47-4587

"Recent warming": ice core evidence from tropical ice cores with emphasis on Central Asia. Thompson, L.G., et al. (1993, p.145-156, eng) 47-4588

PIXE analysis as a tool for dating of ice cores from the Greenland ice sheet. Hansson, H.C., et al. (1993, p.428-434, eng) 47-4592

Microorganisms in the antarctic ice. Abyzov, S.S., (1993, p.265-295, eng) 47-4596

Isotopic analysis of carbon dioxide from air trapped in polar ice. Lang, S.J., (1991, 148p., eng) 47-4604

Sulfur mass loading of the atmosphere from volcanic eruptions. Sigurdsson, H., et al. (1990, 7p. + appends., eng) 47-4618

Constraints imposed by the ice core data on the budgets of nitrous oxide and methane. Khalil, M.A.K., et al. (1989, p.403-410, eng) 47-4639

Greenland Ice Sheet Project Two. GISP2 core data report 1991. (1991, Var. p., eng) 47-4666

Greenland Ice Sheet Project Two. GISP2 internal data report 1991. (1991, Var. p., eng) 47-4669

Greenland: a temptation and a challenge. Dansgaard, W., et al. (1993, p.12-16, eng) 47-4728

Ion chromatography of Greenland ice cores. Legrand, M.R., et al. (1993, p.251-258, eng) 47-4754

Cadmium concentration changes in antarctic ice and snow. Boutron, C.F., et al. (1993, p.431-441, eng) 47-4833

Palaeo-environmental studies on the Greenland ice sheet margin. Reeh, N., et al. (1993, p.66-68, eng) 47-4919

Source of volcanic ash in a Greenland ice core. Fiacco, R.J., Jr., et al. (1993, p.267-273, eng) 47-5141

Bore-hole survey at dome GRIP 1991. Gundestrup, N.S., et al. (1993, p.399-402, eng) 47-5209

Atmosphere during the Younger Dryas. Mayewski, P.A., et al. (1993, p.195-197, eng) 47-5221

Methane from northern peatlands and climate change. Frolking, S., (1993, p.109-124, eng) 47-5233

First annual West Antarctic ice sheet (WAIS) science workshop. Bindschadler, R.A., ed. (1993, 58p., eng) 47-5245

Ice cores ***(cont.)***

Global beryllium 10 cycle. McHargue, L.R., et al. [1991, p.141-158, eng] **47-5261**

Ice coring drills

Development of a thermal mechanical drill for sampling ice and rock from great depths. Das, D.K., et al. [1992, p.377-382, eng] **47-913**

Drilling boreholes in glacial and subglacial rocks, with core selection by an electromechanical drill on a load- bearing cable. Kudriashov, B.B., et al. [1991, p.165-170, rus] **47-2808**

Core drilling by electromechanical drill. Vasil'ev, N.I., et al. [1993, p.235-237, eng] **47-4576**

See also: Ice drills

Ice cover

Differential method of multivariate analysis of ice data. Likhachev, A.V., [1991, p.60-73, rus] **47-91**

Calculating corrections for low frequency radio-navigation systems for sea routes covered with ice. Pylaev, A.A., et al. [1991, p.106-111, rus] **47-192**

Integrating the equations of motion of an ice sheet. Ivanov, A.I., [1991, p.131-136, rus] **47-330**

Soviet glaciological studies in 1990. Glazovskii, A.F., [1991, p.229-240, rus] **47-346**

Significance of global snow and ice cover for global change studies. Barry, R.G., [1992, p.293-297, eng] **47-448**

Large amplitude sea/ice coupling. Fox, C., [1992, p.293-304, eng] **47-1036**

Forecasting sea ice clearing in the Labrador Sea. Newell, J.P., [1992, p.313-323, eng] **47-1038**

Trend analysis of the Barents Sea ice cover. Vefsnmo, S., et al. [1992, p.325-335, eng] **47-1039**

Variability of area of ice cover in Far East seas. Petrova, V.A., et al. [1989, p.77-81, eng] **47-1226**

Influence of convection and currents on bottom melting of ice during spring heating of a body of water. Blokhina, N.S., [1989, p.82-87, eng] **47-1227**

Observational evidence of changes in global snow and ice cover. Barry, R.G., [1991, p.329-345, eng] **47-1505**

Bibliography of ice and snow research at Trent University, up to December 1991. Adams, P., [1992, 16p., eng] **47-1910**

Hydrodynamics of lakes. Filatov, N.N., [1991, 196p., rus] **47-2283**

Anomalies in global heat-water exchange: stochastic models. Dobrovol'skii, S.G., [1991, 128p., rus] **47-2285**

Ice sheet glaciations in Northern Eurasia and their role in the history of the ocean. Grosval'd, M.G., et al. [1991, p.3-15, rus] **47-2782**

Asymptotic analysis of the flow of ice sheets. Mazo, A.B., [1991, p.17-22, rus] **47-2783**

Oil from beneath the ice. Kamenshchikov, L., [1992, p.9-11, rus] **47-2934**

Analysis of the characteristics of decrease in areas of ice massifs in the Novosibirsk region during summer. Egorov, A.G., et al. [1990, p.15-24, rus] **47-3585**

Intensity of changes in the areas of ice massifs in the East Siberian Sea during summer. IUlin, A.V., [1990, p.25-34, rus] **47-3586**

Hydrometeorological conditions characteristic of separated and connected Severnaya Zemlya and Kara Sea ice massifs. Egorov, A.G., [1990, p.35-41, rus] **47-3587**

Accounting for atmospheric stratification in the calculation of tangential wind pressure in questions of the dynamics of ice cover. Pozdnyshev, S.P., [1990, p.117-125, rus] **47-3598**

Automated processing and analysis of data on cracks in the sea ice cover, made from visual observations from an aircraft. Brestkin, S.V., et al. [1990, p.133-147, rus] **47-3600**

Numerical calculation of the trajectory of ice drift. Aksenov, E.O., [1990, p.148-154, rus] **47-3601**

Effect of deep Atlantic waters on the ice-hydrological processes in the northern Barents Sea. Lebedev, I.A., [1992, p.145-156, rus] **47-3813**

Ice preparation machine for ice tracks. Schiehe, H., [1987, 4 col., eng] **47-4005**

Size-effect in indentation-induced splitting floe experiments. Gupta, V., et al. [1993, p.29-34, eng] **47-4227**

Palimpsest glacial landscape in northwestern Sweden. Kleman, J., [1992, p.305-325, eng] **47-4342**

Mathematical model for river ice processes. Lal, A.M.W., et al. [1993, 80p., eng] **47-4871**

Ice cover distribution

See also: Ice conditions: Sea ice distribution

Ice cover effect

Microorganism survival in ice-covered marine environment. Stanley, S.J., et al. [1992, p.58-72, eng] **47-2**

In situ spectroradiometric estimation of microalgal biomass in first-year sea ice. Legendre, L., et al. [1991, p.113-115, eng] **47-5**

Radiolarian fauna at the ice edge in the Greenland Sea during summer, 1988. Swanberg, N.R., et al. [1992, p.297-320, eng] **47-199**

Retrospective of platform development in Cook Inlet, Alaska. Visser, R.C., [1992, p.146-150,202-203, eng] **47-224**

Case studies of the atmospheric boundary layer structure over sea ice for weakly unstable conditions. Myrhaug, D., [1992, p.93-99, eng] **47-266**

Arctic sea ice cover effect on summer atmospheric circulation. Yang, X.Q., et al. [1992, p.401-411, eng] **47-353**

Discharge and runoff in rivers influenced by ice. Thomsen, T., [1988, p.33-51, eng] **47-718**

Adjustments for backwater effects due to ice cover - the SMHI method. Westman, S.E., [1988, p.53-66, eng] **47-719**

Investigation of a mushroom-like flow in the shelf edge area of northern seas. Voloshina, I.P., et al. [1992, p.317-322, eng] **47-782**

Interpretation of seismic data collected on floating ice. Beaudoin, B.C., et al. [1992, p.1359-1372, eng] **47-984**

Marginal Ice Zone oceanographic variability and its effects on acoustic propagation. Meredith, R.W., et al. [1991, p.87-101, eng] **47-1074**

Effect of arctic ice cover on the monthly temperature and precipitation in China. Chen, Y.S., et al. [1992, p.275-286, eng] **47-1124**

Angular width of the coherent back-scatter opposition effect: an application to icy outer planet satellites. Mishchenko, M.I., [1992, p.327-333, eng] **47-1191**

Turbulent structure of wind flow over ice-covered sea surface. Naito, G., et al. [1992, p.283-294, eng] **47-1192**

Galloping instability of ice coated poles. Durgin, F.H., et al. [1992, p.675-686, eng] **47-1193**

Sediment evolution in an ice-covered lake. Catalan, J., [1992, p.945-955, eng] **47-1266**

Response of a subarctic lake chain to reduced sewage loading. Choulik, O., et al. [1992, p.1236-1245, eng] **47-1267**

Canadian Climate Centre second-generation general circulation model and its equilibrium climate. McFarlane, N.A., et al. [1992, p.1013-1044, eng] **47-1269**

Greenhouse gas-induced climate change simulated with the CCC second-generation general circulation model. Boer, G.J., et al. [1992, p.1045-1077, eng] **47-1270**

Internal waves and mixing in the Arctic Ocean. D'Asaro, E.A., et al. [1992, p.S459-S484, eng] **47-1274**

Recent distribution of planktonic foraminifera in the Nansen Basin, Arctic Ocean. Carstens, J., et al. [1992, p.S507-S524, eng] **47-1276**

Study of ice-covered bend flow. Tsai, W.F., [1991, 207p., eng] **47-1314**

O2 and CO2 concentrations in the Weddell Sea in the spring of 1988. Bouquegneau, J.M., et al. [1992, p.163-170, eng] **47-1326**

Marine bacterioplankton at the Weddell Sea ice edge. Delille, D., [1992, p.205-210, eng] **47-1327**

Spring phytoplankton in relation to sea ice, hydrography and nutrients in Weddell Sea. Bianchi, F., et al. [1992, p.225-235, eng] **47-1328**

Vertical stability of surface waters and phytoplankton bloom in Weddell Sea marginal ice zone. Veth, C., et al. [1992, p.237-243, eng] **47-1329**

Nitrogen uptake in the Weddell Sea during late winter and spring. Kristiansen, S., et al. [1992, p.245-251, eng] **47-1330**

Organic carbon during ice retreat period in the Scotia and Weddell seas. Cadée, G.C., [1992, p.253-259, eng] **47-1331**

Microplankton respiration relationship with ice cover and ice edge. Martinez, R., et al. [1992, p.275-282, eng] **47-1332**

Ecology of sea ice biota. 2. Legendre, L., et al. [1992, p.429-444, eng] **47-1335**

Soluble species in the arctic summer troposphere: acidic gases, aerosols, and precipitation. Talbot, R.W., et al. [1992, p.16,531-16,543, eng] **47-1453**

Obtaining smooth hydrographic profiles from a buoy deployed in sea ice. Steele, M., et al. [1992, p.812-826, eng] **47-1472**

Acoustical measurement of current and vorticity beneath ice. Menemenlis, D., et al. [1992, p.827-849, eng] **47-1473**

Fragilariopsis cylindrus (Grunow) Krieger. Kang, S.H., et al. [1992, p.609-627, eng] **47-1623**

Phytoplankton communities. Bianchi, F., et al. [1991, p.84-91, eng] **47-1630**

Corpses released from glacier ice: glaciological and forensic aspects. Ambach, W., et al. [1992, p.372-376, eng] **47-1906**

Sea level variations during ice-covered periods in the Baltic Sea. Omstedt, A., et al. [1991, p.41-61, eng] **47-1992**

Evaluating the possible application of pneumohydraulic equipment to lower water temperature. Nazarov, I.I., [1991, p.77-80, rus] **47-2029**

DC flashover performance of iced insulators under pressure and pollution conditions. Zhang, J.H., et al. [1991, p.957-960, eng] **47-2177**

Electromagnetic communications through the seawater-ice-air interface. Steeves, G., et al. [1991, p.638-644, eng] **47-2182**

Light attenuation of Lake Bonney's ice cap. Priscu, J.C., [1991, p.223-224, eng] **47-2191**

Fluorescence and photosynthesis in phytoplankton from permanently ice-covered lakes. Lizotte, M.P., et al. [1991, p.226-228, eng] **47-2192**

Influence of water ice absorption on transmission for a 10.5- to 12.5-micron filter/window. Jacyszyn, F., et al. [1992, p.1952-1954, eng] **47-2234**

Seasonality of methane emissions from five lakes and associated wetlands of the Colorado Rockies. Smith, L.K., et al. [1992, p.323-338, eng] **47-2235**

Lake ice radiation transmittance related to photosynthesis. Bolsenga, S.J., et al. [1992, p.95-104, eng] **47-2286**

Plankton ecology in an ice-covered lake. Vanderploeg, H.A., et al. [1992, p.175-183, eng] **47-2287**

Wave attenuation in the marginal ice zone during LIMEX. Liu, A.K., et al. [1992, p.192-206, eng] **47-2347**

Improved real-time global sea surface temperature analysis. Reynolds, R.W., et al. [1993, p.114-119, eng] **47-2461**

Wave height observations in the Okhotsk Sea in winter. Mizuno, Y., et al. [1992, p.331-336, jpn] **47-2503**

Characteristics of heat pump system operating with frost formation. Aoki, K., et al. [1991, p.391-396, eng] **47-2566**

Beaufort Sea extreme waves study. Eid, B.M., et al. [1992, Var. p., eng] **47-2622**

Submerged warm water jet discharge in an ice-covered reservoir or lake. Gu, R.C., et al. [1993, p.151-168, eng] **47-2647**

Fate and effects of dispersed crude oil under icy conditions simulated in mesocosms. Siron, R., et al. [1993, p.273-302, eng] **47-2657**

Fossil evidence of ice-free conditions in Arctic Ocean sediment. Gard, G., [1993, p.227-230, eng] **47-2848**

Sea-ice interaction with the thermohaline circulation. Yang, J.Y., et al. [1993, p.217-220, eng] **47-2859**

Spectral irradiance in dry valley lakes. Lizotte, M.P., et al. [1992, p.1-14, eng] **47-2868**

On the interannual variability of arctic sea-level pressure and sea ice. Power, S.B., et al. [1992, p.551-577, eng] **47-2878**

Sea ice and wind: effects on primary productivity in the Barents Sea. Sakshaug, E., et al. [1992, p.579-591, eng] **47-2879**

Propagation of coastal-trapped waves under an ice cover in Hudson Bay. Reynaud, T., et al. [1992, p.593-620, eng] **47-2880**

Internal waves in an ice-covered basin. Pisarev, S.P., [1991, p.42-46, eng] **47-2887**

Three-dimensional atmospheric circulation model with a comprehensive description of physical processes and simplified dynamics. Kislov, A.V., [1991, p.241-246, eng] **47-2895**

Tropospheric aerosol and climate: results from numerical experiments. Kolomeev, M.P., et al. [1991, p.253-257, eng] **47-2896**

Okhotsk Sea water anomaly: implications for ventilation in the North Pacific. Talley, L.D., [1991, p.S171-S190, eng] **47-2909**

Fluorescence and phytoplankton photosynthesis in Lake Bonney. Neale, P.J., et al. [1991, p.228-230, eng] **47-3053**

Acoustic scattering from elemental arctic ice features: numerical modeling results. Fricke, J.R., [1993, p.1784-1796, eng] **47-3231**

Broadband source localization and signature estimation. Yang, T.C., [1993, p.1797-1806, eng] **47-3232**

Scattering from boundary protuberances and reverberation imaging. Yang, T.C., [1993, p.231-242, eng] **47-3233**

Bend ice jams: laboratory observations. Urroz, G.E., et al. [1992, p.855-864, eng] **47-3305**

River surge propagation modeling. Hicks, F.E., et al. [1992, p.454-462, eng] **47-3308**

Development of an international standard for safe winter operation. Hornig, R., [1993, p.14-18, eng] **47-3312**

Analysis of ice cover in numerical weather prediction. Hallé, J., [1991, p.75-85, eng] **47-3377**

Ice algae during EPOS, leg 1. Syvertsen, E.E., et al. [1993, p.61-65, eng] **47-3440**

Paleoenvironments in the northwest North Atlantic. De Vernal, A., et al. [1991, p.95-106, eng] **47-3483**

Late Quaternary land-sea interactions: Fennoscandia and Svalbard—the Nordic seas. Larsen, E., et al. [1991, p.151-159, eng] **47-3487**

Insolation effects on last interglacial climate. Kutzbach, J.E., et al. [1991, p.223-229, eng] **47-3492**

Atlantic circulation simulation with sea ice interface model, pt.1. Oberhuber, J.M., [1993, p.809-829, eng] **47-3568**

Atlantic circulation simulation with sea ice interface model, pt.2. Oberhuber, J.M., [1993, p.830-845, eng] **47-3569**

JARE-31 oceanographic survey in Lützow-Holm Bay, 1990-1991. Ushio, S., et al. [1993, 34p., eng] **47-3619**

Seasonal variations in dissolved inorganic nitrogen utilization in a subarctic Alaskan lake. Gu, B.H., et al. [1993, p.273-288, eng] **47-3647**

Analysis of strong wind events simulated in a GCM near Casey in the Antarctic. Murphy, B.F., et al. [1993, p.522-534, eng] **47-3677**

Propagation of M2 waves in the Arctic Ocean. Proshutinskii, A.IU., et al. [1991, p.6-13, rus] 47-3685

Thermohaline water circulation in the Norwegian energy-active zone during spring 1987. Proshutinskii, A.IU., et al. [1991, p.42-49, rus] 47-3689

Methodical plan for compiling hydrometeorological forecasts and results of its use. Ashik, I.M., [1991, p.86-95, rus] 47-3694

Groundwater discharge in Boggy Creek catchment, Manitoba. Stephenson, M., et al. [1992, p.2640-2652, eng] 47-3714

Influence of sea ice particulate matter on ocean irradiance. Fritsen, C.H., et al. [1992, p.527-541, eng] 47-3736

Intercomparison of artificial intelligence approaches for polar scene identification. Tovinkere, V.R., et al. [1993, p.5001-5016, eng] 47-3781

Sediment dynamics in the St. Lawrence estuary. Drapeau, G., [1992, p.233-242, fre] 47-3791

Paleoclimate sensitivity to glacial ice cover. deMenocal, P.B., et al. [1993, p.7265-7287, eng] 47-3831

Icing on a small horizontal-axis wind turbine—part 1: glaze ice profiles. Bose, N., [1992, p.75-85, eng] 47-3921

Icing on a small horizontal-axis wind turbine—part 2: three dimensional ice and wet snow formations. Bose, N., [1992, p.87-96, eng] 47-3922

Comparison of the mass-loading and elastic plate models of an ice field. Squire, V.A., [1993, p.219-229, eng] 47-3926

Effect of the water-exchange index on the temperature regime of hydrostation pools. Gotlib, IA.L., et al. [1993, p.462-468, eng] 47-4014

Probablistic computation of maximum ice-dam water levels. Buzin, V.A., [1992, p.56-62, eng] 47-4025

Cod schooling behavior in relation to drifting pack ice. Crawford, R.E., et al. [1993, p.345-357, eng] 47-4061

Angiosperm acclimation beneath lake ice. Spencer, W.E., et al. [1993, p.985-991, eng] 47-4169

Climatic changes in the Barents Sea area. Borisov, S.B., et al. [1991, p.46-50, eng] 47-4252

Effects of polar ice on the earth's rotation and gravitational potential. Trupin, A.S., [1993, p.273-283, eng] 47-4253

Variations in snow on sea ice: a mechanism for producing climate variations. Ledley, T.S., [1993, p.10,401-10,410, eng] 47-4291

Katabatic flow thermodynamics of Adélie Coast. Pettré, P., et al. [1993, p.10,429-10,440, eng] 47-4292

Ice accretion on energized line insulators. Farzaneh, M., et al. [1992, p.228-233, eng] 47-4307

Boolean delay equation model of an interdecadal arctic climate cycle. Darby, M.S., et al. [1993, p.241-246, eng] 47-4354

Greenland Sea hydrographic studies. Budéus, G., et al. [1993, p.9985-10,000, eng] 47-4371

Hydrography and vertical fluxes of heat and salt northeast of Svalbard in autumn. Steele, M., et al. [1993, p.10,013-10,024, eng] 47-4373

Climatology of the East Antarctic ice sheet (100E to 140E) derived from automatic weather stations. Allison, I., et al. [1993, p.8815-8823, eng] 47-4380

Nitrogen uptake and new production in the Greenland Sea: the spring *Phaeocystis* bloom. Smith, W.O., Jr., [1993, p.4681-4688, eng] 47-4390

Marine sediment records of Pleistocene climate. Birchfield, G.E., et al. [1993, p.10,385-10,399, eng] 47-4392

Proceedings. [1993, 2 vol., eng] 47-4415

Sea ice—a climate component. Gudmandsen, P., [1993, p.9-13, eng] 47-4416

Ocean circulation revealed by ice floe tracking. Ikeda, M., et al. [1993, p.351-353, eng] 47-4438

Structural and ice effects on salt water marsh hydrology. Ballestero, T.P., et al. [1993, p.150-155, eng] 47-4451

Cloud-ice-vapor feedbacks in a global climate model. Jentsch, V., [1987, p.417-437, eng] 47-4456

Sea ice-ocean interaction. Lemke, P., [1987, p.439-451, eng] 47-4457

Mixotrophic algae in three ice-covered lakes of the Pocono Mountains, U.S.A. Berninger, U.G., et al. [1992, p.263-272, eng] 47-4517

Finite-floe wave reflection and transmission coefficients from a semi-infinite model. Meylan, M., et al. [1993, p.12,537-12,542, eng] 47-4524

Water volume transport through Green Bay, Lake Michigan. Miller, G.S., et al. [1993, p.361-367, eng] 47-4564

Great Lakes air temperature trends for land stations, 1901-1987. Bolsenga, S.J., et al. [1993, p.379-388, eng] 47-4565

Relevance of antarctic microbial ecosystems to exobiology. McKay, C.P., [1993, p.593-601, eng] 47-4599

Lessons learned from an ice storm emergency. Low, T.A., [1993, p.38-49, eng] 47-4624

Airborne measurement of absolute sea-surface heights. Brozena, J.M., et al. [1993, p.875-878, eng] 47-4632

Ocean-acoustic propagation in an arctic profile. Buckingham, M.J., [1993, p.93-104, eng] 47-4633

Snow and floating ice. Gray, D.M., et al. [1993, p.7/1-7/58, eng] 47-4637

Climate model sensitivity to sea ice albedo parameterization. Morassutti, M.P., [1991, p.25-36, eng] 47-4640

Scattering of low frequency sound waves under sea ice. LePage, K., et al. [1992, p.3-16, eng] 47-4714

Doppler acoustic studies of fine scale variability in the Arctic Ocean. Pinkel, R., et al. [1992, p.17-23, eng] 47-4715

Matched field tomography results in the Arctic. Diachok, O.I., et al. [1992, p.24-27, eng] 47-4716

Noise generation in the marginal ice zone. Johannessen, O.M., et al. [1992, p.28-38, eng] 47-4717

Analytical technique for solving an arctic acoustic model. Sheard, J.D., et al. [1992, p.39-42, eng] 47-4718

Spatial variation in ambient sound level within ice edge eddies. Johannessen, O.M., et al. [1993, p.563-571, eng] 47-4837

Wave induced noise generation in the marginal ice zone. Rottier, P., [1993, p.611-624, eng] 47-4840

High latitude ocean convection. Rudels, B., [1993, p.323-356, eng] 47-4843

Ocean convection and the creation of polynyas. Schmalzl, J., et al. [1993, p.371-383, eng] 47-4844

Ship of opportunity section to the North Pole: upper ocean temperature observations. Quadfasel, D., et al. [1993, p.777-789, eng] 47-4854

Simulation of ice-shedding on electrical transmission lines using ADINA. Jamaleddine, A., et al. [1993, p.523-536, eng] 47-4857

Isotopic geochemistry of an ice-covered antarctic lake. Wharton, R.A., Jr., et al. [1993, p.159-172, eng] 47-4906

Study of the arctic heat sink. Ripley, E.A., [1990, 95p. + appends., eng] 47-4910

Polaarialueiden tutkimus ja globaalinen ilmaston-ja ympäristönmuutos. Launiainen, J., [1993, p.21-31, fin] 47-4996

Reliability of guyed masts with special reference to arctic conditions. Johansson, B., et al. [1991, 18p., eng] 47-5011

Nonsymmetric icing of guyed masts. Peil, U., et al. [1991, 10p., eng] 47-5012

Formation features of the structure and variability of the hydrological processes of the Kara Sea area. Pavlov, V.K., [1993, p.251-265, eng] 47-5035

Identification of clear and cloudy pixels at high latitudes from AVHRR radiances. Sakellariou, N.K., et al. [1993, p.2005-2024, eng] 47-5106

Reliability-based design of transmission towers under wind and ice loadings. Cho, H.N., et al. [1993, p.1125-1130, eng] 47-5263

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Probabilistic estimate of the Okhotsk Sea ice vertical profile. Truskov, P.A., et al. [1992, p.57-61, eng] 47-115

Earthquake response of offshore structures in sea ice (part 5). Sugai, K., et al. [1992, p.101-105, jpn] 47-124

Earthquake response of offshore structures in sea ice (part 6). Takada, Y., et al. [1992, p.106-110, jpn] 47-125

Friction and the buckling failure of an ice sheet. Kato, K., [1992, p.126-130, jpn] 47-129

Friction coefficient between model ice and roughened model surface. Kishi, S., et al. [1992, p.131-137, jpn] 47-130

Experimental research of fracture toughness of Okhotsk Sea ice. Rogachko, S.I., et al. [1992, p.363-366, eng] 47-166

Deformation of ice cover: some results of plane numerical modelling. Gol'dshtein, R.V., et al. [1992, p.367-371, eng] 47-167

Effect of stress state on the brittle compressive failure of columnar ice. Smith, T.R., [1992, 223p., eng] 47-280

Characteristics of the operation of seepage tanks during winter. Golovin, V.L., et al. [1988, p.136-143, rus] 47-978

Advances in ice technology; proceedings of the 3rd international conference. [1992, 365p., eng] 47-1013

Ice plates as laminated composite structures. Vinogradov, A.M., [1992, p.65-75, eng] 47-1019

Boundary element analysis of macrocracking of ice in a large test basin. Marcellus, R.W., et al. [1992, p.91-104, eng] 47-1021

Nonsimultaneous failure and local pressure of ice in ice/vertical structure interaction. Takeuchi, T., et al. [1992, p.135-145, eng] 47-1024

Effect of an aerodynamic impact load on ice cover. Filippov, A.M., [1991, p.60-68, rus] 47-1050

Evaluation of ice compression. Kuznetsov, I.M., et al. [1989, p.72-76, eng] 47-1225

Fracture analysis of ice forces on offshore structures. Ayoub, A.S., [1989, 99p., eng] 47-1317

Field dropweight ice impact test system at the Institute for Marine Dynamics. Chin, S.N., [1991, 9p. + appends., eng] 47-1342

Risk analysis for ice failure in ice-structure interaction. Parsons, B.L., [1990, 15p., eng] 47-1344

Some thermal and mechanical properties of flooded ice. Lozowski, E.P., et al. [1990, 96p., eng] 47-1346

Mathematical model to describe hinge crack failure of a sheet ice reinforced ridge beam. Lau, M., [1991, 16p. + appends., eng] 47-1354

Level and ridge ice forces on downward breaking structures. Lau, M., [1991, 2 vols., eng] 47-1355

Continued study of the frictional and cohesive-like behaviour of floating model ice rubble. Case, P.C., [1991, 24p. + appends., eng] 47-1364

Vertical and inclined edge-indentation of freshwater ice sheets. Finn, D.W., [1991, 97p., eng] 47-1366

Properties of EG/AD/S doped ice at the IMD ice tank. [1990, 31p., eng] 47-1367

Design and implementation of an in-situ ice compression tester. Keiley, P., [1991, 20p. + appends., eng] 47-1368

Proceedings. Vol.2. [1992, 806p., eng] 47-1828

Determination of design values for sea ice physico-mechanical properties. Polomoshnov, A.M., et al. [1992, p.641-650, eng] 47-1852

Continuum damage propagation in a wedge-shape ice bar. Shin, J.G., et al. [1992, p.662-665, eng] 47-1855

Study of oil intrusion influence on physical properties of sea ice. Gavrilo, V.P., et al. [1992, p.666-669, eng] 47-1856

Influence of structural anisotropy of sea ice on its mechanical and electrical properties. Borodkin, V.A., et al. [1992, p.670-674, eng] 47-1857

Investigations of fracture toughness K1c of sea ice. Rogachko, S.I., et al. [1992, p.675-676, eng] 47-1858

Effect of confining stress on brittle indentation failure of columnar ice. Grape, J.A., et al. [1992, p.724-731, eng] 47-1867

Some results from the Labrador Ice Margin Experiment. Kjeldsen, S.P., et al. [1992, p.732-739, eng] 47-1868

Combined creep and yield model of ice under multiaxial stress. Fish, A.M., [1992, p.740-749, eng] 47-1869

Strength parameters of hummocks. Truskov, P.A., et al. [1992, p.783-789, eng] 47-1875

Contact failure in ice forces on offshore structures. Tsuprik, V.G., [1992, p.790-794, eng] 47-1876

Model-scale study of the frictional and cohesive properties of floating ice rubble. Case, P.C., [1991, 113p., eng] 47-2118

Development of a wheeled runway for McMurdo on the Ross Ice Shelf. Blaisdell, G.L., et al. [1992, 31p., eng] 47-2120

Arctic ice stress measurements. Lau, P.A., et al. [1991, p.645-650, eng] 47-2183

Ice mechanics in the LeadEx program. Coon, M.D., et al. [1991, p.651-656, eng] 47-2184

Field measurements of northern Baltic pressure ridges. Reynolds, E., et al. [1992, 21p. + appends., eng] 47-2587

Laboratory indentation tests with thick freshwater ice. Volume II. Muhonen, A., et al. [1992, 397p., eng] 47-2591

Mathematical model of sea ice cover variability. Fleming, G.H., [1992, p.479-499, eng] 47-2881

Bearing capacity tests on ice reinforced with Geogrid. Haynes, F.D., et al. [1992, 12p., eng] 47-2925

Thin-ice statistics for strength calculations without sub-category classification. Soulis, E.D., et al. [1991, p.213-226, eng] 47-3409

Laboratory tests of ship structures under ice loading. Volume 1. Tuhkuri, J., [1993, 171p., eng] 47-3538

Ship in compressive ice. Analysis of the ice failure process. Kujala, P., et al. [1993, 70p. + appends., eng] 47-3539

Model ice forces on an upward breaking multifaceted cone. Lau, M., et al. [1993, 52p. + appends., eng] 47-3709

Failure of columnar saline ice under biaxial compression. Nickolayev, O.Y., et al. [1993, p.61-69, eng] 47-3742

Planar forcing of floating ice sheets. Zhao, Z.G., et al. [1993, p.151-164, eng] 47-3750

Indentation and splitting of freshwater ice floes. Sodhi, D.S., et al. [1993, p.165-175, eng] 47-3751

Crystal structure and flexural strength of small sea ice beams. Shapiro, L.H., et al. [1993, p.177-188, eng] 47-3752

Effect of fatigue on the bearing capacity of floating ice sheets. Haynes, F.D., et al. [1993, p.257-263, eng] 47-3929

Borehole jack indentor test: recent advances at NHRI. Demuth, M.N., et al. [1992, p.247-253, eng] 47-4055

Analytical solutions for modelling of ice structure interaction. Koreneva, E.B., [1993, p.59-61, eng] 47-4121

Flow properties of crushed ice: crushing plus extrusion tests. Spencer, P.A., et al. [1993, p.45-51, eng] 47-4229

Analysis of data from indentation tests on freshwater ice. Chin, S.N., et al. [1993, p.73-81, eng] 47-4233

Geometrical model for pressure aspect-ratio effects in ice-structure interaction. Spencer, P.A., et al. [1993, p.113-117, eng] 47-4238

Ice and rubble failure loads on sloping structures by two-dimensional upper-bound plastic limit analysis. Luk, C.H., et al. [1993, p.157-168, eng] 47-4243

Computer-based simulation of the ice fracture near a vertical pile. Matskevitch, D.G., et al. [1992, p.123-128, eng] 47-4286

Stresses and forces under ice compacting. Nikitin, V.A., et al. [1993, p.139-142, eng] 47-4299

Ice cover strength *(cont.)*

Dynamics of ice cover interacting with ocean and atmosphere. Kheisin, D.E., [1993, p.51-55, eng] 47-4300

Deep ice penetrator/instrumented test results. Rychnovsky, R.E., [1988, 25p., eng] 47-4641

Ice penetration tests of a water/ice penetrator. Rychnovsky, R.E., [1987, 50p., eng] 47-4642

Numerical and experimental investigation of river ice cover cracking. Abdel-Zaher, A.K., [1992, 201p., eng] 47-4887

Model for thermally-induced stresses in multi-year sea ice. Lewis, J.K., [1993, p.337-348, eng] 47-5205

See also: Ice strength

Ice cover thickness

Remote sensing of salinity distribution in sea ice. Yamakoshi, H., et al, [1992, p.277-280, eng] 47-149

Seasonal variability of sea ice physico-mechanical properties. Polomoshnov, A.M., [1992, p.336-339, eng] 47-161

Airborne EM ice measurement sensor: phases 1 and 2. Holladay, J.S., et al, [1992, 67p., eng] 47-455

Beaufort Sea Ice-1: selected SAR results. Lukowski, T.I., et al, [1992, p.131-133, eng] 47-641

C-band backscatter signatures of old ice in the central Arctic. Ulander, L.M.H., et al, [1992, p.958-960, eng] 47-664

Polarimetric emission from anisotropic media for passive remote sensing of sea ice. Yueh, S.H., et al, [1992, p.966-968, eng] 47-666

Physical and dynamic properties of sea ice in the polar oceans. Gow, A.J., et al, [1991, 46p., eng] 47-704

New equipment for measuring ice thickness. Wold, K., [1988, p.95-97, eng] 47-722

Ice thickness and water temperature near a power plant. Hari, J., [1988, p.99-103, eng] 47-723

Lomen project. Roen, S., et al, [1988, p.105-109, eng] 47-724

Radar to study surface scattering from lake and river ice. Yankielun, N.E., et al, [1991, 20p., eng] 47-888

Calculating winter runoff from rivers in a cryolithozone. Kravchenko, V.V., et al, [1991, p.41-60, rus] 47-894

Accumulation of water in freezing river beds. Markov, M.L., [1991, p.77-84, rus] 47-897

Characteristics of the operation of seepage tanks during winter. Golovin, V.L., et al, [1988, p.136-143, rus] 47-978

Advances in ice technology: proceedings of the 3rd international conference. [1992, 365p., eng] 47-1013

Numerical simulation of river ice dynamics. Wasantha Lal, A.M., et al, [1992, p.25-36, eng] 47-1016

Ice plates as laminated composite structures. Vinogradov, A.M., [1992, p.65-75, eng] 47-1019

Computational modeling of antarctic lake ice. Lindner, B.L., et al, [1992, p.105-116, eng] 47-1022

Effect of naturally-occurring ice thickness variations in reducing global loads on offshore structures. Sackinger, W.M., et al, [1992, p.253-265, eng] 47-1033

Contour mapping of Arctic basin ice draft and roughness parameters. Bourke, R.H., et al, [1992, p.17,715-17,728, eng] 47-1061

Variations of sea ice area and thickness in the southern ocean due to climate warming. Baikova, I.M., [1991, p.41-45, eng] 47-1179

Thickness profiling of freshwater ice using a millimeter-wave FM-CW radar. Yankielun, N.E., et al, [1992, p.1094-1100, eng] 47-1262

Airborne millimeter-wave FM-CW radar for thickness profiling of freshwater ice. Yankielun, N.E., [1992, 77p., eng] 47-1893

Winter ice on the German coast between the Ems and Oder Rivers, 1991/92. Koslowski, G., [1992, p.153-155, ger] 47-2010

Radio echo sounding on Browning Pass. Sievers, J., et al, [1992, p.135-137, eng] 47-2185

Site survey for heat flow in the Prince Albert Mountains. Delisle, G., et al, [1992, p.138-139, eng] 47-2186

Ocean interactions with the base of Amery Ice Shelf, Antarctica. Hellmer, H.H., et al, [1992, p.20,305-20,317, eng] 47-2342

Relationship between sea ice freeboard and draft in the Arctic Basin, and implications for ice thickness monitoring. Wadhams, P., et al, [1992, p.20,325-20,334, eng] 47-2344

Seasonal and regional variability of sea ice thickness distribution. Moritz, R.E., [1992, p.68-71, eng] 47-2383

Ways of refining the calculation of naled ice melting. Ergin, V.P., [1991, p.123-128, rus] 47-2436

Development of on-site ice thickness gages during initial freezing. Takashima, K., et al, [1991, p.283-286, jpn] 47-2501

Sensitivity study of a dynamic thermodynamic sea ice model. Holland, D.M., et al, [1993, p.2561-2586, eng] 47-2626

Development of an airborne MMW FM-CW radar for mapping river ice. Yankielun, N.E., et al, [1993, 10p., eng] 47-2757

Mathematical model of sea ice cover variability. Fleming, G.H., [1992, p.479-499, eng] 47-2881

SAR and scatterometer signatures of sea ice. Onstott, R.G., [1992, p.73-104, eng] 47-3019

Considerations for microwave remote sensing of thin sea ice. Grenfell, T.C., et al, [1992, p.291-301, eng] 47-3028

Microwave remote sensing of low-salinity sea ice. Hallikainen, M., [1992, p.361-373, eng] 47-3034

Ice thickness distribution inferred using remote sensing techniques. Wadhams, P., et al, [1992, p.375-383, eng] 47-3035

Status and future directions for sea ice remote sensing. Carsey, F.D., et al, [1992, p.443-446, eng] 47-3040

Global change implications for antarctic lakes. Lindner, B.L., et al, [1993, p.276-279, eng] 47-3047

Compositional state detection system and method. Sinnar, A.M., [1989, 12 col., eng] 47-3113

Report, [1992, 41p. + append., eng] 47-3235

Sea ice thickness: an overview. Thorndike, A.S., [1992, p.A1-A3, eng] 47-3236

Controls on ice thickness. Rothrock, D.A., [1992, p.A4-A9, eng] 47-3237

Definitions relating to ice thickness. Thorndike, A.S., [1992, p.A10-A13, eng] 47-3238

Sampling requirements. Thorndike, A.S., [1992, p.A14-A16, eng] 47-3239

Ice core studies of sea ice thickness. Eicken, H., et al, [1992, p.B1-B4, eng] 47-3240

Thickness measurements of arctic multiyear ice. Tucker, W.B., [1992, p.B5-B9, eng] 47-3241

Sea ice thickness distributions from aerial photographs. Eppler, D.T., et al, [1992, p.B10-B15, eng] 47-3242

Antarctic ice thickness distributions obtained from aerial photography. Ackley, S.F., et al, [1992, p.B16-B18, eng] 47-3243

Ice thickness observations from British submarines. Wadhams, P., [1992, p.B19-B21, eng] 47-3244

Accuracy of submarine ice draft measurements. Tucker, W.B., et al, [1992, p.B22-B24, eng] 47-3245

Upward looking sonar ice draft series from the Greenland Sea. Kvambekk, A.S., et al, [1992, p.B25-B28, eng] 47-3246

Sampling the temporal variability of sea ice draft distribution. Moritz, R.E., [1992, p.B29-B38, eng] 47-3247

Airborne laser altimetry measurements for sea ice thickness. Krabill, W.B., [1992, p.B39-B42, eng] 47-3248

Inferring ice thickness distribution from airborne laser profiling. Wadhams, P., et al, [1992, p.B43-B51, eng] 47-3249

Remote measurement of sea ice thickness using electromagnetic sounding. Kovacs, A., [1992, p.B52-B54, eng] 47-3250

Operational airborne sea ice thickness measurement system. Holladay, J.S., [1992, p.B55-B59, eng] 47-3251

Ice thickness observations from satellites. Rothrock, D.A., [1992, p.B60-B65, eng] 47-3252

Active and passive microwave signatures and relationship to ice thickness. Comiso, J.C., et al, [1992, p.B66-B75, eng] 47-3253

Passive microwave measurements of sea ice thickness. Gloersen, P., [1992, p.B76-B82, eng] 47-3254

Modeling the thickness distribution of arctic pack ice. Flato, G.M., [1992, p.C1-C3, eng] 47-3255

Model predicted arctic sea ice mass and its sensitivities. Häkkinen, S., [1992, p.C4-C8, eng] 47-3256

Arctic radiation forcing fields for dynamic-thermodynamic sea ice models. Key, J.R., et al, [1992, p.C9-C13, eng] 47-3257

Model simulation of changes in arctic sea ice, 1960-1989. Walsh, J.E., [1992, p.C14-C16, eng] 47-3258

Melting transition at ice crystal glass substrate interface. Furukawa, Y., et al, [1993, p.1137-1142, eng] 47-3289

Sea ice observation in the Arctic Ocean (I). Nakamura, H., et al, [1992, p.83-97, jpn] 47-3295

Landfast ice thickness variations in the Canadian High Arctic. Brown, R.D., et al, [1992, p.273-284, eng] 47-3321

Operational airborne sea ice thickness measurement system. Rossiter, J.R., et al, [1991, p.167-177, eng] 47-3384

Beaufort Sea Ice-1: an overview. Livingstone, C.E., et al, [1991, p.189-205, eng] 47-3386

Verification of remotely sensed ice thickness data. Prinsenberg, S.J., [1991, p.201-212, eng] 47-3408

Thin-ice statistics for strength calculations without sub-category classification. Soulis, E.D., et al, [1991, p.213-226, eng] 47-3409

Ice detector. Weinstein, L.M., [1988, 8 col., eng] 47-3503

Remote sensing of sea-ice thickness in the Weddell Sea. Swift, C.T., et al, [1991, p.92-93, eng] 47-3515

Summer pack-ice properties and structure in the western Ross Sea. Jeffries, M.O., et al, [1991, p.95-97, eng] 47-3517

Analysis of the characteristics of decrease in areas of ice massifs in the Novosibirsk region during summer. Egorov, A.G., et al, [1990, p.15-24, rus] 47-3585

Some characteristics of spatial irregularity in the thickness of stationary and drifting ice. Mironov, E.U., et al, [1990, p.42-53, rus] 47-3588

Possibility of short term forecasting of sea ice thickness. Kuznetsov, I.M., [1990, p.94-97, rus] 47-3594

Results of calculations of changes in the probability density distribution of ice thickness during melting. Appel', I.L., [1990, p.112-116, rus] 47-3597

Interactive coupling of a lake thermal model with a regional climate model. Hostetler, S.W., et al, [1993, p.5045-5057, eng] 47-3784

Sensitivity of a thermodynamic model of sea ice to parametrization of short-wave and long-wave radiation. Makshtas, A.P., et al, [1992, p.116-137, rus] 47-3811

Microwave ice accretion measuring instruments. Magenheim, B., et al, [1987, 20 col., eng] 47-3854

Breakup of shore fast sea ice. Squire, V.A., [1993, p.211-218, eng] 47-3925

Movement of icebreakers in complicated ice conditions. Rubanov, A.N., [1991, p.153-156, rus] 47-3966

Changes of characteristics of arctic sea ice in case of a doubling of carbon dioxide. Kolomeev, M.P., et al, [1992, p.34-40, eng] 47-3991

Constraints on ice-sheet thickness over Tibet during the last 40,000 years. Gupta, S.K., et al, [1992, p.283-290, eng] 47-4022

Is the Greenland ice sheet getting thicker. Braithwaite, R.J., [1993, p.379-381, eng] 47-4136

Interpretation of short-term ice-sheet elevation changes inferred from satellite altimetry. Van der Veen, C.J., [1993, p.383-405, eng] 47-4137

On the extent and thickness of the Innuitian Ice Sheet: a postglacial-adjustment approach. Tushingham, A.M., [1991, p.231-239, eng] 47-4160

High-latitude processes in a coupled ocean-atmosphere general circulation model. Roberts, D.L., [1988, p.89-91, eng] 47-4190

Ice and rubble failure loads on sloping structures by two-dimensional upper-bound plastic limit analysis. Luk, C.H., et al, [1993, p.157-168, eng] 47-4243

Effects of polar ice on the earth's rotation and gravitational potential. Trupin, A.S., [1993, p.273-283, eng] 47-4253

Variations in snow on sea ice: a mechanism for producing climate variations. Ledley, T.S., [1993, p.10,401-10,410, eng] 47-4291

Thermodynamic model of ice-atmosphere interactions. Ebert, E.E., et al, [1993, p.10,085-10,109, eng] 47-4378

Determination of dielectric constant of young sea ice using microwave spectral radiometry. St. Germain, K.M., et al, [1993, p.4675-4679, eng] 47-4389

Physical hydrology of the dry valley lakes. Chinn, T.J., [1993, p.1-51, eng] 47-4395

Perennial ice covers and their influence on antarctic lake ecosystems. Wharton, R.A., Jr., et al, [1993, p.53-70, eng] 47-4396

Instrument for measuring ice depth in aircraft fuel tanks. [1991, 36p., eng] 47-4404

Sea ice-ocean interaction. Lemke, P., [1987, p.439-451, eng] 47-4457

Model simulation of changes in arctic sea ice thickness, 1960-1989. Walsh, J.E., et al, [1991, p.346-349, eng] 47-4487

Sea ice models. Hibler, W.D., III, et al, [1992, p.413-436, eng] 47-4499

East antarctic sea ice: albedo, thickness distribution, and snow cover. Allison, I., et al, [1993, p.12,417-12,429, eng] 47-4519

Passive microwave remote sensing of thin sea ice using principal component analysis. Wensnahan, M.R., et al, [1993, p.12,453-12,468, eng] 47-4522

Climate instability indicated in a 250-kyr ice core record. Dansgaard, W., et al, [1993, p.218-220, eng] 47-4572

Monthly mean sea ice data from ice prediction models. Posey, P.G., et al, [1993, 6p. + append., eng] 47-4620

Comparison of conventional and passive microwave sea ice data sets for Hudson Bay. Etkin, D.A., [1991, 132p., eng] 47-4668

Matched field tomography results in the Arctic. Diachok, O.I., et al, [1992, p.24-27, eng] 47-4716

Sea ice constitutive behavior and under-ice noise. Pritchard, R.S., [1993, p.591-610, eng] 47-4839

Development of a portable ice-thickness measuring instrument. Adler, D., et al, [1992, 28p., eng] 47-4883

Development of a portable ice-measuring instrument. Doundoulakis, G.J., [1991, 31p. + append., eng] 47-4884

Nonsymmetric icing of guyed masts. Peil, U., et al, [1991, 10p., eng] 47-5012

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Ice cracks

Physics of fracture in ice. Wei, Y.C., [1992, 80p., eng] 47-269

Effect of stress state on the brittle compressive failure of columnar ice. Smith, T.R., [1992, 223p., eng] 47-280

Boundary element analysis of macrocracking of ice in a large test basin. Marcellus, R.W., et al, [1992, p.91-104, eng] 47-1021

Fracture analysis of ice forces on offshore structures. Ayoub, A.S., [1989, 99p., eng] 47-1317

Risk analysis for ice failure in ice-structure interaction. Parsons, B.L., [1990, 15p., eng] 47-1344

Mathematical model to describe hinge crack failure of a sheet ice reinforced ridge beam. Lau, M., [1991, 16p. + append., eng] 47-1354
Surface flaw density from three-point bend tests on ice beams. Lal, M., [1991, 91p., eng] 47-1369
Continuum damage propagation in a wedge-shape ice bar. Shin, J.G., et al. [1992, p.662-665, eng] 47-1855
Investigations of fracture toughness K1c of sea ice. Rogachko, S.I., et al. [1992, p.675-676, eng] 47-1858
Crack growth stability in saline ice. DeFranco, S.J., et al. [1991, p.25-36, eng] 47-2307
Dislocation movement at crack tip of single crystals of ice. Wei, Y.C., et al. [1991, p.62-73, eng] 47-2308
Notch acuity effects on the CTOD and K(Q) of ice. Dempsey, J.P., et al. [1990, p.333-342, eng] 47-2310
Preliminary study of electromagnetic emissions from cracks in ice. Fifolt, D.A., et al. [1993, p.289-299, eng] 47-3167
Polarization of electromagnetic emissions from cracking ice. Petrenko, V.F., [1993, p.301-305, eng] 47-3168
Automated processing and analysis of data on cracks in the sea ice cover, made from visual observations from an aircraft. Brestkin, S.V., et al. [1990, p.133-147, rus] 47-3600
Ice mechanics—1993. Dempsey, J.P., ed. [1993, 281p., eng] 47-3737
Micromechanical damage descriptor for polycrystalline ice. Elvin, A.A., et al. [1993, p.1-14, eng] 47-3738
Viscoelastic deformation behavior of ice based on micromechanical models. Schapery, R.A., [1993, p.15-33, eng] 47-3739
Prediction of ice failure by micromechanics. Wu, M.S., et al. [1993, p.35-47, eng] 47-3740
Interpretation of results of the fracture toughness tests on ice. Abdel-Tawab, K., et al. [1993, p.49-59, eng] 47-3741
Application of fractal/chaos concepts to ice mechanics: a review. Parsons, B.L., [1993, p.71-84, eng] 47-3743
Remote sensing of electromagnetic emission from cracking ice. Gluschenkov, O.V., et al. [1993, p.97-111, eng] 47-3745
Crack dynamics in a plate under bending. Slepyan, L.I., [1993, p.119-129, eng] 47-3747
Fracture analysis of penetration through floating sea ice plate and size effect. Bažant, Z.P., et al. [1993, p.131-144, eng] 47-3748
Indentation and splitting of freshwater ice floes. Sodhi, D.S., et al. [1993, p.165-175, eng] 47-3751
Crack nucleation mechanism in saline ice. Gupta, V., et al. [1993, p.199-216, eng] 47-3754
Fracture process zone analysis in saline ice. DeFranco, S.J., et al. [1993, p.217-227, eng] 47-3755
Ductile-to-brittle transition in ice under compression: grain size effect. Batto, R.A., et al. [1993, p.229-234, eng] 47-3756
Crack nucleation mechanisms and fracture toughness measurements in freshwater ice. Frost, H.J., et al. [1993, p.235-250, eng] 47-3757
Fracture and damage of ice: towards practical implementation. Jordaan, I.J., et al. [1993, p.251-260, eng] 47-3758
Preliminary experiments on creep crack growth in freshwater ice. Nixon, W.A., et al. [1993, p.273-280, eng] 47-3760
Size-effect in indentation-induced splitting floe experiments. Gupta, V., et al. [1993, p.29-34, eng] 47-4227
Notch sensitivity of first-year sea ice. Parsons, B.L., et al. [1993, p.1303-1313, eng] 47-4848
Numerical and experimental investigation of river ice cover cracking. Abdel-Zaher, A.K., [1992, 201p., eng] 47-4887
Fatigue crack propagation in freshwater ice. Final report. Nixon, W.A., et al. [1993, 42p., eng] 47-4898

Ice creep

Physics of fracture in ice. Wei, Y.C., [1992, 80p., eng] 47-269
Integrating the equations of motion of an ice sheet. Ivanov, A.I., [1991, p.131-136, rus] 47-330
Advances in ice technology: proceedings of the 3rd international conference. [1992, 365p., eng] 47-1013
Assessment of the mathematical modelling of the creep of ice and frozen soils. Azizi, F., [1992, p.3-14, eng] 47-1014
Ice plates as laminated composite structures. Vinogradov, A.M., [1992, p.65-75, eng] 47-1019
Determination of creep damage parameters for polycrystalline ice. Mahrenholtz, O., et al. [1992, p.181-192, eng] 47-1028
Three-dimensional viscoplastic flow model of polycrystalline ice. Fish, A.M., [1992, p.193-207, eng] 47-1029
Stress and time effects on the creep rate of polycrystalline ice. Kuo, S.S., [1992, p.209-224, eng] 47-1030
Nonsteady channel flow of ice as a modified second-order fluid with power-law viscosity. Man, C.S., [1992, p.35-57, eng] 47-1323
Combined creep and yield model of ice under multiaxial stress. Fish, A.M., [1992, p.740-749, eng] 47-1869
Experimental study of the influence of mixing silt on ice creep. Li, G., et al. [1992, p.1827-1830, eng] 47-1952
Ice sheets and climate. Alley, R.B., [1989, p.41-45, eng] 47-2196
Dislocation movement at crack tip of single crystals of ice. Wei, Y.C., et al. [1991, p.62-73, eng] 47-2308
Relationship between creep and fracture of ice. Rist, M.A., et al. [1991, p.355-369, eng] 47-2309
Creep law of rock ice with anisotropic fabric inferred from homogenization. Lliboutry, L.A., [1991, p.242-245, eng] 47-2314
Formation of glacial flutes: assessment of models. Gordon, J.E., et al. [1992, p.709-731, eng] 47-3441
Ductile ice. Schulson, E.M., et al. [1993, p.151-157, eng] 47-3564
Effect of creep on the constitutive behavior of saline ice at low strains. Cole, D.M., [1993, p.261-271, eng] 47-3759
Preliminary experiments on creep crack growth in freshwater ice. Nixon, W.A., et al. [1993, p.273-280, eng] 47-3760
Proceedings. Vol.4. Arctic/polar technology. [1993, 219p., eng] 47-4223
Creep and creep damage of polycrystalline ice under multiaxial variable loading. Wu, Z., et al. [1993, p.1-10, eng] 47-4224
Experimental study of the behaviour of columnar grained ice subjected to cyclic loading. Derradji-Aouat, A., et al. [1993, p.21-28, eng] 47-4226
Primary creep of ice plate under constant loading. Mahrenholtz, O., et al. [1993, p.97-104, eng] 47-4236
Creep response of laterally loaded piles in ice and permafrost. Puswewala, U.G.A., et al. [1993, p.223-240, eng] 47-4285
Combined creep and yield model of ice under multiaxial stress. Fish, A.M., [1993, p.130-138, eng] 47-4298
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Ice crossings

Bearing capacity tests on ice reinforced with Geogrid. Haynes, F.D., et al. [1992, 12p., eng] 47-2925

Ice crystal adhesion

Protective modification of freeze stress in plant tissue. Olien, R., [1992, p.255-260, eng] 47-2885

Ice crystal collision

Effects of high liquid water content on thunderstorm charging. Saunders, C.P.R., et al. [1992, p.14,671-14,676, eng] 47-252
Numerical simulation of ice phase microphysics in clouds, part 2. Kong, F.Y., et al. [1991, p.459-470, eng] 47-426
Review of thunderstorm electrification processes. Saunders, C.P.R., [1993, p.642-655, eng] 47-3507
High ice crystal production in winter cumuli over the Japan Sea. Takahashi, T., [1993, p.451-454, eng] 47-3729
Collision between graupel particles: a field observation and theory. Mizuno, H., et al. [1992, p.1037-1043, eng] 47-4019

Ice crystal growth

Evolution of stratiform cirrus simulated in a lifting layer. Zhang, Y., et al. [1992, p.23-33, eng] 47-6
Calculation of hydrometeor growth via water vapor diffusion. Srivastava, R.C., et al. [1992, p.1643-1651, eng] 47-7
Dendritic crystallization of supercooled solutions. Harrison, K.M., [1989, 113p., eng] 47-86
Dendritic growth of ice crystals with natural convection. Koo, K.K., [1992, 192p., eng] 47-279
Growth, evaporation and melting of ice crystals. Oraltay, R.G., [1991, 126p., eng] 47-307
Cool rain in a three-dimensional shallow-cloud model. Takahashi, T., et al. [1992, p.739-748, eng] 47-826
Ice crystal growth and lectins. Rubinsky, B., et al. [1992, p.113-114, eng] 47-906
Premelting of ice in exfoliated graphite: a neutron diffraction study. Gay, J.M., et al. [1992, p.33-41, eng] 47-1383
Structure and physical properties of snow and ice. Maeno, N., ed. [1986, 209p., jpn] 47-1679
Concentration of black liquor by freeze crystallization. Egan, C.J., et al. [1982, p.471-479, eng] 47-1882
Charge separation by ice and water drops during growth and evaporation. Dong, Y.Y., et al. [1992, p.20,361-20,371, eng] 47-2050
Development of ice and precipitation in New Mexican summertime cumulus clouds. Blyth, A.M., et al. [1993, p.91-120, eng] 47-2146
Aerosol scavenging by ice in supercooled clouds. Song, N.H., et al. [1991, p.63-74, eng] 47-2208
Scavenging of aerosols by ice crystals. Prodi, F., et al. [1991, p.75-86, eng] 47-2209
Effect of internal charge distribution in ice crystals on scavenging of aerosol particles. Zhang, R.Y., et al. [1991, p.97-108, eng] 47-2211
Comparison of cloud microphysics parameterizations for simulation of mesoscale clouds and precipitation. Lee, I.Y., [1992, p.2699-2712, eng] 47-2251
Proceedings. [1992, 523p., eng] 47-2253
Ice crystal nucleation scheme applying by 3-D simulation of cirrus clouds. Levkov, L., et al. [1992, p.237-240, eng] 47-2257
Ice nucleation or ice crystal formation? An analysis of mechanisms. Pitter, R.L., et al. [1992, p.271-274, eng] 47-2265
Ice crystal formation in cirrus cloud. Matsuo, T., et al. [1992, p.283-286, eng] 47-2268
Modification of aerosol chemistry by reactions in atmospheric ice crystals. Finnegan, W.G., et al. [1992, p.399-402, eng] 47-2280
Dual freezing chamber system and method for water purification. Chang, C.N., [1989, 14 col., eng] 47-3332
Crystallizing apparatus. Connery, C.A., [1989, 12 col., eng] 47-3333
Growth rate of polyhedral ice crystals growing from the vapor phase and their habit change. Sei, T., et al. [1989, p.495-502, eng] 47-3465
Three-dimensional growth in ice dendrites. Furukawa, Y., et al. [1993, p.234-239, eng] 47-3469
Ice crystals produced by expansion: experiments and application to aircraft-produced ice. Foster, T.C., et al. [1993, p.716-728, eng] 47-3509
Temperature dependence of negative ice crystal growth. Furukawa, Y., et al. [1993, p.571-581, eng] 47-3649
High ice crystal production in winter cumuli over the Japan Sea. Takahashi, T., [1993, p.451-454, eng] 47-3729
Phase transformations and dislocations in saline ice compliance. McKittrick, L.R., et al. [1993, p.189-198, eng] 47-3753
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Effects of infrared cooling and ice microphysics on large-scale cloud simulations. Lee, J.L., et al. [1991, p.295-298, eng] 47-4484
Microbubble mediated surface probe and the ice-antifreeze glycoprotein solution system. Vesenka, J.P., et al. [1993, p.67-74, eng] 47-4757
Influence of polysaccharides on the glass transition in frozen sucrose solutions and ice cream. Goff, H.D., et al. [1993, p.1268-1277, eng] 47-4849
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Ice crystal nuclei

Optimal amounts of organic ice-forming reagents in clouds in order to produce precipitation. Stalevich, D.D., et al. [1991, p.34-43, rus] 47-92
Study of the ice-forming properties of copper acetylacetonate. Molotkova, I.A., et al. [1991, p.44-48, rus] 47-93
In-cloud removal of trace chemicals. Chen, J.P., et al. [1993, p.53-56, eng] 47-3100
Observations of the initial stage of ice phase evolution in supercooled clouds. Nevzorov, A.N., et al. [1992, p.69-76, eng] 47-3458

Ice crystal optics

Phenomenology of a water venting in low earth orbit. Kofsky, I.L., et al. [1992, p.325-347, eng] 47-81
Optical search for surface melting of ice. Elbaum, M., [1992, 166p., eng] 47-275
Brightness temperature properties of a cloud radiation model. Smith, E.A., et al. [1992, p.506-531, eng] 47-354
Rainfall estimation over oceans from SMMR and SSM/I microwave data. Prabhakara, C., et al. [1992, p.532-552, eng] 47-355
Dual polarization radar observations of anomalous wintertime thunderclouds in Japan. Maekawa, Y., et al. [1992, p.838-844, eng] 47-361
Infrared emittance of water clouds. Chýlek, P., et al. [1992, p.1459-1472, eng] 47-410
Effects of small ice crystals on cirrus infrared radiative properties. Takano, Y., et al. [1992, p.1487-1493, eng] 47-411
Dual-wavelength radar method for ice-water characterization in mixed-phase clouds. Gosset, M., et al. [1992, p.538-547, eng] 47-412
Light scattering by nonspherical ice grains: an application to noctilucent cloud particles. Mishchenko, M.I., [1992, p.203-211, eng] 47-772
Observing precipitation through dual-polarization radar measurements. Herzegh, P.H., et al. [1992, p.1365-1374, eng] 47-822
Physical properties of suspended ice crystals with respect to optical effects. Hogan, A.W., [1990, p.123-132, eng] 47-912
Vertical retrieval of solar and infrared irradiances in the stratiform regions of EMEX cloud clusters. Churchill, D.D., [1992, p.1229-1247, eng] 47-1119
Subvisual-thin cirrus lidar dataset for satellite verification and climatological research. Sassen, K., et al. [1992, p.1275-1285, eng] 47-1120
Annual cycle of radiation fluxes over the Arctic Ocean: sensitivity to cloud optical properties. Curry, J.A., et al. [1992, p.1267-1280, eng] 47-1549
Radar sensing of precipitation: circular polarization effects. Antar, Y.M.M., et al. [1992, p.7-16, eng] 47-1562
Overview of sea ice physical properties and their variability. Richter-Menge, J.A., et al. [1992, p.486-497, eng] 47-1808
Precipitation retrieval from a cloud radiation model. Mugnai, A., et al. [1993, p.17-39, eng] 47-1995

Ice crystal optics *(cont.)*

Ice-cloud depolarization of backscatter for CO2 and other infrared lidars. Eberhard, W.L., [1992, p.6485-6490, eng] **47-2043**

Scattering effects of ice needles in satellite communications. Howard, J., [1989, p.411-415, eng] **47-2073**

Investigations of the relationship between cloudwater and precipitation chemistry using Doppler radar. Collett, J.L., Jr., et al, [1991, p.381-392, eng] **47-2213**

Lidar measurement of cirrus clouds backscattering. Ansmann, A., et al, [1992, p.7113-7131, eng] **47-2663**

Cloud clearing with a CO2 laser in a cirrus cloud simulation facility. Waggoner, A.P., et al, [1992, p.5871-5877, eng] **47-2664**

Novel digital holographic imaging system for observing ice *crystals in cirrus.* Cormack, R.H., et al, [1993, p.25-29, eng] **47-3061**

New airborne precipitation spectrometer for atmospheric research. Lawson, R.P., et al, [1993, p.30-35, eng] **47-3062**

Measurements on contrails of commercial aircraft. Baumann, R., et al, [1993, p.484-489, eng] **47-3079**

Cirrus optical properties determination from actinometric observations. Tarasova, T.A., [1992, p.690-696, eng] **47-3156**

Cirrus identification from multichannel satellite data. Sterliadkina, E.A., et al, [1992, p.729-733, eng] **47-3158**

Multiple-scattering lidar experiments. Werner, C., et al, [1992, p.1731-1745, eng] **47-3160**

Polarimetric observations and theory of millimeter-wave backscatter from snow cover. Mead, J.B., et al, [1993, p.38-46, eng] **47-3172**

Melting transition at ice crystal glass substrate interface. Furukawa, Y., et al, [1993, p.1137-1142, eng] **47-3289**

Combined infrared emission spectra and radar reflectivity studies of cirrus clouds. Palmer, A.J., et al, [1993, p.64-69, eng] **47-3356**

UV-excited luminescences from amorphous and polycrystalline H2O ices. Lennon, D., et al, [1993, p.120-126, eng] **47-3513**

Calculation of microwave brightness temperatures over a thunderstorm. Muller, B.M., et al, [1993, p.1006-1013, eng] **47-3567**

Identification and yield of carbonic acid and formaldehyde in irradiated ices. DelloRusso, N., et al, [1993, p.5505-5510, eng] **47-3650**

Cloud property inference from satellite-observed radiance, pt.1. Minnis, P., et al, [1993, p.1279-1304, eng] **47-3731**

Cloud property inference from satellite-observed radiance, *pt.2. Minnis, P., et al, [1993, p.1305-1322, eng]* **47-3732**

Optical techniques for the measurement of frazil ice. Pegau, W.S., et al, [1992, p.498-507, eng] **47-3734**

Stress-optic effects in ice. Ravi-Chandar, K., et al, [1993, p.113-117, eng] **47-3746**

Depolarization of radio waves by ice crystals. Mackawa, Y., et al, [1993, p.249-259, eng] **47-4062**

Method for determining cirrus cloud particle sizes using lidar and radar backscatter technique. Intrieri, J.M., et al, [1993, p.1074-1082, eng] **47-4081**

Wind-profile estimation by conventional radars. Fabry, F., [1993, p.40-49, eng] **47-4165**

Scattering of light by polyhedral ice crystals. Macke, A., [1993, p.2780-2788, eng] **47-4348**

Parameterization of the radiative properties of cirrus clouds. Fu, Q., et al, [1993, p.2008-2025, eng] **47-4459**

Scattering indices for water drops and ice particles in clouds. Ajvazyan, H.M., [1993, p.1137-1154, eng] **47-4509**

Hail detection using active and passive radars. Ajvazyan, H.M., et al, [1993, p.1155-1174, eng] **47-4510**

Polarimetric measurements in a severe hailstorm. Zrnić, D.S., et al, [1993, p.2223-2238, eng] **47-4706**

High-resolution radiometry of cirrus clouds. Ou, S.C., et al, [1993, p.2171-2180, eng] **47-4713**

Polarized infrared radiation in ice crystals. Takano, Y., et al, [1993, p.1243-1256, eng] **47-4737**

Refractive indices of water and ice in the 0.65- to 2.5-*micron spectral range.* Kou, L.H., et al, [1993, p.3531-3540, eng] **47-5147**

Satellite retrieval of lower-tropospheric ice crystal clouds in the polar regions. Wilson, L.D., et al, [1993, p.1467-1472, eng] **47-5214**

Ice crystal replicas

Spot tests for the detection of nitrate and sulfate particles in ice crystals. Oraltay, R.G., et al, [1992, p.395-398, eng] **47-2279**

Ice crystal size

Physical properties of suspended ice crystals with respect to optical effects. Hogan, A.W., [1990, p.123-132, eng] **47-912**

Novel digital holographic imaging system for observing ice crystals in cirrus. Cormack, R.H., et al, [1993, p.25-29, eng] **47-3061**

Observations of cirrus cloud microphysical properties. Noone, K.B., et al, [1993, p.294-303, eng] **47-3773**

Influence of polysaccharides on the glass transition in frozen sucrose solutions and ice cream. Goff, H.D., et al, [1993, p.1268-1277, eng] **47-4849**

Homogeneous ice nucleation and supercooled liquid water in orographic wave clouds. Heymsfield, A.J., et al, [1993, p.2335-2353, eng] **47-4891**

Ice crystal structure

Energy and structure of Bjerrum defects in ice Ih determined with an additive and a nonadditive potential. Hassan, R., et al, [1992, p.4326-4335, eng] **47-222**

Fracture toughness Kq and fractography of S1 type freshwater ice. Dempsey, J.P., et al, [1989, p.3421-3428, eng] **47-236**

On the crystal structure and growth of river ice. Lepparanta, M., et al, [1988, p.181-190, eng] **47-730**

Calorimetric study of pressure-amorphized cubic ice. Johari, G.P., et al, [1990, p.1212-1214, eng] **47-817**

Ice crystal growth and lectins. Rubinsky, B., et al, [1992, p.113-114, eng] **47-906**

Premelting of ice in exfoliated graphite: a neutron diffraction study. Gay, J.M., et al, [1992, p.33-41, eng] **47-1383**

Observations of the water-vein system in polycrystalline ice. Mader, H.M., [1992, p.333-347, eng] **47-1386**

Thermal behaviour of the water-vein system in polycrystalline ice. Mader, H.M., [1992, p.359-374, eng] **47-1388**

Structure and physical properties of snow and ice. Maeno, N., ed, [1986, 209p., jpn] **47-1679**

Influence of structural anisotropy of sea ice on its mechanical and electrical properties. Borodkin, V.A., et al, [1992, p.670-674, eng] **47-1857**

Spot tests for the detection of nitrate and sulfate particles in ice crystals. Oraltay, R.G., et al, [1992, p.395-398, eng] **47-2279**

Structure of ice-Ih. Kuhs, W.F., et al, [1986, p.1-65, eng] **47-2306**

Dislocation movement at crack tip of single crystals of ice. Wei, Y.C., et al, [1991, p.62-73, eng] **47-2308**

Creep law of rock ice with anisotropic fabric inferred from homogenization. Lliboutry, L.A., [1991, p.242-245, eng] **47-2314**

Attenuation of acoustic waves in antarctic ice. Price, P.B., [1993, p.346-356, eng] **47-3097**

Effects of electric fields on ice deformation. Petrenko, V.F., et al, [1993, p.173-185, eng] **47-3174**

Surface-defect vibrational modes of large ice clusters. Rowland, B., et al, [1993, p.2485-2487, eng] **47-3177**

Compression jig for x-ray topography of ice. Liu, F., et al, [1993, p.416-421, eng] **47-3468**

Three-dimensional growth in ice dendrites. Furukawa, Y., et al, [1993, p.234-239, eng] **47-3469**

UV-excited luminescences from amorphous and polycrystalline H2O ices. Lennon, D., et al, [1993, p.120-126, eng] **47-3513**

Inclusion-exclusion calculation of the dipole-dipole energy of hexagonal ice and of cubic ice. Huckaby, D.A., et al, [1993, p.8105-8109, eng] **47-3581**

Ab initio studies on the structural and dynamical properties of ice. Lee, C.Y., et al, [1993, p.4863-4872, eng] **47-3583**

Temperature dependence of negative ice crystal growth. Furukawa, Y., et al, [1993, p.571-581, eng] **47-3649**

Crystal structure and flexural strength of small sea ice beams. Shapiro, L.H., et al, [1993, p.177-188, eng] **47-3752**

Phase transformations and dislocations in saline ice compliance. McKittrick, L.R., et al, [1993, p.189-198, eng] **47-3753**

Novel processes of dislocation multiplication observed in ice. Shearwood, C., et al, [1993, p.205-210, eng] **47-3777**

Modeling and numerical simulations of dendritic crystal growth. Kobayashi, R., [1993, p.410-423, eng] **47-4071**

Small vertical supercooled cloud tunnel system for the study of ice (snow) crystal growth. Gong, N.H., et al, [1992, p.254-262, eng] **47-4074**

On the reproduction of ice from a common seed. Barrette, P., et al, [1993, p.153-156, eng] **47-4290**

Scattering of light by polyhedral ice crystals. Macke, A., [1993, p.2780-2788, eng] **47-4348**

Ecological environmental features of antarctic sea ice and its role in the marine ecosystems. Wang, Z.P., et al, [1993, p.1-15, chi] **47-4646**

Low-energy electron diffraction study of oxygen, water and ice adsorption on Pt(111). Starke, U., et al, [1993, p.432-437, eng] **47-4732**

Ice crystals

Adsorption of HCl on ice under stratospheric conditions. Kroes, G.J., et al, [1992, p.1355-1358, eng] **47-49**

Changes of crystal c-axis orientation fabric in uniaxial extension tests. Li, J., et al, [1992, p.29-35, chi] **47-72**

Effect of static electric fields on protonic conductivity of ice single crystals. Petrenko, V.F., et al, [1992, p.341-353, eng] **47-243**

Petrographic and salinity characteristics of brackish water *ice in the Bay of Bothnia.* Gow, A.J., et al, [1992, 36p., eng] **47-706**

Calculating the processes of condensation and coagulation growth of droplets and ice crystal aggregates. Sergeev, B.N., [1991, p.85-96, rus] **47-890**

Advances in ice technology: proceedings of the 3rd international conference. [1992, 365p., eng] **47-1013**

Determination of creep damage parameters for polycrystalline ice. Mahrenholtz, O., et al, [1992, p.181-192, eng] **47-1028**

Three-dimensional viscoplastic flow model of polycrystalline ice. Fish, A.M., [1992, p.193-207, eng] **47-1029**

Stress and time effects on the creep rate of polycrystalline ice. Kuo, S.S., [1992, p.209-224, eng] **47-1030**

Numerical simulation of self-organized stone stripes. Werner, B.T., et al, [1993, p.142-145, eng] **47-1596**

Transfer of ions within the system soil-snow and the role of ice surface in their migration. Ostroumov, V.E., et al, [1992, p.127-135, eng] **47-1717**

Structural characteristics and development of sea ice in the western Ross Sea. Jeffries, M.O., et al, [1993, p.63-75, eng] **47-2245**

Energy density of water and ice nucleation. [Comment]. Wilen, L., [1993, p.1469, eng] **47-2318**

Energy density of water and ice nucleation. [Response] Lahav, M., et al, [1993, p.1469-1470, eng] **47-2319**

Comparison of in-cloud measurements obtained with six *PMS 2D-C probes.* Gayet, J.F., et al, [1993, p.180-194, eng] **47-2768**

Relative dispersion of ice crystals in seeded cumuli. Weil, J.C., et al, [1993, p.1055-1073, eng] **47-4080**

Solvation, freezing, and the crystal/liquid interface: modern theories and computer simulation. Haymet, A.D.J., [1993, p.415-426, eng] **47-4216**

Proceedings. Vol.4. Arctic/polar technology. [1993, 219p., eng] **47-4223**

Creep and creep damage of polycrystalline ice under multi-axial variable loading. Wu, Z., et al, [1993, p.1-10, eng] **47-4224**

Flow properties of crushed ice. Singh, S.K., et al, [1993, p.11-19, eng] **47-4225**

Experimental study of the behaviour of columnar grained *ice subjected to cyclic loading.* Derradji-Aouat, A., et al, [1993, p.21-28, eng] **47-4226**

Measurement of cleavage strength in freshwater ice crystals by a laser spallation technique. Gupta, V., et al, [1993, p.35-44, eng] **47-4228**

Primary creep of ice plate under constant loading. Mahrenholtz, O., et al, [1993, p.97-104, eng] **47-4236**

Measurements of high number densities of ice crystals in the tops of tropical cumulonimbus. Knollenberg, R.G., et al, [1993, p.8639-8664, eng] **47-4379**

Numerical modeling of the coagulation and aggregation of *ice crystals and snowflakes.* Sergeev, B.N., et al, [1992, p.71-79, rus] **47-4658**

Antifreeze glycopeptide adsorption on single crystal ice surfaces using ellipsometry. Wilson, P.W., et al, [1993, p.1878-1884, eng] **47-5059**

Ice cutting

Field testing of new cutting edges for ice removal from pavements. Nixon, W.A., et al, [1992, 10p., eng] **47-953**

Development of laser ice-cutting apparatus. Zeller, E.J., et al, [1991, p.89-91, eng] **47-2474**

Ice mill for chemical analysis of trace gases in ice bubbles. Fuchs, A., et al, [1993, p.199-203, eng] **47-3952**

Ice preparation machine for ice tracks. Schiehe, H., [1987, 4 col., eng] **47-4005**

Analysis for dynamic ice structure interaction involving finite difference model and damage considerations. Iyer, S.H., et al, [1993, p.199-206, eng] **47-4247**

Tests on developing an ice groove cutting device. Horibe, K., et al, [1982, p.37-46, jpn] **47-4938**

Ice dams

Using ice and ice phenomena in the national economy: geophysical aspect. Falko, L.I., [1986, 155p., rus] **47-94**

Jökulhlaups in the Kunmalike River, southern Tien Shan mountains, China. Liu, J.S., [1992, p.85-88, eng] **47-1091**

Real time system for flood forecasting of an ice dam outburst. Fernández, P., et al, [1990, p.85-91, eng] **47-1169**

Development of an ice-dammed lake: the contemporary and older sedimentary record. Johnson, P.G., et al, [1992, p.304-313, eng] **47-1587**

Ice dam preventer. Daniel, G.S., [1988, 4 col., eng] **47-3497**

Geology of bay after breakup of Hubbard Glacier ice dam. Carlson, P.R., et al, [1992, 41p., eng] **47-3708**

Analysis of conditions and long-term forecast of ice-dam levels on the Lena. Kilmianinov, V.V., [1992, p.64-69, eng] **47-3993**

Probablistic computation of maximum ice-dam water levels. Buzin, V.A., [1992, p.56-62, eng] **47-4025**

Ice dating

Continuous 770-year record of volcanic activity from East Antarctica. Moore, J.S., et al, [1991, p.17,353-17,359, eng] **47-348**

Investigations of Himalayan glaciers using radioactive and stable isotopes: a review. Nijampurkar, V.N., et al, [1985, p.174-179, eng] **47-570**

Changes in tropospheric methane, 1841-1978, from ice core. Etheridge, D.M., et al, [1992, p.282-294, eng] **47-832**

1000 years of explosive volcanism recorded at the South Pole. Delmas, R.J., et al. [199_, p.335-350, eng] 47-834

Trends and features of climatic changes in the past 5000 years recorded by the Dunde ice core. Yao, T.D., et al. [1992, p.21-24, eng] 47-1081

Ice-core dating and chemistry by direct-current electrical conductivity. Taylor, K., et al. [1992, p.327-332, eng] 47-1385

Reflection of twentieth-century climatic warming in glacier cores from Nordaustlandet. Sin'kevich, S.A., [1992, p.114-122, eng] 47-1763

Oxygen isotope study of ice fields in East Antarctica. Faure, G., et al. [1992, p.15-26, eng] 47-2869

Oxygen-18 in permafrost ice. Vaikmäe, R., [1992, p.587-601, eng] 47-3151

PIXE analysis as a tool for dating of ice cores from the Greenland ice sheet. Hansson, H.C., et al. [1993, p.428-434, eng] 47-4592

Ice deformation

Deformation of ice cover: some results of plane numerical modelling. Gol'dshtein, R.V., et al. [1992, p.367-371, eng] 47-167

Physics of fracture in ice. Wei, Y.C., [1992, 80p., eng] 47-269

Motion of a weighted wire through ice in the regelation and recrylation regimes. Cowles, J.H., Jr., [1991, 201p., eng] 47-309

Irregular oscillations of the west antarctic ice sheet. MacAyeal, D.R., [1992, p.29-32, eng] 47-352

Stress-induced foliation formed by surging in a glacier tongue. Pfeffer, W.T., [1992, p.213-222, eng] 47-462

Measurement, analysis, and modeling of deformation of the shelf flow. Tyrd Glacier. Zhao, Z.H.M., [1990, 108p., eng] 47-486

Stress and time effects on the creep rate of polycrystalline ice. Kuo, S.S., [1992, p.209-224, eng] 47-1030

Large-scale thermal bending fracture of sea ice plates. Bažant, Z.P., [1992, p.17,739-17,751, eng] 47-1063

Surface flaw density from three-point bend tests on ice beams. Lal, M., [1991, 91p., eng] 47-1369

Intra-seasonal changes in deformation profiles revealed by borehole studies, Storglaciären, Sweden. Hooke, R.L., et al. [1992, p.348-358, eng] 47-1387

Tension faults on the Eskström Ice Shelf. Nixdorf, U., [1992, 101p., ger] 47-1437

Investigation of icequakes on the Greenland icesheet near Jakobshavn Icestream, June-July 1980. Qamar, A., et al. [1983, 38p., eng] 47-1688

Continuum damage propagation in a wedge-shape ice bar. Shin, J.G., et al. [1992, p.662-665, eng] 47-1855

Combined creep and yield model of ice under multiaxial stress. Fish, A.M., [1992, p.740-749, eng] 47-1869

Arctic ice stress measurements. Lau, P.A., et al. [1991, p.645-650, eng] 47-2183

Ice mechanics in the LeadEx program. Coon, M.D., et al. [1991, p.651-656, eng] 47-2184

Structural characteristics and development of sea ice in the western Ross Sea. Jeffries, M.O., et al. [1993, p.63 eng] 47-2315

Dislocation movement at crack tip of single crystals of ice. Wei, Y.C., et al. [1991, p.62-73, eng] 47-2308

Relationship between creep and fracture of ice. Rist, M.A., et al. [1991, p.355-369, eng] 47-2309

Sea ice deformation in the Beaufort Sea. Overland, J.E., et al. [1992, p.64-67, eng] 47-2382

Formation of ice-stream rafts by recrystallization. Alley, R.B., [1991, p.66-67, eng] 47-2466

Clues to causes of deformation features in coastal sea ice. Kozo, T.L., et al. [1992, p.385,388-389, eng] 47-2597

Bore-hole survey at Camp Century, 1989. Gundestrup, N.S., et al. [1993, p.187-193, eng] 47-2649

Characteristics of the spatial structure of subsurface ice in the vicinity of Vostok Station, Antarctica. Chashchinov, IU.M., et al. [1991, p.121-125, rus] 47-2800

Effects of electric fields on ice deformation. Petrenko, V.F., et al. [1993, p.173-185, eng] 47-3174

On the propagation of discontinuities in a drifting ice cover. Marchenko, A.V., [1992, p.346-358, eng] 47-3230

Compression jig for x-ray topography of ice. Liu, F., et al. [1993, p.416-421, eng] 47-3468

Ice mechanics—1993. Dempsey, J.P., ed. [1993, 281p., eng] 47-3737

Micromechanical damage descriptor for polycrystalline ice. Elvin, A.A., et al. [1993, p.1-14, eng] 47-3738

Viscoelastic deformation behavior of ice based on micromechanical models. Schapery, R.A., [1993, p.15-33, eng] 47-3739

Prediction of ice failure by micromechanics. Wu, M.S., et al. [1993, p.35-47, eng] 47-3740

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Fracture and damage of ice: towards practical implementation. Jordaan, I.J., et al. [1993, p.251-260, eng] 47-3758

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Method and apparatus for deicing a leading edge. Briscoe, J.A., et al. [1987, 14 col., eng] 47-3849

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Results from indentation tests in sea ice. Kärnä, T., et al. [1993, p.177-185, eng] 47-4245

Dynamical problems of ice cover fracture. Pushkin, A.V., et al. [1991 p.212-219, eng] 47-4282

Computer-based simulation of the ice fracture near a vertical pile. Matskevitch, D.G., et al. [1992, p.123-128, eng] 47-4286

Combined creep and yield model of ice under multiaxial stress. Fish, A.M., [1993, p.130-138, eng] 47-4298

Dynamics of ice cover interacting with ocean and atmosphere. Kheisin, D.E., [1993, p.51-55, eng] 47-4300

Radiometric sea ice features from aircraft images. Farmer, L.D., et al. [1993, p.4645-4665, eng] 47-4387

Sea ice deformation observed with ERS-1 SAR. Rothrock, D.A., et al. [1993, p.301-306, eng] 47-4429

Arctic pack ice thermal stress related to under-ice noise. Lewis, J.K., et al. [1993, p.573-590, eng] 47-4838

Numerical and experimental investigation of river ice cover cracking. Abdel-Zaher, A.K., [1992, 201p., eng] 47-4887

Fatigue crack propagation in freshwater ice. Final report. Nixon, W.A., et al. [1993, 42p., eng] 47-4898

Ice density

Physical and dynamic properties of sea ice in the polar oceans. Gow, A.J., et al. [1991, 46p., eng] 47-704

CD model ice—preliminary observations on the effect of density on tank testing. Spencer, D.S., [1992, 7p., eng] 47-1348

Mathematical model for predicting the densification and growth of frost on a flat plate. Tao, Y.X., et al. [1993, p.353-363, eng] 47-2608

Results of calculations of changes in the probability density distribution of ice thickness during melting. Appel', I.L., [1990, p.112-116, rus] 47-3597

Comments on paper by K.F. Jones. Levi, L., et al. [1993, p.599-609, eng] 47-3646

Hail growth hysteresis. Johnson, D.B., et al. [1992, p.2525-2532, eng] 47-3674

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Icing of turbine intake louvers. Walsh, M.R., et al. [1993, 37p., eng] 47-4095

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Surface-based radar remote sensing of ice in Canada. Lewis, E.O., et al. [1992, p.259-266, eng] 47-146

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Backscattering from ice crystals in radar meteorology. Dungey, C.E., [1991, 152p., eng] 47-300

Second generation ice navigation system: implementation phase II. Gautier, C., [1992, 47p. + appends., eng] 47-605

Second generation ice navigation system: implementation phase I. Gautier, C., [1991, 35p. + appends., eng] 47-607

System for monitoring ice in polar regions by SAR. Schistad, A.H., et al. [1992, p.128-130, eng] 47-640

Automatic tracking ice floe from satellite imagery via invariant moment matching. Zhang, H.J., [1992, p.582-584, eng] 47-653

Ice motion retrieval from SAR imagery in terms of intensity derivative. Yan, S., [1992, p.585-587, eng] 47-654

Performance of the ice motion tracker at the Alaska SAR Facility. Kwok, R., et al. [1992, p.588-590, eng] 47-655

Angular variation of the infrared emissivity of ice and water surfaces. Rees, W.G., et al. [1992, p.2873-2886, eng] 47-821

Observing precipitation through dual-polarization radar measurements. Herzegh, P.H., et al. [1992, p.1365-1374, eng] 47-822

First ERS-1 SAR image acquired at Kiruna Salmijarvi, Spitsbergen (Norway). [1992, p.2515-2516, eng] 47-865

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Pavement temperature sensor. Katz, D.I., [1992, 7p., eng] 47-956

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Toward the improvement of aircraft-icing forecasts for the continental United States. Schultz, P., et al. [1992, p.491-500, eng] 47-1058

Surface and airborne infrared detection of sea ice hazards. Worsfold, R.D., [1981, 119p., eng] 47-1315

Ice and fog: detection and warning systems (Nov 83-present). Whitney, C.M., [1992, n.p., eng] 47-1495

Proceedings. [1989, 272p., eng] 47-1681

Ice threshold in molecular clouds: a diagnostic of the *infrared radiation field.* Williams, D.A., et al. [1992, p.599-601, eng] 47-1787

Ice-cloud depolarization of backscatter for CO2 and other infrared lidars. Eberhard, W.L., [1992, p.6485-6490, eng] 47-2043

Ice-producing processes in North Dakota clouds. Detwiler, A.G., et al. [1992, p.305-308, eng] 47-2273

Use of radar measurements to investigate hail formation in clouds. Alvazian, G.M., [1991, p.208-217, eng] 47-2543

Quantitative analysis of sea ice remote sensing imagery. Korsnes, R., [1993, p.295-311, eng] 47-2752

Frensor—a new smart pavement sensor. Katz, D.I., [1993, p.19-22, eng] 47-3060

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Compositional state detection system and method. Sinnar, A.M., [1989, 12 col., eng] 47-3113

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Observation car to detect snow and ice on roads. Abe, O., [1992, p.145-167, jpn] 47-3299

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IPIX radar: a tool for ocean surveillance and meteorological research. Currie, B.W., et al. [1991, p.25-36, eng] 47-3373
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Vertical stability of surface waters and phytoplankton bloom in Weddell Sea marginal ice zone. Veth, C., et al. [1992, p.237-243, eng] 47-1329
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Beaufort Sea extreme waves study. Eid, B.M., et al. [1992, Var. p., eng] 47-2622
Carbonate chemistry of the wintertime Bering Sea marginal ice zone. Chen, C.T.A., [1993, p.67-87, eng] 47-2632
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Atmospheric boundary layer features observed in the spring marginal ice zone. Guest, P.S., et al. [1988, p.73-74, eng] 47-4185
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Ice studies in the Barents Sea by ERS-1 SAR during SIZEX 92. Johannessen, O.M., et al. [1993, p.277-282, eng] 47-4425
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Ice electrical properties
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Geometry of OH- defect in condensed water phase. Defect localization and cooperative interaction of H-bonds. Isaev, A.N., et al, [1992, p.14-19, eng] 47-203
Study of proton transfer in ice. Isaev, A.N., et al, [1992, p.19-25, eng] 47-204
"Electric current" states of the proton in water. Bingi, V.N., [1991, p.1068-1071, eng] 47-230
Effect of static electric fields on protonic conductivity of ice single crystals. Petrenko, V.F., et al, [1992, p.341-353, eng] 47-243
Coherent Antarctic Radar Depth Sounder (CARDS) design, development and results. Garudachar, R., [1989, 169p., eng] 47-349
Electromagnetic emissions associated with dynamic processes in ice. Bogorodskii, V.V., et al, [1992, p.43-46, eng] 47-414
Dielectric properties of ice and snow at 26.5 to 40 GHz. Koh, G., [1992, p.820-822, eng] 47-660
Review of the microwave dielectric and extinction properties of sea ice and snow. Hallikainen, M., [1992, p.961-965, eng] 47-665
Towards a quantitative characterization of sea ice microstructure. Perovich, D.K., et al, [1992, p.1249-1252, eng] 47-672
Effective permittivity of saline ice under thermal variation. Nghiem, S.V., et al, [1992, p.1256-1258, eng] 47-674
Electrical and microwave evolution of sea water into young ice. Onstott, R.G., [1992, p.1259-1261, eng] 47-675
Analysis of scattering from a thin saline ice layer. Fung, A.K., et al, [1992, p.1262-1264, eng] 47-676
Application of theoretical models to active and passive remote sensing of saline ice. Han, H.C., et al, [1992, p.1265-1267, eng] 47-677
Microwave sea ice signature modeling: connecting models to the real world. Winebrenner, D.P., et al, [1992, p.1268-1270, eng] 47-678
Development of instrumentation for measuring dielectric constant of sea ice. Ma, H.J., et al, , 992, p.1271-1272, eng] 47-679
Ice-core dating and chemistry by direct-current electrical conductivity. Taylor, K., et al, [1992, p.325-332, eng] 47-1385
Model calculations of Auger energy shifts in liquid water and ice. Knuts, S., et al, [1992, p.95-103, eng] 47-1675
Influence of structural anisotropy of sea ice on its mechanical and electrical properties. Borodkin, V.A., et al, [1992, p.670-674, eng] 47-1857
Energy density of water and ice nucleation. [Comment]. Wilen, L., [1993, p.1469, eng] 47-2318
Microwave remote sensing of sea ice. Carsey, F.D., ed. [1992, 462p., eng] 47-3014
Physical properties of sea ice relevant to remote sensing. Tucker, W.B., et al, [1992, p.9-28, eng] 47-3016
Physical basis for sea ice remote sensing. Hallikainen, M., et al, [1992, p.29-46, eng] 47-3017
Passive microwave signatures of sea ice. Eppler, D.T., et al, [1992, p.47-71, eng] 47-3018
SAR and scatterometer signatures of sea ice. Onstott, R.G., [1992, p.73-104, eng] 47-3019
Microwave sea ice signature modeling. Winebrenner, D.P., et al, [1992, p.137-175, eng] 47-3022
Laboratory investigations of the electromagnetic properties of artificial sea ice. Swift, C.T., et al, [1992, p.177-200, eng] 47-3023
Estimation of geophysical parameters using passive microwave algorithms. Steffen, K., et al, [1992, p.201-231, eng] 47-3024
Validation of geophysical products using multisensor data. Cavalieri, D.J., [1992, p.233-242, eng] 47-3025
Microwave remote sensing of the southern ocean ice cover. Comiso, J.C., et al, [1992, p.243-259, eng] 47-3026
Effects of freeze-up and melt processes on microwave signatures. Gogineni, S.P., et al, [1992, p.329-341, eng] 47-3031
Potential applications of polarimetry to the classification of sea ice. Drinkwater, M.R., et al, [1992, p.419-430, eng] 47-3038
Information fusion in sea ice remote sensing. Collins, M.J., [1992, p.431-441, eng] 47-3039
Preliminary study of electromagnetic emissions from cracks in ice. Fifolt, D.A., et al, [1993, p.289-299, eng] 47-3167
Polarization of electromagnetic emissions from cracking ice. Petrenko, V.F., [1993, p.301-305, eng] 47-3168
Effects of electric fields on ice deformation. Petrenko, V.F., et al, [1993, p.173-185, eng] 47-3174
Inclusion-exclusion calculation of the dipole-dipole energy of hexagonal ice and of cubic ice. Huckaby, D.A., et al, [1993, p.8105-8109, eng] 47-3581
Remote sensing of electromagnetic emission from cracking ice. Gluschenkov, O.V., et al, [1993, p.97-111, eng] 47-3745
Correction to paper by Suszcynsky et al. [1993, p.7499, eng] 47-3840
Radar backscatter measurements from arctic sea ice during the fall freeze-up. Beaven, S.G., et al, [1993, 66p., eng] 47-4621
Comparison of conventional and passive microwave sea ice data sets for Hudson Bay. Etkin, D.A., [1991, 132p., eng] 47-4668
Development of a portable ice-thickness measuring instrument. Adler, D., et al, [1992, 28p., eng] 47-4883

Ice erosion
Southern Lake Michigan coastal ice and sediment sample data: shoreface and ice profiles (winter 1990/91). McCormick, M., et al, [1991, 32p., eng] 47-1916
Suspended sediment concentration during river ice break-up. Prowse, T.D., [1992, p.263-267, eng] 47-4057

Ice evaporation
See also: Ice sublimation

Ice floes
1985/86 season analysis: Lancaster Sound winter ice regime. Volume II. [1986, 164p. + appends bound separately, eng] 47-522
Advances in ice technology: proceedings of the 3rd international conference. [1992, 365p., eng] 47-1013
Ice plates as laminated composite structures. Vinogradov, A.M., [1992, p.65-75, eng] 47-1019
Effect of naturally-occurring ice thickness variations in reducing global loads on offshore structures. Sackinger, W.M., et al, [1992, p.253-265, eng] 47-1033
Ice floe collision under wave action in the Marginal Ice Zone. Gao, L., et al, [1992, p.281-291, eng] 47-1035
Sea ice melting and floe geometry in a simple ice-ocean model. Steele, M., [1992, p.17,729-17,738, eng] 47-1062
Coastal jet and ice flow movement. Bando, K., et al, [1992, p.772-776, eng] 47-1872
Beaufort Sea ice design features: acquisition of data on EIFs. Pilkington, G.R., et al, [1992, Var. p., eng] 47-2227
Automated sea-ice tracking for LIMEX '87 and '89. Hirose, T., et al, [1992, p.173-191, eng] 47-2346
Detection of Labrador current by radar tracking of ice floe movement. Ikeda, M., et al, [1992, p.223-245, eng] 47-2349
Ice-floe collisions interpreted from acceleration data during LIMEX '89. McKenna, R.F., et al, [1992, p.246-269, eng] 47-2350
Quantitative analysis of sea ice remote sensing imagery. Korsnes, R., [1993, p.295-311, eng] 47-2752
Mathematical approach to the segmentation of sea-ice SAR images. Korsnes, R., [1993, p.313-332, eng] 47-2753
Massive ice interactions with offshore structures. Lu, M.C., [1992, 153p., eng] 47-3129
On the propagation of discontinuities in a drifting ice cover. Marchenko, A.V., [1992, p.346-358, eng] 47-3230
Sensitivity method for ice floe trajectory calculations. Thomson, N.R., et al, [1992, p.573-585, eng] 47-3344
Thickness predictions of rafted ice in the Caspian Sea. Bukharitsin, P.I., [1993, p.390-394, eng] 47-4067
Size-effect in indentation-induced splitting floe experiments. Gupta, V., et al, [1993, p.29-34, eng] 47-4227
Investigation of the icebreaking pattern at the bow of the IB Kapitan Sorokin on the Yenisei River estuary in May 1991. Valanto, P.U., [1993, p.127-134, eng] 47-4240
Roughness of Weddell Sea ice and estimates of the air-ice drag coefficient. Andreas, E.L., et al, [1993, p.12,439-12,452, eng] 47-4521
Finite-floe wave reflection and transmission coefficients from a semi-infinite model. Meylan, M., et al, [1993, p.12,537-12,542, eng] 47-4524

Ice forecasting
Operational system of numerical sea ice prediction in Bohai Sea. Cheng, B., et al, [1992, p.295-299, eng] 47-153
Ice forecast in the Japan and Okhotsk Seas. Plotnikov, V.V., [1992, p.351-354, eng] 47-163
Probability forecast of the sea ice cover and sea ice edge position in the Okhotsk Sea. Plotnikov, V.V., [1992, p.355-356, eng] 47-164
Use of numerical methods in ice conditions examination. Pokrashenko, S.A., [1992, p.382-383, eng] 47-168
Recommendations for forecasting moderate and heavy icing in Ukraine. Volevakha, V.A., et al, [1991, p.48-55, rus] 47-364
Proceedings. [1988, 243p., eng] 47-716
River ice forecasting. Bengtsson, L., [1988, p.113-137, eng] 47-725
Numerical model for ice cover formation in rivers. Huokuna, M., [1988, p.147-164, eng] 47-728
Statistical model for prediction of ice breakup in river Torneälven. Forsius, J., et al, [1988, p.195-204, eng] 47-732
Conditions for the formation and forecasting of frontal and air mass icing in the Central Volga region. Maksimovich, S.N., [1991, p.10-13, rus] 47-891
Ice forecasting model helps operators extend arctic exploration periods. [1992, p.34, eng] 47-921
Open systems for ice prediction systems. Lister, P.J., et al, [1992, 7p., eng] 47-965
Statistical error correction in ice prediction models. Astbury, A., [1992, 6p., eng] 47-970
Description and verification of a road ice prediction model. Shao, J.M., et al, [1992, 11p., eng] 47-971
Topside icing probabilities for naval combatants in the Bering Sea. Thomas, W.L., III, [1992, p.51-63, eng] 47-1018
Estimate of sea ice freezing. Mizuno, Y., et al, [1992, p.147-154, eng] 47-1025
Forecasting sea ice clearing in the Labrador Sea. Newell, J.P., [1992, p.313-323, eng] 47-1038
Estimating changes in dates for the initial phases of icing in relation to climatic changes. Shanochkin, S.V., [1991, p.69-74, rus] 47-1051
Toward the improvement of aircraft-icing forecasts for the continental United States. Schultz, P., et al, [1992, p.491-500, eng] 47-1058
Winter Icing and Storms Project (WISP). Rasmussen, R., et al, [1992, p.951-974, eng] 47-1263
Simulating marine icing conditions in the refrigerated marine icing wind tunnel. Lozowski, E.P., et al, [1991, 85p. + appends., eng] 47-1370
Numerical model for prediction of road temperature and ice. Sass, B.H., [1992, p.1499-1506, eng] 47-1582
Improved ice and snow control with pavement-specific forecasting. Kelley, J.R., [1992, p.46-47,83, eng] 47-1920
Iceberg trajectory model—real-time verification. Finlayson, D.J., et al, [1992, 47p. + appends., eng] 47-2335
Simulation of sea-ice motion and distribution off Newfoundland during LIMEX, March 1987. Tang, C.L., et al, [1992, p.270-296, eng] 47-2351
Problems in the study of naleds: collected scientific papers. Alekseev, V.R., ed. [1991, 238p., rus] 47-2424
Basic problems in the study of naleds. Alekseev, V.R., [1991, p.5-23, rus] 47-2425
Stochastic method for forecasting estimated parameters of naleds. Dement'ev, V.A., [1991, p.116-123, rus] 47-2435
Naleds and forecasting them on mountain highways in Kirgizia. Turgunbaev, A.T., [1991, p.219-225, rus] 47-2451
Mathematical model for predicting the densification and growth of frost on a flat plate. Tao, Y.X., et al, [1993, p.353-363, eng] 47-2608
Ice modeling and data assimilation with the Kalman smoother. Rothrock, D.A., et al, [1992, p.405-418, eng] 47-3037
Studies of icing on road surface in snowy region. Nakawo, M., et al, [1992, p.169-191, jpn] 47-3300
Development of a method for predicting road surface temperature and icing on roads. Funada, H., et al, [1992, p.193-231, jpn] 47-3301
Remote sensing and image processing for ice forecasting. Marko, J.R., et al, [1991, p.217-226, eng] 47-3388
Remotely sensed data in the U.S. Navy's sea ice forecast models. Preller, R.H., et al, [1991, p.235-255, eng] 47-3389
Predicting annual variability of sea ice and icebergs. Fissel, D.B., et al, [1991, p.19-32, eng] 47-3395
Satellite imagery in Canadian regional sea ice monitoring. Nazarenko, D.M., et al, [1991, p.47-52, eng] 47-3397
Ice Branch operational use of ice beacons on sea ice. Weir, L., et al, [1991, p.53-59, eng] 47-3398
Verification of an operational sea ice forecast model. Yao, T., et al, [1991, p.193-200, eng] 47-3407
Problem of calculating and forecasting significant anomalies in ice phenomena. Spichkin, V.A., [1990, p.54-65, rus] 47-3589
Using short series of estimated values and a large number of predictors to improve ice forecasting methods. Spichkin, V.A., [1990, p.66-76, rus] 47-3590

Ice forecasting *(cont.)*

Possibility of forecasting the conditions of ice edges in the Greenland Sea up to 30 days in advance. Kuznetsov, I.M., [1990, p.89-93, rus] 47-3593

Possibility of short term forecasting of sea ice thickness. Kuznetsov, I.M., [1990, p.94-97, rus] 47-3594

Experiment in formulating short term numerical ice forecasts for the southwestern Kara Sea. Nikolaev, S.IU., et al, [1990, p.98-104, rus] 47-3595

Studying the possibility of a long range forecast of summer ice conditions in the southwestern Kara Sea. Tiuriakov, A.B., [1990, p.105-111, rus] 47-3596

Comments on paper by K.F. Jones. Levi, L., et al, [1993, p.599-609, *eng*] 47-3646

Numerical computation of river ice jams. Beltaos, S., [1993, p.88-99, eng] 47-3720

Iceberg movement prediction off the Canadian east coast. Marko, J.R., et al, [1988, p.435-462, eng] 47-3820

Ice detector estimation of atmospheric icing on a cable. McComber, P., et al, [1993, p.305-316, eng] 47-3933

Spacing of icicles. Makkonen, L., et al, [1993, p.317-322, eng] 47-3934

Forecasting Caspian Sea ice edge. *Bukharitsin, P.I., et al,* [1992, p.58-63, eng] 47-3992

Arctic ice conditions and the 500 mb component. Englebretson, R.E., [1988, p.79-82, eng] 47-4187

Thermal energy conservation in icebergs and tracking by temperature. Löset, S., [1993, p.10.001-10.012, eng] 47-4372

Use of ERS-1 SAR to measure ice flux in the East Greenland current. Wadhams, P., et al, [1993, p.283-287, *eng*] 47-4426

Cold Weather Transit Technology Program. Volume 1: Executive summary. Final report. Kleinman, R.L., et al, [1992, 34p., eng] 47-4612

Monthly mean sea ice data from ice prediction models. Posey, P.G., et al, [1993, 6p. + appends., eng] 47-4620

Ice sheets: growing or shrinking. Van der Veen, C.J., [1993, p.5-9, eng] 47-4740

Iceberg impacts on massive structures. Guichard, A., [1992, Var. p., fre] 47-4885

Forecasters handbook for the Bering Sea, Aleutian Islands, and Gulf of Alaska. Fett, R.W., et al, [1993, Var. p., eng] 47-4886

Measurement of drop size and liquid water content in clouds. Bachalo, W.D., et al, [1988, 66p., eng] 47-4903

Using physical methods to predict slippery road conditions. Hertl, S., et al, [1988, 72p., ger] 47-4990

Avoiding aircraft icing. Collins, R.L., [1993, p.53-57, eng] 47-4999

Cylinder ice accretion determined by laser-Doppler analysis. Yoon, B., et al, [1993, p.381-397, eng] 47-5208

Sea ice edge forecast verification program for the Bering Sea. Wohl, G.M., [1991, p.6-12, eng] 47-5260

Ice formation

Finite element analysis of cold embedments in fresh concrete. Swift, D.P., et al, [1992, p.41-57, eng] 47-1

Dependence of ice formation on arrangement of submerged tubes. Hirata, T., et al, [1992, p.681-687, *eng*] 47-8

Phenomenology of a water venting in low earth orbit. Kofsky, I.L., et al, [1992, p.325-347, eng] 47-81

Development and verification of a three-dimensional large-scale cloud model. Lee, J.L., [1991, 165p., eng] 47-87

Numerical model of polar mesospheric cloud formation and evolution. Jensen, E.J., [1990, 183p., *eng*] 47-88

Using ice and ice phenomena in the national economy: geophysical aspect. Falko, L.I., [1986, 155p., rus] 47-94

Analysis of ice body formation within the west and central sections of Baikal-Amur main line. Burykina, N.I., [1991, p.83-86, eng] 47-421

Numerical simulation of ice phase microphysics in clouds, part 2. Kong, F.Y., et al, [1991, p.459-470, eng] 47-426

Numerical model for ice cover formation in rivers. Huokuna, M., [1988, p.147-164, eng] 47-728

Mathematical model of border ice formation in rivers. Hammar, L., [1988, p.165-179, eng] 47-729

Effects of natural convection on ice formation inside a *horizontal cylinder.* Chen, S.L., et al, [1992, p.131-145, eng] 47-790

Cell shape and localisation of ice in leaves of overwintering wheat during frost stress in the field. Pearce, R.S., et al, [1992, p.324-331, eng] 47-795

Ice nucleation in emulsified aqueous salt solutions: a differential scanning calorimetry study. Ganguly, S., et al, [1992, p.105-111, eng] 47-798

Bénard convection in binary mixtures with Soret effects and solidification. Zimmermann, G., et al, [1992, p.657-682, eng] 47-820

Observations of heterogeneous nucleation of water vapor on a cold substrate. Shinagawa, H., et al, [1992, p.448-450, eng] 47-1054

Analysis of cool storage for air conditioning. Chen, S.L., et al, [1992, p.553-563, eng] 47-1055

Effect of severe storms on the ice cover of the northern Tatarskiy Strait. Martin, S., et al, [1992, p.17,753-17,764, eng] 47-1064

Distribution of aluminium in the Greenland Sea and its relationship to ventilation processes. Measures, C.I., et al, [1992, p.17,787-17,800, eng] 47-1065

Ice formation of glaciers in Qilian Mountains. Xie, Z.C., et al, [1985, p.27-40, chi] 47-1517

Hydrocarbon solubility related to ice formation within solutions. Shinoda, K., [1992, p.81-100, eng] 47-1550

Effect of restricted geometries on the structure and thermodynamic properties of ice. Handa, Y.P., et al, [1992, p.8594-8599, eng] 47-1569

Cheng's theory on the formation of thick layered ground ice. Zhou, Y.W., et al, [1992, p.97-100, chi] 47-1644

Ice formation in freezing and thawing cycles of saturated sand. Wang, J.C., et al, [1992, p.101-106, *chi*] 47-1645

Ice formation in sucrose solutions. Shalaev, E.IU., et al, [1992, p.213-220, eng] 47-1933

Responses of antarctic diatoms to a simulated sea-ice formation environment. Gleitz, M., et al, [1992, p.271-278, eng] 47-1943

Structure and genesis of layered ground ice in Western Siberia. Shpolianskaia, N.A., [1991, p.73-83, rus] 47-1988

Ice nucleation in electrolyte solutions. Fornazero, J., et al, [1992, p.413-418, eng] 47-2011

Evolution theory for optimal control of a Couette iceform design model. LaFleur, R.S., [1992, p.2617-2629, eng] 47-2148

Example of the Couette iceform design model: flat plate ice formation. LaFleur, R.S., [1992, p.2631-2642, eng] 47-2149

Numerical and experimental study of wavy ice structure in a parallel plate channel. Weigand, B., et al, [1992, p.233-235, eng] 47-2188

Frazil ice formation due to difference in heat and salt exchange across a density interface. Krylov, A.D., et al, [1992, p.497-506, eng] 47-2250

Performance of a kinetic model for intracellular ice *formation based on the extent of supercooling.* Pitt, R.E., et al, [1992, p.359-373, eng] 47-2297

Origin of green icebergs in Antarctica. Kipfstuhl, J., et al, [1992, p.20,319-20,324, eng] 47-2343

Problems in the study of naleds: collected scientific papers. Alekseev, V.R., ed, [1991, 238p., rus] *47-2424*

Basic problems in the study of naleds. Alekseev, V.R., [1991, p.5-23, rus] 47-2425

Geochemical processes during naled formation. Ivanov, A.V., [1991, p.45-54, *rus*] 47-2428

Mechanism of the development of the naled process. Rumiantsev, E.A., [1991, p.55-66, rus] 47-2429

Naled formation under reduced moisture conditions. Pisarskil, B.I., et al, [1991, p.157-162, rus] 47-2442

Use of radar measurements to investigate hail formation in clouds. Alvazian, G.M., [1991, p.208-217, eng] 47-2543

Study on phase changes of heterogeneous composite *materials: effects of parameters on solidification process.* Hirasawa, Y., et al, [1991, p.225-230, eng] 47-2556

Freezing characteristics of aqueous solution on a horizontal *downward facing cooled plate.* Yamada, M., et al, [1991, p.285-290, eng] 47-2558

Freezing of a supercooled water droplet on a heat transfer surface. Saito, A., et al, [1991, p.319-326, eng] 47-2560

Heat transfer characteristics of ice capsules for encapsulated cool storage systems. Arnold, D., [1991, p.335-342, eng] 47-2562

Cooling and freezing of water between concentric cylinders. Narumi, A., et al, [1991, p.391-398, eng] 47-2563

Interactions of frazil and anchor ice with sedimentary particles in a flume. Kempema, E.W., et al, [1993, p.137-149, eng] 47-2646

Wavy ice formation inside a cooled parallel plate channel. Weigand, B., et al, [1993, p.685-693, eng] 47-2654

Structural stability in cloud physics using parameterized microphysics. Wacker, U., [1992, p.231-242, eng] 47-2656

Geographic variations in the thermal and diffusive stability *of ground ice on Mars.* Mellon, M.T., et al, [1993, p.3345-3364, eng] 47-2672

Structural study of water confined in porous glass by neutron scattering. Bellissent-Funel, M.C., et al, [1993, p.4246-4252, eng] 47-2675

Mathematical modeling of ice and thermal regime of water bodies under heavy thermal load. Aleksandrov, I.IA., et al, [1992, p.55-61, eng] 47-2713

Causes of variability of ice appearance dates in the lower reaches of the Volga. Soldatova, I.I., [1992, p.62-66, eng] 47-2714

Submarine cryolithogenesis in the Arctic. Shpolianskaia, N.A., [1991, p.65-70, rus] 47-2790

Air inclusions as an index of ice formation conditions on *polar glaciers.* Samollov, O.IU., [1991, p.118-121, rus] 47-2799

Ice formation on deep weakly stratified water. Walin, G., [1993, p.143-157, eng] 47-2890

Origin of ground ice in arctic caves. Lauriol, B., et al, [1993, p.77-85, eng] 47-3119

Recent advances in research on water-freezing and ice-melting problems. Fukusako, S., et al, [1993, p.90-105, eng] 47-3287

Bend ice jams: laboratory observations. Urroz, G.E., et al, [1992, p.855-864, eng] 47-3305

Ice formations near upland tarns in Cumbria, 16 April 1992. Kay, A., [1993, p.112-113, eng] 47-3317

Observations of the initial stage of ice phase *evolution in* supercooled clouds. Nevzorov, A.N., et al, [1992, p.69-76, eng] 47-3458

Storm simulation with and without ice microphysics. Johnson, D.E., et al, [1993, p.745-759, eng] 47-3510

Double-diffusive convection during solidification of a binary system. Nishimura, T., et al, [1992, p.586-600, eng] 47-3514

Initiation of maritime ice sheets. Kerr, A.D., [1990, p.69-79, *eng*] 47-3574

Laboratory studies of the porosity of bottom ice, formed during static ice formation. Tyshko, K.P., et al, [1990, p.155-159, rus] 47-3602

Water freezing enhancement for thermal storage brine tube. Holowczenko, A., et al, [1988, 6 col., eng] 47-3641

Liquid freezing during laminar flow. Weigand, B., et al, [1993, p.294-301, eng] 47-3838

Simulation of water-ice layers on a silver iodide substrate. Taylor, J.H., et al, [1993, p.9732-9741, eng] 47-3984

Drag reduction of a cylinder/endwall junction using the ice formation method. LaFleur, R.S., et al, [1993, p.26-32, eng] 47-4021

Stream cooling by heat transfer to partially-submerged rocks. Davis, R.E., [1992, p.193-201, eng] 47-4048

Green iceberg formation on antarctic ice shelf bases. Warren, S.G., et al, [1993, p.6921-6928, eng] 47-4138

Measurements of c[illegible]droplet-size distributions in polluted and unp[illegible]d stratiform. Alkezweeny, A.J., et al, [1993, p.106-[illegible], eng] 47-4166

Stochastic modelling of icicle formation. Szilder, K., et al, [1993, p.59-64, eng] 47-4231

Effect of power plant construction on river hydrological regime. Filippov, A.M., [1992, p.61-64, eng] 47-4345

Brightness temperature of snow-covered saline ice. Lohanick, A.W., [1993, p.4667-4674, eng] 47-4388

Influence of solar wind on cloud microphysics. Tinsley, B.A., et al, [1993, p.10,375-10,384, eng] 47-4391

Ice formation in sea water through turbulent exchange. Zatsepin, A.G., et al, [1992, p.38-42, eng] 47-4563

Frost formation and heat transfer on circular cylinders in cross flow. Raju, S.P., et al, [1992, p.109-122, eng] 47-4704

Evaluation of bacterial ice nucleation. Watabe, S., et al, [1993, p.603-606, eng] 47-4734

Cryogenic ambient air vaporizers: frost growth, wind and seismic design for safety. Bernert, R.E., Jr., et al, [1993, p.789-793, eng] 47-4876

Potential transport of radionuclides and other pollutants by arctic sea ice. Pfirman, S.L., et al, [1993, p.267-284, eng] 47-5036

Recent advances in research on freezing and melting heat-transfer phenomena. Fukusako, S., et al, [1991, p.1157-1170, eng] 47-5109

Effect of the water density extremum on the solidification process. Braga, S.L., et al, [1991, p.1185-1192, eng] 47-5110

Distribution of icicles. Croft, P.J., et al, [1990, p.34, eng] 47-5258

See also: Freezing; Icing; Sea water freezing; Spray freezing

Ice formation indicators

Air inclusions as an index of ice formation conditions on polar glaciers. Samollov, O.IU., [1991, p.118-121, rus] 47-2799

Ice detector for protecting boats. Schuellein, G.J., [1991, 4 col., eng] 47-4915

Ice free reaches

See also: Polynyas

Ice friction

Friction coefficient between model ice and roughened model surface. Kishi, S., et al, [1992, p.131-137, jpn] 47-130

Kinetic coefficient of friction measurements of EG/AD/S ice on filled Imron paint. Bell, J., et al, [1991, 33p. + appends., eng] 47-1340

Study of the friction of ice—phase II. Molgaard, J., [1990, 4p. + append., eng] 47-1356

Continued study of the frictional and cohesive-like behaviour of floating model ice rubble. Case, P.C., [1991, 24p. + appends., eng] 47-1364

Numerical simulation of pack ice movement using the momentum conservation method. Rheem, C.K., et al, [1992, 7p., eng] 47-2117

Model-scale study of the frictional and cohesive properties *of floating ice rubble.* Case, P.C., [1991, 113p., eng] 47-2118

Contact melting during sliding on [illegible]wler, A.J., et al, [1993, p.1171-1179, eng] 47-3578

Bibliography on snow and ice fric[illegible]olbeck, S.C., [1993, 17p., eng] 47-4869

Thermal analysis of ice melting from surface friction. Pushkarev, O.E., et al. [1992, p.25-30, eng] 47-5004

Floating ice beam impact forces against a sloped structure. Coutermarsh, B.A., [1993, 51p., eng] 47-5244

See also: Metal ice friction; Plastics ice friction; Rubber ice friction; Wood ice friction

Ice gouging

See also: Ice scoring

Ice grinders

Method and apparatus for constructing an ice structure. Erwin, R.E., [1988, 6 col., eng] 47-3635

Device for comminuting small ice bodies. Wessa, T., [1988, 4 col., eng] 47-3638

Ice growth

Oscillation of the freezing potential of aqueous lithium chloride solutions containing ethanol. Ozeki, S., et al, [1992, p.2511-2516, eng] 47-461

Salinity profiles of antarctic sea ice: field data and model results. Eicken, H., [1992, p.15,545-15,557, eng] 47-514

Physical and dynamic properties of sea ice in the polar oceans. Gow, A.J., et al, [1991, 46p., eng] 47-704

Petrographic and salinity characteristics of brackish water ice in the Bay of Bothnia. Gow, A.J., et al, [1992, 36p., eng] 47-706

On the crystal structure and growth of river ice. Leppäranta, M., et al, [1988, p.181-190, eng] 47-730

Accumulation on the Filchner and Ronne Ice Shelves. Moser, H., et al, [1990, p.57-71, ger] 47-875

Some thermal and mechanical properties of flooded ice. Lozowski, E.P., et al, [1990, 96p., eng] 47-1346

Protein interaction with ice. Hew, C.L., et al, [1992, p.33-42, eng] 47-1786

Evaporation and ice growth in Mackenzie Delta lakes. Marsh, P., [1991, p.257-266, eng] 47-1812

Ice sheet growth simulation including ice albedo feedback. Deblonde, G., et al, [1992, p.37-55, eng] 47-1885

Sea-ice properties off Labrador and Newfoundland during LIMEX '89. Prinsenberg, S.J., et al, [1992, p.207-222, eng] 47-2348

Meteorological prerequisites for sea ice. Thorndike, A.S., [1992, p.62-63, eng] 47-2381

Prediction of frost growth on a flat plate. Tao, Y.X., et al, [1993, p.278-281, eng] 47-2551

Mathematical model for predicting the densification and growth of frost on a flat plate. Tao, Y.X., et al, [1993, p.353-363, eng] 47-2608

Marine oxygen isotope record: constraints on timing and extent of ice-growth events (120-65 ka). Mix, A.C., [1992, p.19-30, eng] 47-2681

Spacing of icicles. Makkonen, L., et al, [1993, p.317-322, eng] 47-3934

Overhead line ice accretion due to freezing rain. Poots, G., et al, [1992, p.390-398, eng] 47-4069

Simulated antarctic fast ice ecosystem. Arrigo, K.R., et al, [1993, p.6929-6946, eng] 47-4139

Effect of voltage polarity on icicles grown on line insulators. Farzaneh, M., et al, [1992, p.297-302, eng] 47-4303

Determination of dielectric constant of young sea ice using microwave spectral radiometry. St. Germain, K.M., et al, [1993, p.4675-4679, eng] 47-4389

Prediction of frost growth on a flat plate. Tao, Y.X., et al, [1992, p.131-139, eng] 47-4705

Use of the C-5 Galaxy in support of the United States Antarctic Program. Bresnahan, D.M., [1993, p.238-245, eng] 47-5113

See also: Ice accretion; Icing rate

Ice hardness

Borehole jack indentor test: recent advances at NHRI. Demuth, M.N., et al, [1992, p.247-253, eng] 47-4055

Ice heat flux

Momentum and heat fluxes over open water, sea ice and snow cover on an arctic lagoon. Shirasawa, K., et al, [1992, p.75-80, eng] 47-119

Sensible heat flux over open water and sea ice in the Weddell Sea. Dutz, S., et al, [1992, p.317-318, ger] 47-217

Turbulent heat exchange between sea ice and the atmosphere in the Weddell Sea (Antarctica). Frieden, W., [1992, p.338-339, ger] 47-218

On the melt rate of drifting ice heated from below. Omstedt, A., et al, [1992, p.91-100, eng] 47-806

Evaluation of scale-dependent effects of atmosphere-glacier interactions on heat supply to glaciers. Ohata, T., [1992, p.115-122, eng] 47-1095

Some thermal and mechanical properties of flooded ice. Lozowski, E.P., et al, [1990, 96p., eng] 47-1346

Energy resource of winter season in Siberia and polar areas. Karnatsevich, I.V., [1992, p.177-179, eng] 47-1725

Arctic energy fluxes over sea ice from satellite data. Francis, J.A., [1992, p.25-28, eng] 47-2370

Study of the factors controlling the value of the surface temperature of sea ice. Guest, P.S., et al, [1992, p.54-57, eng] 47-2379

Meteorological prerequisites for sea ice. Thorndike, A.S., [1992, p.62-63, eng] 47-2381

Surface energy measurements on the arctic ice pack. Wolfe, D.E., et al, [1992, p.72-75, eng] 47-2384

Multivariate sensitivities of a dynamic-thermodynamic sea ice model. Chapman, W.L., et al, [1992, p.87-90, eng] 47-2388

Sensitivity study of a dynamic thermodynamic sea-ice model. Holland, D.M., et al, [1992, p.91-93, eng] 47-2389

Modeling the interactions of sea ice and climate in the central Arctic. Moritz, R.E., et al, [1992, p.105-108, eng] 47-2393

Strategies for estimating turbulent fluxes in polar ocean boundary layers. McPhee, M.G., [1992, p.J49-J52, eng] 47-2414

Numerical modelling of the temperature distribution in tabular icebergs. Löset, S., [1993, p.103-115, eng] 47-2644

Shifts in ice sheet temperatures. Colbeck, S.C., [1993, p.5115-5120, eng] 47-2855

Stream cooling by heat transfer to partially-submerged rocks. Davis, R.E., [1992, p.193-201, eng] 47-4048

Variations in snow on sea ice: a mechanism for producing climate variations. Ledley, T.S., [1993, p.10,401-10,410, eng] 47-4291

Hydrography and vertical fluxes of heat and salt northeast of Svalbard in autumn. Steele, M., et al, [1993, p.10,013-10,024, eng] 47-4373

Faint young sun paradox: climate model with sea-ice. Molnar, G.I., et al, [1991, p.135-138, eng] 47-4482

Sea ice models. Hibler, W.D., III, et al, [1992, p.413-436, eng] 47-4499

Climate model sensitivity to sea ice albedo parameterization. Morassutti, M.P., [1991, p.25-36, eng] 47-4640

Arctic pack ice thermal stress related to under-ice noise. Lewis, J.K., et al, [1993, p.573-590, eng] 47-4838

Recent advances in research on freezing and melting heat-transfer phenomena. Fukusako, S., et al, [1991, p.1157-1170, eng] 47-5109

Model for thermally-induced stresses in multi-year sea ice. Lewis, J.K., [1993, p.337-348, eng] 47-5205

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Ice islands

Simulation of the recurrence probability of ice islands in the Arctic Ocean. Li, F.C., [1992, 169p., eng] 47-272

Dynamics of arctic ice shelves and ice islands. Jeffries, M.O., [1992, p.245-267, eng] 47-827

Beaufort Sea ice design features: acquisition of data on EIFs. Pilkington, G.R., et al, [1992, Var. p., eng] 47-2227

Method and apparatus for constructing an ice structure. Erwin, R.E., [1988, 6 col., eng] 47-3635

Model for the construction of artificial ice islands. Chouinard, L.E., [1993, p.187-198, eng] 47-4246

Ice jams

Ice jam flood forecasting: Hay River, N.W.T. Stanley, S.J., et al, [1992, p.212-223, eng] 47-200

Hydrometeorological analysis of ice breakup on the Nashwaak River, New Brunswick. Hebabi, S., et al, [1992, p.349-354, fre] 47-201

Frazil jam evolution and transport of low density granules. Wang, D.S., [1992, 103p., eng] 47-456

What is being done to reduce ice jam damages. Gruntfest, E., [1992, p.243-245, eng] 47-622

Field ice measurements for emergency and project operations. Pomerleau, R.T., [1992, p.246-249, eng] 47-623

Ice jam flood mitigation: Salmon River, Idaho. White, K.D., [1992, p.250-253, eng] 47-624

Effects of hydropower development on ice jamming. Zufelt, J.E., [1992, p.254-257, eng] 47-625

Effects of severe freezing periods and discharge on the formation of ice jams. Zufelt, J.E., et al, [1992, 12p., eng] 47-698

Salmon River experimental ice boom: 1989-90 and 1990-91 winter seasons. White, K.D., [1992, 17p., eng] 47-702

Lagrangian discrete parcel simulation of two dimensional river ice dynamics. Chen, Y.C., [1992, 147p., eng] 47-838

On computer simulation of motion of broken ice. Vinogradov, O., [1992, p.15-24, eng] 47-1015

Numerical simulation of river ice dynamics. Wasantha Lal, A.M., et al, [1992, p.25-36, eng] 47-1016

Parameters for theoretical models of ice jams according to data on hydrometric changes. Buzin, V.A., [1991, p.3-11, rus] 47-1042

Calculating the maximum water levels in areas of backwater curves in designing a reservoir. Bolotnikov, G.I., [1991, p.12-16, rus] 47-1043

Space-time variability in ice jams on the Amur and Lena rivers. Shanochkin, S.V., et al, [1991, p.17-23, rus] 47-1044

Determining parameters of ice jams and accumulation of bottom ice based on field studies of the Amgun' River. Kiselev, A.A., et al, [1991, p.24-29, rus] 47-1045

Laboratory studies of hydraulic resistance to ice jams. Kiselev, A.A., [1991, p.30-37, rus] 47-1046

Field studies of the freezing processes of the Amgun' River. Bolotnikov, G.I., et al, [1991, p.38-46, rus] 47-1047

Ice impacts on flow along the Missouri River. Wuebben, J.L., et al, [1992, 10p., eng] 47-1237

Israel River ice control structure. Axelson, K.D., [1991, p.349-352, eng] 47-1238

Ice jam flood frequency analysis techniques. Zufelt, J.E., et al, [1991, p.353-356, eng] 47-1239

Ice jam flood assessment—Yukon River at Dawson. Gerard, R., et al, [1992, 145p., eng] 47-1244

Ice transport and jamming in river bends. Bjedov, G., [1992, 94p., eng] 47-1313

River flood forecasting in the Northeast during ice jam situations. Austin-Smith, A., et al, [1992, 10p., eng] 47-2131

Bend ice jams: laboratory observations. Urroz, G.E., et al, [1992, p.855-864, eng] 47-[illegible]

Probability analysis of historical ice jam flood da[illegible] complex reach: a case study. Stanley, S.J., et p.875-885, eng] 47-[illegible]

River surge propagation modeling. Hicks, F.E., [1992, p.454-462, eng] 47-[illegible]

Numerical computation of river ice jams. Beltaos, S., [1993, p.88-99, eng] 47-3720

Semi-discrete element approach to the river ice breakup and jamming process. Guo, Q.Z., et al, [1993, p.65-69, eng] 47-4450

Flow regulation for controlled river-ice formation. Jain, S.C., et al, [1993, 50p., eng] 47-4662

Kinematic model of river ice motion during dynamic breakup. Ferrick, M.G., et al, [1993, p.111-134, eng] 47-4907

Ice lenses

Discrete ice lens theory for frost heave beneath pipelines. Nixon, J.F., [1992, p.487-497, eng] 47-416

Determination of pollen accumulation rates in frozen sediments. Wang, X.C., et al, [1993, p.87-93, eng] 47-3120

Subsurface drainage of pavement structures: current Corps of Engineers and industry practice. Allen, W.L., [1991, 31p., eng] 47-3339

Sensitivity analysis of frost heave—a theoretical study. Sheng, D., et al, [1993, p.3-16, eng] 47-4115

Where does the water go during ice lense thaw. Dysli, M., [1993, p.45-50, eng] 47-4119

Origin of rock glaciers: stagnant ice or ice segregation?. Tricart, J., [1992, p.96-98, eng] 47-4168

Effect of freeze-thaw on the hydraulic conductivity and morphology of compacted clay. Othman, M.A., et al, [1993, p.236-246, eng] 47-4512

Simplified numerical solution of the Miller model of secondary frost heave. Fowler, A.C., et al, [1993, p.327-336, eng] 47-5204

Ice loads

Abstracts. [1992, 415p., eng] 47-106

Problems of choice of sea ice cover parameters design criteria. Truskov, P.A., et al, [1992, p.21-26, eng] 47-108

Probabilistic estimate of the Okhotsk Sea ice vertical profile. Truskov, P.A., et al, [1992, p.57-61, eng] 47-115

Friction and the buckling failure of an ice sheet. Kato, K., [1992, p.126-130, jpn] 47-129

Vibrations of offshore ice-resistant structures. Khrapatyi, N.G., et al, [1992, p.300-301, eng] 47-154

Definition of loading regime for offshore structures from drifting ice cover. Bekker, A.T., [1992, p.302-306, eng] 47-155

Seasonal variability of sea ice physico-mechanical properties. Polomoshnov, A.M., [1992, p.336-339, eng] 47-161

Ice loads on concrete supports. Almazov, V.O., et al, [1992, p.359-362, eng] 47-165

Ship-ice interaction in a natural ice cover. Daley, C., [1992, 32p. + append., eng] 47-220

Ship in ice at a single point mooring terminal. Jo, C.H., [1992, 152p., eng] 47-273

Effect of stress state on the brittle compressive failure of columnar ice. Smith, T.R., [1992, 223p., eng] 47-280

Ice loads on vertical bridge pier at two different model scales. Christensen, F.T., et al, [1992, p.93-110, eng] 47-585

Full-scale trial propulsion system. Cowper, D.N.B., [1992, 156p. + appends. bound separately (2 vols.), eng] 47-599

Ice edge contact and failure. Daley, C., [1992, p.1-23, eng] 47-800

Designing production structures for the Russian Arctic. [1992, p.33,53, eng] 47-920

Laboratory test on construction of ice domes and their load-carrying capacity. Hannuki, T., et al, [1992, p.203-226, jpn] 47-975

Advances in ice technology; proceedings of the 3rd international conference. [1992, 365p., eng] 47-1013

Boundary element analysis of macrocracking of ice in a large test basin. Marcellus, R.W., et al, [1992, p.91-104, eng] 47-1021

Nonsimultaneous failure and local pressure of ice in ice/vertical structure interaction. Takeuchi, T., et al, [1992, p.135-145, eng] 47-1024

Ice loads *(cont.)*

Full-scale trials on hull resistance and bow ice load in level ice on board the cutter M.S. *Uisko*. Kivimaa, S., [1992, p.169-180, eng] 47-1027

Effect of naturally-occurring ice thickness variations in reducing global loads on offshore structures. Sackinger, W.M., et al, [1992, p.253-265, eng] 47-1033

Fracture analysis of ice forces on offshore structures. Ayoub, A.S., [1989, 99p., eng] 47-1317

Three point loading of freshwater ice beams. Williams, J.L., [1990, 44p., eng] 47-1353

Mathematical model to describe hinge crack failure of a sheet ice reinforced ridge beam. Lau, M., [1991, 16p. + append., eng] 47-1354

Level and ridge ice forces on downward breaking structures. Lau, M., [1991, 2 vols., eng] 47-1355

Modelling of the ice failure processes in ship-ice *interaction.* McKenna, R.F., et al, [1991, 156p., eng] 47-1360

First-year sea ice forces on a mobile arctic caisson in the Beaufort Sea. Frederking, R.M.W., et al, [1991, 3p., eng] 47-1365

Vertical and inclined edge-indentation of freshwater ice sheets. Finn, D.W., [1991, 97p., eng] 47-1366

Design and implementation of an in-situ ice compression tester. Keiley, P., [1991, 20p. + append., eng] 47-1368

Asthenospheric ice-load effects in a global dynamical-system model of the Pleistocene climate. Saltzman, B., et al, [1992, p.1-11, eng] 47-1791

Proceedings. Vol.2, [1992, 806p., eng] 47-1828

Construction of platforms for the Russian northern *continental shelf.* Eranti, E., et al, [1992, p.557-563, eng] 47-1841

Determination of design values for sea ice physico-mechanical properties. Polomoshnov, A.M., et al, [1992, p.641-650, eng] 47-1852

Landfast ice pressure measurements in the Beaufort Sea. Sayed, M., et al, [1992, p.656-661, eng] 47-1854

Cook Inlet ice loads calculated using historical data and probabilistic methods. Utt, M.E., et al, [1992, p.677-680, eng] 47-1859

First year ice ridge characteristics and loads on offshore structures. Eranti, E., et al, [1992, p.681-687, eng] 47-1860

Design ice force estimating system. Kato, K., [1992, p.688-695, eng] 47-1861

In-situ stress measurements in a fast ice and possible tidal loads on structures. Nikitin, V.A., et al, [1992, p.696-702, eng] 47-1862

Ice action onto multilegged structures due to change of water level. Matskevitch, D.G., et al, [1992, p.703-708, eng] 47-1863

Experimental research on ice load. Cai, Z.R., et al, [1992, p.709-713, eng] 47-1864

Ice investigations for the proof of tidal power plant designs. Monosov, L.M., [1992, p.714-717, eng] 47-1865

Methodology for full-scale iceberg impact experiments in the Antarctic. Guichard, A., et al, [1992, p.718-723, eng] 47-1866

Effect of confining stress on brittle indentation failure of columnar ice. Grape, J.A., et al, [1992, p.724-731, eng] 47-1867

Combined creep and yield model of ice under multiaxial stress. Fish, A.M., [1992, p.740-749, eng] 47-1869

Preliminary results of the U.S. Navy localized ice impact test program. Devine, E.A., et al, [1992, p.750-763, eng] 47-1870

Procedure for dynamic soil-structure-ice interaction. Kärnä, T., [1992, p.764-771, eng] 47-1871

Contact failure in ice forces on offshore structures. Tsuprik, V.G., [1992, p.790-794, eng] 47-1876

Numerical simulation of pack ice movement using the momentum conservation method. Rheem, C.K., et al, [1992, 7p., eng] 47-2117

Verification of CSA code for fixed offshore concrete structures. Allyn, N., et al, [1992, 62p., eng] 47-2119

Beaufort Sea ice design features: acquisition of data on EIFs. Pilkington, G.R., et al, [1992, Var. p., eng] 47-2227

Tests on arch-shaped ice-resisting walls for offshore structures. Ellis, R.M., et al, [1993, p.42-51, eng] 47-2547

Ice load measurements on board the MS *Kemira*, winter 1991. Muhonen, A., [1992, 26p. + appends., eng] 47-2583

Laboratory indentation tests with thick freshwater ice. Volume II. Muhonen, A., et al, [1992, 397p., eng] 47-2591

Local contact pressures in ship/ice and structure/ice interactions. Masterson, D.M., et al, [1993, p.169-185, eng] 47-2648

Probabilistic analysis of local ice pressures. Jordaan, I.J., et al, [1993, p.83-89, eng] 47-2668

Massive ice interactions with offshore structures. Lu, M.C., [1992, 153p., eng] 47-3129

Abrasion of concrete structures by ice. Huovinen, S., [1993, p.69-82, eng] 47-3286

Model tests of dynamic ice loading on the Chinese JZ-20-2 jacket platform. Timco, G.W., et al, [1992, p.819-832, eng] 47-3304

Arctic offshore structure and installation method therefor. Turner, J.W., [1988, 8 col., eng] 47-3418

Laboratory tests of ship structures under ice loading. Volume 1. Tuhkuri, J., [1993, 171p., eng] 47-3538

Ship in compressive ice. Analysis of the ice failure process. Kujala, P., et al, [1993, 70p. + appends., eng] 47-3539

Model ice forces on an upward breaking multifaceted cone. Lau, M., et al, [1993, 52p. + appends., eng] 47-3709

Fracture and damage of ice: towards practical implementation. Jordaan, I.J., et al, [1993, p.251-260, eng] 47-3758

Floating drilling platform. Mäkinen, E., et al, [1988, 4 col., eng] 47-3846

Modelling of rock mass responses to glaciation at Finnsjön, central Sweden. Rosengren, L., et al, [1993, p.75-82, eng] 47-3920

Icing on a small horizontal-axis wind turbine - part 1: glaze ice profiles. Bose, N., [1992, p.75-85, eng] 47-3921

Icing on a small horizontal-axis wind turbine—part 2: three dimensional ice and wet snow formations. Bose, N., [1992, p.87-96, eng] 47-3922

Ice detector estimation of atmospheric icing on a cable. McComber, P., et al, [1993, p.305-316, eng] 47-3933

Arctic structure of composite wall construction. Birdy, J.N., et al, [1987, 14 col., eng] 47-4007

Analytical solutions for modelling of ice structure interaction. Koreneva, E.B., [1993, p.59-61, eng] 47-4121

Proceedings. Vol.4. Arctic/polar technology. [1993, 219p., eng] 47-4223

Computer model of glaze accretion on wires. Draganoiu, G., et al, [1993, p.89-95, eng] 47-4235

Load transmission through ice rubble on the Gulf Molikpaq. Timco, G.W., [1993, p.135-143, eng] 47-4241

Ice and rubble failure loads on sloping structures by two-dimensional upper-bound plastic limit analysis. Luk, C.H., et al, [1993, p.157-168, eng] 47-4243

Stopping criteria for discrete event simulations. Wang, A.T., [1993, p.169-176, eng] 47-4244

Ice forces on light piers in the St. Lawrence Seaway. Frederking, R.M.W., et al, [1992, p.67-72, eng] 47-4280

Model study of cable-moored conical platform. Nixon, W.A., et al, [1993, p.12-31, eng] 47-4284

Contact force and damage evolution in a moving uniaxial ice bar. Shin, J.G., et al, [1992, p.129-134, eng] 47-4287

Ice action onto multilegged structures due to change of water level. Matskevitch, D.G., et al, [1992, p.222-227, eng] 47-4306

Problems of design for operation and transportation in subarctic offshore environments. Fuglem, M.K., et al, [1993, p.311-322, eng] 47-4472

Compression properties of Canadian intertill clays. Sauer, E.K., et al, [1993, p.257-275, eng] 47-4513

Icing problems at Corps projects. Haynes, F.D., et al, [1993, 18p. + figs., eng] 47-4608

Hydrodynamic pressure during propeller/ice interaction. Newbury, S., et al, [1993, 10p., eng] 47-4864

Flow over a propeller with ice blockage. Shih, L.Y., et al, [1993, 12p., eng] 47-4865

Cryogenic ambient air vaporizers: frost growth, wind and seismic design for safety. Bernert, R.E., Jr., et al, [1993, p.789-793, eng] 47-4876

Iceberg impacts on massive structures. Guichard, A., [1992, Var. p., fre] 47-4885

Pneumatically de-iced ice detector. Franklin, C.H., et al, [1985, 32p., eng] 47-4896

Fatigue crack propagation in freshwater ice. Final report. Nixon, W.A., et al, [1993, 42p., eng] 47-4898

Reliability of guyed masts with special reference to arctic conditions. Johansson, B., et al, [1991, 18p., eng] 47-5011

Nonsymmetric icing of guyed masts. Peil, U., et al, [1991, 10p., eng] 47-5012

Floating ice beam impact forces against a sloped structure. Coutermarsh, B.A., [1993, 51p., eng] 47-5244

Reliability-based design of transmission towers under wind and ice loadings. Cho, H.N., et al, [1993, p.1125-1130, eng] 47-5263

Ice makers

Dual freezing chamber system and method for water purification. Chang, C.N., [1989, 14 col., eng] 47-3332

Crystallizing apparatus. Connery, C.A., [1989, 12 col., eng] 47-3333

Method and apparatus for constructing an ice structure. Erwin, R.E., [1988, 6 col., eng] 47-3635

Ice mechanics

Integrating the equations of motion of an ice sheet. Ivanov, A.I., [1991, p.131-136, rus] 47-330

Effect of ice flow on the distribution of fragmented material in a moraine. Demidov, I.N., [1991, p.186-190, rus] 47-341

Modeling ice dynamics with regard to thermal conditions. Taran, B.M., [1991, p.137-146, rus] 47-365

Stress-induced foliation formed by surging in a glacier tongue. Pfeffer, W.T., [1992, p.213-222, eng] 47-462

Flow-law hypotheses for ice-sheet modeling. Alley, R.B., [1992, p.245-256, eng] 47-465

Theoretical calving rates from glaciers along ice walls grounded in water of variable depths. Hughes, T., [1992, p.282-294, eng] 47-469

Ice edge contact and failure. Daley, C., [1992, p.1-23, eng] 47-800

Two-dimensional extrusion of crushed ice. Part 1: experimental. Sayed, M., et al, [1992, p.25-36, eng] 47-801

Two-dimensional extrusion of crushed ice. Part 2: analysis. Savage, S.B., et al, [1992, p.37-47, eng] 47-802

Lagrangian discrete parcel simulation of two dimensional river ice dynamics. Chen, Y.C., [1992, 147p., eng] 47-838

Three-dimensional viscoplastic flow model of *polycrystalline ice.* Fish, A.M., [1992, p.193-207, eng] 47-1029

Stress and time effects on the creep rate of polycrystalline ice. Kuo, S.S., [1992, p.209-224, eng] 47-1030

Ice floe collision under wave action in the Marginal Ice *Zone.* Gao, L., et al, [1992, p.281-291, eng] 47-1035

Large-scale thermal bending fracture of sea ice plates. Bažant, Z.P., [1992, p.17,739-17,751, eng] 47-1063

Flows of fractal-broken ice. Gol'dshtein, R.V., et al, [1992, p.576-581, rus] 47-2036

Ice mechanics in the LeadEx program. Coon, M.D., et al, [1991, p.651-656, eng] 47-2184

Cracking kinetics and failure on repeated loadings of ice. Sinha, N.K., [1992, p.137-150, eng] 47-2301

Crack growth stability in saline ice. DeFranco, S.J., et al, [1991, p.25-36, eng] 47-2307

Ice-floe collisions interpreted from acceleration data during LIMEX '89. McKenna, R.F., et al, [1992, p.246-269, eng] 47-2350

Basic problems in the study of naleds. Alekseev, V.R., [1991, p.5-23, rus] 47-2425

Mechanism of the development of the naled process. Rumiantsev, E.A., [1991, p.55-66, rus] 47-2429

Pressure of crushed ice as Mohr-Coulomb material against flat, axisymmetric indentor. Duthinh, D., [1992, p.139-151, eng] 47-2640

Asymptotic analysis of the flow of ice sheets. Mazo, A.B., [1991, p.17-22, rus] 47-2783

Current tendencies of anthropogenic changes in physical-mechanical properties of natural ice. Paniushkin, A.V., et al, [1991, p.126-129, rus] 47-2801

Numerical simulation of systems of multitudinous *polygonal blocks.* Hopkins, M.A., [1992, 69p., eng] 47-2923

Adjoint sensitivity theory for a pack ice momentum model. Sykes, J.F., et al, [1992, p.881-889, eng] 47-3353

Sensitivity analysis of ice motion near Adams Island. Sykes, J.F., et al, [1992, p.890-901, eng] 47-3354

Contact melting during sliding on ice. Fowler, A.J., et al, [1993, p.1171-1179, eng] 47-3578

1993 joint meeting of ASME, ASCE and Society of Engineering Science. [1993, 2 vols. (Pertinent p.352-374), eng] 47-3761

Brittle compressive failure of fresh-water columnar ice under biaxial loading. Smith, T.R., et al, [1993, p.153-163, eng] 47-3776

Elastohydrodynamic response of an ice sheet to forced sub-surface uplift. Dempsey, J.P., et al, [1993, p.487-506, eng] 47-3827

Floating ice pressures on sloping and vertical structures. Arunachalam, V.M., et al, [1993, p.231-245, eng] 47-3927

Sea ice flexural rigidity: a comparison of methods. DiMarco, R.L., et al, [1993, p.247-255, eng] 47-3928

Compressive strength of ice cubes of different sizes. Kuehn, G.A., et al, [1993, p.142-148, eng] 47-4060

Proceedings. Vol.4. Arctic/polar technology. [1993, 219p., eng] 47-4223

Creep and creep damage of polycrystalline ice under multi-axial variable loading. Wu, Z., et al, [1993, p.1-10, eng] 47-4224

Flow properties of crushed ice. Singh, S.K., et al, [1993, p.11-19, eng] 47-4225

Experimental study of the behaviour of columnar grained ice subjected to cyclic loading. Derradji-Aouat, A., et al, [1993, p.21-28, eng] 47-4226

Flow properties of crushed ice: crushing plus extrusion tests. Spencer, P.A., et al, [1993, p.45-51, eng] 47-4229

Analysis of data from indentation tests on freshwater ice. Chin, S.N., et al, [1993, p.73-81, eng] 47-4233

Elastic analysis of stresses in ice structure interactions. Nixon, W.A., et al, [1993, p.83-88, eng] 47-4234

Investigation of the icebreaking pattern at the bow of the IB Kapitan Sorokin on the Yenisei River estuary in May 1991. Valanto, P.U., [1993, p.127-134, eng] 47-4240

Description of multi-year ice indentation tests at Hobson's Choice Ice Island—1990. Masterson, D.M., et al, [1993, p.145-155, eng] 47-4242

Ice and rubble failure loads on sloping structures by two-dimensional upper-bound plastic limit analysis. Luk, C.H., et al, [1993, p.157-168, eng] 47-4243

Dynamical problems of ice cover fracture. Pushkin, A.V., et al, [1991, p.212-219, eng] 47-4282

Computer-based simulation of the ice fracture near a vertical pile. Matskevitch, D.G., et al, [1992, p.123-128, eng] 47-4286

Contact force and damage evolution in a moving uniaxial ice bar. Shin, J.G., et al. (1992, p.129-134, eng) 47-4287

Ice forces in dynamic ice structure interaction. Eranti, E., (1992, p.204-211, eng) 47-4304

Sea ice deformation observed with ERS-1 SAR. Rothrock, D.A., et al. (1993, p.301-306, eng) 47-4429

On the ductile-to-brittle transition in ice under compression. Batto, R.A., et al. (1993, p.2219-2225, eng) 47-4731

Location of mechanical controls on Columbia Glacier, Alaska, U.S.A., prior to its rapid retreat. Van der Veen, C.J., et al. (1993, p.99-105, eng) 47-4742

Source mechanisms for arctic ocean ambient noise. Dyer, I., (1993, p.537-551, eng) 47-4835

Arctic pack ice thermal stress related to under-ice noise. Lewis, J.K., et al. (1993, p.573-590, eng) 47-4838

Sea ice constitutive behavior and under-ice noise. Pritchard, R.S., (1993, p.591-610, eng) 47-4839

Glacier flow modeling. Kamb, B., (1993, p.417-506, eng) 47-4847

Notch sensitivity of first-year sea ice. Parsons, B.L., et al. (1993, p.1303-1313, eng) 47-4848

Kinematic model of river ice motion during dynamic breakup. Ferrick, M.G., et al. (1993, p.111-134, eng) 47-4907

Estimate of the size of the damage zone beneath an indenter on ice. Parsons, B.L., (1993, p.371-380, eng) 47-5207

Ice melting

Dependence of ice formation on arrangement of submerged tubes. Hirata, T., et al. (1992, p.681-687, eng) 47-8

Polarimetric radar remote sensing of hailstorms. Zhao, Y., (1990, 256p., eng) 47-85

Theory of ice premelting in monosized powders. Cahn, J.W., et al. (1992, p.101-108, eng) 47-181

NO adsorption on ice at low concentrations. Sommerfeld, R.A., et al. (1992, p.569-574, eng) 47-202

High porosity of basal till at Burroughs glacier, southeastern Alaska. Ronnert, L., et al. (1992, p.849-852, eng) 47-246

Optical search for surface melting of ice. Elbaum, M., (1992, 166p., eng) 47-275

Kinetic energy of hailfalls. Part 4: patterns of hailpad and radar data. Schmid, W., et al. (1992, p.1165-1178, eng) 47-460

Accelerated snow melting by artificial means. Bhattacharya, U., et al. (1985, p.248-263, eng) 47-576

Heat and mass transfer processes during the nucleation, growth and melting of hailstones. Filatkin, V.N., et al. (1991, p.50-68, rus) 47-753

On the melt rate of drifting ice heated from below. Omstedt, A., et al. (1992, p.91-100, eng) 47-806

Ice cold storage using direct contact phase change. Utaka, Y., et al. (1989, p.469-475, eng) 47-914

Sea ice melting and floe geometry in a simple ice-ocean model. Steele, M., (1992, p.17,729-17,738, eng) 47-1062

Friction against ice and snow. Balakin, V.A., et al. (1991, p.132-143, eng) 47-1175

Surface melting of the (0001) face of TIP4P ice. Kroes, G.J., (1992, p.365-382, eng) 47-1189

Influence of convection and currents on bottom melting of ice during spring heating of a body of water. Blokhina, N.S., (1989, p.82-87, eng) 47-1227

Premelting of ice in exfoliated graphite: a neutron diffraction study. Gay, J.M., et al. (1992, p.33-41, eng) 47-1383

Scattering from melting ice spheres at microwave and millimeter-wave frequencies. Fletcher, P.N., et al. (1992, p.545-548, eng) 47-1561

Thermocapillary convection during solid-liquid phase change. Voth, T.E., et al. (1992, p.1068-1070, eng) 47-1673

Global changes during the latest glacial-interglacial cycle. Kotlyakov, V.M., et al. (1992, p.89-113, eng) 47-1762

Ice melters and concrete damage: are they related. Balkin, L.E., et al. (1992, p.50-51, eng) 47-1922

Lomen water power plant—channel formation over a lake discharge outlet. Wold, K., (1988, 98p., nor) 47-2246

Production and heat transfer characteristics of liquid ice as new PCM. Fukusako, S., et al. (1992, p.347-364, eng) 47-2298

Frost heave and the surface melting of ice. Dash, J.G., (1991, p.339-356, eng) 47-2302

Selecting a current for melting glaze. Nikitina, L.G., et al. (1992, p.46-49, rus) 47-2360

Ways of refining the calculation of naled ice melting. Ergin, V.P., (1991, p.123-128, rus) 47-2436

Anomalies of the shock compressibility of water. Bogdanov, G.E., et al. (1992, p.162-165, eng) 47-2458

Experimental study of melting of ice about horizontal cylinders. Torikoshi, K., et al. (1991, p.269-274, eng) 47-2557

Melting process of packed beds of ice particles by water flow. Okada, M., et al. (1991, p.327-333, eng) 47-2561

Heat transfer characteristics of ice capsules for encapsulated cool storage systems. Arnold, D., (1991, p.335-342, eng) 47-2562

Melting of ice in pure and saline water inside a square cavity. Schutz, W., et al. (1992, p.311-319, eng) 47-2638

Estimating thaw-strain settlement of frozen fill. Crowther, G.S., (1992, p.152-159, eng) 47-2641

Comments on "Analysis of close-contact melting for octadecane and ice inside isothermally heated horizontal rectangular capsule". Bejan, A., (1993, p.832, eng) 47-2655

Cloud clearing with a CO2 laser in a cirrus cloud simulation facility. Waggoner, A.P., et al. (1992, p.5871-5877, eng) 47-2664

Convection heat transfer to melting ice. Jakubowski, G.S., et al. (1991, p.41-48, eng) 47-2767

Anomalous behavior of ice in solutions of ice-binding arabinoxylans. Williams, R.J., (1992, p.105-113, eng) 47-2883

Ice spillways: construction and analytical-experimental bases. Finagenov, O.M., et al. (1992, 47p., rus) 47-2935

Effects of freeze-up and melt processes on microwave signatures. Gogineni, S.P., et al. (1992, p.329-341, eng) 47-3031

Snow and ice melting system for automotive vehicles. Ahmed, M.I., (1989, 12 col., eng) 47-3105

Fluid line deicer. Wilson, D.W., (1989, 6 col., eng) 47-3112

Recent advances in research on water-freezing and ice-melting problems. Fukusako, S., et al. (1993, p.90-105, eng) 47-3287

Melting transition at ice crystal glass substrate interface. Furukawa, Y., et al. (1993, p.1137-1142, eng) 47-3289

Very large melting point depression of water in silica. van Miltenburg, J.C., et al. (1993, p.1143-1149, eng) 47-3290

New concept in runback water modeling for anti-iced aircraft surfaces. Al-Khalil, K.M., et al. (1993, p.41-49, eng) 47-3316

Landfast ice thickness variations in the Canadian High Arctic. Brown, R.D., et al. (1992, p.273-284, eng) 47-3321

Dual freezing chamber system and method for water purification. Chang, C.N., (1989, 14 col., eng) 47-3332

Method of preparing and molding mortar or like. Suzuki, T., (1988, 8 col., eng) 47-3495

Method for thawing out road culverts choked with ice. Olsson, L.U., (1988, 8 col., eng) 47-3501

Polarimetric signatures in the stratiform region of a mesoscale convective system. Zrnic, D.S., et al. (1993, p.678-693, eng) 47-3508

Contact melting during sliding on ice. Fowler, A.J., et al. (1993, p.1171-1179, eng) 47-3578

Analysis of the characteristics of decrease in areas of ice massifs in the Novosibirsk region during summer. Egorov, A.G., et al. (1990, p.15-24, rus) 47-3585

Intensity of changes in the areas of ice massifs in the East Siberian Sea during summer. IUlin, A.V., (1990, p.25-34, rus) 47-3586

Results of calculations of changes in the probability density distribution of ice thickness during melting. Appel', I.L., (1990, p.112-116, rus) 47-3597

Optical study of surface melting on ice. Elbaum, M., et al. (1993, p.491-505, eng) 47-3648

Front Range blizzard of 1990. Part 1: synoptic and mesoscale structure. Marwitz, J.D., et al. (1993, p.402-415, eng) 47-3676

Influence of sea ice particulate matter on ocean irradiance. Fritsen, C.H., et al. (1992, p.527-541, eng) 47-3736

Changes of characteristics of arctic sea ice in case of a doubling of carbon dioxide. Kolomeev, M.P., et al. (1992, p.34-40, eng) 47-3991

Immersed tube heat transfer in a melting ice bed. Fukusako, S., et al. (1993, p.353-359, eng) 47-4064

Synoptic ice melt from Nimbus-7 SMMR. Crane, R.G., et al. (1988, p.36-39, eng) 47-4180

Stagnant glacier ice, St. Elias Mountains, Yukon. Johnson, P.G., (1992, p.13-19, eng) 47-4319

Hydrography and vertical fluxes of heat and salt northeast of Svalbard in autumn. Steele, M., et al. (1993, p.10,013-10,024, eng) 47-4373

Simulation of extraterrestrial ice solution melting curves. Boone, S., et al. (1991, p.603-610, eng) 47-4635

Onset and evolution of penetrative convection during the melting process in a porous medium. Nguyen, T.H., et al. (1992, p.381-392, eng) 47-4708

When ice melts in sea water: a review. Gade, H.G., (1993, p.139-165, eng) 47-4914

Thermal analysis of ice melting from surface friction. Pushkarev, O.E., et al. (1992, p.25-30, eng) 47-5004

Development of a new de-icing agent. Washüttl, J., et al. (1985, 34p., ger) 47-5009

Recent advances in research on freezing and melting heat-transfer phenomena. Fukusako, S., et al. (1991, p.1157-1170, eng) 47-5109

Thermodynamics of high-pressure ice. Chizhov, V.E., (1993, p.253-262, eng) 47-5266

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Ice microstructure

Fracture toughness Kq and fractography of S1 type freshwater ice. Dempsey, J.P., et al. (1989, p.3421-3428, eng) 47-236

Flow-law hypotheses for ice-sheet modeling. Alley, R.B., (1992, p.245-256, eng) 47-465

Towards a quantitative characterization of sea ice microstructure. Perovich, D.K., et al. (1992, p.1249-1252, eng) 47-672

Observations of the water-vein system in polycrystalline ice. Mader, H.M., (1992, p.333-347, eng) 47-1386

Thermal behaviour of the water-vein system in polycrystalline ice. Mader, H.M., (1992, p.359-374, eng) 47-1388

Scanning electron microscopy of ice cream, 1. Caldwell, K.B., et al. (1992, p.1-9, eng) 47-2014

Scanning electron microscopy of ice cream, 2. Caldwell, K.B., et al. (1992, p.11-23, eng) 47-2015

Cracking kinetics and failure on repeated loadings of ice. Sinha, N.K., (1992, p.137-150, eng) 47-2301

Notch acuity effects on the CTOD and K(Q) of ice. Dempsey, J.P., et al. (1990, p.333-342, eng) 47-2310

Preliminary study of electromagnetic emissions from cracks in ice. Fifolt, D.A., et al. (1993, p.289-299, eng) 47-3167

Solidification in saline solutions. Rubinsky, B., et al. (1993, p.157-167, eng) 47-3288

Observations of the initial stage of ice phase evolution in supercooled clouds. Nevzorov, A.N., et al. (1992, p.69-76, eng) 47-3458

Compression jig for x-ray topography of ice. Liu, F., et al. (1993, p.416-421, eng) 47-3468

Three-dimensional growth in ice dendrites. Furukawa, Y., et al. (1993, p.234-239, eng) 47-3469

Ductile ice. Schulson, E.M., et al. (1993, p.151-157, eng) 47-3564

Micromechanical damage descriptor for polycrystalline ice. Elvin, A.A., et al. (1993, p.1-14, eng) 47-3738

Viscoelastic deformation behavior of ice based on micromechanical models. Schapery, R.A., (1993, p.15-33, eng) 47-3739

Prediction of ice failure by micromechanics. Wu, M.S., et al. (1993, p.35-47, eng) 47-3740

Dynamic observations of dislocation generation at grain boundaries in ice. Liu, F., et al. (1993, p.1261-1276, eng) 47-3986

Effect of voltage polarity on icicles grown on line insulators. Farzaneh, M., et al. (1992, p.297-302, eng) 47-4303

Characteristics of the microstructure of deposits from the ice complexes in northern Yakutia. Slagoda, E.A., (1991, p.38-47, rus) 47-4807

Notch sensitivity of first-year sea ice. Parsons, B.L., et al. (1993, p.1303-1313, eng) 47-4848

Influence of polysaccharides on the glass transition in frozen sucrose solutions and ice cream. Goff, H.D., et al. (1993, p.1268-1277, eng) 47-4849

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Ice models

Effects of ice ridge properties on calculated surface backscattering in BEPERS-88. Manninen, A.T., (1992, p.2469-2487, eng) 47-259

Measurement, analysis, and modeling of deformation of the shelf flow, Byrd Glacier. Zhao, Z.H.M., (1990, 108p., eng) 47-486

Assessment of the one-dimensional icing forecast model applied to stratiform clouds. Tunick, A., et al. (1990, p.57-64, eng) 47-909

Laboratory test on construction of ice domes and their load-carrying capacity. Hannuki, T., et al. (1992, p.203-226, jpn) 47-975

Advances in ice technology; proceedings of the 3rd international conference. (1992, 365p., eng) 47-1013

Study of ice borehole closure by finite element method. Li, F., et al. (1992, p.77-89, eng) 47-1020

Boundary element analysis of macrocracking of ice in a large test basin. Marcellus, R.W., et al. (1992, p.91-104, eng) 47-1021

Computational modeling of antarctic lake ice. Lindner, B.L., et al. (1992, p.105-116, eng) 47-1022

Three-dimensional viscoplastic flow model of polycrystalline ice. Fish, A.M., (1992, p.193-207, eng) 47-1029

On ice-coupled waves: a comparison of data and theory. Squire, V.A., et al. (1992, p.269-280, eng) 47-1034

Large amplitude sea/ice coupling. Fox, C., (1992, p.293-304, eng) 47-1036

Energy density of water and ice nucleation. (Response). Lahav, M., et al. (1993, p.1469-1470, eng) 47-2319

Modeling the seasonal variability of a coupled arctic ice-ocean system. Häkkinen, S., et al. (1992, p.20,285-20,304, eng) 47-2341

Simulation of sea-ice motion and distribution off Newfoundland during LIMEX, March 1987. Tang, C.L., et al. (1992, p.270-296, eng) 47-2351

Multivariate sensitivities of a dynamic-thermodynamic sea ice model. Chapman, W.L., et al. (1992, p.87-90, eng) 47-2388

Ice models *(cont.)*

Sensitivity study of a dynamic thermodynamic sea-ice model. Holland, D.M., et al. [1992, p.91-93, eng] 47-2389

Sensitivity studies of an ice-ocean coupled model for the Northern Hemisphere. Cheng, A., et al. [1992, p.94-97, eng] 47-2390

Hudson Bay free-air gravity anomaly and glacial rebound. James, T.S., [1992, p.861-864, eng] 47-2598

Sensitivity study of a dynamic thermodynamic sea ice model. Holland, D.M., et al. [1993, p.2561-2586, eng] 47-2626

Glacial history of the Ellsworth Mountains. Denton, G.H., et al. [1992, p.403-432, eng] 47-2700

Mathematical model of sea ice cover variability. Fleming, G.H., [1992, p.479-499, eng] 47-2881

Numerical simulation of systems of multitudinous polygonal blocks. Hopkins, M.A., [1992, 69p., eng] 47-2923

Ship superstructure icing: data collection and instrument performance on USCGC *Midgett* research cruise. Ryerson, C.C., et al, [1992, 133p., eng] 47-2924

Response of large ice sheets to climatic change. Drewry, D.J., et al, [1992, p.235-242, eng] 47-3143

On the propagation of discontinuities in a drifting ice cover. Marchenko, A.V., [1992, p.346-358, eng] 47-3230

Adjoint sensitivity theory for a pack ice momentum model. Sykes, J.F., et al, [1992, p.881-889, eng] 47-3353

Initiation of maritime ice sheets. Kerr, A.D., [1990, p.69-79, eng] 47-3574

One method of analyzing the interdependence of short time series. Chepurina, M.A., [1990, p.77-83, rus] 47-3591

Numerical calculation of the trajectory of ice drift. Aksenov, E.O., [1990, p.148-154, rus] 47-3601

Sensitivity of a thermodynamic model of sea ice to parametrization of short-wave and long-wave radiation. Makshtas, A.P., et al, [1992, p.116-137, rus] 47-3811

Comparison of the mass-loading and elastic plate models of an ice field. Squire, V.A., [1993, p.219-229, eng] 47-3926

Simple coupled steady-state arctic ice-ocean model. Willmott, A.J., et al, [1988, p.87-88, eng] 47-4189

Proceedings. Vol.4. Arctic/polar technology. [1993, 219p., eng] 47-4223

Creep and creep damage of polycrystalline ice under multi-axial variable loading. Wu, Z., et al, [1993, p.1-10, eng] 47-4224

Flow properties of crushed ice. Singh, S.K., et al, [1993, p.11-19, eng] 47-4225

Experimental study of the behaviour of columnar grained ice subjected to cyclic loading. Derradji-Aoust, A., et al, [1993, p.21-28, eng] 47-4226

Stochastic modelling of icicle formation. Szilder, K., et al, [1993, p.59-64, eng] 47-4231

Primary creep of ice plate under constant loading. Mahrenholtz, O., et al, [1993, p.97-104, eng] 47-4236

Geometrical model for pressure aspect-ratio effects in ice-structure interaction. Spencer, P.A., et al, [1993, p.113-117, eng] 47-4238

Modelling for ice-structure interactions. Morsy, U.A., et al, [1993, p.119-125, eng] 47-4239

Model for the construction of artificial ice islands. Chouinard, L.E., [1993, p.187-198, eng] 47-4246

Combined creep and yield model of ice under multiaxial stress. Fish, A.M., [1993, p.130-138, eng] 47-4298

Arctic Ocean ice balance: a Kalman smoother estimate. Thomas, D.R., et al, [1993, p.10,053-10,067, eng] 47-4376

Thermodynamic model of ice-atmosphere interactions. Ebert, E.E., et al, [1993, p.10,085-10,109, eng] 47-4378

Sea ice-ocean interaction. Lemke, P., [1987, p.439-451, eng] 47-4457

Properties of a statistical model of ice at low temperatures. Barkema, G.T., et al, [1993, p.2059-2067, eng] 47-4463

Sea ice models. Hibler, W.D., III, et al, [1992, p.413-436, eng] 47-4499

Radar absorption due to impurities in antarctic ice. Corr, H., et al, [1993, p.1071-1074, eng] 47-4562

Monthly mean sea ice data from ice prediction models. Posey, P.G., et al, [1993, 6p. + append., eng] 47-4620

Comparison of VLBI data with the ICE-3G glacial rebound model. James, T.S., et al, [1993, p.871-874, eng] 47-4631

Learning behavior of sea ice. Denner, W.W., [1993, p.527-536, eng] 47-4834

Sea ice constitutive behavior and under-ice noise. Pritchard, R.S., [1993, p.591-610, eng] 47-4839

Wave induced noise generation in the marginal ice zone. Rottier, P., [1993, p.611-624, eng] 47-4840

Strategies for modelling climate changes. Lliboutry, L.A., [1993, p.385-398, eng] 47-4845

Ice sheet dynamics. Lliboutry, L.A., [1993, p.399-416, eng] 47-4846

Kinematic model of river ice motion during dynamic breakup. Ferrick, M.G., et al, [1993, p.111-134, eng] 47-4907

Model for thermally-induced stresses in multi-year sea ice. Lewis, J.K., [1993, p.337-348, eng] 47-5205

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Ice navigation

Fundamentals of the theory of calculating the navigation value of ice data. Likhachev, A.V., [1991, p.15-33, rus] 47-90

Differential method of multivariate analysis of ice data. Likhachev, A.V., [1991, p.60-73, rus] 47-91

Igor Ilinskiy—multi-purpose arctic cargo ship. [1990, p.28, eng] 47-104

Calculating corrections for low frequency radio-navigation systems for sea routes covered with ice. Pylaev, A.A., et al, [1991, p.106-111, rus] 47-192

Ship-ice interaction in a natural ice cover. Daley, C., [1992, 32p. + append., eng] 47-220

Soviet arctic marine transportation 1990. Brigham, L.W., [1991, p.109-110, eng] 47-242

Airborne EM ice measurement sensor: phases 1 and 2. Holladay, J.S., et al, [1992, 67p., eng] 47-455

M.V. *Arctic* ice transiting performance—continuous mode. Interim report. [1983, Var.p., eng] 47-521

Second generation ice navigation system: implementation phase II. Gautier, C., [1992, 47p. + appends., eng] 47-605

Second generation ice navigation system: implementation phase I. Gautier, C., [1991, 35p. + appends., eng] 47-607

Ship operations in ice: practical speed considerations. Parnell, G.Q., [1992, p.307-312, eng] 47-1037

Extending the shipping season in the Canadian Arctic and prospects for the future. Sneyd, A.R., et al, [1992, p.351-365, eng] 47-1041

Evaluation of ice compression. Kuznetsov, I.M., et al, [1989, p.72-76, eng] 47-1225

River ice and sediment transport during opening of navigation. Zabilansky, L.J., et al, [1992, 76p., eng] 47-1240

Proposed standard method for conduct and analysis of ice resistance model tests. Spencer, D.S., et al, [1992, 10p., eng] 47-1341

Modelling techniques for icebreaking hull forms. Newbury, S., [1991, 18p. + appends., eng] 47-1343

Computation of ship/pack ice interaction with wave effect. Wang, S.L., et al, [1990, 36p., eng] 47-1357

Investigation of lateral ice pressure in model ice. Hardiman, K.C., [1992, n.p., eng] 47-1358

Thrust deduction and propulsive coefficients of icebreaking vessels. Drodge, R.M., et al, [1992, 20p. + appends., eng] 47-1359

Modelling of the ice failure processes in ship-ice interaction. McKenna, R.F., et al, [1991, 156p., eng] 47-1360

Using the air containing stream for channel ice clearance. Hsiung, C.C., et al, [1992, 94p., eng] 47-1361

Icebreaker trials of CCGS *Sir John Franklin*. Williams, F.M., et al, [1991, 13p.+ appends., eng] 47-1362

Full scale deflection of ice by an icebreaker. Gagnon, R.E., et al, [1991, 4p. + appends., eng] 47-1363

2-D simulation of rigid body motion in mush ice. [1990, 32p. + appends., eng] 47-1374

Safety in ice navigation in Antarctic waters. Brune, E., [1992, p.571-576, eng] 47-1843

Some results from the Labrador Ice Margin Experiment. Kjeldsen, S.P., et al, [1992, p.732-739, eng] 47-1868

Preliminary results of the U.S. Navy localized ice impact test program. Devine, E.A., et al, [1992, p.750-763, eng] 47-1870

Methodology of the determination of the parameters of large ships designed for the independent navigation in ice-covered waters and of those supported by icebreakers. Tsol, L.G., [1992, p.777-779, eng] 47-1873

Technique and the results of ice trials of an icebreaking cargo motorship of CA-15 type. Tsol, L.G., [1992, p.780-782, eng] 47-1874

Changeability of ice cover and navigation conditions in the Bering Sea. IAkunin, L.P., [1992, p.795-796, eng] 47-1877

Flows of fractal-broken ice. Gol'dshtein, R.V., et al, [1992, p.576-581, rus] 47-2036

Iceberg warnings. Ezman, A.T., [1993, p.56-59, eng] 47-2144

Ice load measurements on board the MS *Kemira*, winter 1991. Muhonen, A., [1992, 26p. + appends., eng] 47-2583

Nuclear-powered submarine transport for the Arctic. Dronov, B.F., et al, [1992, p.3-7, rus] 47-2899

Last "Terra incognita". Pasetskii, V., [1992, p.49-50, rus] 47-2904

Novorossiysk bora. Basevich, V., [1992, p.51-53, rus] 47-2905

Effect of the bow form of ships on ice-navigability. Titov, I.A., et al, [1992, p.6-8, rus] 47-2917

Statistical studies of wear on the hull plating of ice-navigating ships. Shemendiuk, G.P., et al, [1992, p.28-31, rus] 47-2920

First ice-navigating ships for the Far East. Smirnov, K.D., [1992, p.49-51, rus] 47-2921

Estimating icing in the design of seagoing ships. Pavliuchenko, IU.N., [1992, p.9-11, rus] 47-2922

New multipurpose icebreaker proves Finnish shipbuilding know-how. [1992, p.42,44, eng] 47-3138

Influence of natural conditions on the development of transportation in the Far East. Vakhnenko, R.V., [1991, p.103-106, rus] 47-3281

Ice breaker. Hellmann, J.H., et al, [1989, 8 col., eng] 47-3325

Northeast passage: ERS-1 ice routing for the Polar/Vessel *L'Astrolabe*. Johannessen, O.M., et al, [1991, p.227-236, eng] 47-3410

First transit of the Northwest Passage by Russian icebreaker. Splettstoesser, J., et al, [1993, p.148, eng] 47-3443

Breaking the ice. Goldsack, B., [1992, p.22-27, eng] 47-3859

Movement of icebreakers in complicated ice conditions. Rubanov, A.N., [1991, p.153-156, rus] 47-3966

Nuclear lighter "Sevmorput". Smirnov, V., et al, [1990, p.22-23, rus] 47-4089

Transport of small consignments of petroleum products to Arctic points. Kazimirov, A., [1990, p.5-6, rus] 47-4090

Variable pitch propellers for ice navigating ships. Ivanov, S., [1990, p.38-40, rus] 47-4091

Northern Sea Route and the policy of new Russia. Granberg, A.G., [1992, p.5-14, eng] 47-4210

Chronology of the International Northern Sea Route Project. Simonsen, H., [1992, p.26-33, eng] 47-4211

History of the Northern Sea Route. Armstrong, T., [1992, p.34-42, eng] 47-4212

Northern Sea Route—rosy prospects for commercial shipping?. Wergeland, T., [1992, p.43-57, eng] 47-4213

Northern Sea Route: a new era in Soviet policy?. Östreng, W., [1991, p.259-287, eng] 47-4217

Air containing propeller stream and its application in ice clearance. Wang, S.L., et al, [1993, p.53-58, eng] 47-4230

Description of multi-year ice indentation tests at Hobson's Choice Ice Island—1990. Masterson, D.M., et al, [1993, p.145-155, eng] 47-4242

Problems of design for operation and transportation in subarctic offshore environments. Fuglem, M.K., et al, [1993, p.311-322, eng] 47-4472

Coast Guard and the Greenland Patrol. Tilley, J.A., [1992, 17p., eng] 47-4605

Investigation of air containing propeller stream. Wang, S.L., et al, [1993, 4p., eng] 47-4863

Hydrodynamic pressure during propeller/ice interaction. Newbury, S., et al, [1993, 10p., eng] 47-4864

Flow over a propeller with ice blockage. Shih, L.Y., et al, [1993, 12p., eng] 47-4865

Northern Sea Route—now open. Ivanov, IU., et al, [1992, p.15-20, eng] 47-4872

Geopolitics of the Northern Sea Route. Östreng, W., [1992, p.21-25, eng] 47-4873

Regulations for navigation on the seaways of the Northern Sea Route. [1991, 23p., eng] 47-4892

Vehicles and transports during the Swedish Antarctic Research Programme 1991/92. Berg, A., [1993, p.258-266, eng] 47-5114

Navigation in the Weddell and Bellingshausen seas. Federici, V.M., et al, [1993, p.274-299, eng] 47-5116

Performance of the *Nathaniel B. Palmer* in ice. Sutherland, A.L., et al, [1993, p.300-309, eng] 47-5117

Antarctic drifting sea ice atlas for areas restricted from 0 to 90 west longitude. Faccini, E.E., et al, [1993, p.310-317, eng] 47-5118

Ice needles

Scattering effects of ice needles in satellite communications. Howard, J., [1989, p.411-415, eng] 47-2073

Ice nuclei

Heat and mass transfer processes during the nucleation, growth and melting of hailstones. Filatkin, V.N., et al, [1991, p.50-68, rus] 47-753

Cool rain in a three-dimensional shallow-cloud model. Takahashi, T., et al, [1992, p.739-748, eng] 47-826

Protein interaction with ice. Hew, C.L., et al, [1992, p.33-42, eng] 47-1786

Comparison between the collection efficiency of aerosol particles by water drops and ice crystals. Wang, P.K., [1991, p.87-96, eng] 47-2210

Expression of a bacterial ice nucleation gene in plants. Baertlein, D.A., et al, [1992, p.1730-1736, eng] 47-2249

Proceedings. [1992, 523p., eng] 47-2253

Ice nucleus concentrations measured in a cloud chamber. Aksenov, M.IA., et al, [1992, p.241-243, eng] 47-2258

Laboratory studies of the ice-forming characteristics of natural aerosol models. Gorbunov, B.Z., et al, [1992, p.245-247, eng] 47-2259

Laboratory investigations of ice-forming properties transformation of crystallizing agent aerosol. Kerimov, A.M., et al, [1992, p.255-257, eng] 47-2261

Memory effect in the nucleation of ice on mercuric iodide. Vali, G., [1992, p.259-262, eng] 47-2262

Mechanistic studies of heterogeneous ice nucleation by AgI-AgCl and AgI-AgCl-4NaCl aerosols. DeMott, P.J., et al. [1992, p.263-266, eng] 47-2263
Ice nucleation studies on AgI-NaCl system. Radhakrishnan, T., et al. [1992, p.267-270, eng] 47-2264
Preliminary study of ice nucleating properties of loess particles. Feng, D.X., et al. [1992, p.275-277, eng] 47-2266
Common features of ice nuclei concentration—temperature dependencies. Kim, N.S., et al. [1992, p.279-281, eng] 47-2267
Ice nuclei availability in the higher troposphere. Sassen, K., [1992, p.287-290, eng] 47-2269
Solubility effects on mixed aerosol ice nuclei in the supercooled clouds. Smorodin, V.E., [1992, p.295-299, eng] 47-2271
Study of ice nuclei in the area of hail suppression operations in Moldavia. Potapov, E.I., et al. [1992, p.301-303, eng] 47-2272
Supersaturation spectra of ice nuclei. Hussain, K., [1992, p.309-312, eng] 47-2274
Ice forming capability of various aerosols under haloid influence. Kim, N.S., et al. [1992, p.313-315, eng] 47-2275
Freezing nucleus spectra in the rain samples and their possible application on cloud conditions. Dubrovský, M., [1992, p.321-324, eng] 47-2277
Analysis of ice nucleus observation over Huhehot area in winter season. Kong, Y.Y., [1992, p.325-326, eng] 47-2278
Peculiarities of vertical distribution of aerosol particles and ice nuclei in cloud atmosphere. Khorguani, V.G., [1992, p.427-430, eng] 47-2281
Energy density of water and ice nucleation. [Response]. Lahav, M., et al. [1993, p.1469-1470, eng] 47-2319
Airborne ice nuclei concentrations measured aboard a helicopter using a mixing chamber. Vychuzhanina, M.V., et al. [1992, p.135-143, rus] 47-2526
Study of the spatial distribution of ice nuclei in a mountainous region. Vlasiuk, M.P., et al. [1992, p.143-159, rus] 47-2527
Study of the kinetics of the activation of natural and man-made ice nuclei in the Salya cloud chamber. Vychuzhanina, M.V., [1992, p.159-167, rus] 47-2528
Study of the ice nucleating properties of various polymers. Sosnikova, E.V., [1992, p.168-172, rus] 47-2529
GCM feedback sensitivity to interactive cloud water budget parameterization. Del Genio, A.D., et al. [1993, p.176-181, eng] 47-3044
Freezing points of H2SO4 aqueous solutions and formation of stratospheric ice clouds. Ohtake, T., [1993, p.138-144, eng] 47-3534
Snow crystals, natural and man made. Mason, B.J., [1992, p.227-243, eng] 47-3718
Vertical structure and size distributions of Martian aerosols from solar occultation measurements. Chassefière, E., et al. [1992, p.46-69, eng] 47-3923
Relative dispersion of ice crystals in seeded cumuli. Weil, J.C., et al., [1993, p.1055-1073, eng] 47-4080
Evaluation of bacterial ice nucleation. Watabe, S., et al. [1993, p.603-606, eng] 47-4734

Ice openings

Buoyant convection above open leads in arctic pack ice. Serreze, M.C., et al. [1992, p.J3/45-J3/48, eng] 47-880
Microphysical processes occurring in ice crystal plumes emanating from arctic leads. Pinto, J.O., et al. [1992, p.17-20, eng] 47-2368
Characteristics of the lower troposphere during LEADEX 92. Persson, P.O.G., et al. [1992, p.50-53, eng] 47-2378
Mesoscale meteorological modeling support for LEADEX. Thompson, W.T., et al. [1992, p.58-61, eng] 47-2380
Sea ice deformation in the Beaufort Sea. Overland, J.E., et al. [1992, p.64-67, eng] 47-2382
Turbulence structure of the atmospheric surface layer over arctic ice and near a lead. Gaynor, J.E., et al. [1992, p.J37-J40, eng] 47-2412
Modelling the horizontally inhomogeneous cloudy boundary layer in the presence of leads. Alam, A., et al. [1992, p.J41-J44, eng] 47-2413
Spatial variability in mixed layer properties measured under refreezing leads. Morison, J.H., et al. [1992, p.J53-J55, eng] 47-2415
Acoustic Doppler current profiler observations of currents adjacent to refreezing leads. Muench, R.D., et al. [1992, p.J56-J59, eng] 47-2416
Polynomial analysis of AVHRR images for arctic leads. Eppler, D.T., et al. [1991, p.161-189, eng] 47-3406
Lead patterns in arctic sea ice. Barry, R.G., et al. [1988, p.40-43, eng] 47-4181
Variations in snow on sea ice: a mechanism for producing climate variations. Ledley, T.S., [1993, p.10,401-10,410, eng] 47-4291
Numerical study of haline convection beneath leads in sea ice. Smith, D.C., IV, et al. [1993, p.10,069-10,083, eng] 47-4377
Thermodynamic model of ice-atmosphere interactions. Ebert, E.E., et al. [1993, p.10,085-10,109, eng] 47-4378
Arctic coastal polynya observations with ERS-1 SAR and DMSP SSM/I. Cavalieri, D.J., et al. [1993, p.295-299, eng] 47-4428
Detectability of arctic leads using thermal imagery under varying atmospheric conditions. Stone, R.S., et al. [1993, p.12,469-12,482, eng] 47-4523
See also: Polynyas

Ice optics

In situ spectroradiometric estimation of microalgal biomass in first-year sea ice. Legendre, L., et al. [1991, p.113-115, eng] 47-5
Polarimetric radar remote sensing of hailstorms. Zhao, Y., [1990, 256p., eng] 47-85
Refraction correction for radio-echo sounding of large ice masses. Rees, W.G., et al. [1992, p.302-308, eng] 47-471
Characterization of intrinsic optical properties for sea ice and snow. Tanis, F.J., et al. [1992, p.125-127, eng] 47-639
Angular width of the coherent back-scatter opposition effect: an application to icy outer planet satellites. Mishchenko, M.I., [1992, p.327-333, eng] 47-1191
Image contrast in high-resolution electron microscopy of biological macromolecules: TMV in ice. Henderson, R., [1992, p.1-18, eng] 47-1676
Quantitative energy-filtered electron microscopy of biological molecules in ice. Langmore, J.P., et al. [1992, p.349-373, eng] 47-1677
Light reflection from a sea ice cover during the onset of summer melt. Perovich, D.K., et al. [1992, p.508-516, eng] 47-1809
Use of radar measurements to investigate hail formation in clouds. Alvazian, G.M., [1991, p.208-217, eng] 47-2543
Spectral irradiance in dry valley lakes. Lizotte, M.P., et al. [1992, p.1-14, eng] 47-2868
Stress-optic effects in ice. Ravi-Chandar, K., et al. [1993, p.113-117, eng] 47-3746
Infrared emissivities of arctic land cover types. Rees, W.G., [1993, p.1013-1017, eng] 47-4070
Green iceberg formation on antarctic ice shelf bases. Warren, S.G., et al. [1993, p.6921-6928, eng] 47-4138
Determination of dielectric constant of young sea ice using microwave spectral radiometry. St. Germain, K.M., et al. [1993, p.4675-4679, eng] 47-4389
C-band SAR backscatter from ice on shallow tundra lakes: observations and modelling. Wakabayashi, H., et al. [1993, p.333-337, eng] 47-4435
East antarctic sea ice: albedo, thickness distribution, and snow cover. Allison, I., et al. [1993, p.12,417-12,429, eng] 47-4519
Passive microwave remote sensing of thin sea ice using principal component analysis. Wensnahan, M.R., et al. [1993, p.12,453-12,468, eng] 47-4522
Climate model sensitivity to sea ice albedo parameterization. Morassutti, M.P., [1991, p.25-36, eng] 47-4640
Mid- and far-infrared spectroscopy of ices: optical constants and integrated absorbances. Hudgins, D.M., et al. [1993, p.713-870, eng] 47-4736

Ice override

Edge waves and ice ride-up on shorelines. Murty, T.S., et al. [1988, p.429-434, eng] 47-3819

Ice physics

Inelastic incoherent neutron scattering study of D2O and H2O ice VIII in the range 2-140 meV. Kolesnikov, A.I., et al. [1992, p.308-312, eng] 47-195
Energy and structure of Bjerrum defects in ice Ih determined with an additive and a nonadditive potential. Hassan, R., et al. [1992, p.4326-4335, eng] 47-222
"Electric current" states of the proton in water. Bingi, V.N., [1991, p.1068-1071, eng] 47-230
Effect of static electric fields on protonic conductivity of ice single crystals. Petrenko, V.F., et al. [1992, p.341-353, eng] 47-243
Molecular interactions with icy surfaces: infrared spectra of CO absorbed in microporous amorphous ice. Devlin, J.P., [1992, p.6185-6188, eng] 47-249
Far-IR study of irradiated amorphous ice: an unreported oscillation between amorphous and crystalline phases. Hudson, R.L., et al. [1992, p.6500-6504, eng] 47-251
(Mu)SR studies of ice, illustrating the positive muon as a magnetic resonance probe of structure and dynamics. Cox, S.F.J., [1992, p.292-296, eng] 47-981
Dielectric study of the structure of hyperquenched glassy water and its crystallized forms. Johari, G.P., et al. [1992, p.5851-5855, eng] 47-988
Surface melting of the (0001) face of TIP4P ice. Kroes, G.J., [1992, p.365-382, eng] 47-1189
Premelting of ice in exfoliated graphite: a neutron diffraction study. Gay, J.M., et al. [1992, p.33-41, eng] 47-1383
Low-frequency light scattering from disordered hydrogen-bonded solids. Mazzacurati, V., et al. [1992, p.2845-2852, eng] 47-1511
New band of emission from high-energy-electron-irradiated ice at very low temperature. Miyazaki, T., et al. [1992, p.9558-9561, eng] 47-1567
Condensation and evaporation of H2O on ice surfaces. Haynes, D.R., et al. [1992, p.8502-8509, eng] 47-1568
Effect of restricted geometries on the structure and thermodynamic properties of ice. Handa, Y.P., et al. [1992, p.8594-8599, eng] 47-1569
Quantum tunneling in irradiated ice. Muto, H., et al. [1992, p.5211-5213, eng] 47-1937
Ice nucleation in electrolyte solutions. Fornazero, J., et al. [1992, p.413-418, eng] 47-2011
Effects of dispersed particulates on the rheology of water ice at planetary conditions. Durham, W.B., et al. [1992, p.20,883-20,897, eng] 47-2293
Structure of ice-Ih. Kuhs, W.F., et al. [1986, p.1-65, eng] 47-2306
Anomalies of the shock compressibility of water. Bogdanov, G.E., et al. [1992, p.162-165, eng] 47-2458
Structure of ice layers on electrical transmission cables with Raman microprobe spectroscopy. Sonwalkar, N., et al. [1992, p.1869-1873, eng] 47-2639
On the thermodynamic stability of clathrate hydrate. I. Tanaka, H., et al. [1993, p.4098-4109, eng] 47-2673
Preferential adsorption on amorphous ice surfaces. Buch, V., et al. [1993, p.4195-4206, eng] 47-2674
Characteristics of the spatial structure of subsurface ice in the vicinity of Vostok Station, Antarctica. Chashchinov, IU.M., et al. [1991, p.121-125, rus] 47-2800
Current tendencies of anthropogenic changes in physical-mechanical properties of natural ice. Paniushkin, A.V., et al. [1991, p.126-129, rus] 47-2801
Attenuation of acoustic waves in antarctic ice. Price, P.B., [1993, p.346-356, eng] 47-3097
Simulation of hexagonal ice molecular dynamics. Sciortino, F., et al. [1993, p.5694-5700, eng] 47-3155
Preliminary study of electromagnetic emissions from cracks in ice. Fifolt, D.A., et al. [1993, p.289-299, eng] 47-3167
Polarization of electromagnetic emissions from cracking ice. Petrenko, V.F., [1993, p.301-305, eng] 47-3168
Effects of electric fields on ice deformation. Petrenko, V.F., et al. [1993, p.173-185, eng] 47-3174
Surface-defect vibrational modes of large ice clusters. Rowland, B., et al. [1993, p.2485-2487, eng] 47-3177
Neutron diffraction studies of high pressure ice. Londono, J.D., et al. [1993, p.4878-4888, eng] 47-3234
Recent advances in research on water-freezing and ice-melting problems. Fukusako, S., et al. [1993, p.90-105, eng] 47-3287
Compression jig for x-ray topography of ice. Liu, F., et al. [1993, p.416-421, eng] 47-3468
UV-excited luminescences from amorphous and polycrystalline H2O ices. Lennon, D., et al. [1993, p.120-126, eng] 47-3513
Summer pack-ice properties and structure in the western Ross Sea. Jeffries, M.O., et al. [1991, p.95-97, eng] 47-3517
Inclusion-exclusion calculation of the dipole-dipole energy of hexagonal ice and of cubic ice. Huckaby, D.A., et al. [1993, p.8105-8109, eng] 47-3581
Ab initio studies on the structural and dynamical properties of ice. Lee, C.Y., et al. [1993, p.4863-4872, eng] 47-3583
Optical study of surface melting on ice. Elbaum, M., et al. [1993, p.491-505, eng] 47-3648
Temperature dependence of negative ice crystal growth. Furukawa, Y., et al. [1993, p.571-581, eng] 47-3649
Identification and yield of carbonic acid and formaldehyde in irradiated ices. DelloRusso, N., et al. [1993, p.5505-5510, eng] 47-3650
Novel processes of dislocation multiplication observed in ice. Shearwood, C., et al. [1993, p.205-210, eng] 47-3777
Simulation of water-ice layers on a silver iodide substrate. Taylor, J.H., et al. [1993, p.9732-9741, eng] 47-3984
Dynamic observations of dislocation generation at grain boundaries in ice. Liu, F., et al. [1993, p.1261-1276, eng] 47-3986
Temperature dependence of ice dielectric relaxation. Bruni, F., et al. [1993, p.538-547, eng] 47-4288
On the reproduction of ice from a common seed. Barrette, P., et al. [1993, p.153-156, eng] 47-4290
Uses of antarctic ice. Beltramino, J.C.M., [1992, p.241-247, spa] 47-4295
Perennial ice covers and their influence on antarctic lake ecosystems. Wharton, R.A., Jr., et al. [1993, p.53-70, eng] 47-4396
Simulation of extraterrestrial ammonia-water ice system. Yarger, J., et al. [1993, p.13,109-13,117, eng] 47-4412
Climatic effects on glacier thermodynamics. Blatter, H., [1991, 98p., eng] 47-4461
Properties of a statistical model of ice at low temperatures. Barkema, G.T., et al. [1993, p.2059-2067, eng] 47-4463
Adsorbate spectra for amorphous ice. Buch, V., et al. [1993, p.2265-2268, eng] 47-4464
Evolution of a porous H2O-CO2-ice sample in response to irradiation. Steiner, G., et al. [1993, p.9065-9073, eng] 47-4508
Model comet made from mineral dust and H2O-CO2 ice: sample preparation development. Roessler, K., et al. [1990, p.379-388, eng] 47-4567

Ice physics *(cont.)*

Ecological environmental features of antarctic sea ice and its role in the marine ecosystems. Wang, Z.P., et al. [1993, p.1-15, chi] 47-4646

Simulation of liquid and solid phases of water. Clementi, E., et al. [1993, p.205-213, eng] 47-4755

Raman and infrared spectra of hexagonal ice between 0 and 400/cm—a molecular dynamics simulation. Sciortino, F., et al. [1993, p.547-558, eng] 47-4760

Diffusion of atomic hydrogen in ice-Ih. Bartels, D.M., et al. [1993, p.129-134, eng] 47-4855

Proton transfer in ice. Lee, C., et al. [1993, p.279-284, eng] 47-4856

Recent advances in research on freezing and melting heat-transfer phenomena. Fukusako, S., et al. [1991, p.1157-1170, eng] 47-5109

O2 electron attachment resonances on amorphous ice surfaces. Huels, M.A., et al. [1993, p.340-346, eng] 47-5191

Thermodynamics of high-pressure ice. Chizhov, V.E., [1993, p.253-262, eng] 47-5266

Monomer molecular adsorption on ice Ih. Bell, K.P., et al. [1993, p.4160-4167, eng] 47-5272

Pauling potential in ice quantum tunneling. Consolini, G., et al. [1993, p.4227-4228, eng] 47-5273

Ice pileup

Experimental study on overtopping of ice floes at breakwater. Sasajima, T., et al. [1992, p.91-95, jpn] 47-122

On double-barriered ice-resistant structure. Hagiwara, K., et al. [1992, p.96-100, jpn] 47-123

Edge waves and ice ride-up on shorelines. Murty, T.S., et al. [1988, p.429-434, eng] 47-3819

Ice plasticity

Ductile ice. Schulson, E.M., et al. [1993, p.151-157, eng] 47-3564

On the ductile-to-brittle transition in ice under compression. Batto, R.A., et al. [1993, p.2219-2225, eng] 47-4731

Estimate of the size of the damage zone beneath an indenter on ice. Parsons, B.L., [1993, p.371-380, eng] 47-5207

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Ice pressure

Ship in ice at a single point mooring terminal. Jo, C.H., [1992, 152p., eng] 47-273

Effect of stress state on the brittle compressive failure of columnar ice. Smith, T.R., [1992, 223p., eng] 47-280

Nonsimultaneous failure and local pressure of ice in ice/vertical structure interaction. Takeuchi, T., et al. [1992, p.135-145, eng] 47-1024

Evaluation of ice compression. Kuznetsov, I.M., et al. [1989, p.72-76, eng] 47-1225

Study of the friction of ice—phase II. Molgaard, J., [1990, 4p. + append., eng] 47-1356

Investigation of lateral ice pressure in model ice. Hardiman, K.C., [1992, n.p., eng] 47-1358

First-year sea ice forces on a mobile arctic caisson in the Beaufort Sea. Frederking, R.M.W., et al. [1991, 3p., eng] 47-1365

Vertical and inclined edge-indentation of freshwater ice sheets. Finn, D.W., [1991, 97p., eng] 47-1366

Design and implementation of an in-situ ice compression tester. Keiley, P., [1991, 20p. + appends., eng] 47-1368

Proceedings. Vol.2. [1992, 806p., eng] 47-1828

Landfast ice pressure measurements in the Beaufort Sea. Sayed, M., et al. [1992, p.656-661, eng] 47-1854

Design ice force estimating system. Kato, K., [1992, p.688-695, eng] 47-1861

Ice action onto multilegged structures due to change of water level. Matskevitch, D.G., et al. [1992, p.703-708, eng] 47-1863

Experimental research on ice load. Cai, Z.R., et al. [1992, p.709-713, eng] 47-1864

Ice investigations for the proof of tidal power plant designs. Monosov, L.M., [1992, p.714-717, eng] 47-1865

Effect of confining stress on brittle indentation failure of columnar ice. Grape, J.A., et al. [1992, p.724-731, eng] 47-1867

Preliminary results of the U.S. Navy localized ice impact test program. Devine, E.A., et al. [1992, p.750-763, eng] 47-1870

Procedure for dynamic soil-structure-ice interaction. Kärnä, T., [1992, p.764-771, eng] 47-1871

Pressure of crushed ice as Mohr-Coulomb material against flat, axisymmetric indentor. Duthinh, D., [1992, p.139-151, eng] 47-2640

Local contact pressures in ship/ice and structure/ice interactions. Masterson, D.M., et al. [1993, p.169-185, eng] 47-2648

Probabilistic analysis of local ice pressures. Jordaan, I.J., et al. [1993, p.83-89, eng] 47-2668

Numerical simulation of systems of multitudinous polygonal blocks. Hopkins, M.A., [1992, 69p., eng] 47-2923

Massive ice interactions with offshore structures. Lu, M.C., [1992, 153p., eng] 47-3129

Laboratory tests of ship structures under ice loading Volume 1. Tuhkuri, J., [1993, 171p., eng] 47-3538

Ship in compressive ice. Analysis of the ice failure process. Kujala, P., et al. [1993, 70p. + appends., eng] 47-3539

Model ice forces on an upward breaking multifaceted cone. Lau, M., et al. [1993, 52p. + appends., eng] 47-3709

Ice mechanics -1993. Dempsey, J.P., ed. [1993, 281p., eng] 47-3737

Micromechanical damage descriptor for polycrystalline ice. Elvin, A.A., et al. [1993, p.1-14, eng] 47-3738

Viscoelastic deformation behavior of ice based on micromechanical models. Schapery, R.A., [1993, p.15-33, eng] 47-3739

Prediction of ice failure by micromechanics. Wu, M.S., et al. [1993, p.35-47, en_] 47-3740

Failure of columnar saline ice under biaxial compression. Nickolayev, O.Y., et al. [1993, p.61-69, eng] 47-3742

Ductile-to-brittle transition in ice under compression: grain size effect. Batto, R.A., et al. [1993, p.229-234, eng] 47-3756

Effect of creep on the constitutive behavior of saline ice at low strains. Cole, D.M., [1993, p.261-271, eng] 47-3759

Floating ice pressures on sloping and vertical structures. Arunachalam, V.M., et al. [1993, p.231-245, eng] 47-3927

Flow properties of crushed ice. Singh, S.K., et al. [1993, p.11-19, eng] 47-4225

Flow properties of crushed ice: crushing plus extrusion tests. Spencer, P.A., et al. [1993, p.45-51, eng] 47-4229

Geometrical model for pressure aspect-ratio effects in ice-structure interaction. Spencer, P.A., et al. [1993, p.113-117, eng] 47-4238

Ice forces on light piers in the St. Lawrence Seaway. Frederking, R.M.W., et al. [1992, p.67-72, eng] 47-4280

Iceberg impacts on massive structures. Guichard, A., [1992, Var. p., fre] 47-4885

Floating ice beam impact forces against a sloped structure. Coutermarsh, B.A., [1993, 51p., eng] 47-5244

See also: Ice push; Ice loads; Pressure ridges

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Ice prevention

Enclosed superstructures for light and sound buoys. Cunningham, R., [1991, 40p. + appends., eng] 47-438

Kinetic coefficient of friction measurements of EG/AD/S ice on filled Imron paint. Bell, J., et al. [1991, 33p. + appends., eng] 47-1340

Adhesion of ice to coatings and the performance of ice release coatings. Croutch, V.K., et al. [1992, p.41-53, eng] 47-2201

Study on road heating systems in Hokkaido. Miyamoto, S., et al. [1992, p.143-148, jpn] 47-2514

Freeze prevention of water intakes for snow drainage ditches. Takeuchi, T., et al. [1991, p.97-102, jpn] 47-2537

Measures to prevent freezing of the Hakucho Bridge drain pipes. Yoneta, Y., et al. [1991, p.209-214, jpn] 47-2542

Optimization of deicer application zone based on industrial wastes. Prusenko, E.D., [1992, p.96-100, rus] 47-2780

Protective modification of freeze stress in plant tissue. Olien, R., [1992, p.255-260, eng] 47-2885

Ice, rain, fog, and frost protection. [1990, 62p., eng] 47-3137

New concept in runback water modeling for anti-iced aircraft surfaces. Al-Khalil, K.M., et al. [1993, p.41-49, eng] 47-3316

Arctic production terminal facility. Williams, T.E., [1988, 4 col., eng] 47-3415

Water freeze prevention valve. Carney, F.P., [1988, 24 col., eng] 47-3417

Use of silicone masses to prevent the formation of ice on substrates. Achtenberg, T., et al. [1988, 8 col., eng] 47-3494

Ice dam preventer. Daniel, G.S., [1988, 4 col., eng] 47-3497

De-icer for a transducer assembly. Fox, C.D., [1988, 6 col., eng] 47-3642

Anti-icing and deicing device. Bird, L., [1988, 8 col., eng] 47-3764

Lamp mounting. Klaus, D.A., [1988, 6 col., eng] 47-3766

Trustworthy simplified vacuum systems. Henry, R.D., [1987, 6 col., eng] 47-3850

Swirl anti-ice system. Rosenthal, H.A., [1987, 6 col., eng] 47-3853

Glaze ice measurement with microprocessor. Provencal, G., et al. [1988, 8 col., eng] 47-4008

Influence of filling charge, evaporator length and condenser length on the performance of a right-angled thermosyphon. Lock, G.S.H., et al. [1993, p.207-211, eng] 47-4248

Influence of evaporator and condenser inclination on the performance of a right-angled thermosyphon. Lock, G.S.H., et al. [1993, p.213-217, eng] 47-4249

Wing slat anti-ice air duct system. Knowler, J.C., [1986, 6 col., eng] 47-4263

Storm water regulations: aircraft deicer anti-icers operations. Espey, W.H., Jr., et al. [1993, p.2333-2338, eng] 47-4452

Icing problems at Corps projects. Haynes, F.D., et al. [1993, 18p. + figs., eng] 47-4608

Ice detector for protecting boats. Schuellein, G.J., [1991, 4 col., eng] 47-4915

Determination of salting frequency through examination of salt residue amounts. Dirnbock, G., [1990, 38p., ger] 47-4985

Evaluation of ice prevention properties of road surface with calcium chloride admixture. Augustin, H., et al. [1986, 60p., ger] 47-4988

Avoiding aircraft icing. Collins, R.L., [1993, p.53-57, eng] 47-4999

Ice detectors for aircraft. Horne, T.A., [1993, p.T-11,T-14, eng] 47-5002

Evaluation of air flow over an anti-icing fluid film. Laforte, J.L., et al. [1993, p.96-104, eng] 47-5007

See also: Chemical ice prevention; Ice control; Ice removal; Salting

Ice push

Arctic push moraines, a case study of the Thompson Glacier moraine, Axel Heiberg Island, N.W.T., Canada. Lehmann, R., [1992, p.161-171, eng] 47-1011

Some influences of ice thrusting in geotechnical engineering. Cruden, D.M., et al. [1991, p.127-134, eng] 47-3872

Ice rafting

Recent sedimentary processes in Scoresby Sund, East Greenland. Marienfeld, P., [1992, p.169-186, eng] 47-227

Effect of ice flow on the distribution of fragmented material in a moraine. Demidov, I.N., [1991, p.186-190, rus] 47-341

Suspension freezing of bottom sediment in the Northwest Passage. Reimnitz, E., et al. [1992, p.693-703, eng] 47-379

Diatom assemblages in arctic sea ice—indicator for ice drift pathways. Abelmann, A., [1992, p.S525-S538, eng] 47-1277

Evidence for east antarctic continental glaciation. Breza, J.R., et al. [1992, p.161-178, eng] 47-2459

Formation of ice-stream rafts by recrystallization. Alley, R.B., [1991, p.66-67, eng] 47-2466

Labrador Sea bottom sediments related to iceberg rafting. Andrews, J.T., et al. [1992, p.1087-1090, eng] 47-2631

Beach profile modification and sediment transport by ice: an overlooked process on Lake Michigan. Barnes, P.W., et al. [1993, p.65-86, eng] 47-2633

Diatoms from ice-rafted sediment collected from the Beaufort Sea, arctic Alaska. Barron, J.A., [1992, 16p., eng] 47-2773

Glacimarine sediments on Axel Heiberg I. Gilbert, R., et al. [1993, p.257-273, eng] 47-3103

Sediment dynamics in the St. Lawrence estuary. Drapeau, G., [1992, p.233-242, fre] 47-3791

Particulate matter in pack ice of the Beaufort Gyre. Reimnitz, E., et al. [1993, p.186-198, eng] 47-3951

Patterns of ice-rafted detritus in the glacial North Atlantic (40-55 deg N). Grousset, F.E., et al. [1993, p.175-192, eng] 47-4154

Non-destructive high resolution density measurements of marine sediments. Gerland, S., [1993, 130p., ger] 47-4222

Sediment export by ice rafting from a coastal polynya, arctic Alaska, U.S.A. Reimnitz, E., et al. [1993, p.83-98, eng] 47-4741

Ice reconnaissance

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Ice refrigeration

Use of a cold energy element in a low-temperature storage system. Suzuki, T., [1992, p.333-339, eng] 47-3211

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Ice relaxation

Energy and structure of Bjerrum defects in ice Ih determined with an additive and a nonadditive potential. Hassan, R., et al. [1992, p.4326-4335, eng] 47-222

Dielectric study of frozen aqueous ionic solutions. Laudat, J., et al. [1991, p.211-224, eng] 47-3998

Temperature dependence of ice dielectric relaxation. Bruni, F., et al. [1993, p.538-547, eng] 47-4288

Diffusion of atomic hydrogen in ice-Ih. Bartels, D.M., et al. [1993, p.129-134, eng] 47-4855

Proton transfer in ice. Lee, C., et al. [1993, p.279-284, eng] 47-4856

Ice removal

Swedes develop deicing system. Macdougall, N., [1990, p.7, eng] 47-21

Icebreaker face-off. Cox, B., [1992, p.52-53, eng] 47-444

Deicing of roads. Ghosh, S., [1985, p.264-278, eng] 47-577

Snow effects on roads. Dhir, M.P., [1985, p.287-292, eng] 47-579

Abrasive air blast system for disbonding ice and snow from pavement. Osborne, M.D., [1992, 12p., eng] 47-948

Use of stress waves in removing ice from concrete. Bruss, P.T., [1992, 9p., eng] 47-951
Field testing of new cutting edges for ice removal from pavements. Nixon, W.A., et al, [1992, 10p., eng] 47-953
Three-dimensional simulation of electrothermal deicing systems. Yaslik, A.D., et al, [1992, p.1035-1042, eng] 47-1563
Numerical modeling of an advanced pneumatic impulse ice protection system for aircraft. Ramamurthy, S., et al, [1992, p.1057-1063, eng] 47-1564
Chemical undercutting of ice on highway pavement materials. Blackburn, R.R., et al, [1991, p.230-242, eng] 47-1807
Ice melters and concrete damage: are they related. Balkin, L.E., et al, [1992, p.50-51, eng] 47-1922
One city's guide to snow and ice operations and planning. Usher, B., [1992, p.36-37, eng] 47-1925
Effects of banning salt for roadway de-icing. Strizek, P., [1992, p.54,82, eng] 47-1927
Salt and sand compared for winter road treatment. Jones, R.H., [1992, p.58-59, eng] 47-1928
Optimization of deicer application zone based on industrial wastes. *Prusenko*, E.D., [1992, p.96-100, rus] 47-2780
Fluid line deicer. Wilson, D.W., [1989, 6 col., eng] 47-3112
Ice, rain, fog, and frost protection. [1990, 62p., eng] 47-3137
Aerodynamic effects of deicing and anti-icing fluids. Reinmann, J.J., et al, [1993, p.8-9, eng] 47-3310
Contrasting requirements for Type II de anti-icing fluids. Ross, J.F., et al, [1993, p.10-13, eng] 47-3311
Development of an international standard for safe winter operation. Hornig, R., [1993, p.14-18, eng] 47-3312
Aircraft ground deicing, a flight crew perspective. Haase, D.J., [1993, p.19-23, eng] 47-3313
Aerodynamic effects of aircraft ground deicing anti-icing *fluids*. Hill, E.G., et al, [1993, p.24-34, eng] 47-3314
Aerodynamic effects of ground de anti-icing fluids on Fokker 50 and Fokker 100. van Hengst, J., [1993, p.35-40, eng] 47-3315
Automobile windshield cleaning tool. Littledeer, T.F., [1989, 4 col., eng] 47-3326
Ways to help bridges and deicers coexist. Miller, W.L., [1993, p.18-19, eng] 47-3680
Study finds 88.3% crash reduction after deicing. [1993, p.22, eng] 47-3682
Anti-icing and deicing device. Bird, L., [1988, 8 col., eng] 47-3764
Deicer *control system*. Phillips, R.W., II, [1988, 6 col., eng] 47-3765
Method and apparatus for deicing a leading edge. Briscoe, J.A., et al, [1987, 14 col., eng] 47-3849
Trustworthy simplified vacuum systems. Henry, R.D., [1987, 6 col., eng] 47-3850
Cargo container lift device. Hatley, J.F., [1987, 6 col., eng] 47-3852
Swirl anti-ice system. Rosenthal, H.A., [1987, 6 col., eng] 47-3853
Pneumatic deicers with inextensible threads. Kageorge, P.W., [1987, 8 col., eng] 47-3999
Apparatus for deicing exterior parts of a railway vehicle. *Björklund*, B., [1987, 6 col., eng] 47-4002
Improvements to expulsive separation ice protection *blankets*. Goldberg, J., et al, [1992, p.213-218, eng] 47-4050
Air containing propeller stream and its application in ice clearance. Wang, S.L., et al, [1993, p.53-58, eng] 47-4230
Influence of filling charge, evaporator length and condenser length on the performance of a right-angled thermosyphon. Lock, G.S.H., et al, [1993, p.207-211, eng] 47-4248
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Wing slat anti-ice air duct system. Knowler, J.C., [1986, 6 col., eng] 47-4263
Storm water regulations—aircraft deicer/anti-icers operations. Espey, W.H., Jr., et al, [1993, p.2333-2338, *eng*] 47-4452
Environmental impacts of three runway de-icers. John, R.D., et al, [1993, p.323-330, eng] 47-4473
Winter storms test new anti-ice tactics. McKenna, J.T., [1993, *p.38-40, eng*] 47-4607
Flying on thin ice. Elliott, S., et al, [1992, p.38-40, *eng*] 47-4610
Cold Weather Transit Technology Program. Volume 1: Executive summary. Final report. Kleinman, R.L., et al, [1992, 34p., eng] 47-4612
Simulation of ice-shedding on electrical transmission lines using ADINA. Jamaleddine, A., et al, [1993, p.523-536, eng] 47-4857
Pneumatically de-iced ice detector. Franklin, C.H., et al, [1985, 32p., eng] 47-4896
Tests on developing an ice groove *cutting device*. Horibe, K., et al, [1982, p.37-46, jpn] 47-4938
Development of a new de-icing agent. Washüttl, J., et al, [1985, 34p., ger] 47-5009
Groundwater contamination due to road de-icing chemicals salt balance implications. Howard, K.W.F., et al, [1993, p.1-8, eng] 47-5190

Ice reporting

Report of the International Ice Patrol in the North Atlantic, 1991 season. [1991, 51p., eng] 47-44
Report of the International Ice Patrol in the North Atlantic, 1990 season. [1990, 86p., eng] 47-45
Fundamentals of the theory of calculating the navigation value of ice data. Likhachev, A.V., [1991, p.15-33, rus] 47-90
Differential method of multivariate analysis of ice data. Likhachev, A.V., [1991, p.60-73, rus] 47-91
New sea ice normals (1961-90) and the latest sea ice condition in the Sea of Okhotsk. Kamihira, E., et al, [1992, p.27-29, jpn] 47-109
Transmission system for Q/L image of earth observation satellite data (2). Ito, N., et al, [1992, p.244-248, jpn] 47-143
Near-real-time data distribution plan of ADEOS data. Nakanishi, I., et al, [1992, p.249-253, jpn] 47-144
Surface-based radar remote sensing of ice in Canada. Lewis, E.O., et al, [1992, p.259-266, eng] 47-146
Capability of sea ice monitoring by satellite remote sensing. Ishida, K., et al, [1992, p.267-271, jpn] 47-147
Multi-sensor data set and sea ice study. Nishio, F., et al, [1992, p.272-276, jpn] 47-148
Airborne EM ice measurement sensor: phases 1 and 2. Holladay, J.S., et al, [1992, 67p., eng] 47-455
Second generation ice navigation system: implementation phase II. Gautier, C., [1992, 47p. + appends., eng] 47-605
Second generation ice navigation system: implementation phase I. Gautier, C., [1991, 35p. + appends., eng] 47-607
IGARSS '92. International space year: space remote sensing. [1992, 1776p. (2 vols.), eng] 47-637
System for monitoring ice in polar regions by SAR. Schistad, A.H., et al, [1992, p.128-130, eng] 47-640
Integrated multi-sensor mission concepts for the Canadian ice community. Luscombe, A., et al, [1992, p.334-336, eng] 47-647
High-resolution land/ice imaging using Seasat scatterometer measurements. Long, D.G., et al, [1992, p.440-442, eng] 47-648
Preliminary results from the ASF/GPS ice classification algorithm. Cunningham, G., et al, [1992, p.573-575, eng] 47-650
Multifrequency polarimetric radar for sea ice classification. Rignot, E.J., et al, [1992, p.576-578, eng] 47-651
Knowledge base for passive microwave classification of sea ice. Maslanik, J.A., et al, [1992, p.579-581, *eng*] 47-652
Automatic tracking ice floe from satellite imagery via invariant moment matching. Zhang, H.J., [1992, p.582-584, eng] 47-653
Ice motion retrieval from SAR imagery in terms of intensity derivative. Yan, S., [1992, p.585-587, eng] 47-654
Performance of the ice motion tracker at the Alaska SAR Facility. Kwok, R., et al, [1992, p.588-590, eng] 47-655
Measurement of pressure ridges in SAR images of sea ice. Vesecky, J.F., et al, [1992, p.955-957, eng] 47-663
Sea ice classification using fast learning neural networks. Dawson, M.S., et al, [1992, p.1070-1071, eng] 47-670
Radar backscatter signatures of Baltic Sea ice. Toikka, M., et al, [1992, p.1527-1529, eng] 47-680
Radar backscatter from arctic sea ice during IAOE '91. Beaven, S.G., et al, [1992, p.1530-1532, eng] 47-681
Comparison of radar backscatter from antarctic and arctic sea ice. Hosseinmostafa, R., et al, [1992, p.1533-1535, eng] 47-682
Calibrated ERS-1 SAR signatures and *video underflights* over arctic ice. Ulander, L.M.H., et al, [1992, p.1536-1538, eng] 47-683
Expert systems to classify sea ice from microwave data. Haverkamp, D., et al, [1992, p.1625-1627, eng] 47-685
Surface and airborne infrared detection of sea ice hazards. Worsfold, R.D., [1981, 119p., eng] 47-1315
Iceberg warnings. Ezman, A.T., [1993, p.56-59, eng] 47-2144
Iceberg trajectory model—real-time verification. *Finlayson, D.J., et al, [1992, 47p. + appends., eng]* 47-2335
Airborne instrumentation for Canadian Atlantic storms. Jordan, J.E., et al, [1993, p.181-185, eng] 47-3069
Abstracts and papers. [1991, 2 vols., eng] 47-3369
Use of ice data in icebreaker operations. Eggenberger, J.P., [1991, p.13-18, eng] 47-3370
Data acquisition strategy for AES' ice services program. Champ, D.H., [1991, p.19-20, eng] 47-3371
Satellite-image workstation for icebreakers. Berglund, R., [1991, p.21-24, eng] 47-3372
IPIX radar: a tool for ocean surveillance and meteorological research. Currie, B.W., et al, [1991, *p.25-36, eng*] 47-3373
Comparison of remote sensing systems for operational ice analysis. Carrieres, T., et al, [1991, p.51-61, eng] 47-3375
Maxim Gorky accident: how good are ice charts Ramseier, R.O., et al, [1991, p.65-73, eng] 47-3376
Analysis of ice cover in numerical weather prediction. Halle, J., [1991, p.75-85, eng] 47-3377
Barents Sea ice conditions as observed by passive microwave and other techniques. Lovas, S.M., et al, [1991, *p.101-115, eng*] 47-3379
Optimal radar ice surveillance. Bercha, F.G., et al, [1991, p.143-164, eng] 47-3383
Cloud limitations to satellite mapping of sea ice. Nielsen, P., et al, [1991, p.263-276, eng] 47-3390
AES Dash-7 ice reconnaissance aircraft. Ramplee-Smith, C., et al, [1991, p.289-293, eng] 47-3392
Real-time ice monitoring using synthetic aperture radar. Ramsay, B.R., [1991, p.295-306, eng] 47-3393
Real-time ice monitoring within the International Space Year. Strübing, K., [1991, p.7-18, eng] 47-3394
Satellite imagery in Canadian regional sea ice monitoring. Nazarenko, D.M., et al, [1991, p.47-52, eng] 47-3397
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Sea ice off the Icelandic coasts—October 1990-September 1991. [1992, 39p., ice] 47-4909

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Ice routing

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Ice salinity

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Physical and dynamic properties of sea ice in the polar oceans. Gow, A.J., et al, [1991, 46p., eng] 47-704
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Physical basis for sea ice remote sensing. Hallikainen, M., et al, [1992, p.29-46, eng] 47-3017
Microwave remote sensing of low-salinity sea ice. Hallikainen, M., [1992, p.361-373, eng] 47-3034
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Ice sampling

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Ice scoring

Recent sedimentary processes in Scoresby Sund, East Greenland. Marienfeld, P., [1992, p.169-186, eng] 47-227

Recent iceberg groundings and scours on the Grand Banks of Newfoundland. [1989, 80p. + append., eng] 47-429

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Experiment to monitor four iceberg scours on the Grand Banks of Newfoundland. Davidson, S.H., et al. [1991, 110p., eng] 47-2115

Submersible video of iceberg scours on the Grand Banks. Cameron, G., et al, [1992, 44p., eng] 47-2340

Ice-scoured river bank near Keele River confluence. Brooks, G.R., [1993, p.39-43, eng] 47-3704

Ice scours in the sediments of glacial Lake Iroquois, Prince Edward County, eastern Ontario. Gilbert, R., et al. [1992, p.189-194, eng] 47-3789

Iceberg scouring in Scoresby Sund and on the East Greenland continental shelf. Dowdeswell, J.A., et al. [1993, p.37-53, eng] 47-4297

Three-dimensional model of an Alaskan river polar fan-delta. Lindsay, J.F., [1992, p.183-201, eng] 47-4366

Potential transport of radionuclides and other pollutants by arctic sea ice. Pfirman, S.L., et al, [1993, p.267-284, eng] 47-5036

See also: Striations

Ice scouring

See also: Ice scoring

Ice sheets

Equilibrium line altitude variations with latitude, today and during the late Wisconsin. Pelto, M.S., [1992, p.41-46, eng] 47-198

Numerical studies of the temperature, ice age and conditions of a glacier bed. Larina, T.B., [1991, p.123-131, rus] 47-329

Glaciers, small ice caps and greenhouse warming. Oerlemans, J., et al, [1992, p.115-117, eng] 47-351

Irregular oscillations of the west antarctic ice sheet. MacAyeal, D.R., [1992, p.29-32, eng] 47-352

Parameters which influence the air content in polar ice. Martinerie, P., et al, [1992, p.1-13, eng] 47-458

Flow-law hypotheses for ice-sheet modeling. Alley, R.B., [1992, p.245-256, eng] 47-465

Calculated ablation variations at the Greenland ice sheet margin. Braithwaite, R.J., et al, [1992, p.266-272, eng] 47-467

Computerized simulation of Barents Sea glaciation. Isaksson, E., [1992, p.295-301, eng] 47-470

Ice-blister observations on glaciers, sea ice and rivers. Kovacs, A., [1992, p.314-316, eng] 47-473

Mercury radar imaging: evidence for polar ice. Slade, M.A., et al, [1992, p.635-640, eng] 47-737

Thermal stability of water ice at the poles of Mercury. Paige, D.A., et al, [1992, p.643-646, eng] 47-738

Diffraction of electromagnetic waves by the antarctic icecap. Barr, R., [1992, p.1527-1533, eng] 47-740

Revision of Kuhle's ice sheet hypothesis related to Tibetan glaciation. Shi, Y.F., et al, [1992, p.19-35, eng] 47-777

Ice edge contact and failure. Daley, C., [1992, p.1-23, eng] 47-800

Advance and retreat of Cordilleran ice sheets in Washington, U.S.A. Easterbrook, D.J., [1992, p.51-68, eng] 47-828

Antarctic ice sheets at risk?. Sugden, D.E., [1992, p.775-776, eng] 47-872

Changing sources of impurities to the Greenland ice sheet over the last 250 years. Laj, P., et al, [1992, p.2627-2640, eng] 47-901

Late Quaternary glaciation and deglaciation of the Bunger Hills, Antarctica. Adamson, D.A., et al, [1992, p.435-446, eng] 47-904

Interpretation of ice age-gas differences in polar ice cores. Sowers, T., et al, [1992, p.15,683-15,697, eng] 47-996

Paleoclimatology of continental ice sheet in response to CO2 variations. Gallée, H., et al, [1992, p.15,713-15,740, eng] 47-998

Is the antarctic ice sheet growing. Jacobs, S.S., [1992, p.29-33, eng] 47-1072

Trends and features of climatic changes in the past 5000 years recorded by the Dunde ice core. Yao, T.D., et al, [1992, p.21-24, eng] 47-1081

Influence of humidity on the ablation of continental-type glaciers. Ohno, H., et al, [1992, p.107-114, eng] 47-1094

Interaction of gravity driven flows at Nansen Ice Sheet. Mastrantonio, G., et al, [1992, p.159-166, eng] 47-1200

Ice-core dating and chemistry by direct-current electrical conductivity. Taylor, K., et al, [1992, p.325-332, eng] 47-1385

Melting of ice shelves and the mass balance of Antarctica. Jacobs, S.S., et al, [1992, p.375-387, eng] 47-1389

Determination of a flow center on an ice cap. Van der Veen, C.J., et al, [1992, p.412-416, eng] 47-1392

Cosmogenic nuclides in ice sheets. Lal, D., et al, [1992, p.227-233, eng] 47-1478

Influence of glacier hydrology on the dynamics of a large Quaternary ice sheet. Arnold, N., et al, [1992, p.109-124, eng] 47-1559

Influence of beam size on the flexural strength of sea ice, freshwater ice and iceberg ice. Parsons, B.L., et al, [1992, p.1017-1036, eng] 47-1626

Asthenospheric ice-load effects in a global dynamical-system model of the Pleistocene climate. Saltzman, B., et al, [1992, p.1-11, eng] 47-1791

Postglacial emergence in the Canadian High Arctic: integrating glacioisostasy, eustasy, and late deglaciation, England, J., [1992, p.984-999, eng] 47-1796

Approximation of interference effects in dynamic ice-structure interactions. Abul-Azm, A.G., et al, [1992, p.299-309, eng] 47-1799

Ice sheet growth simulation including ice albedo feedback. Deblonde, G., et al, [1992, p.37-55, eng] 47-1885

'Flickering switch' of Late Pleistocene climate change. Taylor, K.C., et al, [1993, p.432-436, eng] 47-1938

Volcano under Ice Stream B. Monastersky, R., [1993, p.104-107, eng] 47-1940

Active volcanism beneath the west antarctic ice sheet. Blankenship, D.D., et al, [1993, p.526-530, eng] 47-1941

Icy prospects for a warmer world. Davidson, G., [1992, p.23-26, eng] 47-1946

Black carbon concentration in Byrd Station ice core: from 13,000 to 700 years before present. Chylek, P., et al, [1992, p.625-629, eng] 47-2005

Acoustic sounder experimentation in Victoria Land, Antarctica. Fiocco, G., et al, [1991, p.119-133, eng] 47-2006

Ice record of greenhouse gases. Raynaud, D., et al, [1993, p.926-934, eng] 47-2028

Occurrence of heavy metals in antarctic and Greenland ancient ice and recent snow. Boutron, C.F., et al, [1990, p.137-151, eng] 47-2071

Sea salt dependent electrical conduction in polar ice. Moore, J.C., et al, [1992, p.19,803-19,812, eng] 47-2187

Ice sheets and climate. Alley, R.B., [1989, p.41-45, eng] 47-2196

Sulfate in the air, surface snow and snowpits at Dye 3, Greenland. Jaffrezo, J.L., et al, [1991, p.1693-1704, eng] 47-2219

Wet deposition influence on ice sheet chemistry. Borys, R.D., et al, [1991, p.1705-1718, eng] 47-2220

Precipitation variations over the Greenland ice sheet during the last three decades. Bromwich, D.H., et al, [1992, p.125-128, eng] 47-2398

Extending the antarctic meteorological record using ice-sheet temperature profiles. Nicholls, K.W., et al, [1993, p.141-150, eng] 47-2462

Reflectance of antarctic surfaces from multispectral radiometers: the correction of atmospheric effects. Zibordi, G., et al, [1993, p.11-21, eng] 47-2553

Interpretation of SAR imagery of the Greenland ice sheet using coregistered TM imagery. Bindschadler, R.A., et al, [1992, p.167-175, eng] 47-2554

Bore-hole survey at Camp Century, 1989. Gundestrup, N.S., et al, [1993, p.187-193, eng] 47-2649

Martian atmospheric circulation simulation. Pollack, J.B., et al, [1993, p.3149-3181, eng] 47-2669

Hemispherical asymmetry in the Martian polar caps. Lindner, B.L., [1993, p.3339-3344, eng] 47-2671

Last interglacial-glacial transition in North America: introduction. Clark, P.U., [1992, p.1-11, eng] 47-2679

Glacial history of the Ellsworth Mountains. Denton, G.H., et al, [1992, p.403-432, eng] 47-2700

Shifts in ice sheet temperatures. Colbeck, S.C., [1993, p.5115-5120, eng] 47-2855

Reassessment of Crete (Greenland) ice core acidity/volcanism link to climate change. Crowley, T.J., et al, [1993, p.209-212, eng] 47-2856

Oxygen isotope study of ice fields in East Antarctica. Faure, G., et al, [1992, p.15-26, eng] 47-2869

Antarctic scallop shell proxy records. Berkman, P.A., et al, [1992, p.27-38, eng] 47-2870

Katabatic wind intensity and direction measurements. Remy, F., et al, [1992, p.1021-1024, eng] 47-2907

Glacio-isostatic crustal movements on an Icelandic ice cap. Sigmundsson, F., et al, [1992, p.2123-2126, eng] 47-2927

Proceedings of the NIPR Symposium on Polar Meteorology and Glaciology, No.6. Kawaguchi, S., ed, [1992, 167p., eng] 47-3000

Surface albedo distribution in Lützow-Holm Bay. Nakagawa, K., [1992, p.1-15, eng] 47-3001

Response of large ice sheets to climatic change. Drewry, D.J., et al, [1992, p.235-242, eng] 47-3143

Sedimentary record of antarctic climate change. Barker, P.F., [1992, p.259-267, eng] 47-3145

Eocene-Oligocene climatic and biotic evolution. Prothero, D.R., ed, [1992, 568p., eng] 47-3165

Evidence from the antarctic continental margin of Late Paleogene ice sheets. Bartek, L.R., et al, [1992, p.131-159, eng] 47-3166

Oscillations of an ice sheet under a periodically varying load. Kozin, V.M., et al, [1993, p.746-750, eng] 47-3169

Variations in mercury deposition to Antarctica over the past 34,000 years. Vandal, G.M., et al, [1993, p.621-623, eng] 47-3445

HNO3 variations in volcanic layers of polar ice. Laj, P., et al, [1993, p.219-230, eng] 47-3463

Last interglacial as recorded in the Greenland ice sheet and Canadian arctic ice caps. Reeh, N., [1991, p.123-142, eng] 47-3485

Glacier inventory and atlas of West Greenland. Weidick, A., et al, [1992, 194p., eng] 47-3519

Comparison of altimetry profiles over East Antarctica from Seasat and Geosat: an interim report. Bentley, C.R., et al, [1990, p.1-9, eng] 47-3570

Initiation of maritime ice sheets. Kerr, A.D., [1990, p.69-79, eng] 47-3574

Astronomical theory of glaciation cycles. Grieger, B., [1990, p.81-96, eng] 47-3575

Observations of postglacial uplift at Churchill, Manitoba. Tushingham, A.M., [1992, p.2418-2425, eng] 47-3716

Analysis of errors in satellite altimetry. Minster, J.F., et al, [1993, p.410-419, eng] 47-3774

Elastohydrodynamic response of an ice sheet to forced sub-surface uplift. Dempsey, J.P., et al, [1993, p.487-506, eng] 47-3827

Effects of climatic perturbations on the equilibrium-line altitude, West Greenland. Ambach, W., [1993, p.5-9, eng] 47-3935

Topological approach to the strain-rate pattern of ice sheets. Nye, J.F., [1993, p.10-14, eng] 47-3936

Borehole measurements in a Greenland glacier. Iken, A., et al, [1993, p.15-25, eng] 47-3937

Thermo-mechanically coupled ice-sheet response—cold, polythermal, temperate. Hutter, K., [1993, p.65-86, eng] 47-3941

Tutorial on the use of control methods in ice-sheet modeling. MacAyeal, D.R., [1993, p.91-98, eng] 47-3943

Constraints on ice-sheet thickness over Tibet during the last 40,000 years. Gupta, S.K., et al, [1992, p.283-290, eng] 47-4022

Is the Greenland ice sheet getting thicker. Braithwaite, R.J., [1993, p.379-381, eng] 47-4136

Interpretation of short-term ice-sheet elevation changes inferred from satellite altimetry. Van der Veen, C.J., [1993, p.383-405, eng] 47-4137

Correlation between ice core isotope levels and air temperature. Jones, P.D., et al, [1993, p.14-26, eng] 47-4143

On the extent and thickness of the Innuitian Ice Sheet: a postglacial-adjustment approach. Tushingham, A.M., [1991, p.231-239, eng] 47-4160

Effects of polar ice on the earth's rotation and gravitational potential. Trupin, A.S., [1993, p.273-283, eng] 47-4253

Dynamical problems of ice cover fracture. Pushkin, A.V., et al, [1991, p.212-219, eng] 47-4282

Iceberg scouring in Scoresby Sund and on the East Greenland continental shelf. Dowdeswell, J.A., et al, [1993, p.37-53, eng] 47-4297

Effect of confining stress on brittle indentation failure of columnar ice. Grape, J.A., et al, [1992, p.212-221, eng] 47-4305

Ice action onto multilegged structures due to change of water level. Matskevitch, D.G., et al, [1992, p.222-227, eng] 47-4306

Subglacial meltwater channel systems and ice sheet overriding, Asgard Range, Antarctica. Sugden, D.E., et al, [1991, p.109-121, eng] 47-4310

Frost-fissure patterns in the Nordic countries. Svensson, H., [1992, p.207-218, eng] 47-4329

Climatology of the East Antarctic ice sheet (100E to 140E) derived from automatic weather stations. Allison, I., et al, [1993, p.8815-8823, eng] 47-4380

Marine sediment records of Pleistocene climate. Birchfield, G.E., et al, [1993, p.10,385-10,399, eng] 47-4392

Analysis of ERS-1 altimeter data over polar ice sheets. Rapley, C.G., et al, [1993, p.235-240, eng] 47-4418

Some results of the derivation of ice sheet elevations in Antarctica from ERS-1 altimeter data. Ihde, J., et al, [1993, p.241-245, eng] 47-4419

Utilisation of ERS-1 data for mapping of Antarctica. Sievers, J., et al, [1993, p.247-251, eng] 47-4420

Monitoring of the Greenland ice sheet using ERS-1 synthetic aperture imagery. Bindschadler, R.A., et al, [1993, p.253-257, eng] 47-4421

Preliminary evaluation of ERS-1 altimetry over Filchner-Ronne Ice Shelf, Antarctica. Doake, C., et al, [1993, p.259-261, eng] 47-4422

Investigations of arctic ice-sheets and glaciers using ERS-1 SAR. Rees, W.G., et al, [1993, p.263-268, eng] 47-4423

Spatial patterns in backscatter strength across the Greenland ice sheet. Jezek, K.C., [1993, p.269-272, eng] 47-4424

Greenland ice sheet mapping by ERS-1. Tscherning, C.C., et al, [1993, p.413-418, eng] 47-4443

Validating the UK-PAF land ice product surface elevation. Mantripp, D.R., et al, [1993, p.483-488, eng] 47-4444

Modeling the *delta*O-18-derived record of Quaternary climatic change with low dynamical systems. Saltzman, B., [1987, p.355-380, eng] 47-4453

Ice sheet dynamics and the Pleistocene ice ages. Birchfield, G.E., [1987, p.381-398, eng] 47-4454

Relaxation oscillator model of the ice age cycle. Peltier, W.R., [1987, p.399-416, eng] 47-4455

Climatic effects on glacier thermodynamics. Blatter, H., [1991, 98p., eng] 47-4461

Land ice and climate. Van der Veen, C.J., [1992, p.437-450, eng] 47-4500

Atmospheric pollution related to antarctic snow and ice *chemistry*. Wolff, E., [1992, p.274-280, *eng*] 47-4507

GRIP ice core record of climate instability. [1993, p.203-207, eng] 47-4570

Early Holocene deglaciation of Vestfold Hills. Fitzsimons, S.J., et al, [1993, p.237-240, eng] 47-4577

Late Quaternary continental paleohydrology as related to future environmental change. Starkel, L., [1993, p.95-108, eng] 47-4586

Glacials-interglacials in Vostok: climate and greenhouse gases. Lorius, C.J., et al, [1993, p.131-143, eng] 47-4587

"Recent warming": ice core evidence from tropical ice *cores with emphasis on Central Asia*. Thompson, L.G., et al, [1993, p.145-156, eng] 47-4588

PIXE analysis as a tool for dating of ice cores from the Greenland ice sheet. Hansson, H.C., et al, [1993, p.428-434, eng] 47-4592

Microorganisms in the antarctic ice. Abyzov, S.S., [1993, p.265-295, eng] 47-4596

Effects of CO2 increase on climate dynamics. Saltzman, B., et al, [1993, p.1051-1054, eng] 47-4630

Greenland Ice Sheet Project Two. GISP2 core data report 1991. [1991, Var. p., eng] 47-4666

Greenland Ice Sheet Project Two. GISP2 *internal data* report 1991. [1991, Var. p., eng] 47-4669

Feature maps of ice streams C, D, and E, West Antarctica. Scambos, T.A., et al, [1991, p.312-314, eng] 47-4674

Advances in antarctic surveying and mapping. Mulliins, J.L., [1991, p.314-315, eng] 47-4675

Greenland: a temptation and a challenge. Dansgaard, W., et al, [1993, p.12-16, eng] 47-4728

Ice sheets: growing or shrinking. Van der Veen, C.J., [1993, p.5-9, eng] 47-4740

Ion chromatography of Greenland ice cores. Legrand, M.R., et al, [1993, p.251-258, eng] 47-4754

Strategies for modelling climate changes. Lliboutry, L.A., [1993, p.385-398, eng] 47-4845

Ice sheet dynamics. Lliboutry, L.A., [1993, p.399-416, eng] 47-4846

Firn density of the Greenland ice sheet. Braithwaite, R.J., et al, [1993, p.62-65, eng] 47-4918

Palaeo-environmental studies on the Greenland ice sheet *margin*. Reeh, N., et al, [1993, p.66-68, eng] 47-4919

Ice sheet firn temperature and meltwater refreezing in Greenland. Braithwaite, R.J., [1993, p.109-114, eng] 47-4920

Neoglacial change of ice cover and the related response of the Earth's crust in West Greenland. Weidick, A., [1993, p.121-126, eng] 47-4921

Antarctic ice sheet topography mapped with the ERS-1 radar altimeter. Ridley, J.K., et al, [1993, p.1649-1650, eng] 47-5119

Role of climate cooling in *iceberg production related to* Heinrich events. Oerlemans, J., [1993, p.783-786, eng] 47-5127

Phase composition of Triton's polar caps. Duxbury, N.S., et al, [1993, p.748-751, eng] 47-5130

Source of volcanic ash in a Greenland ice core. Fiacco, R.J., Jr., et al, [1993, p.267-273, eng] 47-5141

Bore-hole survey at dome GRIP 1991. Gundestrup, N.S., et al, [1993, p.399-402, eng] 47-5209

Modeled variations of precipitation over the Greenland ice sheet. Bromwich, D.H., et al, [1993, p.1253-1268, eng] 47-5210

First annual West Antarctic ice sheet (WAIS) science workshop. *Bindschadler, R.A., ed, [1993, 58p., eng]* 47-5245

Modelling the last ice-age cycle with 2-D climate models. Herterich, K., et al, [1993, p.107-116, eng] 47-5267

Ice shelves

Growth of the Müller Ice Shelf during the Little Ice Age. Stein, A.B., [1992, 56p., eng] 47-71

Investigation of evolution of the Arctic shelf cryolithozone by mathematical simulation. Sigunov, IU.A., et al, [1992, p.13-19, eng] 47-244

Theoretical calving rates from glaciers along ice walls grounded in water of variable depths. Hughes, T., [1992, p.282-294, eng] 47-469

Measurement, analysis, and *modeling of deformation of* the shelf flow, Byrd Glacier. Zhao, Z.H.M., [1990, *108p., eng*] 47-486

Dynamics of arctic ice shelves and ice islands. Jeffries, M.O., [1992, p.245-267, eng] 47-827

Accumulation on the Filchner and Ronne Ice Shelves. Moser, H., et al, [1990, p.57-71, ger] 47-875

Satellite observation of katabatic-wind propagation for great distances across the Ross Ice Shelf. Bromwich, D.H., et al, [1992, p.1940-1949, eng] 47-876

Melting of ice shelves and the mass balance of Antarctica. Jacobs, S.S., et al, [1992, p.375-387, eng] 47-1389

Tension faults on the Ekström Ice Shelf. Nixdorf, U., [1992, 101p., ger] 47-1437

Marine ice transfer along the bottom of a small ice shelf. Souchez, R., et al, [1991, p.503-506, eng] 47-1793

Development of a wheeled *runway for McMurdo on the* Ross Ice Shelf. Blaisdell, G.L., et al, [1992, 31p., eng] 47-2120

Ocean interactions with the base of Amery Ice Shelf, Antarctica. Hellmer, H.H., et al, [1992, p.20,305-20,317, eng] 47-2342

Origin of green icebergs in Antarctica. Kipfstuhl, J., et al, [1992, p.20,319-20,324, eng] 47-2343

Oxygen isotope data from McMurdo Ice Shelf. Kellogg, T.B., et al, [1991, p.73-76, eng] 47-2470

Radiocarbon dates from McMurdo Ice Shelf. Kellogg, T.B., et al, [1991, p.77-79, eng] 47-2471

Ice sheet glaciations in Northern Eurasia and their role in *the history of the ocean*. Grosval'd, M.G., et al, [1991, p.3-15, rus] 47-2782

Asymptotic analysis of the flow of ice sheets. Mazo, A.B., [1991, p.17-22, rus] 47-2783

Analysis of gravity measurements on the Ross Ice Shelf, Antarctica. Greischar, L.L., et al, [1992, p.105-155 + 1 microfiche, eng] 47-2874

Mass balance variations on Filchner-Ronne Ice Shelf. Determann, J., et al, [1990, p.57-68, eng] 47-3573

Evidence for an antarctic winter coastal polynya. Anderson, P.S., [1993, p.221-226, eng] 47-3652

Green iceberg formation on antarctic ice shelf bases. Warren, S.G., et al, [1993, p.6921-6928, eng] 47-4138

Simulated antarctic fast ice ecosystem. Arrigo, K.R., et al, [1993, p.6929-6946, eng] 47-4139

Radar absorption *due to impurities in antarctic ice*. Corr, H., et al, [1993, p.1071-1074, eng] 47-4562

Monitoring the dynamics of the antarctic coastline with Landsat images. Lucchitta, B.K., et al, [1991, p.316-317, eng] 47-4676

Magnetic investigations of the Ekström Ice Shelf, Antarctica. Reiprich, S., et al, [1992, p.113-129, eng] 47-4739

Antarctic glacial-marine sedimentation. Anderson, J.B., [1993, p.1-88, eng] 47-4824

Ice sintering

Science of snow and ice (3). Inoue, M., [1985, p.7-10, jpn] 47-5094

Ice snow interface

See also: Snow ice interface

Ice solid interface

Experimental and theoretical investigation of the icebreaking cycle in two dimensions. Valanto, P.U., [1990, 129p., eng] 47-89

Abstracts. [1992, 415p., *eng*] 47-106

Problems of choice of sea ice cover parameters design *criteria*. Truskov, P.A., et al, [1992, p.21-26, eng] 47-108

Probabilistic estimate of the Okhotsk Sea ice vertical profile. Truskov, P.A., et al, [1992, p.57-61, eng] 47-115

Interaction between sea ice floes and protective coastal structure. Roppongi, K., et al, [1992, p.86-90, jpn] 47-121

Earthquake response of offshore structures in sea ice (part 5). Sugai, K., et al, [1992, p.101-105, *jpn*] 47-124

Earthquake response of offshore structures in sea ice (part 6). Takada, Y., et al, [1992, p.106-110, *jpn*] 47-125

Study on the abrasion of the structure surface due to a *movement* of ice sheet. Takahashi, Y., et al, [1992, p.121-125, jpn] 47-128

Friction and the buckling failure of an ice sheet. Kato, K., [1992, p.126-130, jpn] 47-129

Friction coefficient between model ice and roughened model surface. Kishi, S., et al, [1992, p.131-137, jpn] 47-130

On the development of small icebreaker. Wilkman, G., et al, [1992, p.138-144, eng] 47-131

Vibrations of offshore ice-resistant structures. Khrapatyi, N.G., et al, [1992, p.300-301, eng] 47-154

Definition of loading regime for offshore structures from drifting ice cover. Bekker, A.T., [1992, p.302-306, eng] 47-155

Ice loads on concrete supports. Almazov, V.O., et al, [1992, p.359-362, eng] 47-165

Experimental research of fracture toughness of Okhotsk Sea ice. Rogachko, S.I., et al, [1992, p.363-366, eng] 47-166

Deformation of ice cover: some results of plane numerical modelling. Gol'dshtein, R.V., et al, [1992, p.367-371, eng] 47-167

Finite element modelling of pressuremeter tests and footings on frozen soils. Puswewala, U.G.A., et al, [1992, p.351-375, eng] 47-196

Ship-ice interaction in a natural ice cover. Daley, C., [1992, 32p. + append., eng] 47-220

Ship in ice at a single point mooring terminal. Jo, C.H., [1992, 152p., eng] 47-273

Ice loads on vertical bridge pier at two different model scales. Christensen, F.T., et al, [1992, p.93-110, eng] 47-585

Liquid microphases at ice-solid interface of microelectrodes in solid water. Bond, A.M., et al, [1992, p.281-295, eng] 47-768

Numerical modeling of the development of U-shaped valleys by glacial *erosion*. Harbor, J.M., [1992, p.1364-1375, eng] 47-770

Ice edge contact and failure. Daley, C., [1992, p.1-23, eng] 47-800

Two-dimensional extrusion of crushed ice. Part 1 experimental. Sayed, M., et al, [1992, p.25-36, eng] 47-801

Two-dimensional extrusion of crushed ice. Part 2 analysis. Savage, S.B., et al, [1992, p.37-47, eng] 47-802

Nonsimultaneous failure and local pressure of ice in ice/vertical structure interaction. Takeuchi, T., et al, [1992, p.135-145, eng] 47-1024

Full-scale trials on *hull resistance and bow ice load in level* ice on board the cutter M.S. *Uisko*. Kivimaa, S., [1992, p.169-180, eng] 47-1027

Effect of naturally-occurring ice thickness variations in reducing global loads on offshore structures. Sackinger, W.M., et al, [1992, p.253-265, eng] 47-1033

Movement mechanisms of Ürümqi Glacier No.1, Tien Shan mountains, China. Huang, M.H., [1992, p.39-44, eng] 47-1084

Basal deformation of Ürümqi Glacier No.1, Tien Shan mountains, China. Jing, X.P., et al, [1992, p.123-126, eng] 47-1096

Development of a component-based scaling system for *ship-ice model tests*. Colbourne, D.B., et al, [1992, p.77-87, eng] 47-1146

Friction against ice and snow. Balakin, V.A., et al, [1991, p.132-143, eng] 47-1175

HF bi-phase shift keying radar: application to ice sounding in western Alps and Spitsbergen glaciers. Nicollin, F., et al, [1992, p.1025-1033, eng] 47-1260

Fracture analysis of ice forces on offshore structures. Ayoub, A.S., [1989, 99p., eng] 47-1317

Proposed standard method for conduct and analysis of ice resistance model tests. Spencer, D.S., et al, [1992, 10p., eng] 47-1341

Field dropweight ice impact test system at the Institute for Marine Dynamics. Chin, S.N., *[1991, 9p. + appends.*, eng] 47-1342

Modelling techniques for *icebreaking hull forms*. Newbury, S., [1991, 18p. + appends., eng] 47-1343

Risk analysis for ice failure in ice-structure interaction. Parsons, B.L., [1990, 15p., eng] 47-1344

Some exploratory tests on circular and sidewall air cushion icebreaker bows. Hinchey, M.J., et al, [1990, 60p., eng] 47-1347

CD model ice—preliminary observations on the effect of density on tank testing. Spencer, D.S., [1992, 7p., eng] 47-1348

Resistance experiments in ice with a scale model icebreaker. Newbury, S., [1992, 7p., eng] 47-1349

Constricted flow due to ice blockage over a blade. Shih, L.Y., et al, [1992, 6p., eng] 47-1350

Research on "Ice/Propeller Interaction": JRPA No.6 sub-tasks 5.1.1 *and* 5.1.2. Cowper, D.N.B., [1992, 87p., eng] 47-1351

JRPA No.6 propeller/ice interaction: development of model test program. [1992, 17p. + appends., eng] 47-1352

Level and ridge ice forces on downward breaking structures. Lau, M., [1991, 2 vols., eng] 47-1355

Computation of ship/pack ice interaction with wave effect. Wang, S.L., et al, [1990, 36p., eng] 47-1357

Investigation of lateral ice pressure in model ice. Hardiman, K.C., [1992, n.p., eng] 47-1358

Thrust deduction and propulsive coefficients of icebreaking vessels. Drodge, R.M., et al, [1992, 20p. + appends., eng] 47-1359

Modelling of the ice failure processes in ship-ice *interaction*. McKenna, R.F., et al, [1991, 156p., eng] 47-1360

First-year sea ice forces on a mobile arctic caisson in the Beaufort Sea. Frederking, R.M.W., et al, [1991, 3p., eng] 47-1365

Vertical and inclined edge-indentation of freshwater ice sheets. Finn, D.W., [1991, 97p., eng] 47-1366

Clearing of ice fragments in continuous-mode icebreaking. Hsiung, C.C., et al, [1991, 102p., eng] 47-1371

1:8 R-class model ice tests: resistance and captive experiments. Carroll, W.J., [1990, 11p. + appends., eng] 47-1372

Report on resistance tests of model *Polarstern* in the ice tank. [1990, 8p. + appends., eng] 47-1373

2-D simulation of rigid body motion in mush ice. [1990, *32p. + appends., eng*] 47-1374

Premelting of ice in exfoliated graphite; *a neutron* diffraction study. Gay, J.M., et al, [1992, p.33-41, eng] 47-1383

Intra-seasonal changes in deformation profiles revealed by borehole studies, Storglaciären, Sweden. Hooke, R.L., et al, [1992, p.348-358, eng] 47-1387

Ice solid interface *(cont.)*

Tools for examining subglacial bed deformation. Blake, E., et al. [1992, p.388-396, eng] **47-1390**

Temperature evolution and vapour pressure build-up in porous ices. Kömle, N.I., et al. [1992, p.1311-1323, eng] **47-1468**

Three-dimensional simulation of electrothermal deicing systems. Yaslik, A.D., et al. [1992, p.1035-1042, eng] **47-1563**

Numerical modeling of an advanced pneumatic impulse ice protection system for aircraft. Ramamurthy, S., et al. [1992, p.1057-1063, eng] **47-1564**

Influence of beam size on the flexural strength of sea ice, freshwater ice and iceberg ice. Parsons, B.L., et al. [1992, p.1017-1036, eng] **47-1626**

Approximation of interference effects in dynamic ice-structure interactions. Abul-Azm, A.G., et al. [1992, p.299-309, eng] **47-1799**

Goal-oriented design of an improved displacement snowplow. Crane, R.L., et al. [1991, p.188-192, eng] **47-1802**

Proceedings. Vol.2. [1992, 806p., eng] **47-1828**

Construction of platforms for the Russian northern continental shelf. Eranti, E., et al. [1992, p.557-563, eng] **47-1841**

Determination of design values for sea ice physico-mechanical properties. Polomoshnov, A.M., et al. [1992, p.641-650, eng] **47-1852**

Continuum damage propagation in a wedge-shape ice bar. Shin, J.G., et al. [1992, p.662-665, eng] **47-1855**

Cook Inlet ice loads calculated using historical data and probabilistic methods. Utt, M.E., et al. [1992, p.677-680, eng] **47-1859**

First year ice ridge characteristics and loads on offshore structures. Eranti, E., et al. [1992, p.681-687, eng] **47-1860**

Design ice force estimating system. Kato, K., [1992, p.688-695, eng] **47-1861**

In-situ stress measurements in a fast ice and possible tidal loads on structures. Nikitin, V.A., et al. [1992, p.696-702, eng] **47-1862**

Ice action onto multilegged structures due to change of water level. Matskevitch, D.G., et al. [1992, p.703-708, eng] **47-1863**

Experimental research on ice load. Cai, Z.R., et al. [1992, p.709-713, eng] **47-1864**

Ice investigations for the proof of tidal power plant designs. Monosov, L.M., [1992, p.714-717, eng] **47-1865**

Methodology for full-scale iceberg impact experiments in the Antarctic. Guichard, A., et al. [1992, p.718-723 eng] **47-1866**

Effect of confining stress on brittle indentation failure of columnar ice. Grape, J.A., et al. [1992, p.724-731, eng] **47-1867**

Preliminary results of the U.S. Navy localized ice impact test program. Devine, E.A., et al. [1992, p.750-763, eng] **47-1870**

Procedure for dynamic soil-structure-ice interaction. Kärnä, T., [1992, p.764-771, eng] **47-1871**

Contact failure in ice forces on offshore structures. Tsuprik, V.G., [1992, p.790-794, eng] **47-1876**

Probability estimation of moving pressure ridge contacts with pipelines. Surkov, G.A., et al. [1992, p.797-800, eng] **47-1878**

Temperature evolution of porous ice samples covered by a dust mantle. Kömle, N.I., et al. [1992, p.204-212, eng] **47-1953**

Memory effect in the nucleation of ice on mercuric iodide. Vali, G., [1992, p.259-262, eng] **47-2262**

Effects of dispersed particulates on the rheology of water ice at planetary conditions. Durham, W.B., et al. [1992, p.20,883-20,897, eng] **47-2293**

Frost heave and the surface melting of ice. Dash, J.G., [1991, p.339-356, eng] **47-2302**

Tests on arch-shaped ice-resisting walls for offshore structures. Ellis, R.M., et al. [1993, p.42-51, eng] **47-2547**

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Experimental study of melting of ice about horizontal cylinders. Torikoshi, K., et al. [1991, p.269-274, eng] **47-2557**

Laboratory indentation tests with thick freshwater ice. Volume II. Muhonen, A., et al. [1992, 397p., eng] **47-2591**

Mathematical model for predicting the densification and growth of frost on a flat plate. Tao, Y.X., et al. [1993, p.353-363, eng] **47-2608**

Structure of ice layers on electrical transmission cables with Raman microprobe spectroscopy. Sonwalkar, N., et al. [1992, p.1869-1873, eng] **47-2639**

Pressure of crushed ice as Mohr-Coulomb material against flat, axisymmetric indentor. Duthinh, D., [1992, p.139-151, eng] **47-2640**

Interactions of frazil and anchor ice with sedimentary particles in a flume. Kempema, E.W., et al. [1993, p.137-149, eng] **47-2646**

Local contact pressures in ship/ice and structure/ice interactions. Masterson, D.M., et al. [1993, p.169-185, eng] **47-2648**

Comments on "Analysis of close-contact melting for octadecane and ice inside isothermally heated horizontal rectangular capsule" Bejan, A., [1993, p.832, eng] **47-2655**

Characteristics of the bed of the lower Columbia Glacier, Alaska. Humphrey, N.F., et al. [1993, p.837-846, eng] **47-2660**

Probabilistic analysis of local ice pressures. Jordaan, I.J., et al. [1993, p.83-89, eng] **47-2668**

Tire snow belt. Lenet, L., [1989, 4 col., eng] **47-3106**

Dilatometric variations of calcareous rock cylinders during freeze thaw cycles. Prick, A., et al. [1993, p.1-15, fre] **47-3114**

Frost action of rock faces within a glacier of the Juran Neuchâtel. Pancza, A., [1992, p.49-54, fre] **47-3126**

Massive ice interactions with offshore structures. Lu, M.C., [1992, 153p., eng] **47-3129**

Iceberg impact program. Guichard, A., [1991, p.81-87, fre] **47-3181**

Abrasion of concrete structures by ice Huovinen, S., [1993, p.69-82, eng] **47-3286**

Melting transition at ice crystal glass substrate interface. Furukawa, Y., et al. [1993, p.1137-1142, eng] **47-3289**

Model tests of dynamic ice loading on the Chinese JZ-20-2 jacket platform. Timco, G.W., et al. [1992, p.819-832, eng] **47-3304**

Support standard for implement. Schoessow, J., [1988, 4 col., eng] **47-3416**

Use of silicone masses to prevent the formation of ice on substrates. Achtenberg, T., et al. [1988, 8 col., eng] **47-3494**

Laboratory tests of ship structures under ice loading. Volume 1. Tuhkuri, J., [1993, 171p., eng] **47-3538**

Ship in compressive ice. Analysis of the ice failure process. Kujala, P., et al. [1993, 70p. + append., eng] **47-3539**

Contact melting during sliding on ice. Fowler, A.J., et al. [1993, p.1171-1179, eng] **47-3578**

Device for comminuting small ice bodies. Wessa, T., [1988, 4 col., eng] **47-3638**

Glaciomarine sediment indicators of Weddell Sea depositional processes. Kuhn, G., et al. [1993, p.477-487, eng] **47-3644**

Model ice forces on an upward breaking multifaceted cone. Lau, M., et al. [1993, 52p. + append., eng] **47-3709**

Application of fractal/chaos concepts to ice mechanics: a review. Parsons, B.L., [1993, p.71-84, eng] **47-3743**

Indentation and splitting of freshwater ice floes. Sodhi, D.S., et al. [1993, p.165-175, eng] **47-3751**

Fracture and damage of ice towards practical implementation. Jordaan, I.J., et al. [1993, p.251-260, eng] **47-3758**

Process and measuring probe for the determination of ice or snow formation. Meyer, F., [1988, 6 col., eng] **47-3762**

Tire chain device for automobiles travelling on snow-covered terrain. Yang, M.F., [1988, 4 col., eng] **47-3767**

Stern apron for ice breakers. Varges, G., [1988, 4 col., eng] **47-3768**

Brittle compressive failure of fresh-water columnar ice under biaxial loading. Smith, T.R., et al. [1993, p.153-163, eng] **47-3776**

Method and apparatus for deicing a leading edge. Briscoe, J.A., et al. [1987, 14 col., eng] **47-3849**

Modelling of rock mass responses to glaciation at Finnsjön, central Sweden. Rosengren, L., et al. [1993, p.75-82, eng] **47-3920**

Floating ice pressures on sloping and vertical structures. Arunachalam, V.M., et al. [1993, p.231-245, eng] **47-3927**

Spacing of icicles. Makkonen, L., et al. [1993, p.317-322, eng] **47-3934**

Consolidation of sediments by glaciers. Boulton, G.S., et al. [1993, p.26-44, eng] **47-3938**

Steady flow of a viscous ice stream across a no-slip/free-slip transition at the bed. Barcilon, V., et al. [1993, p.167-185, eng] **47-3950**

Movement of icebreakers in complicated ice conditions. Rubanov, A.N., [1991, p.153-156, rus] **47-3966**

Regelation of ice through debris at glacier beds: implications for sediment transport. Iverson, N.R., [1993, p.559-562, eng] **47-3997**

Pneumatic deicers with inextensible threads. Kageorge, P.W., [1987, 8 col., eng] **47-3999**

Exceptionally long, narrow drumlins formed in subglacial cavities, North Dakota. Bluemle, J.P., et al. [1993, p.15-24, eng] **47-4016**

Immersed tube heat transfer in a melting ice bed. Fukusako, S., et al. [1993, p.353-359, eng] **47-4064**

Effective structural design plan for a marine steel platform in sea ice conditions. Berniker, I.A.S., et al. [1993, p.12-15, rus] **47-4087**

Icing of turbine intake louvers. Walsh, M.R., et al. [1993, 37p., eng] **47-4095**

Analytical solutions for modelling of ice structure interaction. Koreneva, E.B., [1993, p.59-61, eng] **47-4121**

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Flow properties of crushed ice. Singh, S.K., et al. [1993, p.11-19, eng] **47-4225**

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Investigation of the icebreaking pattern at the bow of the *IB* Kapitan Sorokin on the Yenisei River estuary in May 1991. Valanto, P.U., [1993, p.127-134, eng] **47-4240**

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Mobile marine operations structure. Bhalaik, A. et al. [1988, 30 col., eng] **47-4261**

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Crustal evolution and dust emission of artificial cometary nuclei. Thiel, K., et al. [1990, p.389-399, eng] **47-4568**

Particle emission from artificial cometary surfaces: material science aspects. Kochan, H., et al. [1990, p.401-411, eng] **47-4569**

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Estimate of the size of the damage zone beneath an indenter on ice. Parsons, B.L., [1993, p.371-380, eng] 47-5207
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(Mu)SR studies of ice, illustrating the positive muon as a magnetic resonance probe of structure and dynamics. Cox, S.F.J., [1992, p.292-296, eng] 47-981
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Quantum tunneling in irradiated ice. Muto, H., et al, [1992, p.5211-5213, eng] 47-1937
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Cracking kinetics and failure on repeated loadings of ice. Sinha, N.K., [1992, p.137-150, eng] 47-2301
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On development of fibre-ice-composites. Vasil'ev, N.K., [1993, p.195-199, eng] 47-2650
Current tendencies of anthropogenic changes in physical-mechanical properties of natural ice. Paniushkin, A.V., et al, [1991, p.126-129, rus] 47-2801
Ductile ice. Schulson, E.M., et al, [1993, p.151-157, eng] 47-3564
Ice mechanics - 1993. Dempsey, J.P., ed, [1993, 281p., eng] 47-3737
Interpretation of results of the fracture toughness tests on *ice.* Abdel-Tawab, K., et al, [1993, p.49-59, eng] 47-3741
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Phase transformations and dislocations in saline ice compliance. McKittrick, L.R., et al, [1993, p.189-198, eng] 47-3753
Crack nucleation mechanism in saline ice. Gupta, V., et al, [1993, p.199-216, eng] 47-3754
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Notch sensitivity of first-year sea ice. Parsons, B.L., et al, [1993, p.1303-1313, eng] 47-4848
Fatigue crack propagation in freshwater ice. Final report. Nixon, W.A., et al, [1993, 42p., eng] 47-4898
Estimate of the size of the damage zone beneath an indenter on ice. Parsons, B.[illegible], [1993, p.371-380, eng] 47-5207

See also: Ice cover strength

Ice structure

Inelastic incoherent neutron scattering study of D2O and H2O ice VIII in the range 2-140 meV. Kolesnikov, A.I., et al, [1992, p.308-312, eng] 47-195
Geometry of OH- defect in condensed water phase. Defect localization and cooperative interaction of H-bonds. Isaev, A.N., et al, [1992, p.14-19, eng] 47-203
Study of proton transfer in ice. Isaev, A.N., et al, [1992, p.19-25, eng] 47-204
Structure and thermodynamic properties of water-methanol mixtures: role of the water-water interaction. Tanaka, H., et al, [1992, p.2626-2634, eng] 47-208
Stress-induced foliation formed by surging in a glacier tongue. Pfeffer, W.T., [1992, p.213-222, eng] 47-462
Physical and dynamic properties of sea ice in the polar oceans. Gow, A.J., et al, [1991, 46p., eng] 47-704
Petrographic and salinity characteristics of brackish water ice in the Bay of Bothnia. Gow, A.J., et al, [1992, 36p., eng] 47-706
Structural analysis of the Cazadora Glacier ice, directional anisotropy quantification and subglacial drainage prediction. Eraso, A., et al, [1989, p.71-79, spa] 47-814
(Mu)SR studies of ice, illustrating the positive muon as a magnetic resonance probe of structure and dynamics. Cox, S.F.J., [1992, p.292-296, eng] 47-981
Low-frequency light scattering from disordered hydrogen-bonded solids. Mazzacurati, V., et al, [1992, p.2845-2852, eng] 47-1511
Model calculations of Auger energy shifts in liquid water and ice. Knuts, S., et al, [1992, p.95-103, eng] 47-1675
Structure and genesis of layered ground ice in Western Siberia. Shpolianskaia, N.A., [1991, p.73-83, rus] 47-1988
Hydrogen-bond structures in water & ice. Dore, J., [1990, p.188-197, eng] 47-2194
Structural characteristics and development of sea ice in the western Ross Sea. Jeffries, M.O., et al, [1993, p.63-75, eng] 47-2245
On development of fibre-ice-composites. Vasil'ev, N.K., [1993, p.195-199, eng] 47-2650
Characteristics of the spatial structure of subsurface ice in *the vicinity of Vostok Station, Antarctica.* Chashchinov, IU.M., et al, [1991, p.121-125, rus] 47-2800
Physical properties of sea ice relevant to remote sensing. Tucker, W.B., et al, [1992, p.9-28, eng] 47-3016
Laboratory investigations of the electromagnetic properties of artificial sea ice. Swift, C.T., et al, [1992, p.177-200, eng] 47-3023
Simulation of hexagonal ice molecular dynamics. Sciortino, F., et al, [1993, p.5694-5700, eng] 47-3155
Neutron diffraction studies of high pressure ice. Londono, J.D., et al, [1993, p.4878-4888, eng] 47-3234
Determination of sea ice acoustical properties by tomography. Rajan, S.D., et al, [1993, p.721-738, eng] 47-3431
Summer pack-ice properties and structure in the western Ross Sea. Jeffries, M.O., et al, [1991, p.95-97, eng] 47-3517
Winter ecology of the sea ice biota in Weddell Sea pack ice. Garrison, D.L., et al, [1993, p.17-31, eng] 47-4575
Thermodynamic properties of ice and of tetrahydrofuran hydrate in confined geometries. Zakrzewski, M., et al, [1993, p.631-637, eng] 47-4738
Diffusion of atomic hydrogen in ice-Ih. Bartels, D.M., et al, [1993, p.129-134, eng] 47-4855
Electron diffraction of molecules on vitreous and hexagonal ice. Majewski, J., et al, [1993, p.899-902, eng] 47-4880
Phase composition and temperature of nitrogen ice on Triton. Tryka, K.A., et al, [1993, p.751-754, eng] 47-5131
Pauling potential in ice quantum tunneling. Consolini, G., et al, [1993, p.4227-4228, eng] 47-5273

Ice sublimation

Evolution of stratiform cirrus simulated in a lifting layer. Zhang, Y., et al, [1992, p.23-33, eng] 47-6
Calculation of hydrometeor growth via water vapor diffusion. Srivastava, R.C., et al, [1992, p.1643-1651, eng] 47-7
Martian geology and ice sublimation. Moore, J.M., [19[illegible]9p., eng] 47-301
Growth, evaporation and melting of ice crystals. Oraltay, R.G., [1991, 126p., eng] 47-307
Experimental study of the sublimation of water ice and the release of trapped gases. Hudson, R.L., et al, [1991, p.326-332, eng] 47-989
Sublimation and reformation of icy grains in the primitive solar nebula. Lunine, J.I., et al, [1991, p.333-344, eng] 47-990
Spectroscopic studies of model polar stratospheric cloud films. Tolbert, M.A., et al, [1992, p.1303-1313, eng] 47-1172
Temperature evolution and vapour pressure build-up in porous ices. Kömle, N.I., et al, [1992, p.1311-1323, eng] 47-1468
Condensation and evaporation of H2O on ice surfaces. Haynes, D.R., et al, [1992, p.8502-8509, eng] 47-1568
Sublimational drainage of frozen soils in Zabaikalye. Zheleznjak, I.I., et al, [1992, p.122-126, eng] 47-1716
Ice threshold in molecular clouds: a diagnostic of the infrared radiation field. Williams, D.A., et al, [1992, p.599-601, eng] 47-1787
Scanning electron microscopy of ice cream. 1. Caldwell, K.B., et al, [1992, p.1-9, eng] 47-2014
Ice particle emission from cometary analogues. Kohl, H., et al, [1991, p.257-260, eng] 47-2112
Plasma emission from high velocity impacts of microparticles onto water ice. Timmermann, R., et al, [1991, p.375-378, eng] 47-2113
Comparison of 3 micron features of trapped H2O and H2O frost in SiO condensate with observed dust features. Wada, S., et al, [1991, p.429-432, eng] 47-2114
Operating pressure effects on fluidized bed freezing-drying. Wolff, E., et al, [1991, p.237-246, eng] 47-2303
Concurrent freezing and sublimation of a liquid-saturated porous slab. Vaidyanathan, N., et al, [1991, p.251-259, eng] 47-2565
Evaporation of snow under isothermal conditions. Golubev, V.N., et al, [1991, p.27-32, rus] 47-2785
Simulation of heating profiles in freeze-drying. Lombraña, J.I., et al, [1993, p.85-102, eng] 47-2882
Atmospheric scavenging during surface frost formation. Georgiadis, T., et al, [1993, p.267-276, eng] 47-3474
Temperature dependence of negative ice crystal growth. Furukawa, Y., et al, [1993, p.571-581, eng] 47-3649
Identification and yield of carbonic acid and formaldehyde in irradiated ices. DelloRusso, N., et al, [1993, p.5505-5510, eng] 47-3650
Model comet made from mineral dust and H2O-CO2 ice: sample preparation development. Roessler, K., et al, [1990, p.379-388, eng] 47-4567
Crustal evolution and dust emission of artificial cometary nuclei. Thiel, K., et al, [1990, p.389-399, eng] 47-4568
Particle emission from artificial cometary surfaces: material science aspects. Kochan, H., et al, [1990, p.401-411, eng] 47 4569
PIXE analysis as a tool for dating of ice cores from the Greenland ice sheet. Hansson, H.C., et al, [1993, p.428-434, eng] 47-4592
New results of the dust investigation in the comet simulation project KOSI. Thiel, K., et al, [1991, p.579-589, eng] 47-4634
Science of snow and ice (3). Inoue, M., [1985, p.7-10, jpn] 47-5094

Ice sublimation *(cont.)*

Laboratory simulation of a cometary nucleus: experimental setup and first results. Kochan, H., et al. [1989, p.487-492, eng] 47-5124

On the accuracy of cometary nuclei simulation experiments. Klinger, J., et al. [1989, p.493-497, eng] 47-5125

Ice surface

NO adsorption on ice at low concentrations. Sommerfeld, R.A., et al. [1992, p.569-574, eng] 47-202

Model of heterogeneous nucleation on polar stratospheric clouds. Nelson, C.M., et al. [1992, p.6112-6115, eng] 47-248

Molecular interactions with icy surfaces: infrared spectra of CO absorbed in microporous amorphous ice. Devlin, J.P., [1992, p.6185-6188, eng] 47-249

Optical search for surface melting of ice. Elbaum, M., [1992, 166p., eng] 47-275

Ice-blister observations on glaciers, sea ice and rivers. Kovacs, A., [1992, p.314-316, eng] 47-473

Surface melting of the (0001) face of TIP4P ice. Kroes, G.J., [1992, p.365-382, eng] 47-1189

Evaluation of bi-hemispherical reflectance of antarctic surfaces. Zibordi, G., et al. [1992, p.149-157, eng] 47-1199

Interaction of gravity driven flows at Nansen Ice Sheet. Mastrantonio, G., et al. [1992, p.159-166, eng] 47-1200

Condensation and evaporation of H2O on ice surfaces. Haynes, D.R., et al. [1992, p.8502-8509, eng] 47-1568

Transfer of ions within the system soil-snow and the role of ice surface in their migration. Ostroumov, V.E., et al. [1992, p.127-135, eng] 47-1717

Passive microwave signatures of sea ice. Eppler, D.T., et al. [1992, p.47-71, eng] 47-3018

Digital SAR image formation. Wackerman, C.C., [1992, p.105-110, eng] 47-3020

Potential applications of polarimetry to the classification of sea ice. Drinkwater, M.R., et al. [1992, p.419-430, eng] 47-3038

Comment on porosities of ice films used to simulate stratospheric cloud surfaces. Keyser, L.F., et al. [1993, p.2800-2803, eng] 47-3178

Spatial and temporal variations of sea ice surface. Flett, D.G., et al. [1991, p.179-186, eng] 47-3385

Beaufort Sea Ice-1: an overview. Livingstone, C.E., et al. [1991, p.189-205, eng] 47-3386

Integration of optical and active microwave data of a snow-covered sea ice surface. Manore, M.J., et al, [1991, p.209-215, eng] 47-3387

Pipeline launching module. Hemphill, D.P., [1986, 4 col., eng] 47-4100

Roughness parameters and air drag over MIZ sea ice. Burns, B.A., et al. [1988, p.75-78, eng] 47-4186

Pipeline trenching. Langner, C.G., [1986, 4 col., eng] 47-4262

Evaluation of limits to the performance of the surface roughness meter. Johnson, F., et al. [1993, p.140-145, eng] 47-4591

Observation of flooded ice in arctic regions. Goroch, A.K., et al, [1993, p.1305-1324, eng] 47-4905

Monomer molecular adsorption on ice Ih. Bell, K.P., et al, [1993, p.4160-4167, eng] 47-5272

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Ice surveys

Abstracts. [1992, 415p., eng] 47-106

JAMSTEC's ice sea study program—from the Okhotsk Sea to the Arctic Ocean. Sasaki, Y., et al. [1992, p.69-74, eng] 47-118

Surface-based radar remote sensing of ice in Canada. Lewis, E.O., et al. [1992, p.259-266, eng] 47-146

Capability of sea ice monitoring by satellite remote sensing. Ishida, K., et al. [1992, p.267-271, jpn] 47-147

Multi-sensor data set and sea ice study. Nishio, F., et al, [1992, p.272-276, jpn] 47-148

Remote sensing of salinity distribution in sea ice. Yamakoshi, H., et al, [1992, p.277-280, eng] 47-149

Satellite observations of the area of sea ice in the Sea of Okhotsk. Enomoto, H., et al. [1992, p.281-284, eng] 47-150

Seasonal variability of sea ice physico-mechanical properties. Polomoshnov, A.M., [1992, p.336-339, eng] 47-161

Ice productivity of the northeastern Okhotsk Sea. IAkunin, L.P., et al. [1992, p.348-350, eng] 47-162

Bothnian Experiment in Preparation for ERS-1, 1988 (BEPERS-88)—an overview. Askne, J., et al. [1992, p.2377-2398, eng] 47-254

1985/86 season analysis: Lancaster Sound winter ice regime. *Volume II.* [1986, *164p. + appends bound separately*, eng] 47-522

IGARSS '92. International space year: space remote sensing. [1992, 1776p. (2 vols.), eng] 47-637

Characterization of intrinsic optical properties for sea ice and snow. Tanis, F.J., et al. [1992, p.125-127, eng] 47-639

Beaufort Sea Ice-1: selected SAR results. Lukowski, T.I., et al. [1992, p.131-133, eng] 47-641

Integrated multi-sensor mission concepts for the Canadian *ice community.* Luscombe, A., *et al.* [1992, p.334-336, eng] 47-647

High-resolution land/ice imaging using Seasat scatterometer measurements. Long, D.G., et al. [1992, p.440-442, eng] 47-648

Preliminary results from the ASF/GPS ice classification algorithm. Cunningham, G., et al. [1992, p.573-575, *eng*] 47-650

Multifrequency polarimetric radar for sea ice classification. Rignot, E.J., et al. [1992, p.576-578, eng] 47-651

Knowledge base for passive microwave classification of sea ice. Maslanik, J.A., et al. [1992, p.579-581, eng] 47-652

Measurement of pressure ridges in SAR images of sea ice. Vesecky, J.F., *et al.* [1992, *p.955-957, eng*] 47-663

C-band backscatter signatures of old ice in the central Arctic. Ulander, L.M.H., et al. [1992, p.958-960, eng] 47-664

Review of the microwave dielectric and extinction properties of sea ice and snow. Hallikainen, M., [1992, p.961-965, eng] 47-665

Polarimetric emission from anisotropic media for passive remote sensing of sea ice. Yueh, S.H., et al, [1992, p.966-968, eng] 47-666

Polarimetric remote sensing of sea ice in the Beaufort Sea. Nghiem, S.V., et al. [1992, p.972-974, eng] 47-668

Sea ice classification using fast learning neural networks. Dawson, M.S., et al. [1992, p.1070-1071, eng] 47-670

Towards a quantitative characterization *of sea ice* microstructure. Perovich, D.K., et al. [1992, p.1249-1252, eng] 47-672

Passive microwave signatures of simulated pancake ice and young pressure ridges. Grenfell, T.C., et al. [1992, *p.1253-1255, eng*] 47-673

Effective permittivity of saline ice under thermal variation. Nghiem, S.V., *et al.* [1992, *p.1256-1258, eng*] 47-674

Electrical and microwave evolution of sea water into young ice. Onstott, R.G., [1992, p.1259-1261, eng] 47-675

Analysis of scattering from a thin saline ice layer. Fung, A.K., et al. [1992, p.1262-1264, eng] 47-676

Application of theoretical models to active and passive remote sensing of saline ice. Han, H.C., *et al.* [1992, p.1265-1267, eng] 47-677

Microwave sea ice signature modeling: connecting models to the real world. Winebrenner, D.P., et al. [1992, p.1268-1270, eng] 47-678

Development of instrumentation for measuring dielectric constant of sea ice. Ma, H.J., et al. [1992, p.1271-1272, eng] 47-679

Radar backscatter signatures of Baltic Sea ice. Toikka, M., et al. [1992, p.1527-1529, eng] 47-680

Radar backscatter from arctic sea ice during IAOE '91. Beaven, S.G., et al. [1992, p.1530-1532, eng] 47-681

Comparison of radar backscatter from antarctic and arctic sea ice. Hosseinmostafa, R., et al. [1992, p.1533-1535, eng] 47-682

Calibrated ERS-1 SAR signatures and video underflights *over arctic ice.* Ulander, L.M.H., et al. [1992, p.1536-1538, eng] 47-683

Space shuttle photography of ice patterns in Lake Baikal. Evans, C.A., et al. [1992, p.1559-1561, eng] 47-684

Expert systems to classify sea ice from microwave data. Haverkamp, D., et al. [1992, p.1625-1627, eng] 47-685

Eastern-western arctic sea ice analysis: 1990. [1991, n.p., eng] 47-883

MOS-1 data received at Showa Station. Yamanouchi, T., et al. [1990, p.175-188, jpn] 47-884

Use of Marine Observation Satellite-1 in applied ocean science. Pichel, W.G., et al. [1990, p.231-245, jpn] 47-887

Radar to study surface scattering from lake and river ice. Yankielun, N.E., et al. [1991, 20p., eng] 47-888

Airborne video as satellite imagery ground truthing. Johannessen, B.O., et al. [1992, p.337-349, eng] 47-1040

Thickness profiling of freshwater ice using a millimeter-wave FM-CW radar. Yankielun, N.E., et al. [1992, *p.1094-1100, eng*] 47-1262

Hudson's Bay Company ships' log-books as sources of sea ice data, 1751-1870. Catchpole, A.J.W., [1992, p.17-39, eng] 47-2080

Synoptic scale ice-atmosphere interaction off the east coast of Canada. Nazarenko, D.M., [1990, 158p., eng] 47-2105

Arctic ice stress measurements. Lau, P.A., et al. [1991, p.645-650, eng] 47-2183

Beaufort Sea ice design features: acquisition of data on EIFs. Pilkington, G.R., et al. [1992, Var. p., eng] 47-2227

Field measurements of northern Baltic pressure ridges. Reynolds, E., et al. [1992, 21p. + appends., eng] 47-2587

Microwave remote sensing of sea ice. Carsey, F.D., ed. [1992, 462p., eng] 47-3014

Introduction to "Microwave Remote Sensing of Sea Ice". Carsey, F.D., et al. [1992, p.1-7, eng] 47-3015

Physical properties of sea ice relevant to remote sensing. Tucker, W.B., et al. [1992, p.9-28, eng] 47-3016

Physical basis for sea ice remote sensing. Hallikainen, M., et al. [1992, p.29-46, eng] 47-3017

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Sea ice altimetry. Fetterer, F.M., et al. [1992, p.111-135, eng] 47-3021

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Laboratory investigations of the electromagnetic properties of artificial sea ice. Swift, C.T., et al. [1992, p.177-200, eng] 47-3023

Estimation of geophysical parameters using passive microwave algorithms. Steffen, K., et al. [1992, p.201-231, eng] 47-3024

Validation of geophysical products using multisensor data. Cavalieri, D.J., [1992, p.233-242, eng] 47-3025

Microwave remote sensing of the southern ocean ice cover. Comiso, J.C., et al. [1992, p.243-259, eng] 47-3026

Air-ice-ocean processes in the seasonal ice zone. Johannessen, O.M., et al. [1992, p.261-289, *eng*] 47-3027

Considerations for microwave remote sensing of thin sea ice. Grenfell, T.C., et al. [1992, p.291-301, eng] 47-3028

Microwave remote sensing of polynyas. Martin, S., et al, [1992, p.303-311, eng] 47-3029

Characterization of snow on floating *ice.* Garrity, C., [1992, p.313-328, eng] 47-3030

Effects of freeze-up and melt processes on microwave signatures. Gogineni, S.P., et al. [1992, p.329-341, eng] 47-3031

Determination of sea ice motion from satellite images. Holt, B., et al. [1992, p.343-354, eng] 47-3032

Approach to identification of sea ice types from spaceborne SAR data. Kwok, R., et al. [1992, p.355-360, *eng*] 47-3033

Microwave remote sensing of low-salinity sea ice. Hallikainen, M., [1992, p.361-373, eng] 47-3034

Ice thickness distribution inferred using remote sensing techniques. Wadhams, P., et al. [1992, p.375-383, eng] 47-3035

Use of satellite observations in ice cover simulations. *Preller, R.H., et al.* [1992, p.385-404, eng] 47-3036

Ice modeling and data assimilation with the Kalman smoother. Rothrock, D.A., et al. [1992, p.405-418, eng] 47-3037

Potential applications of polarimetry to the classification of sea ice. Drinkwater, M.R., et al, [1992, p.419-430, eng] 47-3038

Information fusion in sea ice remote sensing. Collins, M.J., [1992, p.431-441, eng] 47-3039

Status and future directions for sea ice remote sensing. Carsey, F.D., et al. [1992, p.443-446, eng] 47-3040

Passive microwave remote sensing of snow on floating ice. Garrity, C., [1991, 348p., eng] 47-3133

Report. [1992, 41p. + appends., eng] 47-3235

Ice core studies of sea ice thickness. Eicken, H., et al, [1992, p.B1-B4, eng] 47-3240

Thickness measurements of arctic multiyear ice. Tucker, W.B., [1992, p.B5-B9, eng] 47-3241

Sea ice thickness distributions from aerial photographs. Eppler, D.T., et al. [1992, p.B10-B15, eng] 47-3242

Antarctic ice thickness distributions obtained from aerial photography. Ackley, S.F., et al. [1992, p.B16-B18, eng] 47-3243

Ice thickness observations from British submarines. Wadhams, P., [1992, p.B19-B21, eng] 47-3244

Accuracy of submarine ice draft measurements. Tucker, W.B., et al. [1992, p.B22-B24, eng] 47-3245

Upward looking sonar ice draft series from the Greenland Sea. Kvambekk, A.S., et al. [1992, p.B25-B28, eng] 47-3246

Sampling the temporal variability of *sea ice draft* distribution. Moritz, R.E., [1992, p.B29-B38, eng] 47-3247

Airborne laser altimetry measurements for sea ice thickness. Krabill, W.B., [1992, p.B39-B42, eng] 47-3248

Inferring ice thickness distribution from airborne laser profiling. Wadhams, P., et al. [1992, *p.B43-B51, eng*] 47-3249

Remote measurement of sea ice thickness using electromagnetic sounding. Kovacs, A., [1992, p.B52-B54, eng] 47-3250

Operational airborne sea ice thickness measurement system. Holladay, J.S., [1992, p.B55-B59, eng] 47-3251

Ice thickness observations from satellites. Rothrock, D.A., [1992, p.B60-B65, eng] 47-3252

Active and passive microwave signatures and relationship to ice thickness. Comiso, J.C., et al. [1992, p.B66-B75, eng] 47-3253

Passive microwave measurements of sea ice thickness. Gloersen, P., [1992, p.B76-B82, *eng*] 47-3254

Sea ice observation in the Arctic Ocean (I). Nakamura, H., et al. [1992, p.83-97, jpn] 47-3295

Abstracts and papers. [1991, 2 vols., eng] 47-3369

Use of ice data in icebreaker operations. Eggenberger, J.P., [1991, p.13-18, eng] 47-3370

Data acquisition strategy for AES' ice services program. Champ, D.H., [1991, p.19-20, eng] 47-3371
Satellite-image workstation for icebreakers. Berglund, R., [1991, p.21-24, eng] 47-3372
IPIX radar: a tool for ocean surveillance and meteorological research. Currie, B.W., et al, [1991, p.25-36, eng] 47-3373
Comparison of several sea ice data sets. Etkin, D.A., et al, [1991, p.41-47, eng] 47-3374
Comparison of remote sensing systems for operational ice analysis. Carrieres, T., et al, [1991, p.51-61, eng] 47-3375
Maxim Gorky accident: how good are ice charts. Ramseier, R.O., et al, [1991, p.65-73, eng] 47-3376
Analysis of ice cover in numerical weather prediction. Hallé, J., [1991, p.75-85, eng] 47-3377
SSM/I and other cryospheric products from the snow and ice DAAC. Barry, R.G., et al, [1991, p.87-100, eng] 47-3378
Barents Sea ice conditions as observed by passive microwave and other techniques. Lövas, S.M., et al, [1991, p.101-115, eng] 47-3379
Inferring snow cover on sea ice from passive microwave signatures. Lohanick, A.W., [1991, p.119-124, eng] 47-3380
Snow cover and some of its effects on passive microwave signatures. Garrity, C., [1991, p.125-132, eng] 47-3381
Surface albedo of snow covered first year and multi-year sea ice. De Abreu, R.A., et al, [1991, p.133-140, eng] 47-3382
Optimal radar ice surveillance. Bercha, F.G., et al, [1991, p.143-164, eng] 47-3383
Operational airborne sea ice thickness measurement system. Rossiter, J.R., et al, [1991, p.167-177, eng] 47-3384
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Remote sensing and image processing for ice forecasting. Marko, J.R., et al, [1991, p.217-226, eng] 47-3388
Remotely sensed data in the U.S. Navy's sea ice forecast models. Preller, R.H., et al, [1991, p.235-255, eng] 47-3389
Cloud limitations to satellite mapping of sea ice. Nielsen, P., et al, [1991, p.263-276, eng] 47-3390
MOS-1 multi-sensor data set and sea ice study. Nishio, F., et al, [1991, p.277-287, eng] 47-3391
AES Dash-7 ice reconnaissance aircraft. Ramplee-Smith, C., et al, [1991, p.289-293, eng] 47-3392
Real-time ice monitoring using synthetic aperture radar. Ramsay, B.R., [1991, p.295-306, eng] 47-3393
Real-time ice monitoring within the International Space Year. Strübing, K., [1991, p.7-18, eng] 47-3394
Predicting annual variability of sea ice and icebergs. Fissel, D.B., et al, [1991, p.19-32, eng] 47-3395
SICAR: a program for semi-automated digitizing of composite ice charts. Piwowar, J.M., et al, [1991, p.33-41, eng] 47-3396
Satellite imagery in Canadian regional sea ice monitoring. Nazarenko, D.M., et al, [1991, p.47-52, eng] 47-3397
Ice Branch operational use of ice beacons on sea ice. Weir, L., et al, [1991, p.53-59, eng] 47-3398
Statistical analysis of sea ice for the eastern Barents Sea. Vefsnmo, S., et al, [1991, p.61-80, eng] 47-3399
Identification of sea ice using NOAA satellite data. Zhang, L.X., et al, [1991, p.81-86, eng] 47-3400
Discrimination of open water and sea ice from SAR image. Similä, M., [1991, p.89-106, eng] 47-3401
Fourier classification of SAR images of sea ice. Barber, D.G., et al, [1991, p.111-118, eng] 47-3402
Sea ice retrieval from satellite and aerial photography. Steffen, K., et al, [1991, p.121-129, eng] 47-3403
Integration of high and low resolution microwave observations. Rubinstein, I.G., et al, [1991, p.131-142, eng] 47-3404
Digital DMSP OLS fine imagery sea ice applications. Hawkins, J.D., et al, [1991, p.153-155, eng] 47-3405
Polynomial analysis of AVHRR images for arctic leads. Eppler, D.T., et al, [1991, p.161-189, eng] 47-3406
Verification of an operational sea ice forecast model. Yao, T., et al, [1991, p.193-200, eng] 47-3407
Verification of remotely sensed ice thickness data. Prinsenberg, S.J., [1991, p.201-212, eng] 47-3408
Thin-ice statistics for strength calculations without sub-category classification. Soulis, E.D., et al, [1991, p.213-226, eng] 47-3409
Northeast passage: ERS-1 ice routing for the Polar/Vessel *L'Astrolabe*. Johannessen, O.M., et al, [1991, p.227-236, eng] 47-3410
Preprints, [1988, 160p., eng] 47-4173
Arctic sea ice 1973-1986: seasonal and interannual variability. Parkinson, C.L., et al, [1988, p.4-7, eng] 47-4174
Arctic sea ice 1973-1986: interregional comparisons. Cavalieri, D.J., et al, [1988, p.8-10, eng] 47-4175
Ice extent and flux in the Grand Banks-Labrador Sea area. Argus, S.D., et al, [1988, p.11-14, eng] 47-4176
Seasonal variations of atmospheric circulation and sea ice motion in the Arctic. McLaren, A.S., et al, [1988, p.20-23, eng] 47-4177
Short-period changes in sea ice and atmospheric conditions. Maslanik, J.A., et al, [1988, p.28-31, eng] 47-4178
North Atlantic sea ice sensitivities of monthly dynamical forecasts. Walsh, J.E., et al, [1988, p.32-35, eng] 47-4179
Synoptic ice melt from Nimbus-7 SMMR. Crane, R.G., et al, [1988, p.36-39, eng] 47-4180
Lead patterns in arctic sea ice. Barry, R.G., et al, [1988, p.40-43, eng] 47-4181
Atmospheric boundary layer features observed in the spring *marginal ice zone*. Guest, P.S., et al, [1988, p.73-74, eng] 47-4185
Roughness parameters and air drag over MIZ sea ice. Burns, B.A., et al, [1988, p.75-78, eng] 47-4186
Arctic Ocean ice balance: a Kalman smoother estimate. Thomas, D.R., et al, [1993, p.10,053-10,067, eng] 47-4376
Proceedings, [1993, 2 vol., eng] 47-4415
Ice studies in the Barents Sea by ERS-1 SAR during SIZEX 92. Johannessen, O.M., et al, [1993, p.277-282, eng] 47-4425
Validation of ERS-1 SAR measurements of sea ice during ARCTIC-91. Askne, J., et al, [1993, p.289-294, eng] 47-4427
Experiences from the Swedish sea ice programme during BEERS-92. Thompson, T., et al, [1993, p.313-318, eng] 47-4431
Greenland Sea observations. Gudmandsen, P., et al, [1993, p.319-323, eng] 47-4432
Air-sea-ice interactions in the Weddell Sea. Viehoff, T., et al, [1993, p.325-327, eng] 47-4433
Arctic sea ice microwave signature and geophysical processes study. Onstott, R.G., et al, [1993, p.329-332, eng] 47-4434
Sea ice radar signatures from ERS-1 SAR during late summer and fall in the Beaufort and Chukchi Seas. Holt, B., et al, [1993, p.339-342, eng] 47-4436
ERS-1 SAR use in the Canadian sea ice monitoring program. Shokr, M.E., et al, [1993, p.355-360, eng] 47-4439
Greenland ice sheet mapping by ERS-1. Tscherning, C.C., et al, [1993, p.413-418, eng] 47-4443
Applications of ERS-1 SAR data for analyzing riverine and coastal processes and geomorphology. Gatto, L.W., et al, [1993, p.873-878, eng] 47-4449
Model simulation of changes in arctic sea ice thickness, 1960-1989. Walsh, J.E., et al, [1991, p.346-349, eng] 47-4487
Monthly mean sea ice data from ice prediction models. Posey, P.G., et al, [1993, 6p. + appends., eng] 47-4620
Radar backscatter measurements from arctic sea ice during the fall freeze-up. Beaven, S.G., et al, [1993, 66p., eng] 47-4621
Comparison of conventional and passive microwave sea ice data sets for Hudson Bay. Etkin, D.A., [1991, 132p., eng] 47-4668
Matched field tomography results in the Arctic. Diachok, O.I., et al, [1992, p.24-27, eng] 47-4716
Sediment export by ice rafting from a coastal polynya, arctic Alaska, U.S.A. Reimnitz, E., et al, [1993, p.83-98, eng] 47-4741
Development of a portable ice-thickness measuring instrument. Adler, D., et al, [1992, 28p., eng] 47-4883
Development of a portable ice-measuring instrument. Doundoulakis, G.J., [1991, 31p. + appends., eng] 47-4884
Sea ice off the Icelandic coasts—October 1990-September 1991. [1992, 39p., ice] 47-4909
Ice conditions offshore West Greenland. Thomsen, H.H., [1993, p.43-47, eng] 47-4916
Classification of the maximum annual Baltic Sea ice cover extent—1720-1992. Seinä, A., et al, [1993, p.5-20, fin] 47-4995
Advances in sea-ice research based on remotely sensed passive microwave data. Barry, R.G., et al, [1993, p.4-12, eng] 47-5271
See also: Ice reporting

Ice temperature

Radiative temperature of ice surface in Svalbard, 1991. Takahashi, S., et al, [1992, p.286-289, jpn] 47-151
Numerical studies of the temperature, ice age and conditions of a glacier bed. Larina, T.B., [1991, p.123-131, rus] 47-329
Petrographic and salinity characteristics of brackish water ice in the Bay of Bothnia. Gow, A.J., et al, [1992, 36p., eng] 47-706
Firn stratification on the slopes of the Klyuchevskoy volcano. Salamatin, A.N., et al, [1992, p.230-240, eng] 47-792
Large-scale thermal bending fracture of sea ice plates. Bažant, Z.P., [1992, p.17,739-17,751, eng] 47-1063
GLOBEC workshop on southern ocean marine biology, [1991, 150p., eng] 47-1281
Temperature evolution and vapour pressure build-up in porous ices. Kömle, N.I., et al, [1992, p.1311-1323, eng] 47-1468
Temperature regime of No.5 Glacier, Yanglong River in Qilian Mountains. Huang, M.H., et al, [1985, p.54-60, chi] 47-1519
Temperature evolution of porous ice samples covered by a dust mantle. Kömle, N.I., et al, [1992, p.204-212, eng] 47-1953
Toward using borehole temperatures to calibrate an isotopic paleothermometer in central Greenland. Cuffey, K.M., et al, [1992, p.265-268, eng] 47-2026
Study of the factors controlling the value of the surface temperature of sea ice. Guest, P.S., et al, [1992, p.51-57, eng] 47-2379
Spatial structure of the surface temperature field of arctic pack ice determined with AVHRR. Lindsay, R., et al, [1992, p.76-79, eng] 47-2385
Extending the antarctic meteorological record using ice-sheet temperature profiles. Nicholls, K.W., et al, [1993, p.141-150, eng] 47-2462
Numerical modelling of the temperature distribution in tabular icebergs. Löset, S., [1993, p.103-115, eng] 47-2644
Studies of the relationship of thermophysical properties of ice to hydrostatic pressure and temperature. Zotikov, I.A., et al, [1991, p.22-27, rus] 47-2784
Shifts in ice sheet temperatures. Colbeck, S.C., [1993, p.5115-5120, eng] 47-2855
Borehole measurements in a Greenland glacier. Iken, A., et al, [1993, p.15-25, eng] 47-3937
Internal melting and ice accretion at the bottom of temperate glaciers. Lliboutry, L.A., [1993, p.50-64, eng] 47-3940
Thermal energy conservation in icebergs and tracking by temperature. Löset, S., [1993, p.10,001-10,012, eng] 47-4372
Climatic effects on glacier thermodynamics. Blatter, H., [1991, 98p., eng] 47-4461
Detectability of arctic leads using thermal imagery under varying atmospheric conditions. Stone, R.S., et al, [1993, p.12,469-12,482, eng] 47-4523
Radar absorption due to impurities in antarctic ice. Corr, H., et al, [1993, p.1071-1074, eng] 47-4562
Ice sheet dynamics. Lliboutry, L.A., [1993, p.399-416, eng] 47-4846
Ice sheet firn temperature and meltwater refreezing in Greenland. Braithwaite, R.J., [1993, p.109-114, eng] 47-4920
Phase composition and temperature of nitrogen ice on Triton. Tryka, K.A., et al, [1993, p.751-754, eng] 47-5131
Bore-hole survey at dome GRIP 1991. Gundestrup, N.S., et al, [1993, p.399-402, eng] 47-5209

Ice thermal properties

Theoretical approach of thermal regime of snow-covered sea ice. Krass, M.S., et al, [1992, p.62-64, eng] 47-116
Production and heat transfer characteristics of liquid ice as new PCM. Fukusako, S., et al, [1992, p.347-364, eng] 47-2298
Studies of the relationship of thermophysical properties of ice to hydrostatic pressure and temperature. Zotikov, I.A., et al, [1991, p.22-27, rus] 47-2784
Use of a cold energy element in a low-temperature storage system. Suzuki, T., [1992, p.333-339, eng] 47-3211
Recent advances in research on water-freezing and ice-melting problems. Fukusako, S., et al, [1993, p.90-105, eng] 47-3287
Thermo-mechanically coupled ice-sheet response—cold, polythermal, temperate. Hutter, K., [1993, p.65-86, eng] 47-3941
Frost formation and heat transfer on circular cylinders in cross flow. Raju, S.P., et al, [1992, p.109-122, eng] 47-4704

Ice thickness

See also: Glacier thickness; Ice cover thickness

Ice tongues

See also: Glacier tongues

Ice transported sediments

See also: Ice rafting

Ice underside

See also: Ice bottom surface

Ice vapor interface

NO adsorption on ice at low concentrations. Sommerfeld, R.A., et al, [1992, p.569-574, eng] 47-202
Model of heterogeneous nucleation on polar stratospheric clouds. Nelson, C.M., et al, [1992, p.6112-6115, eng] 47-248
Molecular interactions with icy surfaces: infrared spectra of CO absorbed in microporous amorphous ice. Devlin, J.P., [1992, p.6185-6188, eng] 47-249
Interaction of HCl vapor with water-ice: implications for the stratosphere. Abbatt, J.P.D., et al, [1992, p.15,819-15,826, eng] 47-999
Sticking of HCl and ClOH to ice: a computational study. Kroes, G.J., et al, [1992, p.7079-7088, eng] 47-1265
Condensation and evaporation of H2O on ice surfaces. Haynes, D.R., et al, [1992, p.8502-8509, eng] 47-1568
Heterogeneous interactions of ClONO2 and HCl on nitric acid trihydrate at 202 K. Abbatt, J.P.D., et al, [1992, p.7674-7679, eng] 47-1768
Vapor diffusion coefficient for snow. Colbeck, S.C., [1993, p.109-115, eng] 47-1903

Ice vapor interface *(cont.)*

Scavenging of aerosols by ice crystals. Prodi, F., et al, [1991, p.75-86, eng] **47-2209**

Field instrument for examining in-cloud scavenging mechanisms by snow. Mitchell, D.L., et al, [1991, p.239-253, eng] **47-2212**

Scavenging of atmospheric constituents by alpine snow. Baltensperger, U., et al, [1991, p.483-493, eng] **47-2215**

Proceedings, [1992, 523p., eng] **47-2253**

On the homogeneous nucleation of water and ice in the supersaturated water vapour at temperatures below -41 C. Merzhanov, K.M., [1992, p.249-254, eng] **47-2260**

Modification of aerosol chemistry by reactions in atmospheric ice crystals. Finnegan, W.G., et al, [1992, p.399-402, eng] **47-2280**

Laboratory measurements of the loss of ClO on Pyrex, ice and NAT at 183 K. Kenner, R.D., et al, [1993, p.193-196, eng] **47-2857**

The sorption and reactions of SO2, H2O2, and O3 on ice. Pellerano, D., et al, [1993, p.131-134, eng] **47-3102**

Comment on porosities of ice films used to simulate stratospheric cloud surfaces. Keyser, L.F., et al, [1993, p.2800-2803, eng] **47-3178**

Uptake of HNO3 onto ice, NAT, and frozen sulfuric acid. Hanson, D.R., [1992, p.2063-2066, eng] **47-3319**

Atmospheric scavenging during surface frost formation. Georgiadis, T., et al, [1993, p.267-276, eng] **47-3474**

Squires' penetrative downdraft model. Reuter, G.W., [1993, p.794-798, eng] **47-3511**

Optical study of surface melting on ice. Elbaum, M., et al, [1993, p.491-505, eng] **47-3648**

Temperature dependence of negative ice crystal growth. Furukawa, Y., et al, [1993, p.571-581, eng] **47-3649**

Effect of competitive adsorption on polar stratospheric cloud reactions. Mozurkewich, M., [1993, p.355-358, eng] **47-4140**

Survey and new measurements of ice vapor pressure at temperatures between 170 and 250K. Marti, J., et al, [1993, p.363-366, eng] **47-4142**

Spectroscopic probe of model polar stratospheric cloud films. Koehler, B.G., et al, [1993, p.10,563-10,571, eng] **47-4294**

Antarctic polar stratospheric cloud chemistry. Drdla, K., et al, [1993, p.8965-8981, eng] **47-4382**

Influence of freezing technique on freeze drying. Kochs, M., et al, [1993, p.1727-1738, eng] **47-4413**

Adsorbate spectra for amorphous ice. Buch, V., et al, [1993, p.2265-2268, eng] **47-4464**

Evolution of a porous H2O-CO2-ice sample in response to irradiation. Steiner, G., et al, [1993, p.9065-9073, eng] **47-4508**

Model comet made from mineral dust and H2O-CO2 ice: sample preparation development. Roessler, K., et al, [1990, p.379-388, eng] **47-4567**

Particle emission from artificial cometary surfaces: material science aspects. Kochan, H., et al, [1990, p.401-411, eng] **47-4569**

Ice veins

Upper surface layer of permafrost: collected scientific papers. Mel'nikov, P.I., ed, [1991, 100p., rus] **47-392**

Formation of the structure and properties of flood-plain deposits by major rivers. Zaikanov, V.G., [199-, p.31-47, rus] **47-397**

Studying ice wedges in Mongolia. Gorbunov, A.P., [1991, p.70-76, rus] **47-400**

Observations of the water-vein system in polycrystalline ice. Mader, H.M., [1992, p.333-347, eng] **47-1386**

Thermal behaviour of the water-vein system in polycrystalline ice. Mader, H.M., [1992, p.359-374, eng] **47-1388**

Geochemical exploration for hidden deposits in the cryolithozone. Makarov, V.N., et al, [1988, 108p., rus] **47-2315**

See also: Ground ice: Ice wedges

Ice volume

Ice productivity of the northeastern Okhotsk Sea. IAkunin, L.P., et al, [1992, p.348-350, eng] **47-162**

Parameters which influence the air content in polar ice. Martinerie, P., et al, [1992, p.1-13, eng] **47-458**

Characteristics of the distribution of glaciers in China. Wang, Z.T., et al, [1992, p.17-20, eng] **47-1080**

Influence of beam size on the flexural strength of sea ice, freshwater ice and iceberg ice. Parsons, B.L., et al, [1992, p.1017-1036, eng] **47-1626**

Ice sheet growth simulation including ice albedo feedback. Deblonde, G., et al, [1992, p.37-55, eng] **47-1885**

Late Neogene glacio-eustatic record. Ishman, S.E., et al, [1992, p.327-347, eng] **47-2047**

Convection heat transfer to melting ice. Jakubowski, G.S., et al, [1991, p.41-48, eng] **47-2767**

Glacio-isostatic crustal movements on an Icelandic ice cap. Sigmundsson, F., et al, [1992, p.2123-2126, eng] **47-2927**

Antarctic atmospheric conditions and sea ice interannual variations. Enomoto, H., et al, [1992, p.132-142, eng] **47-3013**

Response of large ice sheets to climatic change. Drewry, D.J., et al, [1992, p.235-242, eng] **47-3143**

Southern ocean sea-ice distributions and extents. Parkinson, C.L., [1992, p.243-250, eng] **47-3144**

Late Pleistocene ice age scenarios based on observational evidence. Deblonde, G., et al, [1993, p.709-727, eng] **47-3475**

Compressive strength of ice cubes of different sizes. Kuehn, G.A., et al, [1993, p.142-148, eng] **47-4060**

Ice sheet dynamics and the Pleistocene ice ages. Birchfield, G.E., [1987, p.381-398, eng] **47-4454**

Effects of CO2 increase on climate dynamics. Saltzman, B., et al, [1993, p.1051-1054, eng] **47-4630**

Topography of the upper and lower surfaces of 10 hectares of deformed sea ice. Melling, H., et al, [1993, p.349-369, eng] **47-5206**

Modelling the last ice-age cycle with 2-D climate models. Herterich, K., et al, [1993, p.107-116, eng] **47-5267**

Ice water interface

Kinematics of two dimensional granular material on a non-linear viscous base. Ito, H., [1992, p.65-68, eng] **47-117**

Probing an iceberg barrier. Carroll, M., [1992, p.24-33, eng] **47-177**

Theory of ice premelting in monosized powders. Cahn, J.W., et al, [1992, p.101-108, eng] **47-181**

Calculating and mapping the fields of components in the water-ice balance of glaciers. Bazhev, A.B., et al, [1991, p.94-102, rus] **47-326**

Laboratory investigation of the leaching of solute from snowpack by rainfall. Tranter, M., et al, [1992, p.169-178, eng] **47-376**

Dual-wavelength radar method for ice-water characterization in mixed-phase clouds. Gosset, M., et al, [1992, p.538-547, eng] **47-412**

Iceberg calving and the glacioclimatic record. Warren, C.R., [1992, p.253-282, eng] **47-424**

Oscillation of the freezing potential of aqueous lithium chloride solutions containing ethanol. Ozeki, S., et al, [1992, p.2511-2516, eng] **47-461**

Theoretical calving rates from glaciers along ice walls grounded in water of variable depths. Hughes, T., [1992, p.282-294, eng] **47-469**

Underwater sounds of precipitation. Crum, L.A., et al, [1992, p.2-12, eng] **47-513**

Salinity profiles of antarctic sea ice: field data and model results. Eicken, H., [1992, p.15,545-15,557, eng] **47-514**

Space shuttle photography of ice patterns in Lake Baikal. Evans, C.A., et al, [1992, p.1559-1561, eng] **47-684**

Influence of snow viscosity on forced flexural-gravity waves in a basin with a density jump. Bukatov, A.E., et al, [1992, p.259-266, eng] **47-781**

Investigation of a mushroom-like flow in the shelf edge area of northern seas. Voloshina, I.P., et al, [1992, p.317-322, eng] **47-782**

Effects of natural convection on ice formation inside a horizontal cylinder. Chen, S.L., et al, [1992, p.131-145, eng] **47-790**

On the melt rate of drifting ice heated from below. Omstedt, A., et al, [1992, p.91-100, eng] **47-806**

On ice-coupled waves: a comparison of data and theory. Squire, V.A., et al, [1992, p.269-280, eng] **47-1034**

Ice floe collision under wave action in the Marginal Ice Zone. Gao, L., et al, [1992, p.281-291, eng] **47-1035**

Large amplitude sea/ice coupling. Fox, C., [1992, p.293-304, eng] **47-1036**

Sea ice melting and floe geometry in a simple ice-ocean model. Steele, M., [1992, p.17,729-17,738, eng] **47-1062**

Reactions of a calving glacier to large changes in water level. Laumann, T., et al, [1992, p.158-162, eng] **47-1104**

Surface melting of the (0001) face of TIP4P ice. Kroes, G.J., [1992, p.365-382, eng] **47-1189**

Influence of convection and currents on bottom melting of ice during spring heating of a body of water. Blokhina, N.S., [1989, p.82-87, eng] **47-1227**

Ice transport and jamming in river bends. Bjedov, G., [1992, 94p., eng] **47-1313**

Observations of the water-vein system in polycrystalline ice. Mader, H.M., [1992, p.333-347, eng] **47-1386**

Thermal behaviour of the water-vein system in polycrystalline ice. Mader, H.M., [1992, p.359-374, eng] **47-1388**

Melting of ice shelves and the mass balance of Antarctica. Jacobs, S.S., et al, [1992, p.375-387, eng] **47-1389**

Sea ice algae growth related to a salinity gradient in Hudson Bay. Legendre, L., et al, [1992, p.445-453, eng] **47-1469**

Acoustical measurement of current and vorticity beneath ice. Menemenlis, D., et al, [1992, p.827-849, eng] **47-1473**

Measurements of water film surface temperature on gyrating hailstones. García-García, F., et al, [1992, p.2058-2073, eng] **47-1508**

Marine ice transfer along the bottom of a small ice shelf. Souchez, R., et al, [1991, p.503-506, eng] **47-1793**

Some results from the Labrador Ice Margin Experiment. Kjeldsen, S.P., et al, [1992, p.732-739, eng] **47-1868**

Measurements of snow temperature during rain. Conway, H., et al, [1993, p.6-7, eng] **47-1888**

Computationally efficient approximations to stratiform cloud microphysics parameterization. Ghan, S.J., et al, [1992, p.1572-1582, eng] **47-1998**

Evolution theory for optimal control of a Couette iceform design model. LaFleur, R.S., [1992, p.2617-2629, eng] **47-2148**

Example of the Couette iceform design model: flat plate ice formation. LaFleur, R.S., [1992, p.2631-2642, eng] **47-2149**

Numerical and experimental study of wavy ice structure in a parallel plate channel. Weigand, B., et al, [1992, p.233-235, eng] **47-2188**

Lomen water power plant—channel formation over a lake discharge outlet. Wold, K., [1988, 98p., nor] **47-2246**

Comparison of cloud microphysics parameterizations for simulation of mesoscale clouds and precipitation. Lee, I.Y., [1992, p.2699-2712, eng] **47-2251**

Ocean interactions with the base of Amery Ice Shelf, Antarctica. Hellmer, H.H., et al, [1992, p.20,305-20,317, eng] **47-2342**

Wave attenuation in the marginal ice zone during LIMEX. Liu, A.K., et al, [1992, p.192-206, eng] **47-2347**

Ice-floe collisions interpreted from acceleration data during LIMEX '89. McKenna, R.F., et al, [1992, p.246-269, eng] **47-2350**

Simulation of sea-ice motion and distribution off Newfoundland during LIMEX, March 1987. Tang, C.L., et al, [1992, p.270-296, eng] **47-2351**

Oscillation in sea ice-thermohaline circulation. Yang, J.Y., et al, [1992, p.80-82, eng] **47-2386**

Sea ice and salinity variability in the Arctic using a coupled sea ice-ocean model. Weatherly, J.W., et al, [1992, p.83-86, eng] **47-2387**

Sensitivity studies of an ice-ocean coupled model for the Northern Hemisphere. Cheng, A., et al, [1992, p.94-97, eng] **47-2390**

Investigation of the general circulation of the Arctic Ocean with an isopycnal model. Holland, D.M., et al, [1992, p.98-100, eng] **47-2391**

Strategies for estimating turbulent fluxes in polar ocean boundary layers. McPhee, M.G., [1992, p.J49-J52, eng] **47-2414**

Spatial variability in mixed layer properties measured under refreezing leads. Morison, J.H., et al, [1992, p.J53-J55, eng] **47-2415**

Acoustic Doppler current profiler observations of currents adjacent to refreezing leads. Muench, R.D., et al, [1992, p.J56-J59, eng] **47-2416**

Experimental study of melting of ice about horizontal cylinders. Torikoshi, K., et al, [1991, p.269-274, eng] **47-2557**

Melting process of packed beds of ice particles by water flow. Okada, M., et al, [1991, p.327-333, eng] **47-2561**

Heat transfer characteristics of ice capsules for encapsulated cool storage systems. Arnold, D., [1991, p.335-342, eng] **47-2562**

Carbonate chemistry of the wintertime Bering Sea marginal ice zone. Chen, C.T.A., [1993, p.67-87, eng] **47-2632**

Melting of ice in pure and saline water inside a square cavity. Schütz, W., et al, [1992, p.311-319, eng] **47-2638**

Numerical modelling of the temperature distribution in tabular icebergs. Löset, S., [1993, p.103-115, eng] **47-2644**

Interaction of frazil with suspended particles. Reimnitz, E., et al, [1993, p.117-135, eng] **47-2645**

Submerged warm water jet discharge in an ice-covered reservoir or lake. Gu, R.C., et al, [1993, p.151-168, eng] **47-2647**

Wavy ice formation inside a cooled parallel plate channel. Weigand, B., et al, [1993, p.685-693, eng] **47-2654**

Thermal nonequilibrium of freezing bodies of water with the environment. Faiko, L.I., [1991, p.115-118, rus] **47-2798**

Sea-ice interaction with the thermohaline circulation. Yang, J.Y., et al, [1993, p.217-220, eng] **47-2859**

Mathematical model of sea ice cover variability. Fleming, G.H., [1992, p.479-499, eng] **47-2881**

Anomalous behavior of ice in solutions of ice-binding arabinoxylans. Williams, R.J., [1992, p.105-113, eng] **47-2883**

Hydrography under fast ice in Lützow-Holm Bay. Takizawa, T., et al, [1992, p.106-125, eng] **47-3011**

Internal drainage system of a valley glacier. Hock, R., et al, [1993, p.537-546, eng] **47-3173**

Recent advances in research on water-freezing and ice-melting problems. Fukusako, S., et al, [1993, p.90-105, eng] **47-3287**

Sensitivity method for ice floe trajectory calculations. Thomson, N.R., et al, [1992, p.573-585, eng] **47-3344**

Discrimination of open water and sea ice from SAR image. Similä, M., [1991, p.89-106, eng] **47-3401**

Polynomial analysis of AVHRR images for arctic leads. Eppler, D.T., et al, [1991, p.161-189, eng] **47-3406**

Very-low-frequency under-ice reflectivity. Wolf, J.W., et al, [1993, p.1329-1334, eng] **47-3432**

Three-dimensional growth in ice dendrites. Furukawa, Y., et al, [1993, p.234-239, eng] **47-3469**

Late Quaternary land-sea interactions: Fennoscandia and Svalbard—the Nordic seas. Larsen, E., et al. (1991, p.151-159, eng) 47-3487

Review of thunderstorm electrification processes. Saunders, C.P.R., (1993, p.642-655, eng) 47-3507

Storm simulation with and without ice microphysics. Johnson, D.E., et al. (1993, p.745-759, eng) 47-3510

Ice-core evidence for a Holocene meltwater cap. Fisher, D.A., (1992, p.267-293, eng) 47-3560

Atlantic circulation simulation with sea ice interface model, pt.1. Oberhuber, J.M., (1993, p.809-829, eng) 47-3568

Mass balance variations on Filchner-Ronne Ice Shelf. Determann, J., et al. (1990, p.57-68, eng) 47-3573

Hail growth hysteresis. Johnson, D.B., et al. (1992, p.2525-2532, eng) 47-3674

Numerical computation of river ice jams. Beltaos, S., (1993, p.88-99, eng) 47-3720

Pressure effects on non-freezing water layer thickness. Bardasov, S.A., et al. (1992, p.160-166, eng) 47-3733

Influence of sea ice particulate matter on ocean irradiance. Fritsen, C.H., et al. (1992, p.527-541, eng) 47-3736

Crack dynamics in a plate under bending. Slepyan, L.I., (1993, p.119-129, eng) 47-3747

Planar forcing of floating ice sheets. Zhao, Z.G., et al. (1993, p.151-164, eng) 47-3750

Numerical modeling of heat transfer in irregular solidification of a liquid. Nikitenko, N.I., et al. (1993, p.519-528, eng) 47-3800

Effect of deep Atlantic waters on the ice-hydrological processes in the northern Barents Sea. Lebedev, I.A., (1992, p.145-156, rus) 47-3813

Elastohydrodynamic response of an ice sheet to forced sub-surface uplift. Dempsey, J.P., et al. (1993, p.487-506, eng) 47-3827

Breakup of shore fast sea ice. Squire, V.A., (1993, p.211-218, eng) 47-3925

Comparison of the mass-loading and elastic plate models of an ice field. Squire, V.A., (1993, p.219-229, eng) 47-3926

Sea ice flexural rigidity: a comparison of methods. DiMarco, R.L., et al. (1993, p.247-255, eng) 47-3928

Internal melting and ice accretion at the bottom of temperate glaciers. Lliboutry, L.A., (1993, p.50-64, eng) 47-3940

Drag reduction of a cylinder/endwall junction using the ice formation method. LaFleur, R.S., et al. (1993, p.26-32, eng) 47-4021

Some illustrations of roles of lake ice in limnology. Adams, W.P., et al. (1992, p.219-226, eng) 47-4051

Aqueous salt solution solidification. Heschel, I., et al. (1993, p.63-66, ger) 47-4063

Thermal equilibrium in porous media with concurrent flow and freezing. Tao, Y.X., et al. (1993, p.323-332, eng) 47-4065

Overhead line ice accretion due to freezing rain. Poots, G., et al. (1992, p.390-398, eng) 47-4069

Static analysis of floating ice block stability. Coutermarsh, B.A., et al. (1993, p.147-160, eng) 47-4172

Simple coupled steady-state arctic ice-ocean model. Willmott, A.J., et al. (1988, p.87-88, eng) 47-4189

Solvation, freezing, and the crystal/liquid interface: modern theories and computer simulation. Haymet, A.D.J., (1993, p.415-426, eng) 47-4216

Dynamical problems of ice cover fracture. Pushkin, A.V., et al. (1991, p.212-219, eng) 47-4282

On the engulfment of spherical particles by a moving ice-liquid interface. Lipp, G., et al. (1993, p.475-489, eng) 47-4289

Numerical study of three-dimensional natural convection and freezing in water. Yeoh, G.H., et al. (1992, p.640-650, eng) 47-4362

Sprinkler snow melting on railway tracks. Sawase, K., et al. (1992, p.727-738, eng) 47-4364

Wave effects on ocean-ice interaction *in the marginal ice* zone. Liu, A.K., et al. (1993, p.10,025-10,036, eng) 47-4374

Freezing of water between vertical tubes. Kim, C.J., et al. (1993, p.2647-2656, eng) 47-4414

C-band SAR backscatter from ice on shallow tundra lakes: observations and modelling. Wakabayashi, H., et al. (1993, p.333-337, eng) 47-4435

Waves and mesoscale features in the marginal ice zone. Liu, A.K., et al. (1993, p.343-348, eng) 47-4437

Semi-discrete element approach to the river ice breakup and jamming process. Guo, Q.Z., et al. (1993, p.65-69, eng) 47-4450

Hail detection using active and passive radars. Ajvazyan, H.M., et al. (1993, p.1155-1174, eng) 47-4510

East antarctic sea ice: albedo, thickness distribution, and snow cover. Allison, I., et al. (1993, p.12,417-12,429, eng) 47-4519

Finite-floe wave reflection and transmission coefficients from a semi-infinite model. Meylan, M., et al. (1993, p.12,537-12,542, eng) 47-4524

Ice formation in sea water through turbulent exchange. Zatsepin, A.G., et al. (1992, p.38-42, eng) 47-4563

Onset and evolution of penetrative convection during the *melting process* in a porous medium. Nguyen, T.H., et al. (1992, p.381-392, eng) 47-4708

Noise generation in the marginal ice zone. Johannessen, O.M., et al. (1992, p.28-38, eng) 47-4717

Analytical technique for solving an arctic acoustic model. Sheard, J.D., et al. (1992, p.39-42, eng) 47-4718

Ice edge noise observations from the 1988-89 Greenland Sea tomography experiment. Lynch, J.F., et al. (1992, p.611-619, eng) 47-4719

Thermal effects on the shape of a solidifying interface near a foreign particle. Casses, P., et al. (1993, p.13-20, eng) 47-4756

Microbubble mediated surface probe and the ice-antifreeze glycoprotein solution system. Vesenka, J.P., et al. (1993, p.67-74, eng) 47-4757

Learning behavior of sea ice. Denner, W.W., (1993, p.527-536, eng) 47-4834

Source mechanisms for arctic ocean ambient noise. Dyer, I., (1993, p.537-551, eng) 47-4835

Spatial variation in ambient sound level within ice edge eddies. Johannessen, O.M., et al. (1993, p.563-571, eng) 47-4837

Wave induced noise generation in the marginal ice zone. Rottier, P., (1993, p.611-624, eng) 47-4840

Predictions and measurements of the directivity of a monopole source in a floating ice plate. Stein, P.J., (1993, p.625-639, eng) 47-4841

Acoustic radiation beneath the arctic ice cover. Xie, Y.B., et al. (1993, p.641-647, eng) 47-4842

Numerical and experimental investigation of river ice cover cracking. Abdel-Zaher, A.K., (1992, 201p., eng) 47-4887

Homogeneous ice nucleation and supercooled liquid water in orographic wave clouds. Heymsfield, A.J., et al. (1993, p.2335-2353, eng) 47-4891

Isotopic geochemistry of an ice-covered antarctic lake. Wharton, R.A., Jr., et al. (1993, p.159-172, eng) 47-4906

Kinematic model of river ice motion during dynamic breakup. Ferrick, M.G., et al. (1993, p.111-134, eng) 47-4907

Tidal motions derived from ice buoy data. Turet, P., et al. (1993, 63p., eng) 47-4908

When ice melts in sea water: a review. Gade, H.G., (1993, p.139-165, eng) 47-4914

Soil-fabric measurement using phase transition porosimetry. Gunnink, B.W., et al. (1993, p.1019-1036, eng) 47-5105

Recent advances in research on freezing and melting heat-transfer phenomena. Fukusako, S., et al. (1991, p.1157-1170, eng) 47-5109

Simplified numerical solution of the Miller model of secondary frost heave. Fowler, A.C., et al. (1993, p.327-336, eng) 47-5204

Topography of the upper and lower surfaces of 10 hectares of deformed sea ice. Melling, H., et al. (1993, p.349-369, eng) 47-5206

Cylinder ice accretion determined by laser-Doppler analysis. Yoon, B., et al. (1993, p.381-397, eng) 47-5208

Thermodynamics of high-pressure ice. Chizhov, V.E., (1993, p.253-262, eng) 47-5266

Ice (water storage)

Estimation of stored water in the seasonal snow cover by ground surveys in the upper reaches of Beas basin during 1980. Krishnan, V., et al. (1985, p.152-162, eng) 47-568

Study of glacier meltwater resources in China. Yang, Z.N., et al. (1992, p.141-145, eng) 47-1101

Artificial naled formation for water storage. Krasnov, IU.N., (1991, p.233-235, rus) 47-2453

Snow recycling house in a heavy snowfall district. Higuchi, T., (1992, p.405-408, eng) 47-3218

Water freezing enhancement for thermal storage brine tube. Holowczenko, A., et al. (1988, 6 col., eng) 47-3641

Air conditioning energy conservation through ice storage. Tassou, S.A., et al. (1992, p.419-425, eng) 47-3798

Late Quaternary continental paleohydrology as related to future environmental change. Starkel, L., (1993, p.95-108, eng) 47-4586

Ice wedges

Upper surface layer of permafrost; collected scientific papers. Mel'nikov, P.I., ed. (1991, 100p., rus) 47-392

Formation of the structure and properties of flood-plain deposits by major rivers. Zaikanov, V.G., (1991, p.31-47, rus) 47-397

Studying ice wedges in Mongolia. Gorbunov, A.P., (1991, p.70-76, rus) 47-400

Cryogenic wedge within gravels, north of Kempten, Bavaria, F.R.G. Menzies, J., et al. (1992, p.365-374, eng) 47-2057

Fossil ice wedge formation near Tiksi. Fukuda, M., (1993, p.101-103, eng) 47-3980

Frost-fissure patterns in the Nordic countries. Svensson, H., (1992, p.207-218, eng) 47-4329

See also: Ground ice; Ice veins

Ice wharves

Near breakup of the surface-flooded ice wharf at McMurdo Station, Antarctica. Barthelemy, J.L., (1992, p.592-599, eng) 47-1846

Ice wood friction

See also: Wood ice friction

Iceberg towing

Iceberg impact program. Guichard, A., (1991, p.81-87, fre) 47-3181

Uses of antarctic ice. Beltramino, J.C.M., (1992, p.241-247, spa) 47-4295

Icebergs

Report of the International Ice Patrol in the North Atlantic, 1991 season. (1991, 51p., eng) 47-44

Report of the International Ice Patrol in the North Atlantic, 1990 season. (1990, 86p., eng) 47-45

Probing an iceberg barrier. Carroll, M., (1992, p.24-33, eng) 47-177

Iceberg calving and the glacioclimatic record. Warren, C.R., (1992, p.253-282, eng) 47-424

Recent iceberg groundings and scours on the Grand Banks of Newfoundland. (1989, 80p. + appends., eng) 47-429

Submersible observations of an iceberg pit and scour on the Grand Banks of Newfoundland. Barrie, J.V., et al. (1992, p.1-6, eng) 47-446

Neural network-based adaptive radar detection scheme for small ice targets in sea clutter. Bhattacharya, T.K., et al. (1992, p.1528-1529, eng) 47-741

Iceberg/seabed interaction events observed during the DIGS experiment. Lever, J.H., et al. (1991, p.74-87, eng) 47-1140

Origin of sediment pellets from the arctic seafloor: sea ice or icebergs?. Goldschmidt, P.M., et al. (1992, p.S539-S565, eng) 47-1278

Chasing the rogue icebergs. Vaughan, D., (1993, p.24-27, eng) 47-1570

Methodology for full-scale iceberg impact experiments in the Antarctic. Guichard, A., et al. (1992, p.718-723, eng) 47-1866

Seismicity associated *with icebergs calving from glaciers* near Mawson, East Antarctica. Gaull, B.A., et al. (1992, p.473-480, eng) 47-1883

Experiment to monitor four iceberg scours on the Grand Banks of Newfoundland. Davidson, S.H., et al. (1991, 110p., eng) 47-2115

Iceberg warnings. Ezman, A.T., (1993, p.56-59, eng) 47-2144

Iceberg trajectory model—real-time verification. Finlayson, D.J., et al. (1992, 47p. + appends., eng) 47-2335

Submersible video of iceberg scours on the Grand Banks. Cameron, G., et al. (1992, 44p., eng) 47-2340

Origin of green icebergs in Antarctica. Kipfstuhl, J., et al. (1992, p.20,319-20,324, eng) 47-2343

Icebergs and bergy bits in Kongsfjorden, Spitsbergen. Dowdeswell, J.A., et al. (1992, p.81-91, eng) 47-2353

Russian iceberg observations in the Barents Sea, 1933-1990. Abramov, V.A., (1992, p.93-97, eng) 47-2354

Numerical modelling of the temperature distribution in tabular icebergs. Löset, S., (1993, p.103-115, eng) 47-2644

Iceberg production in the Prince William Sound area. Long, W.E., (1992, 5p., eng) 47-2774

Sea surface temperature of the southern ocean in iceberg regions. Popov, I.K., (1992, p.181-183, rus) 47-3337

Predicting annual variability of sea ice and icebergs. Fissel, D.B., et al. (1991, p.19-32, eng) 47-3395

Removable bottom founded structure. Beskow, R.H., et al. (1988, 16 col., eng) 47-3763

Iceberg movement prediction off the Canadian east coast. Marko, J.R., et al. (1988, p.435-462, eng) 47-3820

Glaciers. Hambrey, M.J., et al. (1992, 207p., eng) 47-4009

Green iceberg formation on antarctic ice shelf bases. Warren, S.G., et al. (1993, p.6921-6928, eng) 47-4138

Iceberg scouring in Scoresby Sund and on the East Greenland continental shelf. Dowdeswell, J.A., et al. (1993, p.37-53, eng) 47-4297

Thermal energy conservation in icebergs and tracking by temperature. Löset, S., (1993, p.10,001-10,012, eng) 47-4372

Problems of design for operation and transportation in subarctic offshore environments. Fuglem, M.K., et al. (1993, p.311-322, eng) 47-4472

Report of the International Ice Patrol in the North Atlantic, 1992 season. (1992, 45p., eng) 47-4603

Iceberg impacts on massive structures. Guichard, A., (1992, Var. p., fre) 47-4885

Role of climate cooling in iceberg production related to Heinrich events. Oerlemans, J., (1993, p.783-786, eng) 47-5127

Iceboats

Lifesaving craft. Kraft, U., (1988, 4 col., eng) 47-3845

Icebound lakes

Some illustrations of roles of lake ice in limnology. Adams, W.P., et al. (1992, p.219-226, eng) 47-4051

Deglaciation and shoreline displacement on Alexandra Land, Franz Josef Land. Glazovskii, A.F., et al. (1992, p.283-293, eng) 47-4340

Palimpsest glacial landscape in northwestern Sweden. Kleman, J., (1992, p.305-325, eng) 47-4342

See also: Frozen lakes

Icebound rivers

Problem of variations in the amount of slush ice in river beds during an icebound period. Alekseenko, R.IA., (1991, p.47-53, rus) 47-1048

Icebound rivers *(cont.)*
Study of ice-covered bend flow. Tsai, W.F., (1991, 207p., eng) 47-1314
Icebreakers
Experimental and theoretical investigation of the icebreaking cycle in two dimensions. Valanto, P.U., (1990, 129p., eng) 47-89
Whales save USCG icebreaker. (1989, p.40-41, eng) 47-105
On the development of small icebreaker. Wilkman, G., et al. (1992, p.138-144, eng) 47-131
Soviet arctic marine transportation 1990. Brigham, L.W., (1991, p.109-110, eng) 47-242
Arctic marine R&D program. Peirce, T.H., (1992, p.119-133, eng) 47-1023
Research on hovercraft and suction bow icebreakers. Hinchey, M.J., et al. (1992, p.243-251, eng) 47-1032
Development of a component-based scaling system for ship-ice model tests. Colbourne, D.B., et al. (1992, p.77-87, eng) 47-1146
Modelling techniques for icebreaking hull forces. Newbury, S., (1991, 18p. + appends., eng) 47-1343
R-class icebreakers: a bibliography. Tillotson, J., (1990, 7p., eng) 47-1345
Some exploratory tests on circular and sidewall air cushion icebreaker bows. Hinchey, M.J., et al. (1990, 60p., eng) 47-1347
Resistance experiments in ice with a scale model icebreaker. Newbury, S., (1992, 7p., eng) 47-1349
Thrust deduction and propulsive coefficients of icebreaking vessels. Drodge, R.M., et al. (1992, 20p. + appends., eng) 47-1359
Icebreaker trials of CCGS *Sir John Franklin*. Williams, F.M., et al. (1991, 13p.+ appends., eng) 47-1362
Full scale deflection of ice by an icebreaker. Gagnon, R.E., et al. (1991, 4p. + appends., eng) 47-1363
Clearing of ice fragments in continuous-mode icebreaking. Hsiung, C.C., et al. (1991, 102p., eng) 47-1371
1:8 R-class model ice tests: resistance and captive experiments. Carroll, W.J., (1990, 11p. + appends., eng) 47-1372
Report on resistance tests of model *Polarstern* in the ice tank. (1990, 8p. + appends., eng) 47-1373
Technique and the results of ice trials of an icebreaking cargo motorship of CA-15 type. Tsoi, L.G., (1992, p.780-782, eng) 47-1874
New propulsion system for a multi-purpose icebreaker. (1993, p.50-51, ger) *47-2150*
Modernization of icebreakers. Petrakov, E., (1992, p.23-25, rus) 47-2906
Icebreaking trials with the polar research vessel *Polarstern*. Schwarz, J., (1985, p.131-133, eng) 47-2913
Effect of the bow form of ships on ice-navigability. Titov, I.A., et al. (1992, p.6-8, rus) 47-2917
Additional resistance of ice-navigating ships to regular head waves. Savin, S.S., et al. (1992, p.9-12, rus) 47-2918
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Statistical studies of wear on the hull plating of ice-navigating ships. Shemendiuk, G.P., et al. (1992, p.28-31, rus) 47-2920
New Finnish-built icebreaker for the Soviet Union. Maclennan, G., (1988, p.182-183, eng) 47-2932
New class of arctic supply ship for the Soviet Union. (1988, p.141, eng) 47-2933
New multipurpose icebreaker proves Finnish shipbuilding know-how. (1992, p.42,44, eng) 47-3138
Ice breaker. Hellmann, J.H., et al. (1989, 8 col., eng) 47-3325
First transit of the Northwest Passage by Russian icebreaker. Splettstoesser, J., et al. (1993, p.148, eng) 47-3443
Stern apron for ice breakers. Varges, G., (1988, 4 col., eng) 47-3768
Breaking the ice. Goldsack, B., (1992, p.22-27, eng) 47-3859
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Oden—a new concept in icebreaker design. (1989, p.E71-E74, eng) 47-4078
Power plants of future icebreakers. Kulikov, A., (1990, p.43-44, rus) 47-4092
Investigation of the icebreaking pattern at the bow of the *IB Kapitan Sorokin on the Yenisei River estuary in May* 1991. Valanto, P.U., (1993, p.127-134, eng) 47-4240
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See also: Ice breaking
Icefalls
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Iceland
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Documentary evidence for changes in the climate of Iceland, A.D. 1500 to 1800. Ogilvie, A.E.J., (1992, p.92-117, eng) 47-2083
Glacio-isostatic crustal movements on an Icelandic ice cap. Sigmundsson, F., et al. (1992, p.2123-2126, eng) 47-2927
Degree-day glacier mass balance modelling. Jóhannesson, T., et al. (1993, 40p., eng) 47-3707
Socioeconomic importance of forests in Iceland. Blöndal, S., (1993, p.1-13, eng) 47-4526
Uses of lignoses in horticulture in Iceland. Pálsson, J., (1993, p.293-297, eng) 47-4544
Icelandic birch genetics and reforestation. Anamthawat-Jónsson, K., et al. (1993, p.357-368, eng) 47-4549
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Bedrock water erosion typified by subglacial flutes. Dreimanis, A., (1993, p.110-112, eng) 47-4852
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Icequakes
Icequakes in Entujökull and Kötlujökull. Brandsdóttir, B., et al. (1989, p.96-98, ice) *47-713*
Tension faults on the Ekström Ice Shelf. Nixdorf, U., (1992, 101p., ger) 47-1437
Investigation of icequakes on the Greenland icesheet near Jakobshavn Icestream, June-July 1980. Qamar, A., et al. (1983, 38p., eng) 47-1688
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Icing
Recommendations for forecasting moderate and heavy *icing in Ukraine.* Volevakha, V.A., et al. (1991, p.48-55, rus) 47-364
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Longbow-Apache field experiment: data report. Bates, R.E., et al. (1992, 53p., eng) 47-701
Glaciation of the Verkhoyansk-Kolyma region. Koreisha, M.M., (1989, 143p., rus) 47-869
Conditions for the formation and forecasting of frontal and air mass icing in the Central Volga region. Maksimovich, S.N., (1991, p.10-13, rus) 47-891
Contact assembly for high-voltage switch. Roman, C.D., et al. (1989, 6 col., eng) 47-3412
Icing problems at Corps projects. Haynes, F.D., et al, (1993, *18p. + figs., eng*) 47-4608
Reliability of guyed masts with special reference to arctic conditions. Johansson, B., et al. (1991, 18p., eng) 47-5011
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See also: Ice detection
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Meteorological conditions for icing on a dirigible. Minervin, V.E., (1992, p.42-60, rus) 47-4657

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Polynomial trend surface analysis applied to AVHRR images to improve definition of arctic leads. Eppler, D.T., et al. (1992, p.197-218, eng) 47-982
Application of nonlinear colour enhancement on transparencies for interpretation of glacier surface characteristics. Cao, M.S., et al. (1992, p.190-192, eng) *47-1110*
Skeletal modeling of ice leads. Banfield, J., (1992, *p.918-923, eng*) 47-1258
Multisource evidential classification of surface cover and frozen ground. Peddle, D.R., et al. (1992, p.3375-3380, eng) 47-1443
Passive microwave remote sensing applied for snow monitoring in a Norwegian test site. Rognes, A., (1992, 60p., eng) 47-1811
River and lake ice conditions as interpreted from microwave imagery. Melloh, R.A., et al. (1992, p.381-395, eng) 47-1914
Automated sea-ice tracking for LIMEX '87 and '89. Hirose, T., et al. (1992, p.173-191, eng) 47-2346
Interpretation of SAR imagery of the Greenland ice sheet using coregistered TM imagery. Bindschadler, R.A., et al. (1992, p.167-175, eng) 47-2554
Measurement of glacier velocity using satellite image data. Scambos, T.A., et al. (1992, p.177-186, eng) 47-2555
Satellite radiometric mapping of glacier surfaces. Parrot, J.F., et al. (1992, p.425-440, eng) 47-2661
Quantitative analysis of sea ice remote sensing imagery. Korsnes, R., (1993, p.295-311, eng) 47-2752
Mathematical approach to the segmentation of sea-ice SAR images. Korsnes, R., (1993, p.313-332, eng) 47-2753
Characterization of spatial statistics of distributed targets in SAR data. Rignot, E.J., et al. (1993, p.345-363, eng) 47-2754
Measurement of falling motion of snowflakes using CCD camera. Muramoto, K., et al. (1992, p.71-76, eng) *47-3006*
Analysis of sea ice compactness by image processing. Muramoto, K., et al. (1992, p.126-131, eng) *47-3012*
Cirrus identification from multichannel satellite data. *Sterliadkina, E.A., et al. (1992, p.729-733, eng)* 47-3158
Change detection on Alaska's North Slope using repeat-pass ERS-1 SAR images. Villasenor, J.D., et al. (1993, p.227-236, eng) 47-3360
Evidence for an antarctic winter coastal polynya. Anderson, P.S., (1993, p.221-226, eng) 47-3652
Algorithms for alpine land cover classification. Peddle, D.R., (1993, p.31-44, eng) 47-3723
Scale and remotely sensed data for change detection in the James Bay, Ontario, coastal wetlands. McNairn, H., et al. (1993, p.45-49, eng) 47-3724
Study of the North Water polynya using passive microwave and infrared imagery. Press, M.J., et al, (1993, p.92-101, eng) 47-3726
Intercomparison of artificial intelligence approaches for polar scene identification. Tovinkere, V.R., et al, (1993, p.5001-5016, eng) 47-3781
Enhancement of microwave images of sea ice. Full, W.E., et al. (1993, p.1-23, eng) 47-3917
Classification of permafrost active layer depth from remotely sensed and topographic evidence. Peddle, D.R., et al. (1993, p.67-80, eng) 47-3918
Estimating snow grain size using AVIRIS data. Nolin, A.W., et al. (1993, p.231-238, eng) 47-3919
Satellite observation of high latitude surface and cloud *types using pattern recognition.* Ebert, E.E., (1988, p.133-136, eng) 47-4201
Clouds over both polar regions from the ISCCP pilot data sets. Raschke, E., et al. (1988, p.137-140, eng) 47-4202
Investigations of arctic ice-sheets and glaciers using ERS-1 SAR. Rees, W.G., et al. (1993, p.263-268, eng) 47-4423
Arctic coastal polynya observations with ERS-1 SAR and DMSP SSM/I. Cavalieri, D.J., et al. (1993, p.295-299, eng) 47-4428
Greenland Sea observations. Gudmandsen, P., et al, (1993, *p.319-323, eng*) 47-4432
ERS-1 SAR use in the Canadian sea ice monitoring program. Shokr, M.E., et al. (1993, p.355-360, eng) 47-4439
Evaluating ERS-1 ice motion and classification products. Fetterer, F.M., et al. (1993, p.373-375, eng) 47-4442
Monitoring of snowcover in high mountain terrain with ERS-1 SAR. Haefner, H., et al. (1993, p.583-588, eng) 47-4446
Evaluation of limits to the performance of the surface roughness meter. Johnson, F., et al. (1993, p.140-145, eng) 47-4591

Feature maps of ice streams C, D, and E, West Antarctica. Scambos, T.A., et al. [1991, p.312-314, eng] 47-4674

Antarctic sea ice mapping using the AVHRR. Zibordi, G., et al. [1993, p.155-163, eng] 47-5060

Identification of clear and cloudy pixels at high latitudes from AVHRR radiances. Sakellariou, N.K., et al. [1993, p.2005-2024, eng] 47-5106

Imaging

Airborne video as satellite imagery ground truthing. Johannessen, B.O., et al. [1992, p.337-349, eng] 47-1040

Imaging

Proceedings of the 1991 Battlefield Atmospherics Conference. [1992, 646p., eng] 47-1067

Thermal reversal tactical decision aid evaluation. Berrick, S.W., et al. [1992, p.75-83, eng] 47-1068

Imaging

Rapid Deployment Imagery Terminal (RDIT) using DMSP special sensor data. Harris, T.L., et al. [1992, p.202-211, eng] 47-1070

Imaging

NMR imaging of roots: effects after root freezing of containerised conifer seedlings. Southon, T.E., et al. [1992, p.329-334, eng] 47-1627

Aircraft observations of the origin and growth of very large snowflakes. Lawson, R.P., et al. [1993, p.53-56, eng] 47-2846

Scattering from boundary protuberances and reverberation imaging. Yang, T.C., [1993, p.231-242, eng] 47-3233

Repeat-pass interferometry with airborne synthetic aperture radar. Gray, A.L., et al. [1993, p.180-191, eng] 47-3359

Magnitude of error factors in estimates of snow-particle masses from images. Detwiler, A.G., et al. [1993, p.804-809, eng] 47-3512

Mapping partial snowcover during the melt season using C-band SAR imagery. Donald, J.R., et al. [1993, p.68-76, eng] 47-3725

Microholographic study of cloud layers. Borrmann, S., et al. [1993, p.277-293, eng] 47-3772

Digital photogrammetric approach to ice-flow determination in Antarctica. Tseng, Y.H., [1992, 139p., eng] 47-3856

Visualization of liquid crystals during solidification. Nishimura, T., et al. [1992, p.456-460, eng] 47-4393

Impact

Underwater sounds of precipitation. Crum, L.A., et al. [1992, p.2-12, eng] 47-513

Ice-floe collisions interpreted from acceleration data during LIMEX '89. McKenna, R.F., et al. [1992, p.246-269, eng] 47-2350

Probabilistic analysis of local ice pressures. Jordaan, I.J., et al. [1993, p.83-89, eng] 47-2668

On the propagation of discontinuities in a drifting ice cover. Marchenko, A.V., [1992, p.346-358, eng] 47-3230

Central pit and dome craters: exposing the interiors of Ganymede and Callisto. Schenk, P.M., [1993, p.7475-7498, eng] 47-3839

Impact strength

Effect of an aerodynamic impact load on ice cover. Filippov, A.M., [1991, p.60-68, rus] 47-1050

Local contact pressures in ship/ice and structure/ice interactions. Masterson, D.M., et al. [1993, p.169-185, eng] 47-2648

Steel selection for arctic ships: effects of elevated loading rate on toughness. Tyson, W.R., et al. [1993, p.261-265, eng] 47-4830

Impact tests

Seasonal soil strength by spectral analysis of surface waves. Alkire, B.D., [1992, p.22-38, eng] 47-517

Ice loads on vertical bridge pier at two different model scales. Christensen, F.T., et al. [1992, p.93-110, eng] 47-585

Plasma emission from high velocity impacts of microparticles onto water ice. Timmermann, R., et al. [1991, p.375-378, eng] 47-2113

Iceberg impact program. Guichard, A., [1991, p.81-87, fre] 47-3181

Newly developed snow vehicle (SM100S) for Antarctica. 3. Sakui, S., et al. [1992, p.393-397, jpn] 47-3365

Shock response of snow. Johnson, J.B., et al. [1993, p.4852-4861, eng] 47-3794

Collision between graupel particles: a field observation and theory. Mizuno, H., et al. [1992, p.1037-1043, eng] 47-4019

Proceedings. Vol.4. Arctic/polar technology. [1993, 219p., eng] 47-4223

Size-effect in indentation-induced splitting floe experiments. Gupta, V., et al. [1993, p.29-34, eng] 47-4227

Analysis of data from indentation tests on freshwater ice. Chin, S.N., et al. [1993, p.73-81, eng] 47-4233

Dynamic analysis of the medium scale hydraulic ice indentation apparatus. Spencer, P.A., et al. [1993, p.105-111, eng] 47-4237

Description of multi-year ice indentation tests at Hobson's Choice Ice Island—1990. Masterson, D.M., et al. [1993, p.145-155, eng] 47-4242

Effects of freezing and moisture on impact properties of glass fiber reinforced RTM parts. Karbhari, V.M., et al. [1992, p.135-142, eng] 47-4627

Iceberg impacts on massive structures. Guichard, A., [1992, Var. p., fre] 47-4885

Impurities

Natural cleaning processes of arctic waters and ice from petroleum hydrocarbons. Il'inskii, V.V., et al. [1991, p.91-101, rus] 47-889

Distribution of aluminium in the Greenland Sea and its relationship to ventilation processes. Measures, C.I., et al. [1992, p.17,787-17,800, eng] 47-1065

Study of oil intrusion influence on physical properties of sea ice. Gavrilo, V.P., et al. [1992, p.666-669, eng] 47-1856

Effect of internal charge distribution in ice crystals on scavenging of aerosol particles. Zhang, R.Y., et al. [1991, p.97-108, eng] 47-2211

Effects of dispersed particulates on the rheology of water ice at planetary conditions. Durham, W.B., et al. [1992, p.20,883-20,897, eng] 47-2293

Technological scheme for removing impurities from biogas. Nekrasov, V.G., [1990, p.30-31, rus] 47-2475

Current tendencies of anthropogenic changes in physical-mechanical properties of natural ice. Paniushkin, A.V., et al. [1991, p.126-129, rus] 47-2801

Analysis of the characteristics of decrease in areas of ice massifs in the Novosibirsk region during summer. Egorov, A.G., et al. [1990, p.15-24, rus] 47-3585

Temperature dependence of ice dielectric relaxation. Bruni, F., et al. [1993, p.538-547, eng] 47-4288

Radar absorption due to impurities in antarctic ice. Corr, H., et al. [1993, p.1071-1074, eng] 47-4562

Isotopic analysis of carbon dioxide from air trapped in polar ice. Lang, S.J., [1991, 148p., eng] 47-4604

Ion chromatography of Greenland ice cores. Legrand, M.R., et al. [1993, p.251-258, eng] 47-4754

Cadmium concentration changes in antarctic ice and snow. Boutron, C.F., et al. [1993, p.431-441, eng] 47-4833

Prevention, response and remediation of petroleum pollution. Kohlmeyer, C.R.C., [1993, p.157-172, eng] 47-5112

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Indexes (ratios)

Refractive indices of water and ice in the 0.65- to 2.5-micron spectral range. Kou, L.H., et al. [1993, p.3531-3540, eng] 47-5147

Indicating instruments

Methods for improving instruments for contact determination of physical-mechanical properties of snow. Bellinson, M.M., et al. [1991, p.97-102, rus] 47-388

Statistical-mathematical processing of data from a land-based network of passive hail indicators. Zhakamikhov, Kh.M., et al. [1991, p.112-122, rus] 47-759

Photoelectric ice accumulation monitor using dual detectors. Rein, R.G., Jr., [1989, 16 col., eng] 47-3328

Process and measuring probe for the determination of ice or snow formation. Meyer, F., [1988, 6 col., eng] 47-3762

Trustworthy simplified vacuum systems. Henry, R.D., [1987, 6 col., eng] 47-3850

Ice detector estimation of atmospheric icing on a cable. McComber, P., et al. [1993, p.305-316, eng] 47-3933

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Indoor climates

Prediction of building energy consumption. Pakanen, J., [1992, 32p. + appends., eng] 47-3134

Industrial buildings

Formation of snow cover on roofs of industrial buildings in Yakutia. Filippov, V.V., et al. [1992, p.136-138, rus] 47-2781

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Infiltration

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Inflatable structures

Numerical modeling of an advanced pneumatic impulse ice protection system for aircraft. Ramamurthy, S., et al. [1992, p.1057-1063, eng] 47-1564

Deicer control system. Phillips, R.W., II, [1988, 6 col., eng] 47-3765

Method and apparatus for deicing a leading edge. Briscoe, J.A., et al. [1987, 14 col., eng] 47-3849

Pneumatic deicers with inextensible threads. Kageorge, P.W., [1987, 8 col., eng] 47-3999

Infrared equipment

Compositional state detection system and method. Sinnar, A.M., [1989, 12 col., eng] 47-3113

Precipitation detection with a scintillation device. Wang, T.I., [1988, 14 col., eng] 47-3637

Optical techniques for the measurement of frazil ice. Pegau, W.S., et al. [1992, p.498-507, eng] 47-3734

Investigations of active infrared detection of pavement icing. Rosen, D.I., et al. [1989, 30p., eng] 47-4902

Using physical methods to predict slippery road conditions. Hertl, S., et al. [1988, 72p., ger] 47-4990

Infrared mapping

Site characterization measurements of background and targets in support of smart weapons testing. Hayward, M., et al. [1993, 96p., eng] 47-4664

Antarctic sea ice mapping using the AVHRR. Zibordi, G., et al. [1993, p.155-163, eng] 47-5060

Infrared photography

Snow temperature response to a buried object. Albert, M.R., et al. [1992, 7p., eng] 47-1144

Aerial roof moisture surveys. Tobiasson, W., [1993, p.18-19, eng] 47-3795

Ice detection during cloudy conditions over the Arctic region using NOAA AVHRR satellite imagery. Alm, G., [1991, p.155-166, eng] 47-4338

Infrared thermography in applied road climatological studies. Gustavsson, T., et al. [1990, 22p., eng] 47-4692

Infrared radiation

Infrared emittance of water clouds. Chýlek, P., et al. [1992, p.1459-1472, eng] 47-410

Effects of small ice crystals on cirrus infrared radiative properties. Takano, Y., et al. [1992, p.1487-1493, eng] 47-411

Angular variation of the infrared emissivity of ice and water surfaces. Rees, W.G., et al. [1992, p.2873-2886, eng] 47-821

Vertical retrieval of solar and infrared irradiances in the stratiform regions of EMEX cloud clusters. Churchill, D.D., [1992, p.1229-1247, eng] 47-1119

Ice threshold in molecular clouds: a diagnostic of the infrared radiation field. Williams, D.A., et al. [1992, p.599-601, eng] 47-1787

Influence of water ice absorption on transmission for a 10.5- to 12.5-micron filter/window. Jacyszyn, F., et al. [1992, p.1952-1954, eng] 47-2234

Microwave signature of firn and sea ice from airborne observations. Yamanouchi, T., et al. [1992, p.16-35, eng] 47-3002

Atmospheric infrared emission measurements at the South Pole. Murcray, F.J., et al. [1991, p.278-281, eng] 47-3058

Identification and yield of carbonic acid and formaldehyde in irradiated ices. DelloRusso, N., et al. [1993, p.5505-5510, eng] 47-3650

Temperature dependence of crystalline methane refractive indices. Ngoh, M.A., et al. [1993, p.5511-5515, eng] 47-3651

Polarized infrared radiation in ice crystals. Takano, Y., et al. [1993, p.1243-1256, eng] 47-4737

Infrared reconnaissance

Stratospheric composition and temperatures poleward of 60N. Remsberg, E.E., et al. [1992, p.13,001-13,014, eng] 47-78

Performance predictions for a passive infrared intrusion detection system. Lacombe, J., [1992, p.133-140, eng] 47-1167

Passive infrared intrusion detection systems. Peck, L., [1992, p.141-144, eng] 47-1168

Surface and airborne infrared detection of sea ice hazards. Worsfold, R.D., [1981, 119p., eng] 47-1315

Emissivity of terrestrial materials in the 8-14 micron atmospheric window. Salisbury, J.W., et al. [1992, p.83-106, eng] 47-1555

Combined infrared emission spectra and radar reflectivity studies of cirrus clouds. Palmer, A.J., et al. [1993, p.64-69, eng] 47-3356

Study of the North Water polynya using passive microwave and infrared imagery. Press, M.J., et al. [1993, p.92-101, eng] 47-3726

Estimating snow grain size using AVIRIS data. Nolin, A.W., et al. [1993, p.231-238, eng] 47-3919

Infrared emissivities of arctic land cover types. Rees, W.G., [1993, p.1013-1017, eng] 47-4070

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Ion pairing in supercooled aqueous solutions. Hage, W., et al. [1992, p.6488-6493, eng] 47-250

Spectroscopic studies of model polar stratospheric cloud films. Tolbert, M.A., et al. [1992, p.1303-1313, eng] 47-1172

Surface-defect vibrational modes of large ice clusters. Rowland, B., et al. [1993, p.2485-2487, eng] 47-3177

Vertical structure and size distributions of Martian aerosols from solar occultation measurements. Chassefière, E., et al. [1992, p.46-69, eng] 47-3923

Mid- and far-infrared spectroscopy of ices: optical constants and integrated absorbances. Hudgins, D.M., et al. [1993, p.713-870, eng] 47-4736

Raman and infrared spectra of hexagonal ice between 0 and 400/cm—a molecular dynamics simulation. Sciortino, F., et al. [1993, p.547-558, eng] 47-4760

Diode laser humidity sensor for cold environments. Phase I. Final technical report. Stanton, A.C., et al. [1988, 35p., eng] 47-4861

Refractive indices of water and ice in the 0.65- to 2.5-micron spectral range. Kou, L.H., et al. [1993, p.3531-3540, eng] 47-5147

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Insolation
Microclimate of an interlobate complex in western Finland. Rajakorpi, A., [1984, p.237-337, eng] 47-10
What were the primary forcing mechanisms of high-frequency Holocene climate and glacier variations. Nesje, A., et al. [1992, p.79-84, eng] 47-53
Net energy budget over a snow surface. Upadhyay, D.S., et al. [1985, p.129-143, eng] 47-566
Paleoclimatology of continental ice sheet in response to CO2 variations. Gallée, H., et al. [1992, p.15,713-15,740, eng] 47-998
Climatic factors and snow surface energy exchange, pt.2. Marks, D., et al. [1992, p.3043-3054, eng] 47-1477
Model of potential direct solar radiation for investigating occurrences of mountain permafrost. Funk, M., et al. [1992, p.139-142, eng] 47-1753
Permafrost occurrence from BTS measurements and climatic parameters in the eastern Swiss Alps. Hoelzle, M., [1992, p.143-147, eng] 47-1754
Note on ground thermal regimes and global solar radiation at 4720 m a.s.l., High Andes of Argentina. Happoldt, H., et al. [1992, p.241-245, eng] 47-1778
Ice particle emission from cometary analogues. Kohl, H., et al. [1991, p.257-260, eng] 47-2112
Hemispherical asymmetry in the Martian polar caps. Lindner, B.L., [1993, p.3339-3344, eng] 47-2671
Recent temperature trends: are they reinforced by insolation shifts. Kukla, G.J., et al. [1992, p.291-305, eng] 47-2841
Framework for interpreting paleoclimatic variations in eastern Beringia. Bartlein, P.J., et al. [1991, p.73-83, eng] 47-3481
Insolation effects on last interglacial climate. Kutzbach, J.E., et al. [1991, p.223-229, eng] 47-3492
Astronomical theory of glaciation cycles. Grieger, B., [1990, p.81-96, eng] 47-3575
Paleoclimate sensitivity to glacial ice cover. deMenocal, P.B., et al. [1993, p.7265-7287, eng] 47-3831
Glaciation and deglaciation mechanisms in a coupled two-dimensional climate—ice-sheet model. Berger, A., et al. [1993, p.45-49, eng] 47-3939
Solar-heating rates and temperature profiles in antarctic snow and ice. Brandt, R.E., et al. [1993, p.99-110, eng] 47-3944
Katabatic flow thermodynamics of Adélie Coast. Pettré, P., et al. [1993, p.10,429-10,440, eng] 47-4292
Cloud-ice-vapor feedbacks in a global climate model. Jentsch, V., [1987, p.417-437, eng] 47-4456
Evolution of a porous H2O-CO2-ice sample in response to irradiation. Steiner, G., et al. [1993, p.9065-9073, eng] 47-4508
Model comet made from mineral dust and H2O-CO2 ice: sample preparation development. Roessler, K., et al. [1990, p.379-388, eng] 47-4567
Crustal evolution and dust emission of artificial cometary nuclei. Thiel, K., et al. [1990, p.389-399, eng] 47-4568
Particle emission from artificial cometary surfaces: material science aspects. Kochan, H., et al. [1990, p.401-411, eng] 47-4569
New results of the dust investigation in the comet simulation project KOSI. Thiel, K., et al. [1991, p.579-589, eng] 47-4634
Laboratory simulation of a cometary nucleus: experimental setup and first results. Kochan, H., et al. [1989, p.487-492, eng] 47-5124
Modelling the last ice-age cycle with 2-D climate models. Herterich, K., et al. [1993, p.107-116, eng] 47-5267
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Instruments
Development of laser ice-cutting apparatus. Zeller, E.J., et al. [1991, p.89-91, eng] 47-2474
Microorganisms in the antarctic ice. Abyzov, S.S., [1993, p.265-295, eng] 47-4596
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Insulation
Multilayered insulation ensuring human activity in extreme climatic conditions. Bosniatskii, G.P., et al. [1991, p.33, rus] 47-2477
Landfast ice thickness variations in the Canadian High Arctic. Brown, R.D., et al. [1992, p.273-284, eng] 47-3321
Effects of a straw mulch on the thermal conditions in soil after snow-cover loss. Gusev, E.M., et al. [1993, p.12-23, eng] 47-4012
Ice accretion on energized line insulators. Farzaneh, M., et al. [1992, p.228-233, eng] 47-4307
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See also: Water intakes

Interfaces
Comparison between wave propagation in water-saturated and air-saturated porous materials. Albert, D.G., [1993, p.28-36, eng] 47-1678
Sea ice and atmospheric forcing interacting models. Stössel, A., [1992, p.395-413, eng] 47-1900
Aerodynamic effects of deicing and anti-icing fluids. Reinmann, J.J., et al. [1993, p.8-9, eng] 47-3310
Interfacial separator for concrete structures. Dahowski, D.E., [1988, 8 col., eng] 47-3640
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Interfacial tension
Internal melting and ice accretion at the bottom of temperate glaciers. Lliboutry, L.A., [1993, p.50-64, eng] 47-3940

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Internal friction
Influence of snow viscosity on forced flexural-gravity waves in a basin with a density jump. Bukatov, A.E., et al. [1992, p.259-266, eng] 47-781
Two-dimensional extrusion of crushed ice. Part 1: experimental. Sayed, M., et al. [1992, p.25-36, eng] 47-801
Two-dimensional extrusion of crushed ice. Part 2: analysis. Savage, S.B., et al. [1992, p.37-47, eng] 47-802
Tutorial on the use of control methods in ice-sheet modeling. MacAyeal, D.R., [1993, p.91-98, eng] 47-3943

International cooperation
New directions in arctic research. Urponen, K., [1989, 4p., eng] 47-428
Report and recommendations, [1991, 34p. + append., eng] 47-432
In the Inari Arctic at the edge of Europe. Heininen, L., ed. [1991, 99p., fin] 47-433
International law and the Antarctic Treaty System. Watts, A., [1992, 469p., eng] 47-1243
Information resources of the northern regions of Russia: status and availability problems. Vinogradov, A., [1992, p.325-329, eng] 47-1410
Earth's ozone shield and its variation. Aleksandrov, E.L., et al. [1992, 288p., rus] 47-1501
International environmental politics and ozone depletion. Litfin, K.T., [1992, 474p., eng] 47-2046
Comprehensive protection measures on antarctic environment. Yoshida, Y., [1992, p.51-56, jpn] 47-3623
Antarctic science conference, Germany, 1991. Kanda, H., [1992, p.57-60, jpn] 47-3624
State of the arctic environment: updated draft proposal for AMAP. Reiersen, L.O., [1992, p.391-403, eng] 47-3721
Results of the Third Joint US-USSR Bering & Chukchi Seas Expedition (BERPAC), Summer 1988. Nagel, P.A., ed. [1988, 415p., eng] 47-3864
Arctic exploration & international relations 1900-1932. Fogelson, N., [1992, 220p., eng] 47-3865
Chronology of the International Northern Sea Route Project. Simonsen, H., [1992, p.26-33, eng] 47-4211
Northern Sea Route: a new era in Soviet policy?. Østreng, W., [1991, p.259-287, eng] 47-4217
International and American efforts to coordinate glaciological programs. Field, W.O., [1991, 17p., eng] 47-4643
Arctic: arena for international environmental security?. Kolodkin, A., et al. [1993, p.277-289, eng] 47-4727
Arctic and the rest. Jörgensen-Dahl, A., [1991, p.55-61, eng] 47-4859
Effects of global changes on social life in the Arctic and possible response strategies. Lange, M.A., ed. [1993, 64p., eng] 47-4877
Arctic environmental cooperation after Rovaniemi—what now. Stokke, O.S., [1992, p.221-234, eng] 47-4901
Summary report of the Working Group on Legal, Economic and Policy Priorities. Lamb, J.M., [1993, p.17-26, eng] 47-5017
Problems of evaluation and management of risk of radioactive contamination of oceans. Protsenko, A.N., et al. [1993, p.425-438, eng] 47-5046
International Arctic Seas Assessment Project IASAP (1993-1996). Sjoeblom, K.-L., et al. [1993, p.443-447, eng] 47-5048
Certain legal issues concerning prevention of radioactive pollution of the arctic marine environment from land-based sources. Barsegov, IU., [1993, p.523-534, eng] 47-5051
Framework for a regional environmental regime for the Arctic. Chircop, A., [1993, p.535-540, eng] 47-5052
London Convention and radioactive waste dumping at sea: a global treaty regime in transition. Curtis, C., [1993, p.541-555, eng] 47-5053
Use of ALARA in decision making on costly international cleanup effort of radioactive contamination. Kuz'min, I.I., et al. [1993, p.573-584, eng] 47-5055
Some aspects of radioactive wastes dumping: international regulation. Menshikov, V.F., et al. [1993, p.585-594, eng] 47-5056
Environmental security and governance issues in the Arctic Ocean. Perelet, R., [1993, p.595-601, eng] 47-5057

Introduced plants
Use of trees and shrubs for control of blowing snow in select locations along Wyoming highways. Powell, K., et al. [1992, 30p., eng] 47-4214
Forest development in cold climates. Alden, J., ed. [1993, 566p., eng] 47-4525
Socioeconomic importance of forests in Iceland. Blöndal, S., [1993, p.1-13, eng] 47-4526
Treeline in relation to climate, with special reference to oceanic areas. Tuhkanen, S., [1993, p.115-134, eng] 47-4534
Pliocene fossil *Nothofagus* (southern beech) from Antarctica. Webb, P.N., et al. [1993, p.135-165, eng] 47-4535
Predicting afforestation success during climatic warming at the northern limit of forests. Solomon, A.M., et al. [1993, p.167-188, eng] 47-4536
Genetic diversity of tree populations at their arctic limits. Tigerstedt, P.M.A., [1993, p.241-250, eng] 47-4540
Potential species and provenances for forest development in cold climates. Hagman, M., [1993, p.251-263, eng] 47-4541
Species and provenance choice at northern tree limits in maritime climates. Lines, R., [1993, p.265-276, eng] 47-4542
Seed collections from North American trees for marginal sites in the Nordic countries. Skaret, G., et al. [1993, p.277-291, eng] 47-4543
Uses of lignoses in horticulture in Iceland. Pálsson, J., [1993, p.293-297, eng] 47-4544
Accelerating adaptation of trees at tree limits by selective breeding. Lindgren, D., [1993, p.299-320, eng] 47-4545
Selection and breeding of Scots pine for northern Sweden. Nilsson, J.E., [1993, p.321-332, eng] 47-4546
Provenance and individual variation in climatic hardiness of Scots pine in northern Finland. Mikola, J., [1993, p.333-342, eng] 47-4547
Hybridization among provenances of lodgepole pine. Fries, A., [1993, p.343-356, eng] 47-4548
Genetic variation in early frost tolerance of spruce from northwestern North America. Dietrichson, J., [1993, p.383-391, eng] 47-4551
History of tree planting on the Aleutian Islands. Bruce, D., [1993, p.393-426, eng] 47-4552
Afforestation of spruce in the Vesteraalen Islands, Norway. Kaasen, N.O., et al. [1993, p.427-436, eng] 47-4553
Forest and arboretum development in Norway. Slettjord, S., [1993, p.437-451, eng] 47-4554
Forest development in Iceland. Loftsson, J., [1993, p.453-461, eng] 47-4555
Potential tree line in the Faroe Islands. Leivsson, T.G., [1993, p.463-474, eng] 47-4556
Forest trials at high elevations in Britain. Nixon, C.J., et al. [1993, p.475-489, eng] 47-4557
Alpine timberline of Tibet. Li, B.S., [1993, p.511-527, eng] 47-4559
Forestry in New Zealand's southern high country. Ledgard, N.J., [1993, p.529-548, eng] 47-4560
Grass plants in Yakutia. Petrova, A.N., [1990, 125p., rus] 47-4654

Inversions
See also: Temperature inversions

Ion density (concentration)
Soluble ions in a snow pit on Nelson I. Qin, D.H., et al. [1993, p.312-316, eng] 47-3096
Dielectric study of frozen aqueous ionic solutions. Laudat, J., et al. [1991, p.211-224, eng] 47-3998
Ion chromatography of Greenland ice cores. Legrand, M.R., et al. [1993, p.251-258, eng] 47-4754
Chemical composition of snow near a mining plant. Lazareva, I.P., et al. [1993, p.79-86, eng] 47-5193

Ion density (concentration) 740 $See also: Hydrogen ion concentration

Ion diffusion
Cation export from Alaskan arctic watersheds. Cornwell, J.C., [1992, p.15-22, eng] 47-1600
Acidification potential of snowpack in Sierra Nevada—discussion. Bales, R.C., et al. [1993, p.399-403, eng] 47-4010
Proton transfer in ice. Lee, C., et al. [1993, p.279-284, eng] 47-4856

Ion exchange
Oscillation of the freezing potential of aqueous lithium chloride solutions containing ethanol. Ozeki, S., et al. [1992, p.2511-2516, eng] 47-461
Chemical thermodynamics of cation exchange reactions. Grant, S.A., et al. [1993, p.1-108, eng] 47-2222
Snowmelt-induced stream acidity in a subarctic catchment. Davies, T.D., et al. [1993, p.267-300, eng] 47-4171

Ionization
Model of heterogeneous nucleation on polar stratospheric clouds. Nelson, C.M., et al. [1992, p.6112-6115, eng] 47-248
Far-IR study of irradiated amorphous ice: an unreported oscillation between amorphous and crystalline phases. Hudson, R.L., et al. [1992, p.6500-6504, eng] 47-251
Model calculations of Auger energy shifts in liquid water and ice. Knuts, S., et al. [1992, p.95-103, eng] 47-1675
Detection of radical pairs in glassy systems. Harrison, N., et al. [1993, p.59-61, eng] 47-2110

Plasma emission from high velocity impacts of microparticles onto water ice. Timmermann, R., et al. [1991, p.375-378, eng] 47-2113

Physical and chemical effects induced by fast ions in ices of astrophysical interest. Pirronello, V., [1991, p.263-303, eng] 47-2313

O2 electron attachment resonances on amorphous ice surfaces. Huels, M.A., et al. [1993, p.340-346, eng] 47-5191

Ions

Ion pairing in supercooled aqueous solutions. Hage, W., et al. [1992, p.6488-6493, eng] 47-250

Transfer of ions within the system soil-snow and the role of ice surface in their migration. Ostroumov, V.E., et al. [1992, p.127-135, eng] 47-1717

Effect of freeze-thaw processes on calcium ion mobility in the example of brown forest soil. Gurikov, IU.V., et al. [1991, p.57-60, rus] 47-4810

Behavior of artificial radionuclides in seawater. Khodakovskii, I.L., et al. [1993, p.213-223, eng] 47-5032

Iran

Snowmelt runoff forecasting: case study of Karadj reservoir, Iran. Mashayekhi, T., et al. [1991, p.213-220, eng] 47-1308

Glaciers of Iran. Ferrigno, J.G., [1991, p.G31-G47, eng] 47-3824

Irrigation

Creating naleds for water supply and irrigation in valleys of freezing rivers. Vdovin, IU.I., [1991, p.225-233, rus] 47-2452

Cultivation practice influence on conifer seedling frost tolerance. Calmé, S., et al. [1993, p.503-511, eng] 47-3844

Islands

See also: Artificial islands; Ice islands

Isostasy

Postglacial deformation. James, T.S., [1991, 198p., eng] 47-291

Asthenospheric ice-load effects in a global dynamical-system model of the Pleistocene climate. Saltzman, B., et al. [1992, p.1-11, eng] 47-1791

Postglacial emergence in the Canadian High Arctic: integrating glacioisostasy, eustasy, and late deglaciation. England, J., [1992, p.984-999, eng] 47-1796

Hudson Bay free-air gravity anomaly and glacial rebound. James, T.S., [1992, p.861-864, eng] 47-2598

Shoreline shrub development in relation to isostatic rebound. von Mörs, I., et al. [1993, p.15-23, eng] 47-3423

Observations of postglacial uplift at Churchill, Manitoba. Tushingham, A.M., [1992, p.2418-2425, eng] 47-3716

Comparison of VLBI data with the ICE-3G glacial rebound model. James, T.S., et al, [1993, p.871-874, eng] 47-4631

Neoglacial change of ice cover and the related response of the Earth's crust in West Greenland. Weidick, A., [1993, p.121-126, eng] 47-4921

Isothermal chambers

See also: Cold chambers

Isotherms

Finite element modelling of natural-convection-controlled change of phase. Usmani, A.S., et al. [1992, p.1019-1036, eng] 47-193

Evaluating the possibility of using hail prevention shells and rockets in high-mountain regions. Dubinin, B.N., et al. [1991, p.156-160, rus] 47-764

Effects of natural convection on ice formation inside a horizontal cylinder. Chen, S.L., et al. [1992, p.131-145, eng] 47-790

Initial instrument measurements of the current in the region of the cold bottom water dome in the Greenland Sea. Alekseev, G.V., et al. [1992, p.165-168, rus] 47-3815

Space and time regularities in the thermal state of waters in the northern European basin. Romantsov, V.A., et al. [1991, p.24-43, rus] 47-3956

Onset and evolution of penetrative convection during the melting process in a porous medium. Nguyen, T.H., et al. [1992, p.381-392, eng] 47-4708

Isotope analysis

Review of isotopic techniques for snow and glacier hydrology of mountain watersheds. Bahadur, J., [1985, p.64-75, eng] 47-562

Short review on the potentialities of isotope techniques in snow hydrology. Jain, S.K., et al. [1985, p.144-150, eng] 47-567

Investigations of Himalayan glaciers using radioactive and stable isotopes: a review. Nijampurkar, V.N., et al. [1985, p.174-179, eng] 47-570

Simulation of oxygen isotope variations in atmospheric flow. Fisher, D.A., [1992, p.61-77, eng] 47-804

Stable isotope distribution in the Cazadora Glacier. Eraso, A., et al. [1989, p.50-60, spa] 47-812

Isotopic peculiarities of meteoric water in polar regions. Wetzel, K., [1990, p.52-56, eng] 47-874

Accumulation on the Filchner and Ronne Ice Shelves. Moser, H., et al. [1990, p.57-71, ger] 47-875

(Mu)SR studies of ice, illustrating the positive muon as a magnetic resonance probe of structure and dynamics. Cox, S.F.J., [1992, p.292-296, eng] 47-981

Defining the boundaries of the Late-Glacial isotope episodes. Broecker, W.S., [1992, p.135-138, eng] 47-986

Periglacial geomorphology in the Netherlands. Vandenberghe, J., [1992, p.65-75, eng] 47-1006

Halocarbon ratio and tritium/He-3 dating of water masses in the Nansen Basin, Arctic Ocean. Wallace, D.W.R., et al, [1992, p.S435-S458, eng] 47-1273

Cosmogenic nuclides in ice sheets. Lal, D., et al, [1992, p.227-233, eng] 47-1478

Supernova shock ensemble model using Vostok Be-10 radioactivity. Sonett, C.P., [1992, p.239-245, eng] 47-1480

Carbonate isotopic composition of the loess-paleosol sequence and its implication of paleoclimatic change. Gu, Z.Y., [1991, p.1979-1983, eng] 47-1951

Measurement of helium isotopes in Vostok ice core. Jean-Baptiste, P., et al, [1993, p.491-497, fre] 47-3041

Origin of ground ice in arctic caves. Lauriol, B., et al, [1993, p.77-85, eng] 47-3119

Hydrogen and oxygen isotopes and the origin of the ice in peat plateaus. Harris, S.A., et al, [1992, p.19-27, eng] 47-3123

Land-ocean-atmosphere relationships during last interglacial. Anderson, P., et al, [1991, p.29-48, eng] 47-3479

Isotope stage 5 (130-74 ka) in Greenland—a review. Funder, S., et al, [1991, p.107-122, eng] 47-3484

Last interglacial as recorded in the Greenland ice sheet and Canadian arctic ice caps. Reeh, N., [1991, p.123-142, eng] 47-3485

Proceedings, [1992, 344p., eng] 47-3555

Strength of the Nordic heat pump. Broecker, W.S., [1992, p.173-181, eng] 47-3557

Reconstructed paleoclimatic meltwater anomalies. Sarnthein, M., et al, [1992, p.183-200, eng] 47-3558

Reconstruction of paleoclimatic sea surface salinity. Duplessy, J.-C., et al, [1992, p.201-217, eng] 47-3559

Ice-core evidence for a Holocene meltwater cap. Fisher, D.A., [1992, p.267-293, eng] 47-3560

Mathematical analysis of ice-water isotopic relationships. Burn, C.R., et al, [1993, p.109-112, eng] 47-3786

Basal ice accretion and debris entrainment within the coastal ice margin, Law Dome, Antarctica. Goodwin, I.D., [1993, p.157-166, eng] 47-3949

Constraints on ice-sheet thickness over Tibet during the last 40,000 years. Gupta, S.K., et al, [1992, p.283-290, eng] 47-4022

Green iceberg formation on antarctic ice shelf bases. Warren, S.G., et al, [1993, p.6921-6928, eng] 47-4138

Correlation between ice core isotope levels and air temperature. Jones, P.D., et al, [1993, p.14-26, eng] 47-4143

Submarine rock diagenesis as exposed on Ellesmere I. Davies, G.R., et al, [1990, 77p., eng] 47-4365

Marine sediment records of Pleistocene climate. Birchfield, G.E., et al, [1993, p.10,385-10,399, eng] 47-4392

Modeling the *delta*O-18-derived record of Quaternary climatic change with low dynamical systems. Saltzman, B., [1987, p.355-380, eng] 47-4453

Ice sheet dynamics and the Pleistocene ice ages. Birchfield, G.E., [1987, p.381-398, eng] 47-4454

Relaxation oscillator model of the ice age cycle. Peltier, W.R., [1987, p.399-416, eng] 47-4455

Climate instability indicated in a 250-kyr ice core record. Dansgaard, W., et al, [1993, p.218-220, eng] 47-4572

Distribution of *delta*D in snow on the longest antarctic traverse route. Qin, D.H., et al, [1993, p.375-384, eng] 47-4600

Isotopic analysis of carbon dioxide from air trapped in polar ice. Lang, S.J., [1991, 148p., eng] 47-4604

Isotope tracing of sulfate trends in Colorado lakes. Turk, J.T., et al, [1993, p.415-431, eng] 47-4759

Isotopic geochemistry of an ice-covered antarctic lake. Wharton, R.A., Jr., et al, [1993, p.159-172, eng] 47-4906

Palaeo-environmental studies on the Greenland ice sheet margin. Reeh, N., et al, [1993, p.66-68, eng] 47-4919

Isotope dating of Taylor Glacier moraines. Brook, E.J., et al, [1993, p.11-23, eng] 47-5202

Global beryllium 10 cycle. McHargue, L.R., et al, [1991, p.141-158, eng] 47-5261

Isotopes

Effect of Be-10 deposition at Vostok during the last 50 ky. Raisbeck, G.M., et al, [1993, p.127-139, eng] 47-2864

Be-10 peaks as time markers in polar ice cores. Beer, J., et al, [1993, p.141-153, eng] 47-2865

Source of lead in Greenland snows. Rosman, K.J.R., et al, [1993, p.333-335, eng] 47-2891

Dynamics of tritium deposition from precipitation over the USSR and its removal into seas. Katrich, I.IU., [1991, p.90-93, eng] 47-5198

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Italy

Snow-meteorological yearbook of the Veneto Region mountains, 1988. Cagnati, A., ed. [1989, 209p., ita] 47-840

Snow-meteorological yearbook of the Veneto Region mountains, 1989. Cagnati, A., ed. [1990, 239p., ita] 47-841

Snow-meteorological yearbook of the Veneto Region mountains, 1991. Cagnati, A., ed. [1991, 247p., ita] 47-842

Mountain rescue by the Customs Service. Moretti, B., [1992, p.16-23, eng] 47-1318

New perspectives on the survival chances of a person buried in an avalanche. Brugger, H., et al, [1992, p.24-31, eng] 47-1319

Avalanche studies in Italy. Peretti, G., [1992, p.40-47, eng] 47-1321

Snow-meteorological yearbook of the Veneto mountain region, 1985-1986-1987. Cagnati, A., ed. [1988, 249p., ita] 47-1484

Reconstructing the climate of northern Italy from archive sources. Camuffo, D., et al, [1992, p.143-154, eng] 47-2085

Three historical data series on floods and anomalous climatic events in Italy. Pavese, M.P., et al, [1992, p.155-170, eng] 47-2086

Meteorological trends in the Italian Alps during the 1991-92 winter season. Kerkmann, J., et al, [1992, p.8-19, ita] 47-2615

Avalanches in the Italian Alps in the winter of 1991-92 [1992, p.20-63, ita] 47-2616

Snow and avalanches in the Dolomites and Veneto Fore-alps, winter season 1991-92. Cagnati, A., et al, [1993, 45p., ita] 47-3153

—Lombardy

Snow surveys for ski-lift managers in avalanche hazard areas. Bariffi, A., [1993, p.26-37, ita] 47-4702

Japan

Studded tires, chemical deicers, and road heating in Japan. Konagai, N., et al, [1992, 12p., eng] 47-962

Study on road construction for the 21st century in snowy and cold regions. [1991, p.5-24, jpn] 47-2530

Traffic in mountainous areas of snowy and cold regions. Hirasawa, M., et al, [1991, p.39-44, jpn] 47-2532

Practical examples with a personal computer for road management data. Chiba, T., [1991, p.121-124, jpn] 47-2538

Investigations on snow disasters and development of a disaster potential index. Ito, T., [1992, p.147-156, eng] 47-3195

Re-application of traditional architectural schemes in the snow country. Mizuno, I., [1992, p.365-371, eng] 47-3214

Radar echoes of winter monsoon affected by mountains. Nakai, S., et al, [1992, p.1-23, jpn] 47-3294

Variation of perennial snow patch "Hamaguri-yuki" from 1967 to 1991. Ohata, T., et al, [1993, 43p., eng] 47-3906

Study on predicting snow avalanches. Oka, K., [1990, p.1-4, jpn] 47-4679

Research summaries. [1993, 107p., jpn] 47-4794

Summary of damages and countermeasures in the snowstorms of 1984. Takahashi, T., [1984, p.30-34, jpn] 47-5063

Status of road snow removal in the snowstorms of 1984. Iina, I., [1984, p.35-39, jpn] 47-5064

Safeguarding of high speed highways. Hirai, M., [1984, p.40-44, jpn] 47-5065

Safeguarding traffic on the snowy stretches of National Highway 17 during the 1984 snowstorms. Aoki, S., [1984, p.45-50, jpn] 47-5066

Snowdrifts on National Highway 7. Kuroki, M., [1984, p.51-57, jpn] 47-5067

Looking back at the snowstorms of 1984. Iwatani, T., [1984, p.64-68, jpn] 47-5069

Current status and countermeasures in isolated communities. [1984, p.69-74, jpn] 47-5070

Looking back at the snowstorms of 1984. Ima, M., [1984, p.75-79, jpn] 47-5071

Study on winter traffic volume. Seki, N., et al, [1984, p.101-106, jpn] 47-5076

Estimated budget requirements for snow and cold weather operations for 1985. Iina, I., [1984, p.111-112, jpn] 47-5078

Frost heave damage to roads from abnormally low temperatures. Ito, N., [1985, p.73-76, jpn] 47-5086

Winter in Yuzawa. Kawakami, A., [1985, p.106-111, jpn] 47-5091

Bulletin on the budget for snow and cold weather operations for 1985. Iina, I., [1985, p.123, jpn] 47-5093

Road snow removal in Hokuriku regional construction. Yasui, K., et al, [1985, p.42-48, jpn] 47-5098

Shinjo Branch of the National Research Center for Disaster Prevention Science and Technology. Nakamura, T., [1985, p.53-60, jpn] 47-5100

Roads of Hida in snow. Sone, I., et al, [1985, p.72-76, jpn] 47-5102

Bulletin on road snow removal in the 1985 snowstorms. Iina, I., [1985, p.82-83, jpn] 47-5104

Avalanche countermeasures. Sato, K., [1985, p.27-31, jpn] 47-5150

Avalanche countermeasures in the Tsuchidaru stretch of the Kanetsu Highway. Tsukada, C., et al, [1985, p.32-36, jpn] 47-5151

Japan *(cont.)*

Selection of tree species and patterns of planting for snowy regions. Oie, T., (1985, p.75-81, jpn) 47-5158

Characteristics and problems of snow and ice countermeasures on the Meishin Expressway. Kawashima, T., (1985, p.82-92, jpn) 47-5159

Final breakdown of budget items for snow and cold weather operations in 1983 and 1984. Iina, I., (1985, p.98-99, jpn) 47-5161

Model operations for towns of the north—surface layout of snow removal drains. Honda, M., (1985, p.34-39, jpn) 47-5165

Mechanical snow removal operations on temporary two-lane sections. Tono, A., et al, (1985, p.67-71, jpn) 47-5171

Snow removal in Fukui. Horikawa, I., (1985, p.72-76, jpn) 47-5172

Estimated budget requirements for snow and cold weather operations for 1986. Iina, I., (1985, p.85-86, jpn) 47-5174

Building snowproof cities (Aomori City). Nishiue, H., (1986, p.9-12, jpn) 47-5176

Snowproofing measures in Tonami City. Fukuda, M., (1986, p.46-53, jpn) 47-5180

Snow and ice operations in the mountains and highways of Chugoku. Nagata, Y., et al, (1986, p.85-92, jpn) 47-5185

Bulletin on the budget for snow and cold weather operations for 1986. Fujieda, H., (1986, p.99, jpn) 47-5189

—Aomori Prefecture

Snow removal in Hakkodata. Kudo, N., (1986, p.75-84, jpn) 47-5184

—Fukushima Prefecture

Avalanche countermeasures in Fukushima Prefecture. Hamazu, F., (1985, p.37-44, jpn) 47-5152

Summary of avalanche countermeasure operations in Fukushima Prefecture. (1985, p.45-52, jpn) 47-5153

—Hokkaido

New sea ice normals (1961-90) and the latest sea ice condition in the Sea of Okhotsk. Kamihira, E., et al, (1992, p.27-29, jpn) 47-109

Relation between atmospheric and ice conditions along the Okhotsk Sea coast of Hokkaido. Murai, K., et al, (1992, p.41-46, jpn) 47-113

Field survey of freezing in ports. Yamamoto, Y., et al, (1992, p.81-85, jpn) 47-120

Study on the improvement of the airport functions in cold regions (Part 1). Hirasawa, M., et al, (1992, p.145-149, jpn) 47-132

Ice algae in Lake Saroma: review. Taguchi, S., (1992, p.211-220, eng) 47-141

Air temperature fluctuations in Hokkaido and Okhotsk Sea ice. Honda, A., et al, (1992, p.307-310, jpn) 47-156

Availability of MSR data for snow water estimation. Suzuki, M., et al, (1990, p.189-196, jpn) 47-885

MOS-1 and radar observation of snow clouds. Koike, T., et al, (1990, p.197-203, jpn) 47-886

Report on the water shortage of 1990. Satoh, T., et al, (1991, p.55-60, jpn) 47-2518

Application of chemicals for snowy and icy road surfaces in Hokkaido. Miyamoto, S., et al, (1991, p.131-136, jpn) 47-2540

Some characteristics of alpine permafrost, Mt. Daisetsu, central Hokkaido, northern Japan. Fukuda, M., et al, (1992, p.159-167, eng) 47-4325

Outline of the Civil Engineering Research Institute, 1992. (1992, 37p., jpn) 47-4689

Roads in Hokkaido. (1992, 27p., eng) 47-4690

Safeguarding the main roads in Hokkaido. Bando, T., (1984, p.58-63, jpn) 47-5068

Snow countermeasure operations at the Hokkaido Development Bureau. Bando, T., (1985, p.21-28, jpn) 47-5095

Traffic flow on local two lane roads in Hokkaido. Ogino, H., et al, (1985, p.49-52, jpn) 47-5099

Avalanche countermeasures in Hokkaido. Takeuchi, M., (1985, p.22-26, jpn) 47-5149

—Misawa Air Base

Misawa snow accumulation study. Schaub, W.R., Jr., (1991, 20p., eng) 47-3818

—Nagaoka

Road snow removal in Nagaoka in the snow belt. Nishikata, M., (1985, p.29-32, jpn) 47-5096

—Niigata Prefecture

Snow countermeasures in Joetsu City. (1985, p.45-49, jpn) 47-5167

—Sapporo

Snow removal in Sapporo City. Segawa, T., (1984, p.80-84, jpn) 47-5072

Sapporo Road Office. Oyama, S., (1984, p.107-110, jpn) 47-5077

—Yamagata Prefecture

Snow removal in Yamagata Prefecture. (1985, p.33-41, jpn) 47-5097

Japan, Sea

Ice forecast in the Japan and Okhotsk Seas. Plotnikov, V.V., (1992, p.351-354, eng) 47-163

Jet engines

Swirl anti-ice system. Rosenthal, H.A., (1987, 6 col., eng) 47-3853

Jets

See also: Hydraulic jets

Joints (junctions)

Effect of temperature on the strength of adhesive joints. Adams, R.D., et al, (1992, p.185-190, eng) 47-878

Bench testing of joints in machinery—the basis for competitive engineering. Mikheenko, V.V., (1990, p.27-29, rus) 47-1419

Low temperature tests of unshaped truss joints with T-belts and a crossed grate of single angles. Volkov, V.V., (1990, p.122-125, rus) 47-2760

Drag reduction of a cylinder/endwall junction using the ice formation method. LaFleur, R.S., et al, (1993, p.26-32, eng) 47-4021

Kaolinite

See also: Clay minerals

Karst

Pleistocene glaciation and karst potholes. Ljesevic, M., (1991, p.147-150, eng) 47-29

Karstic denudation and tufas deposits in high alpine mountains (Alpes, France). Chardon, M., (1992, p.19-38, eng) 47-742

Record of the 1988-1989 expedition at the Spanish Juan Carlos I Station. Eraso, A., et al, (1989, p.3-22, spa) 47-808

Problem of palaeokarst in Tibet. Sweeting, M.M., et al, (1991, p.316-325, eng) 47-3780

See also: Thermokarst

Kerguelen Islands

Glacier fluctuation relation to moraine cushion plant variation. Frenot, Y., et al, (1993, p.140-144, eng) 47-5269

Kerguelen Plateau

Evidence for east antarctic continental glaciation. Breza, J.R., et al, (1992, p.161-178, eng) 47-2459

Labor costs

See also: Work time standards

Laboratories

Performance of the *Nathaniel B. Palmer* in ice. Sutherland, A.L., et al, (1993, p.300-309, eng) 47-5117

Laboratory techniques

Controlling nucleation in protein solutions. DeMattei, R.C., et al, (1992, p.21-30, eng) 47-769

Laboratory studies of hydraulic resistance to ice jams. Kiselev, A.A., (1991, p.30-37, rus) 47-1046

Mechanical properties of undisturbed Tone River gravel obtained by *in situ* freezing method. Goto, S., et al, (1992, p.15-25, eng) 47-1190

Image contrast in high-resolution electron microscopy of biological macromolecules: TMV in ice. Henderson, R., (1992, p.1-18, eng) 47-1676

Scanning electron microscopy of ice cream. 1. Caldwell, K.B., et al, (1992, p.1-9, eng) 47-2014

Optimization of an analytical method for determining white phosphorus in contaminated sediments. Taylor, S., et al, (1992, 13p., eng) 47-2755

NO2 measurements in the polar stratosphere. Roscoe, H.K., et al, (1993, p.257-276, eng) 47-3464

Model comet made from mineral dust and H2O-CO2 ice: sample preparation development. Roessler, K., et al, (1990, p.379-388, eng) 47-4567

Feasibility study of preparing performance evaluation soils for analyzing volatile organic compounds. Hewitt, A.D., (1993, 9p., eng) 47-4663

Soil-fabric measurement using phase transition porosimetry. Gunnink, B.W., et al, (1993, p.1019-1036, eng) 47-5105

Laboratory simulation of a cometary nucleus: experimental setup and first results. Kochan, H., et al, (1989, p.487-492, eng) 47-5124

Labrador Sea

Forecasting sea ice clearing in the Labrador Sea. Newell, J.P., (1992, p.313-323, eng) 47-1038

Iceberg/seabed interaction events observed during the *DIGS experiment*. Lever, J.H., et al, (1991, p.74-87, eng) 47-1140

Three-dimensional acoustic waveguide in the Labrador Sea. Bogdanov, K.T., et al, (1990, p.563-565, eng) 47-1232

Some results from the Labrador Ice Margin Experiment. *Kjeldsen*, S.P., et al, (1992, p.732-739, eng) 47-1868

Ice extent and flux in the Grand Banks-Labrador Sea area. Argus, S.D., et al, (1988, p.11-14, eng) 47-4176

Atmospheric circulation and sea-ice cover off northeast Canada. Wang, J., et al, (1991, p.358-361, eng) 47-4490

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Sub-bottom profiling: a comparison of short-pulse radar and acoustic data. Delaney, A.J., et al, (1992, p.149-157, eng) 47-634

Glacial and lake fluctuations in the area of the west Kunlun mountains during the last 45,000 years. Li, S.J., et al, (1992, p.79-84, eng) 47-1090

Sedimentology of glaciolacustrine deposits from an ice-dammed tributary. Fitzsimons, S.J., (1992, p.393-410, eng) 47-1551

Development of an ice-dammed lake: the contemporary and older sedimentary record. Johnson, P.G., et al, (1992, p.304-313, eng) 47-1587

Biogeochemistry of manganese- and iron-rich sediments in Toolik Lake, Alaska. Cornwell, J.C., et al, (1992, p.45-59, eng) 47-1603

Pre-late Wisconsin paleolimnologic record from the Estancia Valley, central New Mexico. Bachhuber, F.W., (1992, p.289-307, eng) 47-2699

Interglacial to glacial climatic change: observations from selected Colombian pollen records. Hooghiemstra, H., et al, (1992, p.71-84, eng) 47-2833

Sedimentary record and Neoglacial history of Tide Lake, northwestern British Columbia. Clague, J.J., et al, (1992, p.2383-2396, eng) 47-3715

Paleoclimatology of the Saint Lawrence River basin. Richard, P.J.H., et al, (1992, p.151-172, fre) 47-3788

Ice scours in the sediments of glacial Lake Iroquois, Prince Edward County, eastern Ontario. Gilbert, R., et al, (1992, p.189-194, eng) 47-3789

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Holocene water-level fluctuations of a subarctic lake at the tree line in northern Quebec. Payette, S., et al, (1993, p.7-14, eng) 47-4072

High-energy geomorphic events in the Polish Tatra Mountains. Kotarba, A., (1992, p.123-131, eng) 47-4322

Reconstructing Holocene glacier variations from glacial lake sediments. Karlén, W., et al, (1992, p.327-348, eng) 47-4343

Terrigenous clastic sedimentation in antarctic dry valley lakes. Andersen, D.W., et al, (1993, p.71-81, eng) 47-4397

Lacustrine deposits around Lake Vanda and Don Juan Pond. Smith, G.I., et al, (1993, p.83-94, eng) 47-4398

Glacial lake bathymetry at Bering Piedmont Glacier, AK. Fleisher, P.J., et al, (1993, p.267-274, eng) 47-4566

Glacial geology in Peruvian mountains. Rodbell, D.T., (1993, p.923-934, eng) 47-4580

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Volume of Graenalón and changes in the size and frequency of jökulhlaups. Björnsson, H., et al, (1989, p.90-95, ice) 47-712

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Jökulhlaups in Iceland: prediction, characteristics and simulation. Björnsson, H., (1992, p.95-106, eng) 47-1093

Investigation of glacier bursts of the Yarkant River in Xinjiang, China. Zhang, X.S., (1992, p.135-139, eng) 47-1099

Glacier lake outburst flood disasters in China. Ding, Y.J., et al, (1992, p.180-184, eng) 47-1108

Real time system for flood forecasting of an ice dam outburst. Fernández, P., et al, (1990, p.85-91, eng) 47-1169

Characteristics of glacier outburst flood in the Yarkant River, Karakorum Mountains. Feng, Q.H., (1991, p.255-263, eng) 47-1612

Stability of moraine lakes in high alpine glacier regions. Haeberli, W., (1992, p.361-364, ger) 47-2203

Geology of bay after breakup of Hubbard Glacier ice dam. Carlson, P.R., et al, (1992, 41p., eng) 47-3708

Lake effects

35th conference, University of Waterloo, Ontario, May 31-June 4, 1992. (1992, 193p., eng) 47-600

Great Lakes winter-weather 700-hPa PNA teleconnections. Assel, R.A., (1992, p.2156-2163, eng) 47-877

Use of high resolution data from the Nested Grid Model for the prediction of lake-effect snows. Niziol, T.A., et al, (1992, 11p., eng) 47-2138

Lake effect snow events in eastern New York. Snyder, W.R., (1992, 10p., eng) 47-2139

Case study of a mesoscale snow event in New York's Capital District. Wooldridge, M.E., et al, (1992, 13p., eng) 47-2140

Simulation of the regional climate and hydrology of the Great Lakes basin. Bates, G.T., et al, (1993, p.32-33, eng) 47-3043

Interactive coupling of a lake thermal model with a regional climate model. Hostetler, S.W., et al, (1993, p.5045-5057, eng) 47-3784

Proceedings of the 49th annual Eastern Snow Conference, Oswego, NY, June 3-4, 1992. (1992, 273p., eng) 47-4026

Nested grid model for the prediction of lake-effect snows. Niziol, T.A., et al, (1992, p.89-99, eng) 47-4037

"Tea kettle" effect snow. Woolley, R., et al, (1992, p.101-106, eng) 47-4038

Preliminary numerical simulations of the 31 January 1991 lake-effect snowstorm. Ballentine, R.J., et al, (1992, p.115-123, eng) 47-4040

Multiple lake interaction in a lake-effect snowstorm. Byrd, G., et al, (1992, p.125-134, eng) 47-4041

February 1972 Eastern Snow Conference weather experience at Oswego, New York. Sykes, R.B., Jr., et al, (1992, p.135-144, eng) 47-4042

Does lake-effect snow extend to the mountains of West Virginia. Schmidlin, T.W., (1992, p.145-148, eng) 47-4043

Lake-induced convection from Lake Ontario. Penc, R.S., (1992, p.149-159, eng) 47-4044

Lake-Effect Snow Observation Network (LESON) report for the 1991-1992 snow season. Ferlito, J., et al, (1992, p.227-234, eng) 47-4052

Look at lake effect snow cloudbands with satellite imagery. Niziol, T.A., et al, (1992, p.235-242, eng) 47-4053

Mean circulations of boundary-layer rolls in lake-effect snow storms. Kristovich, D.A.R., (1993, p.293-315, eng) 47-4350

Numerical investigation of wind speed effects on lake-effect storms. Sousounis, P.J., (1993, p.261-290, eng) 47-4511

Lake effect of the Great Salt Lake: overview and forecast problems. Carpenter, D.M., (1993, p.181-193, eng) 47-4831

Lake ice

Using ice and ice phenomena in the national economy: geophysical aspect. Faiko, L.I., (1986, 155p., rus) 47-94

Space shuttle photography of ice patterns in Lake Baikal. Evans, C.A., et al, (1992, p.1559-1561, eng) 47-684

New equipment for measuring ice thickness. Wold, K., (1988, p.95-97, eng) 47-722

Lomen project. Roen, S., et al, (1988, p.105-109, eng) 47-724

Case study of whirl ice-holes. Hyvärinen, V., (1988, p.191-193, eng) 47-731

Great Lakes winter-weather 700-hPa PNA teleconnections. Assel, R.A., (1992, p.2156-2163, eng) 47-877

Computational modeling of antarctic lake ice. Lindner, B.L., et al, (1992, p.105-116, eng) 47-1022

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Thickness profiling of freshwater ice using a millimeter-wave FM-CW radar. Yankielun, N.E., et al, (1992, p.1094-1100, eng) 47-1262

Analysis of the relationship between lakes' melting regimes and stream runoff. Zhang, S.Y., et al, (1991, p.245-250, eng) 47-1312

Hydrology of Lake Glubokoye, King George I., winter 1987. Mart'ianov, V.L., et al, (1991, p.27-32, rus) 47-1575

Access pipes for sampling through thick ice. Kipphut, G.W., et al, (1992, p.267-269, eng) 47-1607

Airborne millimeter-wave FM-CW radar for thickness profiling of freshwater ice. Yankielun, N.E., (1992, 77p., eng) 47-1893

River and lake ice conditions as interpreted from microwave imagery. Melloh, R.A., et al, (1992, p.381-395, eng) 47-1914

Southern Lake Michigan coastal ice and sediment sample data: shoreface and ice profiles (winter 1990/91). McCormick, M., et al, (1991, 32p., eng) 47-1916

Designing for ice conditions in marinas. Wortley, C.A., (1992, p.48-50, eng) 47-1921

Light attenuation of Lake Bonney's ice cap. Priscu, J.C., (1991, p.223-224, eng) 47-2191

Lomen water power plant—channel formation over a lake discharge outlet. Wold, K., (1988, 98p., nor) 47-2246

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Plankton ecology in an ice-covered lake. Vanderploeg, H.A., et al, (1992, p.175-183, eng) 47-2287

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Some illustrations of roles of lake ice in limnology. Adams, W.P., et al, (1992, p.219-226, eng) 47-4051

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Great Lakes air temperature trends for land stations, 1901-1987. Bolsenga, S.J., et al, (1993, p.379-388, eng) 47-4565

Environmental regulators of microbial activity in continental antarctic lakes. Simmons, G.M., Jr., et al, (1993, p.491-541, eng) 47-4598

Relevance of antarctic microbial ecosystems to exobiology. McKay, C.P., (1993, p.593-601, eng) 47-4599

On the 1990-1991 operation of the Lake Erie-Niagara River ice boom. (1991, 32p. + figs., eng) 47-4667

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Reactions of a calving glacier to large changes in water level. Laumann, T., et al, (1992, p.158-162, eng) 47-1104

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Response of a subarctic lake chain to reduced sewage loading. Choulik, O., et al, (1992, p.1236-1245, eng) 47-1267

Comment on "The episodic acidification of Adirondack Lakes during snowmelt" by Douglas A. Schaefer et al. Eshleman, K.N., et al, (1992, p.2869-2878, eng) 47-1788

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Using piecewise polynomial smoothing in statistical series analysis. Lashov, E.S., (1991, p.96-100, rus) 47-3695

Physical hydrology of the dry valley lakes. Chinn, T.J., (1993, p.1-51, eng) 47-4395

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Evaporation and ice growth in Mackenzie Delta lakes. Marsh, P., (1991, p.257-266, eng) 47-1812

Freezable, flotable water lines?. Ainsworth, L., (1992, p.42-43, eng) 47-1884

Hydrodynamics of lakes. Filatov, N.N., (1991, 196p., rus) 47-2283

Sapropel of Don-ty Lake. Kazakov, V.G., (1991, p.114-121, rus) 47-4113

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Water volume transport through Green Bay, Lake Michigan. Miller, G.S., et al, (1993, p.361-367, eng) 47-4564

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Melting of ice in pure and saline water inside a square cavity. Schütz, W., et al, (1992, p.311-319, eng) 47-2638

Wavy ice formation inside a cooled parallel plate channel. Weigand, B., et al, (1993, p.685-693, eng) 47-2654

Liquid freezing during laminar flow. Weigand, B., et al, (1993, p.294-301, eng) 47-3838

Numerical and experimental study on supercooled laminar flow of water. Ismail, K.A.R., et al, (1991, p.899-903, eng) 47-5108

Complete model for the laminar flow of supercooled liquid water. Ismail, K.A.R., et al, (1992, p.335-349, eng) 47-5265

Land development

Developing the productive energies of Northern USSR. Granberg, A.G., ed, (1991, 229p., rus) 47-2457

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Land ice and climate. Van der Veen, C.J., (1992, p.437-450, eng) 47-4500

Land reclamation

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Engineering geology of the USSR: platform regions in European USSR. Komarov, I.S., ed, (1992, 2 vols., rus) 47-3858

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Numerical modeling of the development of U-shaped valleys by glacial erosion. Harbor, J.M., (1992, p.1364-1375, eng) 47-770

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On the mathematical description of glaciated valley cross sections. Harbor, J.M., et al, (1992, p.477-485, eng) 47-1052

Present-day periglacial processes and landforms in mountain areas. Lautridou, J.P., et al, (1992, p.93-101, eng) 47-1748

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Formation of glacial flutes: assessment of models. Gordon, J.E., et al, (1992, p.709-731, eng) 47-3441

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Active-layer detachment slides *on Ellesmere Island*. Lewkowicz, A.G., [1992, p.223-250, eng] **47-854**
Rockslide and debris flow from Mount Cayley, B.C., in *June 1984*. Cruden, D.M., et al, [1992, p.614-626, eng] **47-1185**
Extreme heavy debris flow in Mt. Gongga. Lu, R.R., [1992, p.174-177, chi] **47-1655**
Characteristics of two landslide-dammed lakes in a glaciated alpine environment. Butler, D.R., et al, [1993, p.441-445, eng] **47-3563**
Rockslides on the terminus of "Jökulsárgilsjökull," southern Iceland. Sigurdsson, O., et al, [1991, p.129-140, eng] **47-4336**
See also: Mudflows
Large panel buildings
Panelised forms of building construction for antarctic regions. Incoll, P., [1992, p.564-570, eng] **47-1842**
Large unit construction
See also: Modular construction
Lasers
Ranging performance of satellite laser altimeters. Gardner, C.S., [1992, p.1061-1072, eng] **47-1261**
Relationship between sea ice freeboard and draft in the Arctic Basin, and implications for ice thickness monitoring. Wadhams, P., et al, [1992, p.20,325-20,334, eng] **47-2344**
Development of laser ice-cutting apparatus. Zeller, E.J., et al, [1991, p.89-91, eng] **47-2474**
Cloud clearing with a CO2 laser in a cirrus cloud simulation facility. Waggoner, A.P., et al, [1992, p.5871-5877, eng] **47-2664**
Measurement of cleavage strength in freshwater ice crystals by a laser spallation technique. Gupta, V., et al, [1993, p.35-44, eng] **47-4228**
Diode laser humidity sensor for cold environments. Phase I. Final technical report. Stanton, A.C., et al, [1988, 35p., eng] **47-4861**
Cylinder ice accretion determined by laser-Doppler analysis. Yoon, B., et al, [1993, p.381-397, eng] **47-5208**
Latent heat
Finite element modelling of natural-convection-controlled change of phase. Usmani, A.S., et al, [1992, p.1019-1036, eng] **47-193**
Snow melt runoff for a sub-catchment of Beas basin. Agrawal, K.C., et al, [1985, p.43-63, eng] **47-561**
Protective modification of freeze stress in plant tissue. Olien, R., [1992, p.255-260, eng] **47-2885**
Latticed structures
Statistics of firn closure: a simulation study. Enting, I.G., [1993, p.133-142, eng] **47-3947**
Laws
See also: Legislation
Layers
Structure and genesis of layered ground ice in Western Siberia. Shpolianskaia, N.A., [1991, p.73-83, rus] **47-1988**
Wavy ice formation inside a cooled parallel plate channel. Weigand, B., et al, [1993, p.685-693, eng] **47-2654**
Diapirism on Triton: a record of crustal layering and instability. Schenk, P.M., et al, [1993, p.299-302, eng] **47-4593**
See also: Stratification
Leaching
Laboratory investigation of the leaching of solute from snowpack by rainfall. Tranter, M., et al, [1992, p.169-178, eng] **47-376**
Potential leachate production due to cold weather effects. Leskiw, E.J., et al, [1992, p.660-667, eng] **47-3345**
Leakage
Masonry wall and window system leakage investigation for university building. Frauenhoffer, J., [1992, p.107-115, eng] **47-409**
Freezing system plugs pipeline segments for repair. [1992, p.64, eng] **47-2637**
See also: Air leakage
Legislation
Uses of antarctic ice. Beltramino, J.C.M., [1992, p.241-247, spa] **47-4295**
Status of polar ice under international law. Machowski, J., [1992, p.149-175, eng] **47-4561**
Arctic: arena for international environmental security?. Kolodkin, A., et al, [1993, p.277-289, eng] **47-4727**
Certain legal issues concerning prevention of radioactive pollution of the arctic marine environment from land-based sources. Barsegov, IU., [1993, p.523-534, eng] **47-5051**
Framework for a regional environmental regime for the Arctic. Chircop, A., [1993, p.535-540, eng] **47-5052**
London Convention and radioactive waste dumping at sea: a global treaty regime in transition. Curtis, C., [1993, p.541-555, eng] **47-5053**
Some aspects of radioactive wastes dumping: international regulation. Menshikov, V.F., et al, [1993, p.585-594, eng] **47-5056**
Environmental security and governance issues in the Arctic Ocean. Perelet, R., [1993, p.595-601, eng] **47-5057**
Legal regulation of environmental improvement of the Russian Federation nuclear complex activities. Veksler, M., [1993, p.609-614, eng] **47-5058**
Current status and countermeasures *in the problem of* studded tires. Fujishiro, Y., [1985, p.29-34, jpn] **47-5080**
Annual northern expenditure plan 1990-1991. [1993, 30p., eng] **47-5243**
Level
See also: Altitude; Sea level; Water level
Lichens
Lichenometric and radiocarbon dating of Holocene glaciation, Cordillera Blanca, Peru. Rodbell, D.T., [1992, p.19-29, eng] **47-52**
Postfire shift from lichen-spruce to lichen-tundra vegetation at tree line. Arseneault, D., et al, [1992, p.1067-1081, eng] **47-773**
Geographic laws of spatial soil cover organization in the Yamal Peninsula. Aparin, B.F., et al, [1992, p.88-94, eng] **47-1709**
Soil microbial communities under cryptogamic plants in tundra and arctic deserts. Parinkina, O.M., et al, [1992, p.185-189, eng] **47-1727**
Lichens of the Cape Parry and Melville Hills regions, Northwest Territories. Thomson, J.W., et al, [1992, p.105-111, eng] **47-1881**
Lichenometric dating of a Norwegian moraine sequence. Bickerton, R.W., et al, [1992, p.227-237, eng] **47-1999**
American arctic lichens. I. The macrolichens. Thomson, J.W., [1984, 504p., eng] **47-3671**
Vegetation of stressed calcareous screes and slopes on Sverdrup Pass, Ellesmere Island, Canada. Maycock, P.F., et al, [1992, p.2359-2377, eng] **47-3837**
Plant colonization in a polar oceanic environment. Andre, M.F., [1992, p.329-347, eng] **47-4077**
2000-year lichen-snowkill chronology for the Colorado Front Range, USA. Benedict, J.B., [1993, p.27-33, eng] **47-4144**
Lichenometrical studies and dating of *debris flow deposits* in the High Tatra Mountains, Poland. Jonasson, C., et al, [1991, p.141-146, eng] **47-4337**
Zonality of macrolichens in British Columbia. Goward, T., et al, [1992, 60p., eng] **47-4516**
Influence of snow upon rates of granodiorite weathering, Colorado Front Range, USA. Benedict, J.B., [1993, p.87-92, eng] **47-4850**
Lidar
Subvisual-thin cirrus lidar dataset for satellite verification and climatological research. Sassen, K., et al, [1992, p.1275-1285, eng] **47-1120**
New lidar systems. Castagnoli, F., et al, [1992, p.185-203, eng] **47-1201**
Lidar measurements of antarctic atmospheric parameters. Stefanutti, L., et al, [1991, p.27-41, ita] **47-1822**
Lidar in Antarctica. Stefanutti, L., et al, [1991, p.623-629, eng] **47-1827**
Denitrification of the 1990 antarctic spring stratosphere. Gobbi, G.P., et al, [1991, p.1995-1998, eng] **47-2027**
Ice-cloud depolarization of backscatter for CO2 and other infrared lidars. Eberhard, W.L., [1992, p.6485-6490, eng] **47-2043**
DIAL ozone measurements at Dumont d'Urville Station. Stefanutti, L., et al, [1992, p.345-358, eng] **47-2169**
1991 spring lidar PSC studies at McMurdo. Adriani, A., et al, [1992, p.367-373, eng] **47-2171**
Tropospheric and stratospheric thin clouds at McMurdo. Adriani, A., et al, [1992, p.491-503, eng] **47-2175**
Lidar measurement of cirrus clouds backscattering. Ansmann, A., et al, [1992, p.7113-7131, eng] **47-2663**
Multiple-scattering lidar experiments. Werner, C., et al, [1992, p.1731-1745, eng] **47-3160**
Rotational Raman lidar to measure the atmospheric temperature from the ground to 30 km. Nedeljkovic, D., et al, [1993, p.90-101, eng] **47-3357**
Method *for determining cirrus cloud particle sizes using* lidar and radar backscatter technique. Intrieri, J.M., et al, [1993, p.1074-1082, eng] **47-4081**
Light effects
Effects of summer frosts and subsequent shade on foliage gas exchange in peatland tamarack and black spruce. Dang, Q.L., et al, *[1992, p.973-979, eng]* **47-1188**
Influence of light and nutrient addition upon the sediment chemistry of iron in an arctic lake. Sugai, S.F., et al, [1992, p.91-101, eng] **47-1606**
Simulated antarctic fast ice ecosystem. Arrigo, K.R., et al, [1993, p.6929-6946, eng] **47-4139**
Shading effects on spruce frost damage. Örlander, G., [1993, p.27-36, eng] **47-4296**
Growth and development of northern forest trees as affected by temperature and light. Junttila, O., et al, [1993, p.43-57, eng] **47-4528**
Photosynthetic photon flux effect on *Larix* frost hardiness. Hansen, J.M., et al, [1993, p.204-212, eng] **47-4998**
Light scattering
Phenomenology of a *water venting in low earth orbit*. Kofsky, I.L., et al, [1992, p.325-347, eng] **47-81**
Effects of small ice crystals on cirrus infrared radiative properties. Takano, Y., et al, [1992, p.1487-1493, eng] **47-411**
Extinction of visible and infrared beams by falling snow. Hutt, D.L., et al, [1992, p.5121-5132, eng] **47-449**
Light scattering by nonspherical ice grains: an application to noctilucent cloud particles. Mishchenko, M.I., [1992, p.203-211, eng] **47-772**
Angular width of the coherent back-scatter opposition effect: an application to icy outer planet satellites. Mishchenko, M.I., [1992, p.327-333, eng] **47-1191**
Brillouin and Raman scattering from liquid water. Nardone, M., et al, [1992, p.287-299, eng] **47-1377**
Low-frequency light scattering from disordered hydrogen-bonded solids. Mazzacurati, V., et al, [1992, p.2845-2852, eng] **47-1511**
Light reflection from a sea ice cover during the onset of summer melt. Perovich, D.K., et al, [1992, p.508-516, eng] **47-1809**
Ice nucleation in electrolyte solutions. Fornazero, J., et al, [1992, p.413-418, eng] **47-2011**
Reflectance of antarctic surfaces from multispectral radiometers: the correction of atmospheric effects. Zibordi, G., et al, [1993, p.11-21, eng] **47-2553**
Cirrus optical properties determination from actinometric observations. Tarasova, T.A., [1992, p.690-696, eng] **47-3156**
Cirrus optical properties determination from actinometric observations. Tarasova, T.A., [1992, p.690-696, eng] **47-3156**
Cloud property inference from satellite-observed radiance, pt.1. Minnis, P., et al, [1993, p.1279-1304, eng] **47-3731**
Cloud property inference from satellite-observed radiance, pt.2. Minnis, P., et al, [1993, p.1305-1322, eng] **47-3732**
Scattering of light by polyhedral ice crystals. Macke, A., [1993, p.2780-2788, eng] **47-4348**

Microbubble mediated surface probe and the ice-antifreeze glycoprotein solution system. Vesenka, J.P., et al. [1993, p.67-74, eng] 47-4757
Optics on a fractal surface and the photometry of the regoliths. Drossart, P., [1993, p.381-393, eng] 47-4994

Light transmission
Annual cycle of radiation fluxes over the Arctic Ocean: sensitivity to cloud optical properties. Curry, J.A., et al. [1992, p.1267-1280, eng] 47-1549
Light attenuation of Lake Bonney's ice cap. Priscu, J.C., [1991, p.223-224, eng] 47-2191
Fluorescence and photosynthesis in phytoplankton from permanently ice-covered lakes. Lizotte, M.P., et al. [1991, p.226-228, eng] 47-2192
Long-term variations in the turbidity of the arctic atmosphere in Russia. Radionov, V.F., et al. [1992, p.531-549, eng] 47-2877
Fluorescence and phytoplankton photosynthesis in Lake Bonney. Neale, P.J., et al. [1991, p.228-230, eng] 47-3053
Fiber optic probe system. Brossia, C.E., et al. [1989, 20 col., eng] 47-3108
Measuring the point spread function of sea ice in situ. Voss, J.M., et al. [1992, p.517-526, eng] 47-3735
Bio-optical observations of first-year arctic sea ice. Perovich, D.K., et al. [1993, p.1059-1062, eng] 47-4266

Lighting
See also: Illuminating

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Dual polarization radar observations of anomalous wintertime thunderclouds in Japan. Maekawa, Y., et al. [1992, p.838-844, eng] 47-361

Lightweight concretes
Cryogenic frost resistance of lightweight concrete containing silica fume. Khayat, K.H., et al. [1989, p.915-928, eng] 47-59

Liming
Effect of fertilization and liming on the potassium *condition of soils.* Kuznetsova, E.G., et al. [1991, p.56-65, rus] 47-4107

Limnology
Seasonal temperature patterns in an arctic and two subarctic Alaskan (USA) headwater streams. Irons, J.G., III, et al. [1992, p.147-157, eng] 47-780
Sediment evolution in an ice-covered lake. Catalan, J., [1992, p.945-955, eng] 47-1266
Response of a subarctic lake chain to reduced sewage loading. Choulik, O., et al. [1992, p.1236-1245, eng] 47-1267
Methane transport in macrophytes of a tundra lake. Chanton, J.P., et al. [1992, p.16,681-16,688, eng] 47-1462
Hydrology of Lake Glubokoye, King George I., winter 1987. Mart'ianov, V.L., et al. [1991, p.27-32, rus] 47-1575
Nitrogen mineralization and streamwater chemistry, Rock Creek watershed, Denali National Park, U.S.A. Stottlemyer, R., [1992, p.291-303, eng] 47-1586
Development of an ice-dammed lake: the contemporary and older sedimentary record. Johnson, P.G., et al. [1992, p.304-313, eng] 47-1587
Biogeochemistry and zoogeography of lakes and rivers in arctic Alaska. Kling, G.W., et al. [1992, p.1-14, eng] 47-1599
Cation export from Alaskan arctic watersheds. Cornwell, J.C., [1992, p.15-22, eng] 47-1600
Flux of CO2 and CH4 from lakes and rivers in arctic Alaska. Kling, G.W., et al. [1992, p.23-36, eng] 47-1601
Silicon budget for an Alaskan arctic lake. Cornwell, J.C., et al. [1992, p.37-44, eng] 47-1602
Biogeochemistry of manganese- and iron-rich sediments in Toolik Lake, Alaska. Cornwell, J.C., et al. [1992, p.45-59, eng] 47-1603
Geochemistry of a tundra stream on the North Slope of Alaska. Peterson, B.J., et al. [1992, p.61-69, eng] 47-1604
Water and sediment export of the upper Kuparuk River drainage of the North Slope of Alaska. Kriet, K., et al. [1992, p.71-81, eng] 47-1605
Influence of light and nutrient addition upon the sediment chemistry of iron in an arctic lake. Sugai, S.F., et al. [1992, p.91-101, eng] 47-1606
Access pipes for sampling through thick ice. Kipphut, G.W., et al. [1992, p.267-269, eng] 47-1607
Comment on "The episodic acidification of Adirondack Lakes during snowmelt" by Douglas A. Schaefer et al. Eshleman, K.N., et al. [1992, p.2869-2878, eng] 47-1788
Fluorescence and photosynthesis in phytoplankton from permanently ice-covered lakes. Lizotte, M.P., et al. [1991, p.226-228, eng] 47-2192
Plankton primary productivity in an arctic lake; 71.2 deg N --*diurnal variations of productivity under the midnight sun.* Berge, D., et al. [1988, 85p., nor] 47-2247
Lake ice radiation transmittance related to photosynthesis. Bolsenga, S.J., et al. [1992, p.95-104, eng] 47-2286
Plankton ecology in an ice-covered lake. Vanderploeg, H.A., et al. [1992, p.175-183, eng] 47-2287
Effect of climatic changes on water balance of a lake/ground water system. Crowe, A.S., [1993, p.33-73, eng] 47-2635
Nitrate transport in subalpine streams. Coats, R., et al. [1993, p.17-21, eng] 47-2850
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Organic contaminants in Canadian lake sediments. Mudroch, A., et al. [1992, p.10-19, eng] 47-3349
Characteristics of two landslide-dammed lakes in a glaciated alpine environment. Butler, D.R., et al. [1993, p.441-445, eng] 47-3563
Seasonal variations in dissolved inorganic nitrogen utilization in a subarctic Alaskan lake. Gu, B.H., et al. [1993, p.273-288, eng] 47-3647
Groundwater discharge in Boggy Creek catchment, Manitoba. Stephenson, M., et al. [1992, p.2640-2652, eng] 47-3714
Holocene water-level fluctuations of a subarctic lake at the tree line in northern Quebec. Payette, S., et al. [1993, p.7-14, eng] 47-4072
Physical hydrology of the dry valley lakes. Chinn, T.J., [1993, p.1-51, eng] 47-4395
Perennial ice covers and their influence on antarctic lake ecosystems. Wharton, R.A., Jr., et al. [1993, p.53-70, eng] 47-4396
Terrigenous clastic sedimentation in antarctic dry valley lakes. Andersen, D.W., et al. [1993, p.71-81, eng] 47-4397
Geochemistry of the McMurdo Dry Valleys lakes. Matsumoto, G.I., [1993, p.95-118, eng] 47-4399
Microbial activity in lakes. Simmons, G.M., Jr., et al. [1993, p.165-195, eng] 47-4400
Mixotrophic algae in three ice-covered lakes of the Pocono Mountains, U.S.A. Berninger, U.G., et al. [1992, p.263-272, eng] 47-4517
Environmental regulators of microbial activity in continental antarctic lakes. Simmons, G.M., Jr., et al. [1993, p.491-541, eng] 47-4598
Relevance of antarctic microbial ecosystems to exobiology. McKay, C.P., [1993, p.593-601, eng] 47-4599
Isotope tracing of sulfate trends in Colorado lakes. Turk, J.T., et al. [1993, p.415-431, eng] 47-4759
Isotopic geochemistry of an ice-covered antarctic lake. Wharton, R.A., Jr., et al. [1993, p.159-172, eng] 47-4906
Hydrology and hydrochemistry of natural waters of East Antarctica. Shmideberg, N.A., [1992, p.65-76, rus] 47-4923

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Liquefied gases
Freezing system plugs pipeline segments for repair. [1992, p.64, eng] 47-2637
Low-temperature physics: an introduction for scientists and engineers. McClintock, P.V.E., et al. [1992, 296p., eng] 47-4858

Liquid cooling
Scaling observed in glycerol-water and propylene glycol-water mixtures. Abe, R., et al. [1991, p.2835-2838, eng] 47-918
Dielectric study of the structure of hyperquenched glassy water and its crystallized forms. Johari, G.P., et al. [1992, p.5851-5855, eng] 47-988
Crystal growth and dendritic solidification. Sethian, J.A., et al. [1992, p.231-253, eng] 47-1785
Supercooled water self-diffusion related to hydrogen bond cooperativity. Lamanna, R., et al. [1992, p.R7367-R7370, eng] 47-1891
Performance of a kinetic model for intracellular ice formation based on the extent of supercooling. Pitt, R.E., et al. [1992, p.359-373, eng] 47-2297
Freezing characteristics of aqueous solution on a horizontal downward facing cooled plate. Yamada, M., et al. [1991, p.285-290, eng] 47-2558
Novel differential scanning calorimetric studies of supercooled organic liquids. Murthy, S.S.N., et al. [1993, p.509-514, eng] 47-2605
Critical cooling rates for aqueous cryoprotectants. Sutton, R.L., [1992, p.585-598, eng] 47-2875
Dielectric dispersion of supercooled trimethyleneglycol-water mixtures. Abe, R., et al. [1992, p.4204-4211, eng] 47-3580
Solution freezing characteristics in an immersed tube. Yamada, M., et al. [1993, p.54-62, eng] 47-3792
Numerical modeling of heat transfer in irregular solidification of a liquid. Nikitenko, N.I., et al. [1993, p.519-528, eng] 47-3800
Freezing. Haymet, A.D.J., [1992, p.363-405, eng] 47-4367
Visualization of liquid crystals during solidification. Nishimura, T., et al. [1992, p.456-460, eng] 47-4393
Thermodynamics of fuel oil cloud-point depressant additives. Claudy, P., et al. [1993, p.821-827, eng] 47-4518
Effect of the water density extremum on the solidification process. Braga, S.L., et al. [1991, p.1185-1192, eng] 47-5110

Liquid phases
Liquid microphases at ice-solid interface of microelectrodes in solid water. Bond, A.M., et al. [1992, p.281-295, eng] 47-768
Thermodynamical behaviour of liquid water near the triple point. Kurioka, S., et al. [1991, p.4181-4198, eng] 47-917
Holography of solidification of an aqueous solution around a cylinder. Spatz, T.L., et al. [1992, p.998-1010, eng] 47-1671
Crystal growth and dendritic solidification. Sethian, J.A., et al. [1992, p.231-253, eng] 47-1785
Solidification of a binary mixture saturating a bed of glass spheres. Cao, W.Z., et al. [1991, p.725-737, eng] 47-2861
Very large melting point depression of water in silica. van Miltenburg, J.C., et al. [1993, p.1143-1149, eng] 47-3290
Optical study of surface melting on ice. Elbaum, M., et al. [1993, p.491-505, eng] 47-3648
Singularity of liquid water--data analysis and modeling. Sato, H., [1992, p.89-101, eng] 47-3730
High-pressure melting--solidification of a substance. Zelenetskii, A.B., et al. [1993, p.1037-1044, eng] 47-4075
*On the engulfment of spherical particles by a moving ice-*liquid interface. Lipp, G., et al. [1993, p.475-489, eng] 47-4289

Liquid solid interfaces
Dependence of ice formation on arrangement of submerged tubes. Hirata, T., et al. [1992, p.681-687, eng] 47-8
Freezing in confined geometries. Sokol, P.E., et al. [1992, p.777-779, eng] 47-180
Finite element modelling of natural-convection-controlled change of phase. Usmani, A.S., et al. [1992, p.1019-1036, eng] 47-193
Solution of inverse heat conduction problems with phase changes by the mollification method. Murio, D.A., [1992, p.45-57, eng] 47-265
Controlling nucleation in protein solutions. DeMattei, R.C., et al. [1992, p.21-30, eng] 47-769
Enthalpy formulation of the conduction problem with phase changes. Cesari, F., [1992, p.983-987, eng] 47-775
Bénard convection in binary mixtures with Soret effects and solidification. Zimmermann, G., et al. [1992, p.657-682, eng] 47-820
Characteristics of the freezing heat transfer of layered air-*water flow in a circular* tube. Fukusako, S., et al. [1989, p.91-97, eng] 47-915
Observations of heterogeneous nucleation of water vapor on a cold substrate. Shinagawa, H., et al. [1992, p.448-450, eng] 47-1054
Chemical potential of a layer of water adsorbed on a solid surface. Takagi, S., [1992, p.521-528, eng] 47-1236
Hydrocarbon solubility related to ice formation within solutions. Shinoda, K., [1992, p.81-100, eng] 47-1550
Effect of restricted geometries on the structure and *thermodynamic properties of ice.* Handa, Y.P., et al. [1992, p.8594-8599, eng] 47-1569
Aircraft take-off laboratory simulation for de/anti-icing study. Laforte, J.L., et al. [1992, p.183-193, eng] 47-1578
Effect of density extremum on the solidification of water on a vertical wall of a rectangular cavity. Braga, S.L., et al. [1992, p.703-713, eng] 47-1628
Holography of solidification of an aqueous solution around a cylinder. Spatz, T.L., et al. [1992, p.998-1010, eng] 47-1671
Freezing flow in a subcooled permeable medium. Griffiths, S.K., et al. [1992, p.1036-1041, eng] 47-1672
Thermocapillary convection during solid-liquid phase change. Voth, T.E., et al. [1992, p.1068-1070, eng] 47-1673
Crystal growth and dendritic solidification. Sethian, J.A., et al. [1992, p.231-253, eng] 47-1785
Chemical thermodynamics of cation exchange reactions. Grant, S.A., et al. [1993, p.1-108, eng] 47-2222
Experimental study of freezing of binary solutions. Zampino, M.A., et al. [1993, p.133-138, eng] 47-2550
Study on phase changes of heterogeneous composite *materials: effects of parameters on solidification process.* Hirasawa, Y., et al. [1991, p.225-230, eng] 47-2556
Freezing characteristics of aqueous solution on a horizontal downward facing cooled plate. Yamada, M., et al. [1991, p.285-290, eng] 47-2558
Freezing of a supercooled water droplet on a heat transfer surface. Saito, A., et al. [1991, p.319-326, eng] 47-2560
Cooling and freezing of water between concentric cylinders. Narumi, A., et al. [1991, p.391-398, eng] 47-2563
Concurrent freezing and sublimation of a liquid-saturated porous slab. Vaidyanathan, N., et al. [1991, p.251-259, eng] 47-2565
Adaptive finite element analysis of axisymmetric freezing. Sutanto, E., et al. [1992, p.3301-3312, eng] 47-2609
Solution of solidification problem using a microcomputer. Rabin, Y., et al. [1993, p.673-683, eng] 47-2653
Structural study of water confined in porous glass by neutron scattering. Bellissent-Funel, M.C., et al. [1993, p.4246-4252, eng] 47-2675

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Solidification of a binary mixture saturating a bed of glass spheres. Cao, W.Z., et al. [1991, p.725-737, eng] 47-2861

Electrochemical characteristics of aluminum galvanic anodes in an arctic seawater. Tamada, A., et al. [1993, p.261-277, eng] 47-3176

Solidification in saline solutions. Rubinsky, B., et al. [1993, p.157-167, eng] 47-3288

Very large melting point depression of water in silica. van Miltenburg, J.C., et al. [1993, p.1143-1149, eng] 47-3290

New concept in runback water modeling for anti-iced aircraft surfaces. Al-Khalil, K.M., et al. [1993, p.41-49, eng] 47-3316

Mathematical modeling of melting and freezing processes. Alexiades, V., et al. [1993, 323p., eng] 47-3541

Solution freezing characteristics in an immersed tube. Yamada, M., et al. [1993, p.54-62, eng] 47-3792

Liquid freezing during laminar flow. Weigand, B., et al. [1993, p.294-301, eng] 47-3838

Modeling and numerical simulations of dendritic crystal growth. Kobayashi, R., [1993, p.410-423, eng] 47-4071

Solidification of a binary mixture in a rectangular cavity. Zampino, M.A., et al. [1992, p.629-639, eng] 47-4361

Nucleation. Oxtoby, D.W., [1992, p.407-442, eng] 47-4368

Effects of surfaces on the melting/freezing behavior of fluids in derivatized- and nude-porous silica. Malhotra, V.M., et al. [1993, p.121-126, eng] 47-4709

Thermal effects on the shape of a solidifying interface near a foreign particle. Casses, P., et al. [1993, p.13-20, eng] 47-4756

Numerical and experimental study on supercooled laminar flow of water. Ismail, K.A.R. et al. [1991, p.899-903, eng] 47-5108

Effect of the water density extremum on the solidification process. Braga, S.L., et al. [1991, p.1185-1192. eng] 47-5110

Heat transfer from a cylinder buried in a frozen medium. Oosthuizen, P.H., et al. [1992, p.457-475, eng] 47-5264

Complete model for the laminar flow of supercooled liquid water. Ismail, K.A.R., et al. [1992, p.335-349, eng] 47-5265

Liquids

Thermal conductivity measurements for liquids at low temperatures. Eftekhar, J.G., [1991, p.451-455, eng] 47-2564

High-pressure melting—solidification of a substance. Zelenetskiĭ, A.B., et al. [1993, p.1037-1044, eng] 47-4075

See also: Frozen liquids

Liquified gases

Cryogenic ambient air vaporizers: frost growth, wind and seismic design for safety. Bernert, R.E., Jr., et al. [1993, p.789-793, eng] 47-4876

Lithology

Lithology of glacial deposits in the western part of the Don Glacier tongue. Gaigalas, A.I., et al. [1992, p.118-135, rus] 47-69

Effect of ice flow on the distribution of fragmented material in a moraine. Demidov, I.N., [1991, p.186-190. rus] 47-341

Upper surface layer of permafrost; collected scientific papers. Mel'nikov, P.I., ed. [1991, 100p., rus] 47-392

Studying recent ice formation in rocks by tritium analysis. Chizhov, A.B., [1991, p.20-31. rus] 47-396

Formation of the structure and properties of flood-plain deposits by major rivers. Zaikanov, V.G., [1991, p.31-47. rus] 47-397

Engineering geocryological properties of deposits of cryogenic weathering crusts. Vasil'ev, A.A., [1991, p.63-70, rus] 47-399

Using geophysical methods to study an ice-rich intermediate layer in permafrost. Pugach, V.B., et al. [1991, p.87-91, rus] 47-402

Ground moraines in European northeastern Russia and their lithostratigraphic significance. Andreicheva, L.N., [1992, 124p., rus] 47-1499

Hummocks and hummocky landscapes as indicators of the natural conditions of Tien Shan. Tarakanov, A.G., [1991, p.112-118, rus] 47-2042

Investigation of Arctic Ocean bottom sediments. Danilov, I.D., et al. [1991, p.77-82, eng] 47-2888

Investigations of cryogenic weathering in Europe and northern Asia. Konishchev, V.N., et al. [1993, p.49-64, eng] 47-3117

Composition and properties of glacigenic sediments in the southwestern Barents Sea. Saettem, J., et al. [1991, p.229-255, eng] 47-3175

Characteristics of the relict cryolithozone of the West Siberian Plain. Zemtsov, A.A., et al. [1992, p.103-107, rus] 47-3267

Pleistocene glaciation in Iceland. Eiríksson, J., et al. [1992, p.733-757, eng] 47-3473

Glaciomarine sediment indicators of Weddell Sea depositional processes. Kuhn, G., et al. [1993, p.477-487, eng] 47-3644

Cryolithogenesis: advances, promising trends, and research problems. Ershov, E.D., et al. [1992, p.76-84, eng] 47-3833

Studying engineering-geocryological and hydrogeological conditions of the upper zones of rocks in the cryolithozone. Mel'nikov, E.S., ed. [1992, 288p., rus] 47-3866

Submarine rock diagenesis as exposed on Ellesmere I. Davies, G.R., et al. [1990, 77p., eng] 47-4365

Compression properties of Canadian intertill clays. Sauer, E.K., et al. [1993, p.257-275, eng] 47-4513

Deposition of the Late Wisconsin Johnston moraine, southcentral Wisconsin. Lundqvist, J., et al. [1993, p.53-59, eng] 47-4751

Till stratigraphy and glacial history of the Vestfold Hills area, East Antarctica. Hirvas, H., et al. [1993, p.81-95, eng] 47-4753

Organic-rich shale and bentonite in the Arctic Creek unit, Mull, C.G., et al. [1993, p.41-49, eng] 47-4777

Sediment descriptions, western Ross Sea 1987. Bryan, J.R., ed. [1993, 75p., eng] 47-4826

Littoral zone

Southern Lake Michigan coastal ice and sediment sample data: shoreface and ice profiles (winter 1990/91). *McCormick, M., et al. [1991, 32p., eng]* 47-1916

Shoreline shrub development in relation to isostatic rebound. von Mörs, I., et al. [1993, p.15-23, eng] 47-3423

Scale and remotely sensed data for change detection in the James Bay, Ontario, coastal wetlands. McNairn, H., et al. [1993, p.45-49, eng] 47-3724

Sediment dynamics in the St. Lawrence estuary. Drapeau, G., [1992, p.233-242, fre] 47-3791

Morphosedimentological dynamics and coastal evolution in the Kongsfjorden area, Spitsbergen. Héquette, A., [1992, p.321-328, eng] 47-4076

Loading

Influence of light and nutrient addition upon the sediment chemistry of iron in an arctic lake. Sugai, S.F., et al. [1992, p.91-101, eng] 47-1606

Cracking kinetics and failure on repeated loadings of ice. Sinha, N.K., [1992, p.137-150, eng] 47-2301

Shock response of snow. Johnson, J.B., et al. [1993, p.4852-4861, eng] 47-3794

Proceedings. Vol.4. Arctic/polar technology. [1993, 219p., eng] 47-4223

Experimental study of the behaviour of columnar grained ice subjected to cyclic loading. Derradji-Aouat, A., et al. [1993, p.21-28, eng] 47-4226

Results from indentation tests in sea ice. Kärnä, T., et al. [1993, p.177-185, eng] 47-4245

See also: Unloading

Loads (forces)

Effect of an aerodynamic impact load on ice cover. Filippov, A.M., [1991, p.60-68, rus] 47-1050

Performance of asphalt concrete airport pavements during thaw weakening periods. Janoo, V.C., et al. [1992, p.167-183, eng] 47-1135

Stresses and forces under ice compacting. Nikitin, V.A., et al. [1993, p.139-142, eng] 47-4299

See also: Dynamic loads; Ice loads; Ice pressure; Pile load tests; Snow loads; Soil pressure; Static loads; Water pressure; Wind pressure

Loams

Seasonal soil loss and erodibility variation on a Miamian silt loam soil. Bajracharya, R.M., et al. [1992, p.1560-1565, eng] 47-1184

Geochemical exploration for hidden deposits in the cryolithozone. Makarov, V.N., et al. [1988, 108p., rus] 47-2315

Current processes in slightly soddy-podzolic loamy soils. Kanev, V.V., [1991, p.13-29, rus] 47-4104

Locks (waterways)

Unconventional energy sources for ice control at lock and dam installations. Nakato, T., et al. [1992, 37p., eng] 47-697

Icing problems at Corps projects. Haynes, F.D., et al. [1993, 18p. + figs., eng] 47-4608

Loess

Chinese loess and antarctic ice core changes over the last 150,000 years. Kang, J.C., et al. [1991, p.15-23, eng] 47-37

Carbonate isotopic composition of the loess-paleosol sequence and its implication of paleoclimatic change. Gu, Z.Y., [1991, p.1979-1983, eng] 47-1951

Preliminary study of ice nucleating properties of loess particles. Feng, D.X., et al. [1992, p.275-277, eng] 47-2266

Grain-size distribution of the Edoma deposits on Cape Bykovskiy. Nagaoka, D., [1993, p.104-109, eng] 47-3981

Quaternary loess deposition in a montane environment. Roberts, M.C., et al. [1992, p.291-301, eng] 47-4023

Logging

See also: Electrical logging; Radioactive logging; Recording; Well logging

Logging (recording)

See also: Recording

Logistics

Final report of Operation Deep Freeze '92 (1991-1992). [1992, var. p., eng] 47-74

Report of Operation Deep Freeze 85, 1984-1985. [1985, Var. p., eng] 47-1285

Arctic supply ship *Ivan Papanin* Nikonov, V., [1992, p.26-30, rus] 47-2915

Cold region logistics planning and management. Hulsey, J.L., et al. [1993, p.1-11, eng] 47-4283

Polar operations manual. Jenkins, W.T., [1988, Var. p., eng] 47-4665

Symposium on Antarctic Logistics and Operations, 5th. Proceedings. Melander, O., ed. [1993, 365p., eng] 47-5111

Use of the C-5 Galaxy in support of the United States Antarctic Program. Bresnahan, D.M., [1993, p.238-245, eng] 47-5113

Long range forecasting

Year-to-year variation of snow cover area in the Northern Hemisphere. Iwasaki, T., [1991, p.209-217, eng] 47-818

Atmospheric general circulation/mixed layer ocean model for climate studies and long-term weather forecasting. Meleshko, V.P., et al. [1991, p.1-9, eng, 47-1176

Land-ocean-atmosphere relationships during last interglacial. Anderson, P., et al. [1991, p.29-48, eng] 47-3479

Framework for interpreting paleoclimatic variations in eastern Beringia. Bartlein, P.J., et al. [1991, p.73-83, eng] 47-3481

Interglaciation palynology in the Yukon. Schweger, C.E., et al. [1991, p.85-94, eng] 47-3482

Eemian-Early Weichselian N-S temperature gradients: North Atlantic-NW Europe. Sejrup, H.P., et al. [1991, p.161-166, eng] 47-3488

Climatic rhythm of the last interglacial in northern Eurasia. Velichko, A.A., et al. [1991, p.191-213, eng] 47-3490

General circulation models, palaeoclimatic data and last interglacial climates. Harrison, S.P., et al. [1991, p.231-242, eng] 47-3493

Possibility of forecasting the conditions of ice edges in the Greenland Sea up to 30 days in advance. Kuznetsov, I.M., [1990, p.89-93, rus] 47-3593

Studying the possibility of a long range forecast of summer ice conditions in the southwestern Kara Sea. Tiuriakov, A.B., [1990, p.105-111, rus] 47-3596

Calculating the circulation and thermobarometric background in long range meteorological forecasts. Vinogradov, N.D., [1989, p.6-11, rus] 47-3653

Numerical experiment in hydrodynamic forecasting of pressure fields 5 days in advance in the Arctic. Evseev, M.P., et al. [1989, p.53-65, rus] 47-3657

High-latitude zonal index as an informative quantitative indicator of large-scale hydrometeorological processes in the Arctic. Dmitriev, A.A., [1989, p.66-75, rus] 47-3658

Methodical plan for compiling hydrometeorological forecasts and results of its use. Ashik, I.M., [1991, p.86-95, rus] 47-3694

Analysis of conditions and long-term forecast of ice-dam levels on the Lena. Kilmianinov, V.V., [1992, p.64-69, eng] 47-3993

North Atlantic sea ice sensitivities of monthly dynamical forecasts. Walsh, J.E., et al. [1988, p.32-35, eng] 47-4179

Long-range forecasts of arctic sea level pressure. Ross, B., et al. [1988, p.48-51, eng] 47-4183

Annual snowpack patterns across the Rockies. Changnon, D., et al. [1993, p.633-647, eng] 47-4255

Long term forecasting

Snow cover model for global climate simulations. Loth, B., et al. [1993, p.10,451-10,464, eng] 47-4293

Low frequencies

Calculating corrections for low frequency radio-navigation systems for sea routes covered with ice. Pylaev, A.A., et al. [1991, p.106-111, rus] 47-192

Scattering of low frequency sound waves under sea ice. LePage, K., et al. [1992, p.3-16, eng] 47-4714

Low temperature research

Low-temperature shaping of thick-walled composite rings. Stephanychev, E.I., et al. [1992, p.478-481, eng] 47-245

Poly(vinyl alcohol) hydrogels prepared by freezing-thawing cyclic processing. Stauffer, S.R., et al. [1992, p.3932-3936, eng] 47-744

Spanish Antarctic Expedition 1988-1989. [1989, 101p., spa] 47-807

Laboratory test on construction of ice domes and their load-carrying capacity. Hannuki, T. et al. *[1992,* p.203-226, jpn] 47-975

Proceedings of the 37th Annual Conference. [1992, 307p. + append., eng] 47-1133

Statistical analysis of low temperature thermal stress restrained specimen test results. Jung, D.H., et al. [1992, p.200-223, eng] 47-1136

Concepts and procedures for evaluation/design of materials and flexible pavements. Ruth, B.E., et al. [1992, p.270-288, eng] 47-1138

Low temperature cracking experiment at USACRREL Frost Effects Research Facility. Kanerva, H.K., et al. [1992, p.289-307, eng] 47-1139

Energy-balance and surface layer measurements in Antarctica. Georgiadis, T., et al. [1992, p.213-218, eng] 47-1203

Brillouin and Raman scattering from liquid water. Nardone, M., et al. [1992, p.287-299, eng] 47-1377

New band of emission from high-energy-electron-irradiated ice at very low temperature. Miyazaki, T., et al. [1992, p.9558-9561, eng] 47-1567

Work of the wintering personnel of the 32nd Soviet Antarctic Expedition. Vovk, V.IA., [1991, p.5-9, rus] 47-1572

Experimental techniques in condensed matter physics at low temperatures. Richardson, R.C., ed. [1988, 338p., eng] 47-1618

Thermal processes caused by the formation of defects in materials at cryogenic temperatures. Deviatkin, E.A., et al. [1992, p.541-545, rus] 47-2035

Preferential adsorption on amorphous ice surfaces. Buch, V., et al. [1993, p.4195-4206, eng] 47-2674

Low temperature properties of motor oils. Riga, A.T., [1992, p.227-242, eng] 47-2884

Temperature: its measurement and control in science and industry. Volume 6. Schooley, J.F., ed. [1992, 1269p. (2 parts), eng] 47-2939

IPTS-68 and ITS-90 international temperature scales. Swenson, C.A., [1992, p.1-7, eng] 47-2940

Noise thermometry of superconductive transition temperatures. Bremer, J., et al. [1992, p.15-20, eng] 47-2941

Measurements on a dielectric constant gas thermometer between 3 K and 84 K. Grohmann, K., et al. [1992, p.21-26, eng] 47-2942

NPL total radiation thermometer: extension of its range to 450 C. Martin, J.E., et al. [1992, p.31-38, eng] 47-2943

Temperature measurements in radiometry. Sapritskii, V.I., et al. [1992, p.37-39, eng] 47-2944

Absolute spectral radiation thermometry at the National Physical Laboratory. Fox, N.P., et al. [1992, p.41-49, eng] 47-2945

International temperature scale of 1990: Part I. Preston-Thomas, H., et al. [1992, p.63-67, eng] 47-2946

International temperature scale of 1990: Part II. Preston-Thomas, H., et al. [1992, p.69-74, eng] 47-2947

Thermodynamic basis of ITS-90 at 13.8-273.16 K. Part I. Ciarlini, P., et al. [1992, p.75-78, eng] 47-2948

Thermodynamic basis of ITS-90 at 13.8-273.16 K. Part II. Pavese, F., et al. [1992, p.79-83, eng] 47-2949

ITS-90 below 1 K: how accurate is it. Fogle, W.E., et al. [1992, p.85-90, eng] 47-2950

New cryogenic temperature scale from 6.3 to 650 mK. Fogle, W.E., et al. [1992, p.91-96, eng] 47-2951

Extrapolation of ITS-90 to lower temperatures. Schuster, G., et al. [1992, p.97-100, eng] 47-2952

He-3 melting curve thermometer as a universal temperature transfer standard. Colwell, J.H., et al. [1992, p.101-106, eng] 47-2953

Parasitic temperature-dependence in platinum NMR thermometry. Hechtfischer, D., et al. [1992, p.107-111, eng] 47-2954

High-resolution He-4 melting-pressure thermometer for use near 2 K. Goldner, L.S., et al. [1992, p.113-116, eng] 47-2955

Thermodynamic consistency of vapor pressure vs. temperature. Reesink, A.L., et al. [1992, p.117-120, eng] 47-2956

He-3 gas thermometry at IMGC. Steur, P.P.M., et al. [1992, p.121-125, eng] 47-2957

Practical interpolation gas thermometer for a secondary realization of the ITS-90. Sakurai, H., [1992, p.127-131, eng] 47-2958

Piston gage for the NIST realization of the ITS-90. Meyer, C.W., et al. [1992, p.133-138, eng] 47-2959

Development of the ITS-90 interpolation equations for the platinum resistance thermometer. Crovini, L., [1992, p.139-144, eng] 47-2960

On designing the temperature scale in the range 13.8 K to 273.16 K. Ling, S.K., et al. [1992, p.145-150, eng] 47-2961

Some ancillary equations for the ITS-90. Rusby, R.L., et al. [1992, p.151-154, eng] 47-2962

Realization of the ITS-90 below 83.8 K. Pfeiffer, E.R., [1992, p.155-160, eng] 47-2963

Implementation of the ITS-90 below 0 C at NPL. Head, D.I., et al. [1992, p.161-163, eng] 47-2964

ITS-90 traceability with non-ITS-90 equations. Jump, B.E., [1992, p.203-208, eng] 47-2965

Temperature fixed-points using high-purity superconductors. Fellmuth, B., [1992, p.233-238, eng] 47-2966

Study of superconductive transition temperatures for thermometric fixed points. Li, Z.R., et al. [1992, p.239-242, eng] 47-2967

Sealed He-4 superfluid-transition fixed-point device. Duncan, R.V., et al. [1992, p.243-245, eng] 47-2968

Triple point of pure equilibrium deuterium using Gd2O3 spin catalyst. Head, D.I., et al. [1992, p.247-249, eng] 47-2969

Stability of the triple point of gases in metal sealed cells. Pavese, F., et al. [1992, p.251-256, eng] 47-2970

Study of the preparation of sealed cells for thermometry. Liu, F.H., et al. [1992, p.257-260, eng] 47-2971

Realization and intercomparison of cryogenic triple points by means of sealed cells. Guo, N.N., et al. [1992, p.261-263, eng] 47-2972

Argon triple point apparatus with multiple thermometer wells. Furukawa, G.T., [1992, p.265-269, eng] 47-2973

Realization of the triple point of xenon. Pfeiffer, E.R., et al. [1992, p.271-275, eng] 47-2974

Triple-point of trichlorofluoromethane. Méndez-Lango, E., et al. [1992, p.277-279, eng] 47-2975

Realization of the mercury triple point. Furukawa, G.T., [1992, p.281-285, eng] 47-2976

Mercury point realization: estimate of some uncertainties. Hermier, Y., et al. [1992, p.287-291, eng] 47-2977

Platinum resistance thermometer for exploration of the Titan atmosphere. Ruffino, G., et al. [1992, p.409-413, eng] 47-2978

Platinum resistance thermometers in the -200 to 0 C range. Mao, Y.Z., et al. [1992, p.423-425, eng] 47-2979

Low-temperature characteristics of some industrial-grade platinum resistance thermometers. Tamura, O., et al. [1992, p.443-448, eng] 47-2980

Temperature measurement with rhodium-iron resistors below 0.5 K. Schuster, G., [1992, p.449-451, eng] 47-2981

Study of Chinese standard rhodium-iron resistance thermometers. Mao, Y.Z., et al. [1992, p.453-456, eng] 47-2982

Fabrication and practical use of two types of rhodium-iron resistance thermometers. Tamura, O., et al. [1992, p.457-460, eng] 47-2983

R-T relationship and stability of ceramic rhodium-iron resistance thermometers. Yao, Q.F., et al. [1992, p.461-465, eng] 47-2984

Rhodium-iron resistance thermometer for practical use. Mao, Y.Z., et al. [1992, p.467-470, eng] 47-2985

Resistance thermometers with fast response for use in rapidly oscillating gas flows. Rawlins, W., et al. [1992, p.471-474, eng] 47-2986

Low temperature system for advanced thermal control. Lipa, J.A., et al. [1992, p.949-952, eng] 47-2987

Self-tuning temperature controller for a dilution refrigerator. Schuster, G., [1992, p.953-954, eng] 47-2988

Decade of absolute noise thermometry at NIST using a resistive SQUID. Soulen, R.J., Jr. et al. [1992, p.983-988, eng] 47-2989

Signal filtering in SQUID noise thermometers. Nawrocki, W., [1992, p.989-991, eng] 47-2990

Self-balancing bridge for precise susceptibility thermometry. Schuster, G., [1992, p.1009-1011, eng] 47-2991

Nuclear quadrupole resonance spectroscopy for ultra-low-temperature thermometry. Andersen, P.M., et al. [1992, p.1013-1015, eng] 47-2992

Cryogenic thermometer calibration system based on triple points from D2 to H2O. Levine, P.D., et al. [1992, p.1067-1069, eng] 47-2993

Application of mini-refrigerator in temperature measurement. Guo, N.N., et al. [1992, p.1071-1072, eng] 47-2994

Algorithms for Standard Platinum Resistance Thermometer. Cermak, M.A., [1992, p.1087-1091, eng] 47-2995

Thermometry in the thermodynamic limit. Chui, T.C.P., et al. [1992, p.1213-1218, eng] 47-2996

Low temperature glass capacitance thermometry. Strehlow, P., et al. [1992, p.1219-1224, eng] 47-2997

Resolution and accuracy of cryogenic temperature measurements. Holmes, D.S., et al. [1992, p.1225-1230, eng] 47-2998

Neutron and gamma radiation effects on cryogenic temperature sensors. Courts, S.S., et al. [1992, p.1237-1242, eng] 47-2999

Matter and methods at low temperatures. Pobell, F., [1992, 319p., eng] 47-3147

Neutron diffraction studies of high pressure ice. Londono, J.D., et al. [1993, p.4878-4888, eng] 47-3234

Newly developed snow vehicle (SM100S) for Antarctica. 2. Nakajima, M., et al. [1992, p.376-392, jpn] 47-3364

Newly developed snow vehicle (SM100S) for Antarctica. 5. Saito, M., et al. [1992, p.410-440, jpn] 47-3367

Dielectric dispersion of supercooled trimethyleneglycol-water mixtures. Abe, R., et al. [1992, p.4204-4211, eng] 47-3580

Thermodynamic stability of clathrate, pt.2. Tanaka, H., et al. [1993, p.8110-8118, eng] 47-3582

Defect theory for the glass transition and residual entropy of hyperquenched water. Johari, G.P., [1993, p.7324-7329, eng] 47-3684

Calorimetric investigation of solution glass transition. Mehl, P.M., [1993, p.177-197, eng] 47-3779

Influence of damage on mechanical properties of woven composites at low temperatures. Kriz, R.D., [1985, p.55-58, eng] 47-3909

Dielectric properties of frozen clay and silt soils. Moore, J.C., et al. [1993, p.265-273, eng] 47-3930

Dielectric study of frozen aqueous ionic solutions. Laudát, J., et al. [1991, p.211-224, eng] 47-3998

Properties of a statistical model of ice at low temperatures. Barkema, G.T., et al. [1993, p.2059-2067, eng] 47-4463

Simulation of extraterrestrial ice solution melting curves. Boone, S., et al. [1991, p.603-610, eng] 47-4635

Advances in antarctic surveying and mapping. Mullins, J.L., [1991, p.314-315, eng] 47-4675

Effects of surfaces on the melting/freezing behavior of fluids in derivatized- and nude-porous silica. Malhotra, V.M., et al. [1993, p.121-126, eng] 47-4709

Thermodynamic properties of ice and of tetrahydrofuran hydrate in confined geometries. Zakrzewski, M., et al. [1993, p.631-637, eng] 47-4738

Water II is a "strong" liquid. Angell, C.A., [1993, p.6339-6341, eng] 47-4748

Low-temperature physics: an introduction for scientists and engineers. McClintock, P.V.E., et al. [1992, 296p., eng] 47-4858

Symposium on Antarctic Logistics and Operations, 5th. Proceedings. Melander, C., ed. [1993, 365p., eng] 47-5111

Thermodynamics of high-pressure ice. Chizhov, V.E., [1993, p.253-262, eng] 47-5266

Low temperature tests

Buckling of unidirectional graphite/epoxy composite plates at low temperatures. Dutta, P.K., et al. [1991, 11p., eng] 47-692

Proceedings of the 37th Annual Conference. [1992, 307p. + appends., eng] 47-1133

Statistical analysis of low temperature thermal stress restrained specimen test results. Jung, D.H., et al. [1992, p.200-223, eng] 47-1136

Evaluation of polymer-modified asphalts in Ontario. Joseph, P., et al. [1992, p.243-269, eng] 47-1137

Low temperature cracking experiment at USACRREL Frost Effects Research Facility. Kanerva, H.K., et al. [1992, p.289-307, eng] 47-1139

Low-temperature viscosity characteristics of synthetic aviation oils. Echin, A.I., et al. [1993, p.337-341, eng] 47-1997

Tests of excavator equipment under various above and below freezing temperatures. Mikheenko, V.V., [1992, p.2-5, rus] 47-2064

Testing of assembly units, sets and machines to be used in extreme conditions. Degtiareva, A.L., et al. [1991, p.30, rus] 47-2069

Tensile strength of unidirectional fiber composites at low temperatures. Dutta, P.K., [1992, p.782-792, eng] 47-2230

Low temperature tests of unshaped truss joints with T-belts and a crossed grate of single angles. Volkov, V.V., [1990, p.122-125, rus] 47-2760

CR-1 cryogenic hygrometer mounted on a jet aircraft. Busen, R., et al. [1993, p.117-120, eng] 47-3067

Use of concrete for new structures on Adélie Coast. Leguet, J.L., [1991, p.76-80, fre] 47-3180

Newly developed snow vehicle (SM100S) for Antarctica. 1. Takeuchi, S., et al. [1992, p.363-375, jpn] 47-3363

Newly developed snow vehicle (SM100S) for Antarctica. 3. Sakui, S., et al. [1992, p.393-397, jpn] 47-3365

Newly developed snow vehicle (SM100S) for Antarctica. 4. Maekawa, E., et al. [1992, p.398-409, jpn] 47-3366

Newly developed snow vehicle (SM100S) for Antarctica. 5. Saito, M., et al. [1992, p.410-440, jpn] 47-3367

Thermal properties of a plastic at cryogenic temperatures. Humer, K., et al. [1993, p.686-691, eng] 47-4765

Toughness indices of steel fiber reinforced concrete at subzero temperatures. Banthia, N., et al. [1993, p.863-873, eng] 47-5107

Lubricants

Low-temperature properties of desorbed raffinates and their hydrocarbon group components. Alekhina, N.I., et al. [1992, p.44-48, eng] 47-206

Winter operability: equipment problems and their remedies. Diemand, D., [1992, p.124-137, eng] 47-587

Low-temperature viscosity characteristics of synthetic aviation oils. Echin, A.I., et al. [1993, p.337-341, eng] 47-1997

Low temperature properties of motor oils. Riga, A.T., [1992, p.227-242, eng] 47-2884

Atactic polypropylene as a viscosity index improver for low-temperature oils. Alekseev, A.P., et al. [1993, p.509-512, eng] 47-4385

Maintenance and inspection of snow removal equipment. Sugiyama, A., et al. [1986, p.33-38, jpn] 47-5178

Luminescence

New band of emission from high-energy-electron-irradiated ice at very low temperature. Miyazaki, T., et al. [1992, p.9558-9561, eng] 47-1567

UV-excited luminescences from amorphous and polycrystalline H2O ices. Lennon, D., et al. [1993, p.120-126, eng] 47-3513

See also: Thermoluminescence

Machinery

Electric cab heater for construction and road-making machines. Khalnatskii, G.F., et al. [1990, p.26-27, rus] 47-1418

Bench testing of joints in machinery—the basis for competitive engineering. Mikheenko, V.V., [1990, p.27-29, rus] 47-1419

Ice breaker. Hellmann, J.H., et al. [1989, 8 col., eng] 47-3325

Machinery *(cont.)*

Snow-removing machine. Gisler, H., et al. [1987, 8 col., eng] **47-4003**

Ice preparation machine for ice tracks. Schiehe, H., [1987, 4 col., eng] **47-4005**

Snow-belt county's approach to snow and ice control. Bakken, R.C., [1993, p.40-42, eng] **47-4625**

Magnetic resonance

"Electric current" states of the proton in water. Bingi, V.N., [1991, p.1068-1071, eng] **47-230**

(Mu)SR studies of ice, illustrating the positive muon as a magnetic resonance probe of structure and dynamics. Cox, S.F.J., [1992, p.292-296, eng] **47-981**

Snow wetness project. Final report. Wilson, M.A., [1984, 10p. + append., eng] **47-4904**

See also: Nuclear magnetic resonance

Magnetic surveys

Stratigraphy of Quaternary sediments in the Arctic Ocean. Nowaczyk, N.R., et al. [1992, p.S567-S601, eng] **47-1279**

Magnetism

See also: Geomagnetism

Maintenance

Ice plugs help in pipeline retrofit. [1993, p.67, eng] **47-3526**

Ice preparation machine for ice tracks. Schiehe, H., [1987, 4 col., eng] **47-4005**

Storm water regulations—aircraft deicer/anti-icers operations. Espey, W.H., Jr., et al. [1993, p.2333-2338, eng] **47-4452**

See also: Road maintenance; Subgrade maintenance; Winter maintenance

Manhattan

See also: S.S. Manhattan

Manuals

Studying engineering-geocryological and hydrogeological conditions of the upper zones of rocks in the cryolithozone. Mel'nikov, E.S., ed. [1992, 288p., rus] **47-3866**

Guide to durable concrete. [1992, 39p., eng] **47-4353**

Polar operations manual. Jenkins, W.T., [1988, Var. p., eng] **47-4665**

Manufacturing

Low-temperature shaping of thick-walled composite rings. Stephanychev, E.I., et al. [1992, p.478-481, eng] **47-245**

Concentration of black liquor by freeze crystallization. Egan, C.J., et al. [1982, p.471-479, eng] **47-1882**

Operating pressure effects on fluidized bed freezing-drying. Wolff, E., et al. [1991, p.237-246, eng] **47-2303**

Freeze-drying heating profiles. Lombraña, J.I., et al. [1991, p.394-404, eng] **47-2304**

Mathematical modelling of heat transfer in freeze drying. Nastaj, J., [1991, p.405-413, eng] **47-2305**

Simulation of heating profiles in freeze-drying. Lombraña, J.I., et al. [1993, p.85-102, eng] **47-2882**

Crystallizing apparatus. Connery, C.A., [1989, 12 col., eng] **47-3333**

Tunnel kiln adapted for firing frost-resistant bricks in a reducing atmosphere. Mueller, M., [1988, 6 col., eng] **47-3420**

Evaluation of pozzolanic activity of rice husk ash. Sugita, S., et al. [1993, p.495-512, eng] **47-3610**

Evaluation of bacterial ice nucleation. Watabe, S., et al. [1993, p.603-606, eng] **47-4734**

Mapping

Frozen ground landscapes of Yakutia: methods of detection and problems in mapping. Fedorov, A.N., [1991, 140p., rus] **47-96**

Interrelations of the characteristics of glaciation in regional glacier systems. Glebova, L.N., et al. [1991, p.67-76, rus] **47-323**

Calculating and mapping the fields of components in the water-ice balance of glaciers. Bazhev, A.B., et al. [1991, p.94-102, rus] **47-326**

Ice thickness and subglacial topography of the Fridtjof Glacier based on data from ground-based radar sounding. Glazovskii, A.F., et al. [1991, p.161-166, rus] **47-336**

Algorithms for mapping radar data. Abshaev, M.T., et al. [1991, p.44-50, rus] **47-752**

Modeling the spatial distribution of the snow cover based on informative cartographic analysis. Shutov, V.A., [1989, p.88-94, eng] **47-1228**

Prospecting and mapping of mountain permafrost and associated phenomena. King, L., et al. [1992, p.73-81, eng] **47-1746**

Automated permafrost mapping using a computer program. Keller, F., [1992, p.133-138, eng] **47-1752**

Analysis of radar studies on the Siple Coast. Bentley, C.R., et al. [1991, p.62-63, eng] **47-2464**

Development of an airborne MMW FM-CW radar for mapping river ice. Yankielun, N.E., et al. [1993, 10p., eng] **47-2757**

Estimating avalanche hazard in the territory of Afghanistan. Kravtsova, V.I., et al. [1991, p.86-93, rus] **47-2793**

Evaluating the cost of anti-avalanche measures. Blagoveshchenskii, V.P., et al. [1991, p.179-186, rus] **47-2810**

Mapping avalanche hazard areas in the USSR. Kanaev, L.A., [1991, p.196-210, rus] **47-2813**

Surface albedo distribution in Lützow-Holm Bay. Nakagawa, K., [1992, p.1-15, eng] **47-3001**

Permafrost zonation in Russia under anthropogenic climatic change. Nelson, F.E., et al. [1993, p.137-148, eng] **47-4149**

Winter storm mapping: a Geographic Information Systems Transportation application. Swift, L.B., et al. [1992, p.60-71, eng] **47-4359**

Analysis of ERS-1 altimeter data over polar ice sheets. Rapley, C.G., et al. [1993, p.235-240, eng] **47-4418**

Application of ERS-1 SAR data to snow mapping. Hallikainen, M., et al. [1993, p.589-594, eng] **47-4447**

Advances in antarctic surveying and mapping. Mullins, J.L., [1991, p.314-315, eng] **47-4675**

Monitoring the dynamics of the antarctic coastline with Landsat images. Lucchitta, B.K., et al. [1991, p.316-317, eng] **47-4676**

SANAE total column ozone: 1980 to 1990. Bodeker, G.E., et al. [1991, p.220-221, eng] **47-4979**

See also: Infrared mapping; Sensor mapping; Soil mapping; Stereomapping

Maps

Deposition of sulfur and nitrogen compounds over the USSR. Vasilenko, V.N., et al. [1991, p.19-24, eng] **47-1177**

Circumarctic map of permafrost and ground ice conditions. Brown, J., [1992, p.15-21, eng] **47-1701**

Fourteenth session of the Editorial Board of the "Atlas of Snow and Ice Resources of the World". Dreier, N.N., [1991, p.231-232, rus] **47-2816**

Antarctic drifting sea ice atlas for areas restricted from 0 to 90 west longitude. Faccini, E.E., et al. [1993, p.310-317, eng] **47-5118**

See also: Charts; Geological maps; Meteorological charts; Topographic maps

Marginal ice zone

See also: Ice edge

Marine atmospheres

Seasonal input of heavy metals to antarctic snow. Suttie, E.D., et al. [1992, p.351-357, eng] **47-835**

Evolution of atmospheric circulation over the North Atlantic in the period of hydrological front displacement. Semenov, M.V., et al. [1991, p.85-89, eng] **47-1180**

Annual cycle of radiation fluxes over the Arctic Ocean: sensitivity to cloud optical properties. Curry, J.A., et al. [1992, p.1267-1280, eng] **47-1549**

Determinations of methyl iodide in the antarctic atmosphere and the south polar sea. Reifenhäuser, W., et al. [1992, p.2905-2912, eng] **47-1948**

Transport of marine organic matter evidenced in antarctic snow. Cini, R., et al. [1992, p.191-204, eng] **47-2164**

Model and real climate compared in the NW European winter. Beersma, J.J., [1992, 32p., eng] **47-3522**

Performance of portland and blast furnace slag cement concretes in marine environments. Osborne, G.J., [1993, p.1303-1323, eng] **47-3616**

High ice crystal production in winter cumuli over the Japan Sea. Takahashi, T., [1993, p.451-454, eng] **47-3729**

Climatic changes in the Barents Sea area. Borisov, S.B., et al. [1991, p.46-50, eng] **47-4252**

Marine biology

Microorganism survival in ice-covered marine environment. Stanley, S.J., et al. [1992, p.58-72, eng] **47-2**

In situ spectroradiometric estimation of microalgal biomass in first-year sea ice. Legendre, L., et al. [1991, p.113-115, eng] **47-5**

Psychrophilic microorganisms isolated from deep sea mud. Hamamoto, T., et al. [1992, p.200-205, eng] **47-139**

Theoretical approaches to the study of ecosystems in the arctic and subarctic seas. Matishov, G.G., ed. [1992, 162p., rus] **47-182**

Radiolarian fauna at the ice edge in the Greenland Sea during summer, 1988. Swanberg, N.R., et al. [1992, p.297-320, eng] **47-199**

Arctic marine ecosystem contamination. Muir, D.C.G., et al. [1992, p.75-134, eng] **47-262**

Natural cleaning processes of arctic waters and ice from petroleum hydrocarbons. Il'inskii, V.V., et al. [1991, p.91-101, rus] **47-889**

1991 cruise report of ARKTIS VIII/2. Rachor, E., ed. [1992, 150p., eng] **47-1218**

Postembryonic development of a copepod from Lützow-Holm Bay. Tanimura, A., [1992, p.109-128, eng] **47-1219**

Expedition ARKTIS VIII/1 of RV *Polarstern* in 1991. Kattner, G., ed. [1992, 75p., ger] **47-1221**

Distribution of dominant copepods in the Nansen Basin, Arctic Ocean, in summer. Hirche, H.J., et al. [1992, p.S485-S505, eng] **47-1275**

Recent distribution of planktonic foraminifera in the Nansen Basin, Arctic Ocean. Carstens, J., et al. [1992, p.S507-S524, eng] **47-1276**

Diatom assemblages in arctic sea ice—indicator for ice drift pathways. Abelmann, A., [1992, p.S525-S538, eng] **47-1277**

GLOBEC workshop on southern ocean marine biology. [1991, 150p., eng] **47-1281**

Sea ice algae growth related to a salinity gradient in Hudson Bay. Legendre, L., et al. [1992, p.445-453, eng] **47-1469**

In situ patterns of intracellular photosynthate allocation by sea ice algae in the Canadian High Arctic. Smith, R.E.H., et al. [1992, p.545-551, eng] **47-1789**

Dynamics of ice algae and phytoplankton in Frobisher Bay. Hsiao, S.I.C., [1992, p.645-651, eng] **47-1790**

Hydrocarbon contamination of limpets in Arthur Harbor. Kennicutt, M.C., II, et al. [1992, p.506-511, eng] **47-1932**

Determinations of methyl iodide in the antarctic atmosphere and the south polar sea. Reifenhäuser, W., et al. [1992, p.2905-2912, eng] **47-1948**

Hydrobiological studies in the Arctic: the structure of bottom communities. Vozzhinskaia, V.B., et al. [1992, p.1332-1335, rus] **47-2039**

Radiocarbon dates from McMurdo Ice Shelf. Kellogg, T.B., et al. [1991, p.77-79, eng] **47-2471**

Fate and effects of dispersed crude oil under icy conditions simulated in mesocosms. Siron, R., et al. [1993, p.273-302, eng] **47-2657**

Sea ice and wind: effects on primary productivity in the Barents Sea. Sakshaug, E., et al. [1992, p.579-591, eng] **47-2879**

Polish expedition to the Weddell Sea sea ice zone. Rakusa-Suszczewski, S., [1991, p.485-494, eng] **47-3086**

Sea ice algae at the ice edge in the Scotia/Weddell confluence. Ligowski, R., [1991, p.547-563, eng] **47-3091**

Krill migration at the ice edge in the Scotia/Weddell confluence. Godlewska, M., et al. [1991, p.583-592, eng] **47-3093**

Results of the Third Joint US-USSR Bering & Chukchi Seas Expedition (BERPAC), Summer 1988. Nagel, P.A., ed. [1988, 415p., eng] **47-3864**

Cod schooling behavior in relation to drifting pack ice. Crawford, R.E., et al. [1993, p.345-357, eng] **47-4061**

Simulated antarctic fast ice ecosystem. Arrigo, K.R., et al. [1993, p.6929-6946, eng] **47-4139**

Bio-optical observations of first-year arctic sea ice. Perovich, D.K., et al. [1993, p.1059-1062, eng] **47-4266**

Nitrogen uptake and new production in the Greenland Sea: the spring *Phaeocystis* bloom. Smith, W.O., Jr., [1993, p.4681-4688, eng] **47-4390**

Are arctic marine invertebrates relatively insensitive to metals. Chapman, P.M., [1993, p.611-613, eng] **47-4628**

Selective accumulation of polychlorocamphenes in aquatic biota from the Canadian Arctic. Bidleman, T.F., et al. [1993, p.701-709, eng] **47-4629**

Ecological environmental features of antarctic sea ice and its role in the marine ecosystems. Wang, Z.P., et al. [1993, p.1-15, chi] **47-4646**

Ecological situation and protection of flora and fauna of the Barents Sea. Matishov, G.G., ed. [1991, 211p., rus] **47-4660**

Discovery of a new sea ice diatom genus. Poulin, M., [1993, p.223-233, eng] **47-4735**

Expedition ANTARKTIS X3 of RV *Polarstern* in 1992. Spindler, M., ed. [1993, p.1-122, eng] **47-4879**

Bomb radiocarbon in arctic Alaskan aquatic and terrestrial biota. Schell, D.M., [1993, p.135-144, eng] **47-5026**

Radioactivity in the Barents Sea, past and present status, and its impact on fisheries. Föyn, L., [1993, p.201-211, eng] **47-5031**

U.S. interagency coastal and marine monitoring programs for determining levels of Arctic radioactivity. Curtis, W.R., et al. [1993, p.343-357, eng] **47-5041**

Assessment of deep-sea nekton and their role in radionuclide transfer. Stein, D.L., [1993, p.449-461, eng] **47-5049**

Marine deposits

Cenozoic marine and permafrost history of the North Slope. Carter, L.D., et al. [1992, p.44-51, eng] **47-611**

Marine deposits and paleoclimatology of the North Slope. Nelson, R.E., et al. [1992, p.219-222, eng] **47-619**

Cenozoic sedimentary processes on the antarctic continental margin and the record from deep drilling. Hambrey, M.J., et al. [1992, p.77-103, eng] **47-1007**

Hydrocarbon pollution of ocean sediments. Steinhauer, M.S., et al. [1992, p.223-253, eng] **47-1170**

Radiocarbon date list VII: Baffin Island, N.W.T., Canada. Kaufman, D.S., ed. [1992, 82p., eng] **47-1433**

Strength testing of marine sediments: laboratory and in-situ measurements. Chaney, R.C., ed. [1985, 558p., eng] **47-1614**

Liquefaction potential of sediment in the northern Bering Sea. Winters, W.J., [1985, p.454-472, eng] **47-1615**

Some aspects of the behavior of Beaufort Sea clays. Jefferies, M.G., et al. [1985, p.487-514, eng] **47-1617**

Deglacial chronology for Baffin I. and Hudson Strait. Stravers, J.A., et al. [1992, p.1000-1017, eng] **47-1797**

Weichselian stratigraphy and palaeoenvironments at Bellsund, western Svalbard. Landvik, J.Y., et al. [1992, p.335-358, eng] **47-2044**

Late Neogene glacio-eustatic record. Ishman, S.E., et al. [1992, p.327-347, eng] **47-2047**

Labrador Sea bottom sediments related to iceberg rafting. Andrews, J.T., et al. [1992, p.1087-1090. eng] 47-2631

Uranium-series dating of coastal deposits. Muhs, D.R., [1992, p.31-51. eng] 47-2682

Outline of stratigraphy of the Pleistocene and the Holocene in south and central Spitsbergen. Lindner, L., et al. [1991, p.165-172. eng] 47-2769

Marine palynology of interglacial-glacial transitions. Dupont, L.M., [1992, p.137-155. eng] 47-2834

Norwegian Sea record of the last interglacial to glacial transition. Duplessy, J.C., et al. [1992, p.173-183. eng] 47-2835

Evidence of rapid climate change in North Atlantic deep sea cores. Bond, G., et al. [1992, p.185-205. eng] 47-2836

Global climate change: a three million year perspective. Raymo, M.E., [1992, p.207-223. eng] 47-2837

Fossil evidence of ice-free conditions in Arctic Ocean sediment. Gard, G., [1993, p.227-230. eng] 47-2848

Contributions to antarctic research III. Elliot, D.H., ed. [1992, 155p., eng] 47-2867

Antarctic scallop shell proxy records. Berkman, P.A., et al. [1992, p.27-38. eng] 47-2870

Late Pleistocene ice sheet grounding in the Ross Sea. Anderson, J.B., et al. [1992, p.39-62. eng] 47-2871

Glacial history of the Antarctic Peninsula's continental shelf. Pope, P.G., et al. [1992, p.63-91. eng] 47-2872

Pliocene-Pleistocene seismic stratigraphy of the Ross Sea. Alonso, B., et al. [1992, p.93-103. eng] 47-2873

Marine transgressions and paleoclimatology in northern Alaska. Brigham-Grette, J., et al. [1992, p.74-89. eng] 47-3352

Early Pleistocene paleoclimate indicated by Greenland sediments. Penney, D.N., [1993, p.49-66. eng] 47-3460

Paleoenvironments in the northwest North Atlantic. De Vernal, A., et al. [1991, p.95-106. eng] 47-3483

Isotope stage 5 (130-74 ka) in Greenland—a review. Funder, S., et al. [1991, p.107-122. eng] 47-3484

Eemian-Early Weichselian N-S temperature gradients: North Atlantic-NW Europe. Sejrup, H.P., et al. [1991, p.161-166. eng] 47-3488

Astronomical theory of glaciation cycles. Grieger, B., [1990, p.81-96. eng] 47-3575

Glaciomarine sediment indicators of Weddell Sea depositional processes. Kuhn, G., et al. [1993, p.477-487. eng] 47-3644

Stratigraphy of a moraine deposited in a marine environment. Brandal, M.K., et al. [1991, p.3-14. eng] 47-3832

Origins and engineering hazards of Swedish glaciomarine and marine clays. Stevens, R.L., et al. [1991, p.257-264. eng] 47-3882

Lateral stress measurements in a glaciomarine silty clay. Sully, J.P., et al. [1991, p.265-270. eng] 47-3883

Radiocarbon dating of west Spitsbergen Quaternary deposits. Forman, S.L., et al. [1993, p.1-6. eng] 47-4015

Glacigenic deposits of the Central Deep: a key to the Late Quaternary evolution of the eastern Barents Sea. Gataullin, V., et al. [1993, p.47-58. eng] 47-4017

Morphosedimentological dynamics and coastal evolution in the Kongsfjorden area, Spitsbergen. Héquette, A., [1992, p.321-328. eng] 47-4076

Paleoclimate record for Northwind Ridge, western Arctic Ocean. Poore, R.Z., et al. [1993, p.149-159. eng] 47-4152

Microfaunal evidence for elevated Pliocene temperatures in the Arctic Ocean. Cronin, T.M., et al. [1993, p.161-173. eng] 47-4153

Patterns of ice-rafted detritus in the glacial North Atlantic (40-55 deg N). Grousset, F.E., et al. [1993, p.175-192. eng] 47-4154

Geomorphological effects of glaciation in arctic Canada. Blake, W., Jr., [1992, p.1958-1980. eng] 47-4156

Non-destructive high resolution density measurements of *marine sediments.* Gerland, S., [1993, 130p., ger] 47-4222

Marine sediment records of Pleistocene climate. Birchfield, G.E., et al. [1993, p.10,385-10,399. eng] 47-4392

Last glacial maximum on Spitsbergen, Svalbard. Mangerud, J., et al. [1992, p.1-31. eng] 47-4406

Ice sheet dynamics and the Pleistocene ice ages. Birchfield, G.E., [1987, p.381-398. eng] 47-4454

Relaxation oscillator model of the ice age cycle. Peltier, W.R., [1987, p.399-416. eng] 47-4455

Geochemistry of Mackenzie river sediments. Yunker, M.B., et al. [1993, p.3041-3061. eng] 47-4458

Paleoclimatic implications of Alaskan coastal marine deposits. Kaufman, D.S., et al. [1993, p.21-33. eng] 47-4733

Sediment export by ice rafting from a coastal polynya, arctic Alaska, U.S.A. Reimnitz, E., et al. [1993, p.83-98. eng] 47-4741

Dendrochronology of an iceberg-calving glacier. Wiles, G.C., et al. [1993, p.35-42. eng] 47-4750

Circumantarctic benthic foraminifers. Ishman, S.E., [1993, p.105-133. eng] 47-4822

Antarctic glacial-marine sedimentation. Anderson, J.B., [1993, p.1-88. eng] 47-4824

Stratigraphy and paleoclimatic analysis of deep water antarctic glacial marine sediments. Domack, E.W., [1993, p.89-104. eng] 47-4825

Sediment descriptions, western Ross Sea 1987. Bryan, J.R., ed. [1993, 75p., eng] 47-4826

Pre-Holocene marine limit on Hopen, Svalbard. Zale, R., et al. [1993, p.159-164. eng] 47-4853

Silurian pinnacle reefs of the Canadian Arctic. De Freitas, T.A., et al. [1993, p.172-182. eng] 47-4912

See also: Sediments

Marine geology

Boulder beach formed by waves from a calving glacier, *Eqip Sermia,* West Greenland. Nielsen, N., [1992, p.159-168. eng] 47-226

Recent sedimentary processes in Scoresby Sund, East Greenland. Marienfeld, P., [1992, p.169-186. eng] 47-227

Submersible observations of an iceberg pit and scour on the Grand Banks of Newfoundland. Barrie, J.V., et al. [1992, p.1-6. eng] 47-446

Analysis of the Beaufort-Mackenzie Basin, Canada: burial, thermal and hydrocarbon histories. Tang, J., et al. [1992, p.510-525. eng] 47-1171

Postglacial emergence in the Canadian High Arctic: integrating glacioisostasy, eustasy, and *late deglaciation.* England, J., [1992, p.984-999. eng] 47-1796

Deglacial chronology for Baffin I. and Hudson Strait. Stravers, J.A., et al. [1992, p.1000-1017. eng] 47-1797

Outline of stratigraphy of the Pleistocene and the Holocene in south and central Spitsbergen. Lindner, L., et al. [1991, p.165-172. eng] 47-2769

Submarine cryolithogenesis in the Arctic. Shpolianskaia, N.A., [1991, p.65-70. rus] 47-2790

Fossil evidence of ice-free conditions in Arctic Ocean sediment. Gard, G., [1993, p.227-230. eng] 47-2848

Late Cenozoic uplift and volcanism on Spitsbergen: caused by mantle convection?. Vagnes, E., et al. [1993, p.251-254. eng] 47-2849

Investigation of Arctic Ocean bottom sediments. Danilov, I.D., et al. [1991, p.77-82. eng] 47-2888

Sediments from the Kerguelen Plateau and the Norwegian Sea. Pittenger, H.A., [1992, 163p., eng] 47-2893

Composition and properties of glacigenic sediments in the southwestern Barents Sea. Saettem, J., et al. [1991, p.229-255. eng] 47-3175

Marine transgressions and paleoclimatology in northern Alaska. Brigham-Grette, J., et al. [1992, p.74-89. eng] 47-3352

Late Quaternary glacial marine sediment record. Praeg, D., et al. [1992, p.133-150. eng] 47-3787

Stratigraphy of a moraine deposited in a marine environment. Brandal, M.K., et al. [1991, p.3-14. eng] 47-3832

Cretaceous chemosynthetic carbonate mounds in the Canadian Arctic. Beauchamp, B., et al. [1992, p.434-450. eng] 47-3987

Glacigenic deposits of the Central Deep: a key to the Late Quaternary evolution of the eastern Barents Sea. Gataullin, V., et al. [1993, p.47-58. eng] 47-4017

Physical signatures of Pleistocene ice advance in Norway. Lönne, I., [1993, p.59-70. eng] 47-4018

Geomorphological effects of glaciation in arctic Canada. Blake, W., Jr., [1992, p.1958-1980. eng] 47-4156

Iceberg scouring in Scoresby Sund and on the East Greenland continental shelf. Dowdeswell, J.A., et al. [1993, p.37-53. eng] 47-4297

Submarine rock diagenesis as exposed on Ellesmere I. Davies, G.R., et al. [1990, 77p., eng] 47-4365

Submarine rock diagenesis as exposed on Ellesmere I. Davies, G.R., et al. [1990, 77p., eng] 47-4365

Three-dimensional model of an Alaskan river polar fan-delta. Lindsay, J.F., [1992, p.183-201. eng] 47-4366

Last glacial maximum on Spitsbergen, Svalbard. Mangerud, J., et al. [1992, p.1-31. eng] 47-4406

Permafrost and Holocene shoreline regression in arctic Canada. Adams, J., [1993, 66p., eng] 47-4606

Quaternary landforms on Spitsbergen. Lindner, L., et al. [1992, p.91-101. eng] 47-4649

Expedition to Novaja Zemlja and Franz Josef Land with RV *Dalnie Zelentsy.* Nürnberg, D., et al. [1993, p.45-74. eng] 47-4878

Silurian pinnacle reefs of the Canadian Arctic. De Freitas, T.A., et al. [1993, p.172-182. eng] 47-4912

Marine meteorology

On the interannual variation in sea ice area of the Okhotsk Sea. Sekine, Y., et al. [1992, p.30-33. jpn] 47-110

Rainfall estimation over oceans from SMMR and SSM/I microwave data. Prabhakara, C., et al. [1992, p.532-552. eng] 47-355

Structure of a winter storm producing heavy precipitation over Nova Scotia. Stewart, R.E., et al. [1990, p.411-426. eng] 47-627

Cold air outbreak near Spitsbergen in springtime—boundary-layer modification and *cloud development.* Brümmer, B., et al. [1992, p.13-46. eng] 47-900

Comments on "An arctic hurricane over the Bering Sea". Reed, R.J., et al. [1992, p.2713-2715. eng] 47-1994

Doppler radar analysis of mesoscale snow bands. Ishihara, M., et al. [1989, p.503-520. eng] 47-3466

Initiation of maritime ice sheets. Kerr, A.D., [1990, p.69-79. eng] 47-3574

Hydrometeorological conditions characteristic of separated and connected *Severnaya Zemlya* and *Kara Sea* ice massifs. Egorov, A.G., [1990, p.35-41. rus] 47-3587

Navy arctic seas weather analysis and forecast, Vol.8, Part 2. Fett, R.W., ed. [1992, Var. p., eng] 47-3911

Forecasting Caspian Sea ice edge. Bukharitsin, P.I., et al. [1992, p.58-63. eng] 47-3992

Coastal influences on winter precipitation events in southeast Labrador Newell, J.P., [1992, p.107-114. eng] 47-4039

Boolean delay equation model of an interdecadal arctic climate cycle. Darby, M.S., et al. [1993, p.241-246. eng] 47-4354

Polar lows and katabatic winds as a triggering mechanism. Wos, K.A., [1992, 139p., eng] 47-4622

Forecasters handbook *for the Bering Sea, Aleutian Islands,* and Gulf of Alaska. Fett, R.W., et al. [1993, Var. p., eng] 47-4886

Marine transportation

Soviet arctic marine transportation 1990. Brigham, L.W., [1991, p.109-110. eng] 47-242

Extending the shipping season in the Canadian Arctic and prospects for the future. Sneyd, A.R., et al. [1992, p.351-365. eng] 47-1041

Iceberg warnings. Ezman, A.T., [1993, p.56-59. eng] 47-2144

Nuclear-powered submarine transport for the Arctic. Dronov, B.F., et al. [1992, p.3-7. rus] 47-2899

Influence of natural conditions on the development of transportation in the Far East. Vakhnenko, R.V., [1991, p.103-106. rus] 47-3281

Supplying the national economy with oceanographic information. Shamraev, Iu.I., [1989, 189p., rus] 47-3504

Breaking the ice. Goldsack, B., [1992, p.22-27. eng] 47-3859

Nuclear lighter "Sevmorput". Smirnov, V., et al. [1990, p.22-23. rus] 47-4089

Transport of small consignments of petroleum products to Arctic points. Kazimirov, A., [1990, p.5-6. rus] 47-4090

Northern Sea Route and the policy of new Russia. Granberg, A.G., [1992, p.5-14. eng] 47-4210

Chronology of the International Northern Sea Route Project. Simonsen, H., [1992, p.26-33. eng] 47-4211

History of the Northern Sea Route. Armstrong, T., [1992, p.34-42. eng] 47-4212

Northern Sea Route—rosy prospects for commercial shipping?. Wergeland, T., [1992, p.43-57. eng] 47-4213

Northern Sea Route: a new era in Soviet policy?. Östreng, W., [1991, p.259-287. eng] 47-4217

Northern Sea Route—now open. Ivanov, Iu., et al. [1992, p.15-20. eng] 47-4872

Geopolitics of the Northern Sea Route. Östreng, W., [1992, p.21-25. eng] 47-4873

Regulations for navigation on the seaways of the Northern Sea Route. [1991, 23p., eng] 47-4892

Navigation in the Weddell and Bellingshausen seas. *Federici,* V.M., *et al.* [1993, p.274-299. eng] 47-5116

Markers

Recessed deflecting road reflector. Sheldon, S.A., [1989, 6 col., eng] 47-3104

Snowplow resistant road markers. Eigenmann, L., [1987, 6 col., eng] 47-4000

Snow loads on road-side structures during plowing. *Rudelstorfer,* K., *et al.* [1987, 88p., ger] 47-4989

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Mars (planet)

Martian geology and ice sublimation. Moore, J.M., [1991, 179p., eng] 47-301

Simulation of the climate on Mars for exobiological studies. Lindberg, C., et al. [1992, p.240-243. eng] 47-1737

Martian atmospheric circulation simulation. Pollack, J.B., et al. [1993, p.3149-3181. eng] 47-2669

Coupled subsurface-boundary layer model of water on Mars. Zent, A.P., et al. [1993, p.3319-3337. eng] 47-2670

Hemispherical asymmetry in the Martian polar caps. Lindner, B.L., [1993, p.3339-3344. eng] 47-2671

Geographic variations in the thermal and diffusive stability of ground ice on Mars. Mellon, M.T., et al. [1993, p.3345-3364. eng] 47-2672

Shear-induced folding in Arsia Mons aureole: evidence for low-latitude Martian glaciations. Anguita, F., et al. [1992, p.11-22. eng] 47-3722

Martian permafrost. Costard, F., [1993, p.91-100. eng] 47-3835

Vertical structure and size distributions of Martian aerosols from solar occultation measurements. Chassefière, E., et al. [1992, p.46-69. eng] 47-3923

Model for the hydrologic and climatic behavior of water on Mars. Clifford, S.M., [1993, p.10,973-11,016. eng] 47-4409

Coastal geomorphology of the Martian northern plains. Parker, T.J., et al. [1993, p.11,061-11,078. eng] 47-4410

Ice in the northern lowlands and southern highlands of Mars and its enrichment beneath the Elysium lavas. Cave, J.A., [1993, p.11,079-11,097. eng] 47-4411

Mars (planet) *(cont.)*
Weathering of basaltic rocks under cold arid conditions: Antarctica and Mars. Allen, C.C., et al. [1991, p.711-717, eng] 47-4636
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Snow melt runoff for a sub-catchment of Beas basin. Agrawal, K.C., et al. [1985, p.43-63, eng] 47-561
Is the antarctic ice sheet growing. Jacobs, S.S., [1992, p.29-33, eng] 47-1072
Analysis of the estimates of mean climatological rate of the bottom and deep water renewal. Popov, A.V., [1990, p.94-97, eng] 47-1230
Simulation of natural acid sulfate weathering in an alpine watershed. Bassett, R.L., et al, [1992, p.2197-2209, eng] 47-1506
Cation export from Alaskan arctic watersheds. Cornwell, J.C., [1992, p.15-22, eng] 47-1600
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Flood generation and destruction of "Drift" Glacier by the 1989-90 eruption of Redoubt Volcano, Alaska. Trabant, D.C., et al, [1992, p.33-38, eng] 47-1083
Rockslide and debris flow from Mount Cayley, B.C., in *June 1984.* Cruden, D.M., et al, [1992, p.614-626, eng] 47-1185
Construction, environmental problems and natural hazards in periglacial mountain belts. Haeberli, W., [1992, p.111-124, eng] 47-1750
Integrated semiconductor resistance temperature sensor and resistive heater. Sittler, F.C., et al, [1989, 10 col., eng] 47-3327
Debris flow in Canadian continuous permafrost area. Harris, S.A., et al, [1993, p.41-56, eng] 47-4984
Mass movements (geology)
Periglacial geomorphology: Proceedings. [1992, 354p., eng] 47-844
Long-term rates of contemporary solifluction in the Canadian Rocky Mountains. Smith, D.J., [1992, p.203-221, eng] 47-853
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Influence of avalanche snow transport on snowmelt runoff. De Scally, F.A., [1992, p.73-97, eng] 47-173
Heat and mass transfer processes during the nucleation, growth and melting of hailstones. Filatkin, V.N., et al, [1991, p.50-68, rus] 47-753
Liquid microphases at ice-solid interface of microelectrodes in solid water. Bond, A.M., et al, [1992, p.281-295, eng] 47-768
Mechanism of mass transfer and chemogenic deformation of frozen ground. Lebedenko, IU.P., [1990, p.55-66, rus] 47-1255
Mass transfer in frozen soil. Padilla, F., et al, [1988, p.121-126, eng] 47-1580
Mass transfer in freezing saline soils. Ershov, E.D., et al, [1992, p.115-122, eng] 47-1715
Transfer of ions within the system soil-snow and the role of ice surface in their migration. Ostroumov, V.E., et al, [1992, p.127-135, eng] 47-1717
Effect of freezing-thawing cycles on the heat-mass-exchangeable properties of cryogenic soils. Stepanov, A.V., et al, [1992, p.136-139, eng] 47-1718
Dynamics of heat-mass transfer in cryogenic soils of north-east Yakutia. Davydov, S.P., et al, [1992, p.180-184, eng] 47-1726
Wet deposition influence on ice sheet chemistry. Borys, R.D., et al, [1991, p.1705-1718, eng] 47-2220
Mathematical model for predicting the densification and growth of frost on a flat plate. Tao, Y.X., et al, [1993, p.353-363, eng] 47-2608
Active rock glaciers in central northern Tian Shan. Schröder, H., [1992, p.109-119, ger] 47-2666
Transport phenomena in frozen porous media. Perfect, E., et al, [1991, p.243-270, eng] 47-2860
Simulation of heating profiles in freeze-drying. Lombraña, J.I., et al, [1993, p.85-102, eng] 47-2882
Rock glacier dynamics in Kazakhstan. Gorbunov, A.P., et al, [1992, p.29-39, eng] 47-3124
Micro-relief on a rock glacier, Dalton Range, Yukon, Canada. Johnson, P.G., [1992, p.41-47, eng] 47-3125
Double-diffusive convection during solidification of a binary system. Nishimura, T., et al, [1992, p.586-600, eng] 47-3514
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Nonstationary heat and mass transfer in disturbed rock massifs. Cherniak, V.P., et al, [1992, 224p., rus] 47-3863
Solidification of a binary mixture in a rectangular cavity. Zampino, M.A., et al, [1992, p.629-639, eng] 47-4361
Influence of freezing technique on freeze drying. Kochs, M., et al, [1993, p.1727-1738, eng] 47-4413
Crustal evolution and dust emission of artificial cometary nuclei. Thiel, K., et al, [1990, p.389-399, eng] 47-4568
Acid snow over coastal Japan, pt.2. Kitada, T., et al, [1993, p.1077-1090, eng] 47-4582
On the characteristics of mass transfer during the freezing of peat. Brovka, G.P., et al, [1991, p.51-56, rus] 47-4809
Redistribution of moisture and cryogenic structural formation in freezing sapropel. Brovka, G.P., et al, [1991, p.67-74, rus] 47-4812
Mass transfer measurements of graupel growth. Cober, S.G., et al, [1993, p.1591-1609, eng] 47-4832
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Use of radiation absorbing for clearing snow in mountainous regions. Vombatkere, S.G., [1985, p.222-239, eng] 47-574
Use of radiation absorbing materials for clearing snow in mountainous areas. Sharma, H.D., [1985, p.240-247, eng] 47-575
Accelerated snow melting by artificial means. Bhattacharya, U., et al, [1985, p.248-263, eng] 47-576
Review of recent findings in well-casing studies. Parker, L.V., [1992, p.83-91, eng] 47-1892
Thermal processes caused by the formation of defects in *materials at cryogenic temperatures.* Deviatkin, E.A., et al, [1992, p.541-545, rus] 47-2035
Design of greenhouses for the manipulation of temperature in tundra plant communities. Debevec, E.M., et al, [1993, p.56-62, eng] 47-3429
Study of snow melting mechanism by solar radiative absorption material. Inaba, H., et al, [1992, p.715-726, eng] 47-4363
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Fundamentals of the theory of calculating the navigation value of ice data. Likhachev, A.V., [1991, p.15-33, rus] 47-90
Differential method of multivariate analysis of ice data. Likhachev, A.V., [1991, p.60-73, rus] 47-91
Integrating the equations of motion of an ice sheet. Ivanov, A.I., [1991, p.131-136, rus] 47-330
Model evaluations of the Aksay and At-Bashi river runoff with regard to the role of snow cover and glaciers. Shentsis, I.D., [1991, p.136-142, rus] 47-331
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Model for managing the formation of the microstructure of hail clouds. Ashabokov, B.A., et al, [1991, p.3-8, rus] 47-746
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Mixed Markov model for multi-year fluctuations in minimal runoff from periodically freezing on drying-up rivers. Serkov, N.K., [1991, p.72-76, rus] 47-896
Tenth annual EOSAEL/TWI Conference: Proceedings. [1990, 713p., eng] 47-908
Assessment of the one-dimensional icing forecast model applied to stratiform clouds. Tunick, A., et al, [1990, p.57-64, eng] 47-909
Obscuration in snow and smoke. Hutt, D.L., [1990, p.101-110, eng] 47-910
Assessment of the mathematical modelling of the creep of ice and frozen soils. Azizi, F., [1992, p.3-14, eng] 47-1014
On computer simulation of motion of broken ice. Vinogradov, O., [1992, p.15-24, eng] 47-1015
Numerical simulation of river ice dynamics. Wasantha Lal, A.M., et al, [1992, p.25-36, eng] 47-1016
Study of ice borehole closure by finite element method. Li, F., et al, [1992, p.77-89, eng] 47-1020
Three-dimensional viscoplastic flow model of *polycrystalline ice.* Fish, A.M., [1992, p.193-207, eng] 47-1029
On ice-coupled waves: a comparison of data and theory. Squire, V.A., et al, [1992, p.269-280, eng] 47-1034
Large amplitude sea/ice coupling. Fox, C., [1992, p.293-304, eng] 47-1036
Parameters for theoretical models of ice jams according to data on hydrometric changes. Buzin, V.A., [1991, p.3-11, rus] 47-1042
Thermal reversal tactical decision aid evaluation. Berrick, S.W., et al, [1992, p.75-83, eng] 47-1068
Ozone absorption and sun-photometric measurements. Tomasi, C., et al, [1992, p.227-245, eng] 47-1205
Stratospheric GCM for polar ozone studies. Pitari, G., et al, [1992, p.285-316, eng] 47-1208
Antarctic temperature perturbation due to the QBO and the secular ozone trend. Pitari, G., et al, [1992, p.317-329, eng] 47-1209
Determination of the phase interface of the aggregate state of water in soil. Kitaev, V.V., [1989, p.84-92, eng] 47-1222
Influence of convection and currents on bottom melting of ice during spring heating of a body of water. Blokhina, N.S., [1989, p.82-87, eng] 47-1227
Modeling the spatial distribution of the snow cover based on informative cartographic analysis. Shutov, V.A., [1989, p.88-94, eng] 47-1228
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Hydrodynamics of lakes. Filatov, N.N., [1991, 196p., rus] 47-2283
Anomalies in global heat-water exchange; stochastic models. Dobrovol'skii, S.G., [1991, 128p., rus] 47-2285
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Estimating glacier-derived runoff from mountain rivers in model predictions. Shentsis, I.D., [1991, p.32-40, rus] 47-2786
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Three-dimensional atmospheric circulation model with a comprehensive description of physical processes and simplified dynamics. Kislov, A.V., [1991, p.241-246, eng] 47-2895
Tropospheric aerosol and climate: results from numerical experiments. Kolomeev, M.P., et al, [1991, p.253-257, eng] 47-2896
Mathematical modelling of the thawing of permafrost *beneath a pipeline.* Semerikov, A.V., et al, [1992, p.23-24, rus] 47-2903
Remote sensing of snow using radar methods. Kulemin, G.P., *et al,* [1992, 36p., rus] 47-2910
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Analysis of the dynamic characteristics of the shaft line and main thrust bearing of the "Arctic" type icebreaker. Basalygin, G.M., et al, [1992, p.15-19, rus] 47-2919
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Acoustic scattering from elemental arctic ice features: numerical *modeling results.* Fricke, J.R., [1993, p.1784-1796, eng] 47-3231
River surge propagation modeling. Hicks, F.E., et al, [1992, p.454-462, eng] 47-3308
New concept in runback water modeling for anti-iced aircraft surfaces. Al-Khalil, K.M., et al, [1993, p.41-49, eng] 47-3316
Sensitivity method for ice floe trajectory calculations. *Thomson,* N.R., et al, [1992, p.573-585, eng] 47-3344
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Once more on calculations of maximum spring flood runoff. Vodogretskii, V.E., [1992, p.74-78, eng] 47-3994
Modeling the temperature regime of an arctic soil. Richeva, T.A., et al. [1993, p.1-11, eng] 47-4011
Effects of a straw mulch on the thermal conditions in soil after snow-cover loss. Gusev, E.M., et al. [1993, p.12-23, eng] 47-4012
Thermal equilibrium in porous media with concurrent flow and freezing. Tao, Y.X., et al. [1993, p.323-332, eng] 47-4065
Effect of selective withdrawal on the annual thermal regime of a deep water body. Bocharov, O.B., et al. [1993, p.384-390, eng] 47-4066
Modeling and numerical simulations of dendritic crystal growth. Kobayashi, R., [1993, p.410-423, eng] 47-4071
High-pressure melting—solidification of a substance. Zelenetskii, A.B., et al. [1993, p.1037-1044, eng] 47-4075
Sensitivity analysis of frost heave—a theoretical study. Sheng, D., et al. [1993, p.3-16, eng] 47-4115
Analytical solutions for modelling of ice structure interaction. Koreneva, E.B., [1993, p.59-61, eng] 47-4121
Interpretation of short-term ice-sheet elevation changes inferred from satellite altimetry. Van der Veen, C.J., [1993, p.383-405, eng] 47-4137
Simulated antarctic fast ice ecosystem. Arrigo, K.R., et al. [1993, p.6929-6946, eng] 47-4139
Energy transfer in ventilated low-temperature snow. Lax, J., [1988, p.153-157, eng] 47-4207
Creep and creep damage of polycrystalline ice under multi-axial variable loading. Wu, Z., et al. [1993, p.1-10, eng] 47-4224
Air containing propeller stream and its application in ice clearance. Wang, S.L., et al. [1993, p.53-58, eng] 47-4230
Stochastic modelling of icicle formation. Szilder, K., et al. [1993, p.59-64, eng] 47-4231
Computer model of glaze accretion on wires. Draganoiu, G., et al. [1993, p.89-95, eng] 47-4235
Primary creep of ice plate under constant loading. Mahrenholtz, O., et al. [1993, p.97-104, eng] 47-4236
Dynamic analysis of the medium scale hydraulic ice indentation apparatus. Spencer, P.A., et al. [1993, p.105-111, eng] 47-4237
Modelling for ice-structure interactions. Morsy, U.A., et al. [1993, p.119-125, eng] 47-4239
Dynamic modeling of the spatial distribution of precipitation in remote mountainous areas. Barros, A.P., et al. [1993, p.1195-1214, eng] 47-4254
Thermomechanical modelling of freezing soil. Frémond, M., et al. [1993, p.48-60, eng] 47-4272
Experimental study and numerical solution of frost heaving in specific materials. Padilla, F., [1993, p.116-136, fre] 47-4277
Creep response of laterally loaded piles in ice and permafrost. Puswewala, U.G.A., et al. [1993, p.223-240, eng] 47-4285
Contact force and damage evolution in a moving uniaxial ice bar. Shin, J.G., et al. [1992, p.129-134, eng] 47-4287
Snow cover model for global climate simulations. Loth, B., et al. [1993, p.10,451-10,464, eng] 47-4293
Combined creep and yield model of ice under multiaxial stress. Fish, A.M., [1993, p.130-138, eng] 47-4298
Stresses and forces under ice compacting. Nikitin, V.A., et al. [1993, p.139-142, eng] 47-4299
Dynamics of ice cover interacting with ocean and atmosphere. Kheisin, D.E., [1993, p.51-55, eng] 47-4300
Boolean delay equation model of an interdecadal arctic climate cycle. Darby, M.S., et al. [1993, p.241-246, eng] 47-4354
Form of cyclonic precipitation and its thermal impact. Gedzelman, S.D., et al. [1993, p.1957-1978, eng] 47-4355
Numerical study of three-dimensional natural convection and freezing in water. Yeoh, G.H., et al. [1992, p.640-650, eng] 47-4362
Thermal energy conservation in icebergs and tracking by temperature. Löset, S., [1993, p.10,001-10,012, eng] 47-4372
Wave effects on ocean-ice interaction in the marginal ice zone. Liu, A.K., et al. [1993, p.10,025-10,036, eng] 47-4374
Arctic sea ice signatures for passive microwave algorithms. Thomas, D.R., [1993, p.10,037-10,052, eng] 47-4375
Arctic Ocean ice balance: a Kalman smoother estimate. Thomas, D.R., et al. [1993, p.10,053-10,067, eng] 47-4376
Numerical study of haline convection beneath leads in sea ice. Smith, D.C., IV, et al. [1993, p.10,069-10,083, eng] 47-4377
Thermodynamic model of ice-atmosphere interactions. Ebert, E.E., et al. [1993, p.10,085-10,109, eng] 47-4378
Marine sediment records of Pleistocene climate. Birchfield, G.E., et al. [1993, p.10,385-10,399, eng] 47-4392
Model for the hydrologic and climatic behavior of water on Mars. Clifford, S.M., [1993, p.10,973-11,016, eng] 47-4409
Influence of freezing technique on freeze drying. Kochs, M., et al. [1993, p.1727-1738, eng] 47-4413
Freezing of water between vertical tubes. Kim, C.J., et al. [1993, p.2647-2656, eng] 47-4414
Semi-discrete element approach to the river ice breakup and jamming process. Guo, Q.Z., et al. [1993, p.65-69, eng] 47-4450
Modeling the *delta*O-18-derived record of Quaternary climatic change with low dynamical systems. Saltzman, B., [1987, p.355-380, eng] 47-4453
Relaxation oscillator model of the ice age cycle. Peltier, W.R., [1987, p.399-416, eng] 47-4455
Cloud-ice-vapor feedbacks in a global climate model. Jentsch, V., [1987, p.417-437, eng] 47-4456
Sea ice-ocean interaction. Lemke, P., [1987, p.439-451, eng] 47-4457
Parameterization of the radiative properties of cirrus clouds. Fu, Q., et al. [1993, p.2008-2025, eng] 47-4459
Climatic effects on glacier thermodynamics. Blatter, H., [1991, 98p., eng] 47-4461
Properties of a statistical model of ice at low temperatures. Barkema, G.T., et al. [1993, p.2059-2067, eng] 47-4463
Adsorbate spectra for amorphous ice. Buch, V., et al. [1993, p.2265-2268, eng] 47-4464
Sea ice models. Hibler, W.D., III, et al. [1992, p.413-436, eng] 47-4499
Numerical investigation of wind speed effects on lake-effect storms. Sousounis, P.J., [1993, p.261-290, eng] 47-4511
Finite-floe wave reflection and transmission coefficients from a semi-infinite model. Meylan, M., et al. [1993, p.12,537-12,542, eng] 47-4524
Acid snow over coastal Japan, pt.1. Kitada, T., et al. [1993, p.1061-1076, eng] 47-4581
Effects of CO2 increase on climate dynamics. Saltzman, B., et al. [1993, p.1051-1054, eng] 47-4630
Ocean-acoustic propagation in an arctic profile. Buckingham, M.J., [1993, p.93-104, eng] 47-4633
Climate model sensitivity to sea ice albedo parameterization. Morassutti, M.P., [1991, p.25-36, eng] 47-4640
Model for the anisotropic reflectance of pure snow. Li, S.S., [1982, 60p., eng] 47-4644
Numerical modeling of the coagulation and aggregation of ice crystals and snowflakes. Sergeev, B.N., et al. [1992, p.71-79, rus] 47-4658
Flow along developable surface snowplow moldboards. Crane, R.L., [1992, 293p., eng] 47-4677
Frost formation and heat transfer on circular cylinders in cross flow. Raju, S.P., et al. [1992, p.109-122, eng] 47-4704
Prediction of frost growth on a flat plate. Tao, Y.X., et al. [1992, p.131-139, eng] 47-4705
Heat transfer from a heated cylinder buried in a frozen porous medium in an enclosure. Oosthuizen, P.H., et al. [1992, p.315-326, eng] 47-4707
Scattering of low frequency sound waves under sea ice. LePage, K., et al. [1992, p.3-16, eng] 47-4714
Analytical technique for solving an arctic acoustic model. Sheard, J.D., et al. [1992, p.39-42, eng] 47-4718
Thermal effects on the shape of a solidifying interface near a foreign particle. Casses, P., et al. [1993, p.13-20, eng] 47-4756
Dynamics of seasonal heat, moisture, and salt transfer in frozen ground. Permiakov, P.P., et al. [1991, p.47-51, rus] 47-4808
Theoretical and experimental studies of snow covers' microwave emissivity. Boyarskii, D.A., et al. [1993, p.959-970, eng] 47-4828
Arctic pack ice thermal stress related to under-ice noise. Lewis, J.K., et al. [1993, p.573-590, eng] 47-4838
Sea ice constitutive behavior and under-ice noise. Pritchard, R.S., [1993, p.591-6 eng] 47-4839
Strategies for modelling climate changes. Lliboutry, L.A., [1993, p.385-398, eng] 47-4845
Ice sheet dynamics. Lliboutry, L.A., [1993, p.399-416, eng] 47-4846
Glacier flow modeling. Kamb, B., [1993, p.417-506, eng] 47-4847
Low-temperature physics: an introduction for scientists and engineers. McClintock, P.V.E., et al. [1992, 296p., eng] 47-4858
Measurement of heat losses from a conduit-type heat distribution system. Lunardini, V.J., [1990, p.435-449, eng] 47-4862
Investigation of air containing propeller stream. Wang, S.L., et al. [1993, 4p., eng] 47-4863
Flow over a propeller with ice blockage. Shih, L.Y., et al, [1993, 12p., eng] 47-4865
Mathematical model of frost heave and thaw settlement in pavements. Guymon, G.L., et al. [1993, 126p., eng] 47-4870
Mathematical model for river ice processes. Lal, A.M.W., et al. [1993, 80p., eng] 47-4871
Modeling the temperature regime of an arctic soil. Rycheva, T.A., et al. [1992, p.1-11, eng] 47-4875
Numerical and experimental investigation of river ice cover cracking. Abdel-Zaher, A.K., [1992, 201p., eng] 47-4887
Tracked vehicle performance over snow-covered slopes. Muro, T., [1993, p.143-155, eng] 47-4889
Observation of flooded ice in arctic regions. Goroch, A.K., et al. [1993, p.1305-1324, eng] 47-4905
Kinematic model of river ice motion during dynamic breakup. Ferrick, M.G., et al. [1993, p.111-134, eng] 47-4907
Optics on a fractal surface and the photometry of the regoliths. Drossart, P., [1993, p.381-393, eng] 47-4994

Mathematical models *(cont.)*

Snow impurities as a function of pollutant emission remoteness. Malakhov, S.G., et al. [1993, p.111-115, eng] 47-5003

Thermal analysis of ice melting from surface friction. Pushkarev, O.E., et al. [1992, p.25-30, eng] 47-5004

Simplified numerical solution of the Miller model of secondary frost heave. Fowler, A.C., et al. [1993, p.327-336, eng] 47-5204

Model for thermally-induced stresses in multi-year sea ice. Lewis, J.K., [1993, p.337-348, eng] 47-5205

Chaotic characteristics of snowmelt runoff: a preliminary study. Wilcox, B.P., et al. [1990, p.125-134, eng] 47-5217

Methane from northern peatlands and climate change. Frolking, S., [1993, p.109-124, eng] 47-5233

Quantifying regional changes in terrestrial carbon storage by extrapolation from local ecosystem models. King, A.W., [1993, p.221-234, eng] 47-5239

Floating ice beam impact forces against a sloped structure. Coutermarsh, B.A., [1993, 51p., eng] 47-5244

Complete model for the laminar flow of supercooled liquid water. Ismail, K.A.R., et al. [1992, p.335-349, eng] 47-5265

Thermodynamics of high-pressure ice. Chizhov, V.E., [1993, p.253-262, eng] 47-5266

Snow surface scattering theory and particle size distribution. West, R., et al. [1993, p.426-437, eng] 47-5268

See also: Computerized simulation

Meadow soils

Some indices of the biological activity of soils of the mountain meadow belt of the northwestern Caucasus. Efremov, A.L., [1981, p.76-78, eng] 47-475

Structure, productivity and energy flow in an alpine grassland in the Garhwal Himalaya. Sundriyal, R.C., [1992, p.15-20, eng] 47-511

Annual nutrient budget for an alpine grassland in the Garhwal Himalaya. Sundriyal, R.C., et al. [1992, p.21-26, eng] 47-512

Cryogenesis and functioning of microbial communities in soil of Zabaikalye areas. Kulikov, A.I., et al. [1992, p.199-203, eng] 47-1729

Geochemistry of soils of Spitsbergen. Dobrovol'skii, V.V., [1990, p.1-15, eng] 47-2758

Grass plants in Yakutia. Petrova, A.N., [1990, 125p., rus] 47-4654

Cryogenesis in the soil-plant cover in the floodplains of Mongolia. Maksimovich, S.V., et al. [1991, p.34-37, rus] 47-4806

Effect of the complexity of soil cover on the agricultural development of meadow-swamp soils. Butsenko, A.N., [1991, p.97-103, rus] 47-4817

Residence time of carbon in soils of the boreal zone. Kobak, K., et al. [1993, p.51-57, eng] 47-5228

Characteristics of forest biogeocenoses. Pervova, N., [1993, p.79-85, eng] 47-5231

Measurement

Optical effects of polar stratospheric clouds on the retrieval of TOMS total ozone. Torres, O., et al. [1992, p.13,015-13,024, eng] 47-79

Mass balance, terminus behavior and runoff of North Cascade, Washington glaciers. Pelto, M.S., [1990, 135p., eng] 47-83

How to measure a glacier. [1991, p.6-7, eng] 47-179

Extinction of visible and infrared beams by falling snow. Hutt, D.L., et al. [1992, p.5121-5132, eng] 47-449

Some studies in gamma attenuation for application in snow gauging. Rao, M.V.N., et al. [1985, p.144-148, eng] 47-533

Trials for the measurement of static and impact pressure of snow and avalanches. Hariprasad, N.M., et al. [1985, p.226-243, eng] 47-541

Preliminary assessments of accuracy characteristics of the double-fenced precipitation gauge. Golubev, V.S., [1991, p.101-106, eng] 47-797

Airborne video as satellite imagery ground truthing. Johannessen, B.O., et al. [1992, p.337-349, eng] 47-1040

Measuring negative pore water pressures in a freezing environment. Fredlund, D.G., et al. [1991, p.291-299, eng] 47-1127

Brewer spectrophotometry in total ozone measurements. Anav, A., et al. [1992, p.277-284, eng] 47-1207

Water balance study in Svalbard—inspection of various forms of snow erosion, June 5-10, 1991. Frisvold, H., et al. [1991, 16p., nor] 47-2013

DIAL ozone measurements at Dumont d'Urville Station. Stefanutti, L., et al. [1992, p.345-358, eng] 47-2169

High-altitude and polar humidity. Schlatter, T., [1992, p.39-40, eng] 47-3457

Ice forces on light piers in the St. Lawrence Seaway. Frederking, R.M.W., et al. [1992, p.67-72, eng] 47-4280

Comparison of VLBI data with the ICE-3G glacial rebound model. James, T.S., et al. [1993, p.871-874, eng] 47-4631

Site characterization measurements of background and targets in support of smart weapons testing. Hayward, M., et al. [1993, 96p., eng] 47-4664

Ice sheets: growing or shrinking. Van der Veen, C.J., [1993, p.5-9, eng] 47-4740

Equilibrium line altitude correlation of Norwegian glaciers. Torsnes, I., et al. [1993, p.106-116, eng] 47-4743

See also: Acoustic measurement; Electrical measurement; Flow measurement; Geothermometry; Height finding; Photogrammetry; Photometry; Radiometry; Recording; Remote sensing; Sampling; Sounding; Spectroscopy; Temperature measurement; Underwater geothermal measurement; Velocity measurement; Well logging

Measuring instruments

Radiation and eddy flux experiment 1991 (REFLEX I). Hartmann, J., et al. [1992, 72p., eng] 47-41

Compressive strength, flexural strength and static elastic modulus of sea ice. Takahashi, Y., et al. [1992, p.155-168, eng] 47-1026

Polar Ocean Profiler: new generation sensor platform. May, C.W., et al. [1992, p.73-81, eng] 47-1060

Lidar detection of ozone in the troposphere and lower stratosphere. Browell, E.V., [1991, p.77-89, eng] 47-1338

Obtaining smooth hydrographic profiles from a buoy deployed in sea ice. Steele, M., et al. [1992, p.812-826, eng] 47-1472

Reliability of a proglacial river monitoring program. Gurnell, A.M., et al. [1992, p.191-200, eng] 47-1814

Total ozone measurements with Dobson and Brewer spectrophotometers. Nichol, S.E., et al. [1992, p.469-475, eng] 47-2173

Ice mechanics in the LeadEx program. Coon, M.D., et al. [1991, p.651-656, eng] 47-2184

Field instrument for examining in-cloud scavenging mechanisms by snow. Mitchell, D.L., et al. [1991, p.239-253, eng] 47-2212

Thermal conductivity measurements for liquids at low temperatures. Eflekhar, J.G., [1991, p.451-455, eng] 47-2564

Statistical properties of sea ice surface topography in the Baltic Sea. Lewis, J.E., et al. [1993, p.127-142, eng] 47-2889

Meteorological research using a high mast on an antarctic ice shelf. Belitz, H.-J., et al. [1987, p.5-10, eng] 47-2912

Measurement of falling motion of snowflakes using CCD camera. Muramoto, K., et al. [1992, p.71-76, eng] 47-3006

Compositional state detection system and method. Sinnar, A.M., [1989, 12 col., eng] 47-3113

Solifluction meter for permafrost sites. Lewkowicz, A.G., [1992, p.11-18, eng] 47-3122

Apparatus for measuring the moisture content of snow particles. Suga, N., [1989, 6 col., eng] 47-3330

Microwave ice accretion measuring instruments. Magenheim, B., et al. [1987, 20 col., eng] 47-3854

Ice mill for chemical analysis of trace gases in ice bubbles. Fuchs, A., et al. [1993, p.199-203, eng] 47-3952

Glaze ice measurement with microprocessor. Provencal, G., et al. [1988, 8 col., eng] 47-4008

Evaluation of limits to the performance of the surface roughness meter. Johnson, F., et al. [1993, p.140-145, eng] 47-4591

See also: Airborne radar; Barometers; Borehole instruments; Calorimeters; Cloud height indicators; Dynamometers; Evaporimeters; Frigorimeters; Hygrometers; Magnetometers; Meteorological instruments; Moisture meters; Nucleus counters; Penetrometers; Photometers; Precipitation gages; Probes; Psychrometers; Radiation measuring instruments; Snow pillows; Snow survey tools; Strain measuring instruments; Thermistors; Thermocouples; Thickness gages

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See also: Ice removal

Mechanical properties

Temperature-independent relationships for frozen soils. Wijeweera, H., et al. [1992, p.1-21, eng] 47-516

Freezing of water in hardboard: absence of changes in mechanical properties. George, M.F., et al. [1992, p.252-259, eng] 47-771

Creep law of rock ice with anisotropic fabric inferred from homogenization. Lliboutry, L.A., [1991, p.242-245, eng] 47-2314

Non-chloride accelerating admixture for Class CF fly ash. Brook, J.W., et al. [1990, p.51-54, eng] 47-2719

Method of preparing and molding mortar or like. Suzuki, T., [1988, 8 col., eng] 47-3495

Proceedings. [1993, 1681p. (2 vols.), eng] 47-3605

Scaling resistance of concrete fly ash aggregates. Bilodeau, A., et al. [1993, p.319-349, eng] 47-3608

Comparative study of natural pozzolans used in blended cement production. Akman, M.S., et al. [1993, p.471-494, eng] 47-3609

Silica fume in concrete—an overview. Khayat, K.H., et al. [1993, p.835-872, eng] 47-3611

Thermal properties of a plastic at cryogenic temperatures. Humer, K., et al. [1993, p.686-691, eng] 47-4765

Steel selection for arctic ships: effects of elevated loading rate on toughness. Tyson, W.R., et al. [1993, p.261-265, eng] 47-4830

Learning behavior of sea ice. Denner, W.W., [1993, p.527-536, eng] 47-4834

High strength concrete resistance to cold weather. Ernzen, J.J., et al. [1993, 304p., eng] 47-5061

See also: Avalanche mechanics; Ice mechanics; Rock mechanics; Snow mechanics; Soil mechanics

Mechanical tests

Durability of [illegible] fly-ash concrete. Triano, J.R., et al. [1992, p.369-384, eng] 47-1057

Laboratory tests for predicting coarse aggregate performance in Ontario. Senior, S.A., et al. [1991, p.97-106, eng] 47-1132

Bench testing of joints in machinery—the basis for competitive engineering. Mikheenko, V.V., [1990, p.27-29, rus] 47-1419

Influence of beam size on the flexural strength of sea ice, freshwater ice and iceberg ice. Parsons, B.L., et al. [1992, p.1017-1036, eng] 47-1626

Experience with rutschblocks. Jamieson, J.B., et al. [1992, p.1,4-5, eng] 47-1886

Notch acuity effects on the CTOD and K(Q) of ice. Dempsey, J.P., et al. [1990, p.333-342, eng] 47-2310

Using nondestructive diagnostic methods to evaluate the condition of the material in foundations on permafrost. Izotov, V.N., ed. [1989, 44p., rus] 47-2316

On development of fibre-ice-composites. Vasil'ev, N.K., [1993, p.195-199, eng] 47-2650

Model tests of dynamic ice loading on the Chinese JZ-20-2 jacket platform. Timco, G.W., et al. [1992, p.819-832, eng] 47-3304

Engineering properties of rubberized concrete. Eldin, N.N., et al. [1992, p.912-923, eng] 47-3307

Freeze-thaw resistance of mortar-polymer admixtures. Atzeni, C., et al. [1993, p.301-308, eng] 47-3421

Ductile ice. Schulson, E.M., et al. [1993, p.151-157, eng] 47-3564

Proceedings. [1993, 1681p. (2 vols.), eng] 47-3605

Scaling resistance of concrete fly ash aggregates. Bilodeau, A., et al. [1993, p.319-349, eng] 47-3608

Comparative study of natural pozzolans used in blended cement production. Akman, M.S., et al. [1993, p.471-494, eng] 47-3609

Silica fume composition influence on concrete properties. Batrakov, V.G., et al. [1993, p.943-963, eng] 47-3612

Concrete durability related to curing rate. Johnston, C.D., [1993, p.1167-1187, eng] 47-3613

Wet-mix silica fume shotcrete: effect of silica fume form. Morgan, D.R., et al. [1993, p.1251-1271, eng] 47-3614

Silica fume-polymer mortars for rehabilitation of bridge decks. Bürge, T.A., [1993, p.1273-1286, eng] 47-3615

Freeze thaw resistance of underwater concrete aggregates. Fukudome, K., et al. [1993, p.1565-1582, eng] 47-3618

Brittle compressive failure of fresh-water columnar ice under biaxial loading. Smith, T.R., et al. [1993, p.153-163, eng] 47-3776

Sea ice flexural rigidity: a comparison of methods. DiMarco, R.L., et al. [1993, p.247-255, eng] 47-3928

Effect of fatigue on the bearing capacity of floating ice sheets. Haynes, F.D., et al. [1993, p.257-263, eng] 47-3929

Regelation of ice through debris at glacier beds: implications for sediment transport. Iverson, N.R., [1993, p.559-562, eng] 47-3997

Static analysis of floating ice block stability. Coutermarsh, B.A., et al. [1993, p.147-160, eng] 47-4172

France-Canada joint study of deformation of an experimental pipe line by differential frost heave. Williams, P.J., et al. [1993, p.56-60, eng] 47-4301

Silica fume replacement of cement—effects on concrete durability. Hooton, R.D., [1993, p.143-151, eng] 47-4351

Frozen rock abrasiveness effect on tool wear. Polovinko, V.A., et al. [1993, p.546-550, eng] 47-4579

Thermal properties of a plastic at cryogenic temperatures. Humer, K., et al. [1993, p.686-691, eng] 47-4765

Notch sensitivity of first-year sea ice. Parsons, B.L., et al. [1993, p.1303-1313, eng] 47-4848

Simulation of ice-shedding on electrical transmission lines using ADINA. Jamaleddine, A., et al. [1993, p.523-536, eng] 47-4857

Tracked vehicle performance over snow-covered slopes. Muro, T., [1993, p.143-155, eng] 47-4889

Test methods for the renovation of road coverings. Wicke, M., et al. [1985, 48p., ger] 47-4987

Reliability of guyed masts with special reference to arctic conditions. Johansson, B., et al. [1991, 18p., eng] 47-5011

High strength concrete resistance to cold weather. Ernzen, J.J., et al. [1993, 304p., eng] 47-5061

Toughness indices of steel fiber reinforced concrete at subzero temperatures. Banthia, N., et al. [1993, p.863-873, eng] 47-5107

Estimate of the size of the damage zone beneath an indenter on ice. Parsons, B.L., [1993, p.371-380, eng] 47-5207

Bedrock weathering associated with antarctic snowpatches. Hall, K., [1993, p.121-129, eng] 47-5270

Meetings

Scientific Workshop on Glaciology in the Institute of Geography, USSR Academy of Sciences: June 1990-March 1991. Shishorina, Zh.G., [1991, p.160, rus] 47-335

State-of-the-art survey of flexible pavement crack sealing procedures in the United States. Eaton, R.A., et al. [1992, 19p., eng] 47-707
International Conference on Antarctic Science, Bremen, Sep. 1991. Qin, D.H., [1992, p.178-183, chi] 47-1656
Working session and seminar of the Glaciology Section, autumn 1990. Ushakov, A.I., [1991, p.223-230, rus] 47-2815
Fourteenth session of the Editorial Board of the "Atlas of Snow and Ice Resources of the World". Dreter, N.N., [1991, p.231-232, rus] 47-2816
Frozen ground. [1992, 23p., eng] 47-3264
Antarctic science conference, Germany, 1991. Kanda, H., [1992, p.57-60, jpn] 47-3624
1993 joint meeting of ASME, ASCE and Society of Engineering Science. [1993, 2 vols. (*Pertinent* p.352-374), eng] 47-3761
Cold answers to hot issues. Peel, D.A., [1993, p.403-404, eng] 47-3855
"Panarctic Flora and Fauna" Workshop (Moscow, 25 Feb.-1 Mar.; Leningrad, 4-6 Mar. 1991). IUrtsev, B.A., [1992, p.140-144, rus] 47-4094
Proceedings. [1993, 2 vol., eng] 47-4415
Biosphere reserves—a challenge and an opportunity. [1993, 31p., *eng*] 47-4602
Frozen ground. [1993, 24p., eng] 47-4611
Arctic Centre news. Lange, M.A., ed. [1993, 12p., eng] 47-4613
Results of the Fifth All-Union Conference on the Theoretical Principles of Soil Cryogenesis. [1991, p.121-128, rus] 47-4821

Melting

Icebergs and bergy bits in Kongsfjorden, Spitsbergen. Dowdeswell, J.A., et al. [1992, p.81-91, eng] 47-2353
Ice formation on deep weakly stratified water. Walin, G., [1993, p.143-157, eng] 47-2890
See also: Artificial melting; Defrosting; Glacier melting; Ice melting; Snow melting; Thawing

Melting points

Theory of ice premelting in monosized powders. Cahn, J.W., *et al.* [1992, *p.101-108, eng*] 47-181
Effect of restricted geometries on the structure and thermodynamic properties of ice. Handa, Y.P., et al. [1992, p.8594-8599, eng] 47-1569
Anomalous behavior of ice in solutions of ice-binding arabinoxylans. *Williams, R.J., [1992, p.105-113, eng]* 47-2883
Very large melting point depression of water in silica. van Miltenburg, J.C., et al. [1993, p.1143-1149, eng] 47-3290
Thermodynamic properties of ice and of tetrahydrofuran hydrate in confined geometries. Zakrzewski, M., et al, [1993, *p.631-637, eng*] 47-4738
When ice melts in sea water: a review. Gade, H.G., [1993, p.139-165, eng] 47-4914
Ice sheet firn temperature and meltwater refreezing in Greenland. Braithwaite, R.J., [1993, p.109-114, eng] 47-4920

Meltwater

Laboratory investigation of the leaching of solute from snowpack by rainfall. Tranter, M., et al, [1992, p.169-178, eng] 47-376
Depositional model for Rogen moraine, with examples from the Avalon Peninsula, Newfoundland. Fisher, T.G., et al, [1992, p.669-686, eng] 47-378
Developing a method of forecasting rain and snow-rain *triggered floods with insufficient data.* Basilashvili, Ts.Z., [1990, p.46-59, rus] 47-417
Solar chest for melting snow performance evaluation. Hariprasad, N.M., et al. [1985, p.203-211, eng] 47-572
Different water types found in the vicinity of Juan Carlos I Station. Antiguedad, I., et al. [1989, p.41-49, spa] 47-811
Study of glacier meltwater resources in China. Yang, Z.N., et al, [1992, p.141-145, eng] 47-1101
Scale dependent albedo variations and runoff from a glacierized alpine basin. Brugman, M.M., [1991, p.61-71, eng] 47-1293
Relationship between runoff and meteorological factors. Kang, E.S., [1991, p.189-202, eng] 47-1306
Hydrological interactions in the Mistaya basin, Alberta, Canada. Young, G.J., [1991, p.237-244, eng] 47-1311
Vertical stability of surface waters and phytoplankton bloom in Weddell Sea *marginal ice zone.* Veth, C., et al, [1992, p.237-243, eng] 47-1329
Variations of runoff supply and discharge of rivers with elevation in Qilian Mountains. Lai, Z.M., [1985, p.124-130, chi] 47-1527
Features of interior rivers and feeding of glacial meltwater in the Hexi region, Gansu Province. Gao, Q.Z., et al, [1985, p.131-141, chi] 47-1528
Analysis and reasonable utilization of runoff in the Shiyang River. Zhou, B.C., [1985, p.142-149, chi] 47-1529
Artificial melting of glaciers in the Qilian Mountains. Bai, C.Y., et al, [1985, p.150-162, chi] 47-1530
Artificial dusting of glaciers in the Qilian Mountains. Bai, C.Y., [1985, p.163-171, chi] 47-1531
Formation and utilization of "stream icing" in the mountainous regions. Bai, C.Y., et al, [1985, p.172-185, chi] 47-1532
Glacier water resources and effect of glacier water in stream runoff in Qilian Mountain. Yang, Z.N., [1992, p.10-20, chi] 47-1534
Runoff variation of the inland rivers in Gansu Province and its climate dependence. Lai, Z.M., [1992, p.64-70, chi] 47-1540
Meltwater refreezing in the accumulation area of the Greenland ice sheet: Pâkitsoq, summer 1991. Braithwaite, R.J., et al, [1992, p.13-17, eng] 47-1632
Discharge from a glacier in Norway. Knudsen, N.T., et al, [1992, p.718-727, eng] 47-1984
Sandstones and conglomerates formed by precipitation of CaCO3 under stagnant ice sheet. Drozdowski, E., [1991, p.253-266, eng] 47-2570
Changes in glacier runoff due to climate change in the North Cascades, Washington. Pelto, M.S., [1992, p.489-496, *eng*] 47-2734
Estimating glacier-derived runoff from mountain rivers in model predictions. Shentsis, I.D., [1991, p.32-40, rus] 47-2786
Water-snow flows in the Khibiny Mountains. Sapunov, V.N., [1991, p.94-99, rus] 47-2794
Characteristics of the formation of spring runoff from *rivers in the cryolithozone.* Kravchenko, V.V., et al, [1991, p.53-64, rus] 47-3275
Reconstructed paleoclimatic meltwater anomalies. Sarnthein, M., et al, [1992, p.183-200, eng] 47-3558
Ice-core evidence for a Holocene meltwater cap. Fisher, D.A., [1992, p.267-293, eng] 47-3560
Hydroclimatological variations in an alpine glacier basin. Gurnell, A.M., et al, [1992, p.821-839, eng] 47-3679
Chemical composition of precipitation in Uzbekistan. Kulmatov, R.A., et al, [1993, p.413-419, eng] 47-4068
Erosion of bedrock by subglacial meltwater, Georgian Bay, *Ontario: a regional view.* Kor, P.S.G., et al, [1991, p.623-642, eng] 47-4155
Evolution of large roches moutonnées. Sugden, D.E., et al, [1992, p.253-264, eng] 47-4334
Palimpsest glacial landscape in northwestern Sweden. Kleman, J., [1992, p.305-325, eng] 47-4342
Late Wisconsin subglacial megaflood paths in Alberta. Rains, B., et al, [1993, p.323-326, eng] 47-4594
Bedrock water erosion typified by subglacial flutes. Dreimanis, A., [1993, p.110-112, eng] 47-4852
When ice melts in sea water: a review. Gade, H.G., [1993, p.139-165, eng] 47-4914
Industrial potential of *hydropower in West Greenland.* Thomsen, H.H., et al, [1993, p.59-62, eng] 47-4917
Ice sheet firn temperature and meltwater refreezing in Greenland. Braithwaite, R.J., [1993, p.109-114, eng] 47-4920
Use of meltwater stream material loads in the estimation of glacial erosion rates. Warburton, J., et al, [1993, p.19-28, *eng*] 47-4983
Chemical composition of snow near a mining plant. Lazareva, I.P., et al, [1993, p.79-86, eng] 47-5193
Glacial icemelt in the Wind River Range, Wyoming. Pochop, L.O., et al, [1990, p.118-124, eng] 47-5216
See also: Snowmelt

Mercury (planet)

Mercury radar imaging: evidence for polar ice. Slade, M.A., et al, [1992, p.635-640, eng] 47-737
Thermal stability of water ice at the poles of Mercury. Paige, D.A., et al, [1992, p.643-646, eng] 47-738

Metal ice friction

M.V. *Arctic* ice transiting performance—continuous mode. Interim report. [1983, Var.p., eng] 47-521
Full-scale trial propulsion system. Cowper, D.N.B., [1992, 156p. + appends. bound separately (2 vols.), eng] 47-599
Development of a component-based scaling system for ship-ice model tests. Colbourne, D.B., et al, [1992, *p.77-87, eng*] 47-1146
Friction against ice and snow. Balakin, V.A., et al, [1991, p.132-143, eng] 47-1175
Proposed standard method for conduct and analysis of ice resistance model tests. Spencer, D.S., et al, [1992, 10p., eng] 47-1341
Modelling techniques for icebreaking hull forms. Newbury, S., [1991, 18p. + appends., eng] 47-1343
Some exploratory tests on circular and sidewall air cushion icebreaker bows. Hinchey, M.J., et al, [1990, 60p., eng] 47-1347
CD model ice—preliminary observations on the effect of *density on tank testing.* Spencer, D.S., [1992, 7p., eng] 47-1348
Resistance experiments in ice with a scale model icebreaker. Newbury, S., [1992, 7p., eng] 47-1349
Constricted flow due to ice blockage over a blade. Shih, L.Y., et al, [1992, 6p., eng] 47-1350
Research on "Ice/Propeller Interaction": JRPA No.6 subtasks 5.1.1 and 5.1.2. Cowper, D.N.B., [1992, 87p., eng] 47-1351
JRPA No.6 propeller/ice interaction: development of model test program. [1992, 17p. + appends., eng] 47-1352
Computation of ship/pack ice interaction with wave effect. Wang, S.L., et al, [1990, 36p., eng] 47-1357
Investigation of lateral ice pressure in model ice. Hardiman, K.C., [1992, n.p., eng] 47-1358
Thrust deduction and propulsive coefficients of icebreaking vessels. Drodge, R.M., et al, [1992, 20p. + appends., eng] 47-1359
Modelling of the ice failure processes in ship-ice interaction. McKenna, R.F., et al, [1991, 156p., eng] 47-1360
Clearing of ice fragments in continuous-mode icebreaking. Hsiung, C.C., et al, [1991, 102p., eng] 47-1371
1:8 R-class model ice tests, resistance and captive experiments. Carroll, W.J., [1990, 11p. + appends., eng] 47-1372
Report on resistance tests of model *Polarstern* in the ice tank. [1990, 8p. + *appends., eng*] 47-1373
2-D simulation of rigid body motion in mush ice. [1990, 32p. + appends., eng] 47-1374
Statistical studies of wear on the hull plating of ice-navigating ships. Shemendiuk, G.P., et al, [1992, p.28-31, rus] 47-2920
Laboratory tests of ship structures under ice loading. *Volume 1.* Tuhkuri, J., [1993, 171p., *eng*] 47-3538
Ship in compressive ice. Analysis of the ice failure process. Kujala, P., et al, [1993, 70p. + appends., eng] 47-3539

Metal snow friction

Friction against ice and snow. Balakin, V.A., et al, [1991, p.132-143, eng] 47-1175
Flow along developable surface snowplow *moldboards.* Crane, R.L., [1992, 293p., eng] 47-4677

Metals

Liquid microphases at ice-solid interface of microelectrodes in solid water. Bond, A.M., et al, [1992, p.281-295, eng] 47-768
Geochemical basis for the geotechnology of metals in frozen ground conditions. Ptitsyn, A.B., [1991, 118p., rus] 47-1500
Effectiveness and variability of digestion procedures for zinc determination in aged, contaminated soils. Reynolds, C.M., [1992, 13p., eng] 47-1897
Chemical analysis of snow cover as an indicator of contamination in the Kola Peninsula. Boltenko, E.L., et al, [1991, *p.60-64, rus*] 47-1987
Occurrence of heavy metals in antarctic and Greenland ancient ice and recent snow. Boutron, C.F., et al, [1990, p.137-151, eng] 47-2071
Metals in water, ice, and biological material from Spitsbergen. Drbal, K., et al, [*1992, p.99-101, eng*] 47-2355
Evaluation of FCAW consumables for offshore and arctic structure fabrication. Bala, S.R., et al, [1993, p.76-82, eng] 47-2667
Electrochemical characteristics of aluminum galvanic anodes in an arctic seawater. Tamada, A., et al, [1993, *p.261-277, eng*] 47-3176
Corrosion of aircraft fuel tanks by antifreezes. Likhterova, N.M., et al, [1993, p.563-566, eng] 47-4386
Are arctic marine invertebrates relatively insensitive to metals. Chapman, P.M., [1993, p.611-613, eng] 47-4628
Low-energy electron diffraction study of oxygen, water and ice adsorption on Pt(111). Starke, U., et al, [1993, p.432-437, eng] 47-4732
Snow impurities as a function of pollutant emission *remoteness.* Malakhov, S.G., et al, [1993, p.111-115, eng] 47-5003
Aluminium solubility in rainwater and molten snow. Losno, R., et al, [1993, p.29-43, eng] 47-5145
See also: Aluminum; Gold; Steels

Metamorphism (snow)

Single pressure-time parameter for snow under compression. Kachroo, P.N., [1985, p.249-256, eng] 47-543
Field guide to snow crystals. LaChapelle, E.R., [1992, 101p., *eng*] 47-1620
Structure and physical properties of snow and ice. Maeno, N., ed, [1986, 209p., jpn] 47-1679
Brightness temperature of snow-covered saline ice. Lohanick, A.W., [1993, p.4667-4674, eng] 47-4388
Science of snow and ice (3). Inoue, M., [1985, p.7-10, jpn] 47-5094
See also: Snow recrystallization

Meteorological charts

Total atmospheric ozone measurements in Antarctica, 1988-1989. IUrganov, L.N., et al, [1991, p.66-69, rus] 47-1577
Meteorological observations at King Sejong Station. Lee, B.Y., et al, [1992, p.1-16, kor] 47-2926

Meteorological data

Cloud radar data at Showa Station 1989. Konishi, H., [1992, 60p., *eng*] 47-42
Meteorological data at Asuka Station, Antarctica in 1990. Iwasaki, A., et al, [1992, 110p., eng] 47-43
Hydrological modelling of a medium-size mountainous catchment from incomplete meteorological data. Panagoulia, D., [1992, p.279-310, eng] 47-176
Characterizing the distribution of observed precipitation and runoff over the continental United States. Dolph, J., et al, [1992, p.99-119, eng] 47-228

Meteorological data *(cont.)*

Recent fluctuations of glaciers in Valtellina (Italian Alps) and climatic variations. Pelfini, M., et al. [1992. p.309-313. eng] 47-472

Objective guidelines to avalanche forecasting in Western Himalayas. Rangachary, N., et al. [1985. p.310-317. eng] 47-548

Nomograms for estimating rate of snow-melting from routine meteorological data. Daoo, V.J., et al. [1985. p.22-31. eng] 47-559

Climate and glacier change: the dilemma of the representative station. Marcus, M.G., et al. [1992. p.1-14. eng] 47-1002

Toward the improvement of aircraft-icing forecasts for the continental United States. Schultz, P., et al. [1992. p.491-500. eng] 47-1058

Temperature-precipitation relationships for Canadian stations. Isaac, G.A., et al. [1992. p.822-830. eng] 47-1268

Study on the meteorological characteristics over King Sejong Station, Antarctica during 1990. Nam, J.C., et al. [1991. p.63-70. kor] 47-1571

Atmospheric radiation regime at Russkaya Station. Mart'ianov, V.L., [1991. p.17-22. rus] 47-1574

In situ meteorological sounding archives for arctic studies. Kahl, J.D., et al. [1992. p.1824-1830. eng] 47-1625

Lidar measurements of antarctic atmospheric parameters. Stefanutti, L., et al. [1991. p.27-41. ita] 47-1822

Atmospheric microphysical measurements in Terra Nova Bay. Guerrini, A., et al. [1991. p.145-154. ita] 47-1824

Temperature and precipitation series at Norwegian arctic meteorological stations. Nordli, P.Ø., [1990. 14p., eng] 47-1917

Climate of Spitsbergen. Hanssen-Bauer, I., et al. [1990. 40p., eng] 47-1918

Improved ice and snow control with pavement-specific forecasting. Kelley, J.R., [1992. p.46-47,83. eng] 47-1920

Climatic parameters and ground-level ozone at Terra Nova Bay. Giovanelli, G., et al. [1991. p.483-495. eng] 47-2007

Correlation of arctic cloud climatologies. Schweiger, A.J., et al. [1992. p.1514-1527. eng] 47-2179

Arctic automatic weather station field data 1990-91. Alt, B.T., et al. [1992. 54p. + appends., eng] 47-2339

Prototype climate information system. Jarrett, T.K., [1993. 71p., eng] 47-2611

Meteorological research using a high mast on an antarctic ice shelf. Belitz, H.-J., et al. [1987. p.5-10. eng] 47-2912

Meteorological observations at King Sejong Station. Lee, B.Y., et al. [1992. p.1-16. kor] 47-2926

Vertical profiles of long wave radiation at Showa Station. Miyauchi, M., et al. [1992. p.53-70. eng] 47-3005

Preprints. [1993. 501p. + joint papers. eng] 47-3059

Air temperature fluctuations in Austria, 1775-1991. Boehm, R., [1993. p.J26-J30. eng] 47-3080

Homogeneity problems in Danish and Greenlandic temperature time series. Frich, P., [1993. p.J39-J42. eng] 47-3081

Towards unbiased estimates of North American precipitation. Groisman, P.IA., [1993. p.J43-J47. eng] 47-3082

Estimation of biases in precipitation gage measurements. Legates, D.R., et al. [1993. p.J48-J51. eng] 47-3083

Homogeneity of precipitation time series in Finland. Heino, R., [1993. p.J52-J55. eng] 47-3084

Long precipitation series in Norway—analysis of homogeneity and regionalization. Hanssen-Bauer, I., et al. [1993. p.J56-J61. eng] 47-3085

Rotational Raman lidar to measure the atmospheric temperature from the ground to 30 km. Nedeljkovic, D., et al. [1993. p.90-101. eng] 47-3357

Recent variations of sea ice and air temperature in high latitudes. Chapman, W.L., et al. [1993. p.33-47. eng] 47-3477

Simple method for specifying snowpack water equivalent in the northeastern United States. Samelson, D., et al. [1993. p.965-974. eng] 47-3565

JARE-32 oceanographic data, Nov. 1990-Mar 1991. Nakamura, H., et al. [1993. 50p., eng] 47-3620

Evidence for an antarctic winter coastal polynya. Anderson, P.S., [1993. p.221-226. eng] 47-3652

Stratospheric ozone variations 1957-1990. Xanthakis, J., et al. [1993. p.109-125. eng] 47-3713

Meteorological data at Asuka Station, Antarctica in 1991. Sukegawa, Y., et al. [1993. 101p., eng] 47-3905

Estimation of cloud resources for dispersion over the USSR territory. Belova, L.K., et al. [1992. p.13-18. eng] 47-3988

Modeling the temperature regime of an arctic soil. Richeva, T.A., et al. [1993. p.1-11. eng] 47-4011

Climatology of the East Antarctic ice sheet (100E to 140E) derived from automatic weather stations. Allison, I., et al. [1993. p.8815-8823. eng] 47-4380

Destructive hailstorms in Essex on 26 May 1985. Elsom, D.M., et al. [1993. p.166-173. eng] 47-4405

Radiation characteristics at Mizuho Station. Liu, S.H., et al. [1993. p.39-45. chi] 47-4647

Exceptional rain-snow event of February 1990 in the Northern Alps. Blanchet, G., [1993. p.68-77. fre] 47-4761

Study of the arctic heat sink. Ripley, E.A., [1990. 95p. + appends., eng] 47-4910

Temporal characteristics of USA snowfall 1945-1946 through to 1984-1985. Leathers, D.J., et al. [1993. p.65-76. eng] 47-4981

Navigation in the Weddell and Bellingshausen seas. Federici, V.M., et al. [1993. p.274-299. eng] 47-5116

Pacific warming and antarctic ozone depletion. Mo, K.C., [1993. p.1375-1391. eng] 47-5213

Meteorological factors

Hydrometeorological analysis of ice breakup on the Nashwaak River, New Brunswick. Hebabi, S., et al. [1992. p.349-354. fre] 47-201

Factors affecting snow hydrology. Singh, L.D., [1985. p.180-182. eng] 47-571

Evidence of ascent in a sloped barrier jet and an associated heavy-snow band. Dunn, L.B., [1992. p.914-924. eng] 47-590

Correlation between discharge and hydrochemical parameters in the river at Juan Carlos I Station. Antiguedad, I., et al. [1989. p.24-31. spa] 47-809

Meteorological data and hydrogram of the river at Juan Carlos I Station. Antiguedad, I., et al. [1989. p.32-40. spa] 47-810

Some glacio-micrometeorological features on the north side of Mount Qogir (K2), Karakoram mountains. Ding, Y.J., [1992. p.67-72. eng] 47-1088

Climatic factors and snow surface energy exchange, pt.1. Marks, D., et al. [1992. p.3029-3042. eng] 47-1476

Numerical model for prediction of road temperature and ice. Sass, B.H., [1992. p.1499-1506. eng] 47-1582

Annual report—1991-92. [1992. 54p. + append., eng] 47-1745

Meteorological surveys in support of ice airfields in Antarctica. Hogan, A.W., et al. [1992. p.42-43. eng] 47-2375

Observed climate variations and change. Folland, C.K., et al. [1990. p.198-238. eng] 47-2652

Proceedings of the NIPR Symposium on Polar Meteorology and Glaciology, No.6. Kawaguchi, S., ed. [1992. 167p., eng] 47-3000

Antarctic atmospheric conditions and sea ice interannual variations. Enomoto, H., et al. [1992. p.132-142. eng] 47-3013

Last interglacial evidence in Northern Hemisphere high latitudes. Anderson, P., et al. [1991. p.9-28. eng] 47-3478

Recent surface ozone measurements at Molodezhnaya and Mirnyy stations. Gruzdev, A.N., et al. [1993. p.99-105. eng] 47-3531

Tropospheric ozone distribution in Antarctica and European Arctic. Taalas, P., et al. [1993. p.106-119. eng] 47-3532

Particle transport to the snow surface at the South Pole. Hogan, A.W., et al. [1993. p.188-207. eng] 47-3536

Local climate and mass balance of a blue-ice area in western Dronning Maud Land, Antarctica. Jonsson, S., [1990. p.11-29. eng] 47-3571

Comments on paper by K.F. Jones. Levi, L., et al. [1993. p.599-609. eng] 47-3646

High ice crystal production in winter cumuli over the Japan Sea. Takahashi, T., [1993. p.451-454. eng] 47-3729

Ice accretion on energized line insulators. Farzaneh, M., et al. [1992. p.228-233. eng] 47-4307

Boolean delay equation model of an interdecadal arctic climate cycle. Darby, M.S., et al. [1993. p.241-246. eng] 47-4354

Lake effect of the Great Salt Lake: overview and forecast problems. Carpenter, D.M., [1993. p.181-193. eng] 47-4831

Avoiding aircraft icing. Collins, R.L., [1993. p.53-57. eng] 47-4999

Navigation in the Weddell and Bellingshausen seas. Federici, V.M., et al. [1993. p.274-299. eng] 47-5116

Avalanche prediction in Scotland: 1. A survey of avalanche activity. Ward, R.G.W., [1984. p.91-108. eng] 47-5254

Avalanche prediction in Scotland: 2. Development of a predictive model. Ward, R.G.W., [1984. p.109-133. eng] 47-5255

Heavy snowfall during an arctic outbreak along the Colorado Front Range. Wesley, D.A., et al. [1990. p.2-19. eng] 47-5257

Sea ice edge forecast verification program for the Bering Sea. Wohl, G.M., [1991. p.6-12. eng] 47-5260

Meteorological instruments

New lidar systems. Castagnoli, F., et al. [1992. p.185-203. eng] 47-1201

Atmospheric microphysical measurements in Terra Nova Bay. Guerrini, A., et al. [1991. p.145-154. ita] 47-1824

Ozone cross section measurements in 339-355 nm region and at different temperatures. Cacciani, M., et al. [1991. p.259-264. eng] 47-1826

Acoustic sounder experimentation in Victoria Land, Antarctica. Fiocco, G., et al. [1991. p.119-133. eng] 47-2006

Combined system for observations of tropospheric and stratospheric thin clouds. Adriani, A., et al. [1993. p.34-40. eng] 47-2552

Aircraft observations of the origin and growth of very large snowflakes. Lawson, R.P., et al. [1993. p.53-56. eng] 47-2846

Meteorological research using a high mast on an antarctic ice shelf. Belitz, H.-J., et al. [1987. p.5-10. eng] 47-2912

Atmospheric infrared emission measurements at the South Pole. Murcray, F.J., et al. [1991. p.278-281. eng] 47-3058

Preprints. [1993. 501p. + joint papers. eng] 47-3059

ASOS sensor performance—an update. Crosby, J.D., et al. [1993. p.358-362. eng] 47-3074

Capabilities of the Automated Surface Observing System (ASOS). Burch, L.E., [1993. p.363-367. eng] 47-3075

Weather characterization by the mean of a vertically pointing CW radar. Duvernoy, J., et al. [1993. p.379-381. eng] 47-3076

Stratospheric ozone on Adélie Coast. Aimedieu, P., [1990. p.47-49. fre] 47-3161

Vertical radar precipitation study at Showa Station. Wada, M., et al. [1992. p.341-349. eng] 47-3362

Measuring instrument for atmospheric ClO and O3. Waters, J.W., et al. [1993. p.597-602. eng] 47-3444

Precipitation detection with a scintillation device. Wang, T.I., [1988. 14 col., eng] 47-3637

Field performance of a spinning-reflector microwave *radiometer.* Demoz, B.B., et al. [1993. p.420-427. eng] 47-3775

Antarctic ozone lidar system. Stefanutti, L., et al. [1992. p.3-12. eng] 47-4720

Lidar for monitoring polar stratospheric clouds. Stefanutti, L., et al. [1992. p.13-17. eng] 47-4721

Diode laser humidity sensor for cold environments. Phase I. Final technical report. Stanton, A.C., et al. [1988. 35p., eng] 47-4861

See also: Anemometers; Barometers; Cloud height indicators; Evaporimeters; Frigorimeters; Hygrometers; Nucleus counters; Precipitation gages; Psychrometers; Radiation measuring instruments; Snow pillows; Snow survey tools; Thermistors; Thermocouples

Meteorology

Errors in net radiometry: comparison and evaluation of six radiometer designs. Halldin, S., et al. [1992. p.762-783. eng] 47-1471

Antarctic Project: physics of the atmosphere and cosmophysics. Collection of publications Jan. 1986-July 1991. Vol.1. [1991, 634p., eng] 47-1821

Space and time variability of temperature inversion in the *lower troposphere of the Arctic.* Nagurnyi, A.P., et al. [1991. p.1110-1113. rus] 47-2034

Problem of separating gradation of irregularity in a series of hydrometeorological elements. Brovin, A.I., et al. [1990. p.84-88. rus] 47-3592

See also: Atmospheric physics; Glacial meteorology; Marine meteorology; Synoptic meteorology; Weather

Microbiology

Theoretical approaches to the study of ecosystems in the arctic and subarctic seas. Matishov, G.G., ed. [1992. 162p., rus] 47-182

Controlling nucleation in protein solutions. DeMattei, R.C., et al. [1992. p.21-30. eng] 47-769

Natural cleaning processes of arctic waters and ice from petroleum hydrocarbons. Il'inskii, V.V., et al. [1991. p.91-101. rus] 47-889

Microbial ecology of the 1989 antarctic oil spill. Karl, D.M., [1992. p.77-89. eng] 47-1257

Experiments on effects of sea ice biota on seeding. Kuosa, H., et al. [1992. p.333-339. eng] 47-1333

Dinoflagellates and their cysts in land-fast ice. Stoecker, D.K., et al. [1991. p.143-144. eng] 47-1439

Image contrast in high-resolution electron microscopy of biological macromolecules: TMV in ice. Henderson, R., [1992. p.1-18. eng] 47-1676

Quantitative energy-filtered electron microscopy of biological molecules in ice. Langmore, J.P., et al. [1992. p.349-373. eng] 47-1677

Cryoprotective properties of water in the earth *cryolithosphere and its role in exobiology.* Gilichinskii, D.A., et al. [1993. p.65-75. eng] 47-2658

Microorganisms entrapped in glacial ice. Catranis, C., et al. [1991. p.234-236. eng] 47-3054

Sea ice algae at the ice edge in the Scotia/Weddell confluence. Ligowski, R., [1991. p.547-563. eng] 47-3091

Macrozooplankton near the ice edge in the Scotia/Weddell Confluence. Siciński, J., et al. [1991. p.565-582. eng] 47-3092

Bromoalkane production by antarctic ice algae. Sturges, W.T., et al. [1993. p.120-126. eng] 47-3533

Results of the Third Joint US-USSR Bering & Chukchi Seas Expedition (BERPAC), Summer 1988. Nagel, P.A., ed. [1988. 415p., eng] 47-3864

Microbial activity in lakes. Simmons, G.M., Jr., et al. [1993. p.165-195. eng] 47-4400

Low-temperature performance of biological wastewater treatment systems. Viraraghavan, T., et al. [1993. p.297-302. eng] 47-4470

Mixotrophic algae in three ice-covered lakes of the Pocono Mountains, U.S.A. Berninger, U.G., et al. [1992, p.263-272, eng] 47-4517

Microorganisms in antarctic sea ice. Palmisano, A.C., et al. [1993, p.167-218, eng] 47-4595

Microorganisms in the antarctic ice. Abyzov, S.S., [1993, p.265-295, eng] 47-4596

Environmental regulators of microbial activity in continental antarctic lakes. Simmons, G.M., Jr., et al. [1993, p.491-541, eng] 47-4598

Relevance of antarctic microbial ecosystems to exobiology. McKay, C.P., [1993, p.593-601, eng] 47-4599

Seasonal changes in the sea ice brine community, McMurdo Sound. 2. Stoecker, D.K., et al. [1993, p.103-113, eng] 47-4725

Evaluation of bacterial ice nucleation Watabe, S., et al. [1993, p.603-606, eng] 47-4734

Discovery of a new sea ice diatom genus. Poulin, M., [1993, p.223-233, eng] 47-4735

Nitrifying bacteria from frozen deposits in the Kolyma lowlands. Soina, V.S., et al. [1991, p.92-97, rus] 47-4816

Isotopic geochemistry of an ice-covered antarctic lake. Wharton, R.A., Jr., et al. [1993, p.159-172, eng] 47-4906

Platelet ice ecosystem in McMurdo Sound. Arrigo, K.R., et al. [1993, p.173-185, eng] 47-5200

See also: Bacteria; Cryobiology; Soil microbiology

Microclimatology

Microclimate of an interlobate complex in western Finland. Rajakorpi, A., [1984, p.237-337, eng] 47-10

Climate and glacier change: the dilemma of the representative station. Marcus, M.G., et al. [1992, p.1-14, eng] *47-1002*

Summer energy balance on West Gulkana Glacier, Alaska, and linkages to a temporal synoptic index. Brazel, A.J., et al. [1992, p.15-34, eng] 47-1003

Improving the microclimate of cabs and starting machines at low temperatures. Alekseev, V.I., et al. [1990, p.25-26, rus] 47-1417

Microclimate of the naled valley of the Volkhov stream in Southern Yakutia. Potapov, A.M., [1991, p.152-157, rus] 47-2441

Frost action of rock faces within a glacier of the Juran Neuchâtel. Pancza, A., [1992, p.49-54, fre] 47-3126

Snow ablation in small forest openings in southwest Alberta. Berry, G.J., et al. [1992, p.1326-1331, eng] 47-3842

Slow soil movement in Tarfala Valley, Kebnekaise Mountains, Swedish Lapland. Jahn, A., [1991, p.93-107, eng] 47-4309

Influence of opening size on snow evaporation in the forests of the Alberta Foothills. Bernier, P.Y., et al, [1993, p.239-244, eng] 47-4585

See also: Indoor climates

Microelement content

Assessment of the technogenic migration of chemical elements through terrain of a large urbanized territory. Sorokina, E.P., et al. [1991, p.42-49, rus] 47-3278

Effect of fertilization and liming on the potassium condition of soils. Kuznetsova, E.G., et al. [1991, *p.56-65, rus*] 47-4107

Microrelief

Micro-relief on a rock glacier, Dalton Range, Yukon, Canada. Johnson, P.G., [1992, p.41-47, eng] 47-3125

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Microstructure

Characteristics of the occurrence of gas hydrates in the cryolithozone. Ershov, E.D., et al. [1991, p.788-791, rus] 47-103

Model for managing the formation of the microstructure of hail clouds. Ashabokov, B.A., et al. [1991, p.3-8, rus] 47-746

Evaluation of FCAW consumables for offshore and arctic structure fabrication. Bala, S.R., et al. [1993, p.76-82, eng] 47-2667

Investigations of cryogenic weathering in Europe and northern Asia. Konishchev, V.N., et al. [1993, p.49-64, eng] 47-3117

Changes in microstructure of fine-grained soils due to freezing. Grechishchev, S.E., et al. [1992, p.1-10, eng] 47-3121

Investigation of cirrus microstructure on May 15, 1989. Burkovskaia, S.N., et al. [1992, p.714-724, eng] 47-3157

Crystal structure of typical snow crystals of low temperature types. Sato, N., et al. [1989, p.521-528, eng] 47-3467

Resistance of fly ash concrete to freezing and thawing. Nasser, K.W., et al. [1993, p.205-226, eng] 47-3607

Silica fume composition influence on concrete properties. Batrakov, V.G., et al. [1993, p.943-963, eng] 47-3612

Microstructural genesis of a frost susceptible soil adjacent to a buried chilled pipeline. White, T.L., et al. [1993, p.73-91, eng] 47-4274

Radar analysis of hail clouds during seeding. Fedchenko, L.M., et al. [1992, p.87-92, eng] 47-4346

Micromorphological features of the USSR zonal soils. Gerasimova, M.I., et al. [1992, 214p. (Pertinent p.66-107), rus] 47-4661

Discovery of a new sea ice diatom genus. Poulin, M., [1993, p.223-233, eng] 47-4735

See also: Ice microstructure

Microwaves

Scattering model for snow-covered sea ice. Tjuatja, S., et al. [1992, p.804-810, eng] 47-360

Passive microwave remote sensing applied for snow monitoring in a Norwegian test site. Rognes, A., [1992, 60p., eng] 47-1811

River and lake ice conditions as interpreted from microwave imagery. Melloh, R.A., et al. [1992, p.381-395, eng] 47-1914

Precipitation retrieval from a cloud radiation model. Mugnai, A., et al. [1993, p.17-39, eng] 47-1995

Attenuation due to snow fall on an earth-space path. Dong, Q.S., [1989, p.407-410, eng] 47-2072

Scattering effects of ice needles in satellite communications. Howard, J., [1989, p.411-415, eng] 47-2073

Satellite radiometric data related to land surface features. Rao, K.S., et al. [1993, p.451-465, eng] 47-2662

Microwave signature of firn and sea ice from airborne observations. Yamanouchi, T., et al. [1992, p.16-35, eng] 47-3002

Mapping partial snowcover during the melt season using C-band SAR imagery. Donald, J.R., et al. [1993, p.68-76, eng] 47-3725

Observations and theoretical studies of microwave emission from thin saline ice. Wensnahan, M.R., et al, [1993, p.8531-8545, eng] 47-3983

Radiometric sea ice features from aircraft images. Farmer, L.D., et al. [1993, p.4645-4665, eng] 47-4387

Brightness temperature of snow-covered saline ice. Lohanick, A.W., [1993, p.4667-4674, eng] 47-4388

Determination of dielectric constant of young sea ice using microwave spectral radiometry. St. Germain, K.M., et al, [1993, p.4675-4679, eng] 47-4389

Theoretical and experimental studies of snow covers' microwave emissivity. Boyarskii, D.A., et al. [1993, p.959-970, eng] 47-4828

Development of a portable ice-thickness measuring instrument. Adler, D., et al. [1992, 28p., eng] 47-4883

Observation of flooded ice in arctic regions. Goroch, *A.K., et al. [1993, p.1305-1324, eng]* 47-4905

Advances in sea-ice research based on remotely sensed passive microwave data. Barry, R.G., et al. [1993, p.4-12, eng] 47-5271

Migration

Krill migration at the ice edge in the Scotia/Weddell confluence. Godlewska, M., et al. [1991, p.583-592, eng] 47-3093

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Military engineering

Deep ice penetrator/instrumented test results. Rychnovsky, R.E., [1988, 25p., eng] 47-4641

Ice penetration tests of a water/ice penetrator. Rychnovsky, R.E., [1987, 50p., eng] 47-4642

Military equipment

Final test report for a snowmobile and sled. Todd, W.E., [1992, 44p. + *appends.*, eng] 47-604

Snow conditions during MLRS-TGW BBS European Captive Flight Program, Hessen, Germany, February 1992. Fisk, D.J., [1993, 37p., eng] 47-3796

Historical overview of the DEW system in Alaska, and documentation of facilities at POW-3, Bullen Point, Alaska. [1993, 96p., eng] 47-4209

Deep ice penetrator/instrumented test results. Rychnovsky, R.E., [1988, 25p., eng] 47-4641

Ice penetration tests of a water/ice penetrator. Rychnovsky, R.E., [1987, 50p., eng] 47-4642

Military facilities

Unsurfaced road maintenance management. Eaton, R.A., et al. [1992, Var. p., eng] 47-2756

Arctic bases to get cleanup. Carr, F.H., [1993, p.20, eng] 47-4079

Measurement of heat losses from a conduit-type heat distribution system. Lunardini, V.J., [1990, p.435-449, eng] 47-4862

Measurement of heat losses from an operating district heating system. Phetteplace, G., [1992, p.100-111, eng] 47-4897

Military operation

Cold weather countermobility on the battlefield. Richmond, P.W., [1992, 7p., eng] 47-603

Identification of TNT transformation products in soil. Walsh, M.E., *et al. [1992, 31p., eng]* 47-699

Snow conditions during MLRS-TGW BBU1 Captive Flight Program. Fisk, D.J., et al. [1992, 76p., eng] 47-700

Longbow-Apache field experiment: data report. Bates, R.E., et al. [1992, 53p., *eng*] 47-701

Supercritical fluid chromatography for the analysis of nitroaromatics, nitramines and nitrate esters. Miyares, P.H., [1992, 14p., eng] 47-708

Tenth annual EOSAEL/TWI Conference: Proceedings, [1990, 713p., eng] 47-908

Obscuration in snow and smoke. Hutt, D.L., [1990, *p.101-110, eng*] 47-910

Regional CONUS snowfall intensity and inferred global patterns Ryerson, C.C., et al. [1990, p.111-122, eng] 47-911

Topside icing probabilities for naval combatants in the Bering Sea. Thomas, W.L., III, [1992, p.51-63, eng] *47-1018*

Proceedings of the 1991 Battlefield Atmospherics Conference. [1992, 646p., eng] 47-1067

Thermal reversal tactical decision aid evaluation Berrick, S.W., et al. [1992, p.75-83, eng] 47-1068

Source strength terms for winter dispersion models. Hogan, A.W., et al. [1992, p.149-155, eng] 47-1069

Rapid Deployment Imagery Terminal (RDIT) using DMSP special sensor data. Harris, T.L., et al. [1992, p.202-211, eng] 47-1070

Earth's ozone shield and its variation. Aleksandrov, E.L., et al. [1992, 288p., rus] 47-1501

Optimization of an analytical method for determining white phosphorus in contaminated sediments. Taylor, S., et al. [1992, 13p., eng] 47-2755

Snow conditions during MLRS-TGW BBS European Captive Flight Program, Hessen, Germany, February 1992. Fisk, D.J., [1993, 37p., eng] 47-3796

Historical overview of the DEW system in Alaska, and documentation of facilities at POW-3, Bullen Point, Alaska. [1993, 96p., eng] 47-4209

Coast Guard and the Greenland Patrol. Tilley, J.A., [1992, 17p., eng] 47-4605

Deep ice penetrator/instrumented test results. Rychnovsky, R.E., [1988, 25p., eng] 47-4641

Ice penetration tests of a water/ice penetrator. Rychnovsky, R.E., [1987, 50p., *eng*] 47-4642

Site characterization measurements of background and targets in support of smart weapons testing. Hayward, M., et al. [1993, 96p., eng] 47-4664

Polar operations manual. Jenkins, W.T., [1988, Var. p., eng] 47-4665

Military research

Identification of TNT transformation products in soil. Walsh, M.E., et al. [1992, 31p., eng] 47-699

Site characterization measurements of background and targets in support of smart weapons testing. Hayward, M., et al. [1993, 96p., eng] 47-4664

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Soviet arctic marine transportation 1990. Brigham, L.W., *[1991, p.109-110, eng]* *47-242*

Test record for the retest of the Heavy Equipment Transport System (HETS) M1000 trailer. Reagan, J.E., [1993, 3p. + appends., eng] 47-3446

Mine shafts

Modeling the thermodynamic processes of permafrost. Mal'kov, IU.K., [1990, 155p., rus] 47-2317

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Mineralogy

Mineralogy of silt material of soils of the forest tundra and northern taiga of the Kola Peninsula. Gradusov, B.P., et al. [1987, p.7-14, eng] 47-596

Cryogenic (frost-related) systems of some gold-quartz deposits. Talsaev, T.T., [1991, p.178-182, eng] *47-3799*

Optical characteristics of arctic-source bitumens. *Goodarzi, F., et al. [1993, p.359-376, eng]* 47-4829

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Durability of concrete incorporating high-volume of low-calcium (ASTM class F) fly ash. Malhotra, V.M., [1989, p.93-104, eng] 47-13

Mineralization of natural waters on Spitsbergen. Gokhman, V.V., [1991, p.147-155, rus] 47-333

Occurrence of platinum-group elements in some gold-mining districts of Alaska. Cathrall, J.B., et al. [1992, p.33-43, eng] 47-610

Uranium resource potential in the Kenai Peninsula. Dickinson, K.A., et al. [1992, p.81-99, eng] 47-612

Geochemically anomalous areas in southwest Alaska. Kilburn, J.E., et al. [1992, p.156-162, eng] 47-615

1991 annual report on Alaska's mineral resources. Schneider, J.L., ed. [1991, 69p., eng] 47-626

Suspended mesopelagic barite in the southern ocean. Dehairs, F., et al. [1992, p.1332-1335, eng] 47-873

Alaska's mineral industry, 1991. Bundtzen, T.K., et al, [1992, 89p., eng] 47-1485

Geochemistry of Haines-Klukwan-Porcupine area, southeastern Alaska. Gilbert, W.G., *et al. [1991, 75p. + 2 sheets, eng]* 47-1488

GGU's mineral resource activities and their role for the mineral industry. Schönwandt, H.K., [1992, p.17-19, eng] 47-1633

Mineral resources in Precambrian supracrustal belts. Dawes, P.R., et al. [1992, p.19-23, eng] 47-1634

Björnesund Project, west Greenland. Appel, P.W.U., [1992, p.24-27, eng] 47-1635

Disko Bugt Project 1991, west Greenland. Kalsbeek, F., et al. [1992, p.36-41, eng] 47-1638

Gold and base metal potential of the Lower Proterozoic Karrat Group, west Greenland. Thomassen, B., [1992, p.57-66, eng] 47-1639

Tourmalinites in supracrustal rocks in the Björnesund area, west Greenland. Appel, P.W.U., [1992, p.73-78, eng] 47-1641

Minerals *(cont.)*
Regolith exploration geochemistry in arctic and temperate terrains. Kauranne, K., et al. [1992, 443p., eng] 47-1643
Investigations of primary minerals cryogenic weathering as related to podzolization. Martynenko, I.A., et al. [1992, p.149-153, eng] 47-1721
Geochemical exploration for hidden deposits in the cryolithozone. Makarov, V.N., et al. [1988, 108p., rus] 47-2315
Applied quaternary geology in Estonia. Raukas, A., [1992, p.89-96, eng] 47-3550
1992 annual report on Alaska's mineral resources. Bohn, D., ed. [1992, 65p., eng] 47-4215
Heavy mineral analysis from Alaska placer mines. Wood, J.E., [1992, 7p., eng] 47-4771
Vinasale Mountain gold deposit. DiMarchi, J.J., [1993, p.17-29, eng] 47-4775
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Development of mining excavations under difficult mining engineering conditions. Kartozia, B.A., ed. [1991, 319p. (Pertinent p.156-176), rus] 47-362
Natural revegetation of coal mine spoils in an alpine landscape. Baig, M.N., [1992, p.285-300, eng] 47-422
Alaska's mineral industry, 1991. Bundtzen, T.K., et al. [1992, 89p., eng] 47-1485
Environmental geology at a Canadian sulphide deposit site. Claridge, P.G., et al. [1993, p.50-57, eng] 47-2630
Engineering geology of the USSR: platform regions in European USSR. Komarov, I.S., ed. [1992, 2 vols., rus] 47-3858
Frozen rock abrasiveness effect on tool wear. Polovinko, V.A., et al. [1993, p.546-550, eng] 47-4579
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Cloud acidity, lower troposphere and stratospheric ozone depletion. Lin, N.H., [1991, 190p., eng] 47-47
Glaciers, small ice caps and greenhouse warming. Oerlemans, J., et al. [1992, p.115-117, eng] 47-351
Irregular oscillations of the west antarctic ice sheet. MacAyeal, D.R., [1992, p.29-32, eng] 47-352
Tectonic forcing of late Cenozoic climate. Raymo, M.E., et al. [1992, p.117-122, eng] 47-373
Shock response of snow: analysis of experimental methods and constitutive model development. Johnson, J.B., et al. [1992, 19p., eng] 47-705
Source strength terms for winter dispersion models. Hogan, A.W., et al. [1992, p.149-155, eng] 47-1069
Statistical analysis of low temperature thermal stress restrained specimen test results. Jung, D.H., et al. [1992, p.200-223, eng] 47-1136
Role of sulfate aerosols in the stratospheric ozone climatology. Pitari, G., [1992, p.331-347, eng] 47-1210
GLOBEC workshop on southern ocean marine biology. [1991, 150p., eng] 47-1281
Geoacoustic model of bottom sediments in the Baltic and Barents Seas. Il'in, A.V., et al. [1992, p.953-956, rus] 47-1498
Global climatic changes in water and heat transfer—accumulation processes. Dobrovol'skii, S.G., [1992, 265p., eng] 47-1512
Impact of heterogeneous chemistry on model predictions of ozone changes. Granier, C., et al. [1992, p.18,015-18,033, eng] 47-1565
Numerical simulation of self-organized stone stripes. Werner, B.T., et al. [1993, p.142-145, eng] 47-1596
Sea ice and atmospheric forcing interacting models. Stössel, A., [1992, p.395-413, eng] 47-1900
Chemical and dynamic processes in the antarctic ozone depletion. Eckman, R.S., et al. [1993, p.(1)311-(1)319, eng] 47-1930
Constant or cooling temperatures over the Arctic Ocean. Kahl, J.D., et al. [1993, p.335-337, eng] 47-1939
How unstable is the west antarctic ice sheet. Frolich, R.M., [1992, p.21-22, eng] 47-1944
DSIR's stratospheric trace gas program. Matthews, W.A., et al. [1992, p.311-321, eng] 47-2166
PSC in a 2D model and the secular ozone trend. Pitari, G., et al. [1992, p.375-396, eng] 47-2172
Scavenging ratios in precipitation studies. Barrie, L.A., [1991, p.403-419, eng] 47-2214
General circulation model under ice age conditions. Joussaume, S., [1993, p.2767-2805, eng] 47-2702
Present-day antarctic climatology of the NCAR Community Climate Model Version 1. Tzeng, R.Y., et al. [1993, p.205-226, eng] 47-2707
Investigation of antarctic sea ice concentration. Lomax, A.S., [1992, 102p., eng] 47-2763
Glaciological examination—a necessary phase of developing arctic and subarctic regions. Il'ina, E.A., [1991, p.186-190, rus] 47-2811
Dating stable isotope records from Greenland ice cores. Johnsen, S.J., et al. [1993, p.13-24, eng] 47-2863
Abrupt increase in Greenland snow accumulation. Alley, R.B., et al. [1993, p.527-529, eng] 47-2892
Equilibrium climate model and high latitude glaciation. Oglesby, R.J., [1990, 243p., eng] 47-2894
Ozone and water vapor variations related to the solar diurnal tide. Sivkov, A.M., et al. [1993, p.815-826, eng] 47-2929
Dynamics of the antarctic and arctic mesosphere and the lower thermosphere regions. II. The semidiurnal tide. Portnigin, IU.I., et al. [1993, p.843-855, eng] 47-2931
Multiple scattering model for the atmosphere-snow system. Aoki, T., [1992, p.77-83, eng] 47-3007
Antarctic climate and general circulation model experiments. Cattle, H., et al. [1992, p.209-218, eng] 47-3140
Ozone loss in Antarctica: the implications for global change. Pyle, J.A., et al. [1992, p.219-226, eng] 47-3141
Land-ocean-atmosphere relationships during last interglacial. Anderson, P., et al. [1991, p.29-48, eng] 47-3479
Air containing propeller stream and its application in ice clearance. Wang, S.L., et al. [1993, p.53-58, eng] 47-4230
Dynamic analysis of the medium scale hydraulic ice indentation apparatus. Spencer, P.A., et al. [1993, p.105-111, eng] 47-4237
Thresholds for channel change on two contrasting proglacial river fans, West Greenland. De Jong, C., [1992, p.1-12, eng] 47-4318
Below-cloud scavenging of aerosol particles: particle-bound radionuclides—experimental. Sparmacher, H., et al. [1993, p.605-618, eng] 47-4349
Effects of increased atmospheric CO2 on the ocean-atmosphere system. Manabe, S., et al. [1993, p.215-218, eng] 47-4571
Rhine-Linth glacier in the upper Wurm: a model of the last alpine glaciation. Keller, O., et al. [1993, p.15-17, eng] 47-4749
Role of climate cooling in iceberg production related to Heinrich events. Oerlemans, J., [1993, p.783-786, eng] 47-5127
Phase composition of Triton's polar caps. Duxbury, N.S., et al. [1993, p.748-751, eng] 47-5130
Carbon cycling in boreal forest and sub-arctic ecosystems: biospheric responses and *feedbacks to global climate* change. Vinson, T.S., ed. [1993, 282p., eng] 47-5222
Boreal forests, the carbon cycle and global change: a challenge for ecologists. Bonan, G.B., [1993, p.139-153, eng] 47-5235
Estimating carbon budgets of Canadian forest ecosystems using a national scale model. Apps, M.J., et al. [1993, p.243-252, eng] 47-5240
Avalanche prediction in Scotland: 2. Development of a predictive model. Ward, R.G.W., [1984, p.109-133, eng] 47-5255
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Modification
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Canadian experience with air cushion vehicle skirts. Sullivan, P.A., et al, [1993, p.23-34, eng] 47-3797
Snow plow attachment. Steinhoff, K., [1987, 4 col., eng] 47-3848
Rear swing arm assembly for three or four wheeled off-the-road vehicle track conversion unit. Yochum, M., [1986, 10 col., eng] 47-4098
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Modular construction
Panelised forms of building construction for antarctic regions. Incoll, P., [1992, p.564-570, eng] 47-1842
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Arctic offshore structure and installation method therefor. Turner, J.W., [1988, 8 col., eng] 47-3418
Moisture
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Masonry wall and window system leakage investigation for university building. Frauenhoffer, J., [1992, p.107-115, eng] 47-409
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Naled formation under reduced moisture conditions. Pisarskii, B.I., et al, [1991, p.157-162, rus] 47-2442
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Eroded chernozems in southern Western Siberia Tanastenko, A.A., [1992, 150p., rus] 47-2938
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Photoelectric ice accumulation monitor using dual detectors. Rein, R.G., Jr., [1989, 16 col., eng] 47-3328
Aerial roof moisture surveys. Tobiasson, W., [1993, p.18-19, eng] 47-3795
Thin profile snow, sleet and moisture sensing detector. Murphy, J.P., [1987, 10 col., eng] 47-4102
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Apparatus for measuring the moisture content of snow particles. Suga, N., [1989, 6 col., eng] 47-3330
Moisture transfer
Calculating the thermal regime of soils in areas with snow fences. Lavrov, S.A., [1991, p.67-74, rus] 47-385
Analysis of moisture accumulation in a wood-frame wall subjected to winter climate. Burch, D.M., et al, [1992, p.467-479, *eng*] 47-1161
Air exfiltration and moisture accumulation in residential wall cavities. Ojanen, T., et al, [1992, p.491-500, eng] 47-1162
Geochemical basis for the geotechnology of metals in frozen ground conditions. Ptitsyn, A.B., [1991, 118p., rus] 47-1500
Mass transfer in freezing saline soils. Ershov, E.D., et al, [1992, p.115-122, eng] 47-1715
Atmospheric water-vapour transport to Antarctica inferred from radiosonde data. Connolley, W.M., et al, [1993, p.325-342, *eng*] 47-2712
Moisture budget in the antarctic atmosphere. Yamazaki, K., [1992, p.36-45, eng] 47-3003
Validation of mass transfer calculations. Nielsen, A., [1992, p.37-47, eng] 47-3450
Moisture research in North America. Bomberg, M.T., et al, [1992, p.57-93, eng] 47-3451
Observations on rock moisture variability in gneiss and basalt under natural, arctic conditions. Humlum, O., [1992, p.197-205, eng] 47-4328
Dynamics of seasonal heat, moisture, and salt transfer in frozen ground. Permiakov, P.P., et al, [1991, p.47-51, rus] 47-4808
Redistribution of moisture and cryogenic structural formation in freezing sapropel. Brovka, G.P., et al, [1991, p.67-74, rus] 47-4812
Mathematical model of frost heave and thaw settlement in pavements. Guymon, G.L., et al, [1993, 126p., eng] 47-4870
See also: Soil water migration
Molecular energy levels
"Electric current" states of the proton in water. Bingi, V.N., [1991, p.1068-1071, eng] 47-230
Binding energy of molecular systems. White, J.C., [1992, 159p., eng] 47-268
Surface melting of the (0001) face of TIP4P ice. Kroes, G.J., [1992, p.365-382, eng] 47-1189
New band of emission from high-energy-electron-irradiated ice at very low temperature. Miyazaki, T., et al, [1992, p.9558-9561, eng] 47-1567
Quantum tunneling in irradiated ice. Muto, H., et al, [1992, p.5211-5213, eng] 47-1937
Liquid water with an *ab initio* potential: X-ray and neutron scattering from 238 to 368 K. Corongiu, G., et al, [1992, p.2030-2038, eng] 47-2048
Erratum: liquid water with an *ab initio* potential: X-ray and neutron scattering from 238 to 368 K. Corongiu, G., et al, [1992, p.8818, eng] 47-2049
Solvated water molecules and hydrogen-bridged networks in liquid water. Corongiu, G., et al, [1993, p.2241-2249, eng] 47-2109
Detection of radical pairs in glassy systems. Harrison, N., et al, [1993, p.59-61, eng] 47-2110
Liquid water: theory & experiment. Teixeira, J., [1990, p.167-187, eng] 47-2193
On the thermodynamic stability of clathrate hydrate. I. Tanaka, H., et al, [1993, p.4098-4109, eng] 47-2673
Preferential adsorption on amorphous ice surfaces. Buch, V., et al, [1993, p.4195-4206, eng] 47-2674
Simulation of hexagonal ice molecular dynamics. Sciortino, F., et al, [1993, p.5694-5700, eng] 47-3155
Surface-defect vibrational modes of large ice clusters. Rowland, B., et al, [1993, p.2485-2487, eng] 47-3177
Inclusion-exclusion calculation of the dipole-dipole energy of hexagonal ice and of cubic ice. Huckaby, D.A., et al, [1993, p.8105-8109, eng] 47-3581
Thermodynamic stability of clathrate, pt.2. Tanaka, H., et al, [1993, p.8110-8118, eng] 47-3582
Ab initio studies on the structural and dynamical properties of ice. Lee, C.Y., et al, [1993, p.4863-4872, eng] 47-3583
Defect theory for the glass transition and residual entropy of hyperquenched water. Johari, G.P., [1993, p.7324-7329, eng] 47-3684
Temperature dependence of ice dielectric relaxation. Bruni, F., et al, [1993, p.538-547, eng] 47-4288

Properties of a statistical model of ice at low temperatures. Barkema, G.T., et al. [1993, p.2059-2067, eng] 47-4463
Raman and infrared spectra of hexagonal ice between 0 and 400/cm—a molecular dynamics simulation. Sciortino, F., et al. [1993, p.547-558, eng] 47-4760
Diffusion of atomic hydrogen in ice-Ih. Bartels, D.M., et al. [1993, p.129-134, eng] 47-4855
Proton transfer in ice. Lee, C., et al. [1993, p.279-284, eng] 47-4856
O2 electron attachment resonances on amorphous ice surfaces. Huels, M.A., et al. [1993, p.340-346, eng] 47-5191
Monomer molecular adsorption on ice Ih. Bell, K.P., et al. [1993, p.4160-4167, eng] 47-5272
Pauling potential in ice quantum tunneling. Consolini, G., et al. [1993, p.4227-4228, eng] 47-5273

Molecular structure

Freezing in confined geometries. Sokol, P.E., et al. [1992, p.777-779, eng] 47-180
Inelastic incoherent neutron scattering study of D2O and H2O ice *VIII in the range* 2-140 meV. Kolesnikov, A.I., et al. [1992, p.308-312, eng] 47-195
Geometry of OH- defect in condensed water phase. Defect localization and cooperative interaction of H-bonds. Isaev, A.N., et al. [1992, p.14-19, eng] 47-203
Study of proton transfer in ice. Isaev, A.N., et al. [1992, p.19-25, eng] 47-204
Energy and structure of Bjerrum defects in ice Ih determined with an additive and a nonadditive potential. Hassan, R., et al. [1992, p.4326-4335, eng] 47-222
Molecular interactions with icy surfaces: infrared spectra of *CO absorbed in microporous amorphous ice.* Devlin, J.P., [1992, p.6185-6188, eng] 47-249
Electro-optical parameters of hydrogen-bonded water molecules. [Ukhnevich, G.V., et al. [1992, p.211-234, eng] 47-924
Brillouin and Raman scattering from liquid water. Nardone, M., et al. [1992, p.287-299, eng] 47-1377
Low-frequency light scattering from disordered hydrogen-bonded solids. Mazzacurati, V., et al. [1992, p.2845-2852, eng] 47-1511
Image contrast in high-resolution electron microscopy of biological *macromolecules: TMV in ice.* Henderson, R., [1992, p.1-18, eng] 47-1676
Quantitative energy-filtered electron microscopy of biological molecules in ice. Langmore, J.P., et al. [1992, p.349-373, eng] 47-1677
Solvated water molecules and hydrogen-bridged networks in liquid water. Corongiu, G., et al. [1993, p.2241-2249, eng] 47-2109
Detection of radical pairs in glassy systems. Harrison, N., et al. [1993, p.59-61, eng] 47-2110
Hydrogen-bond structures in water & ice. Dore, J., [1990, p.188-197, eng] 47-2194
Dielectric properties of normal supercooled water obtained in *alcohol/water mixtures.* Noyel, G.A., et al. [1992, p.1136-1143, eng] 47-2294
Structure of ice-Ih. Kuhs, W.F., et al. [1986, p.1-65, eng] 47-2306
Novel differential scanning calorimetric studies of supercooled organic liquids. Murthy, S.S.N., et al. [1993, p.509-514, eng] 47-2605
Structure of ice layers on electrical transmission cables with Raman microprobe spectroscopy. Sonwalkar, N., et al. [1992, p.1869-1873, eng] 47-2639
Simulation of hexagonal ice molecular dynamics. Sciortino, F., et al. [1993, p.5694-5700, *eng*] 47-3155
Neutron diffraction studies of high pressure ice. Londono, J.D., et al. [1993, p.4878-4888, *eng*] 47-3234
Anomalous freezing point depression of solvents in a swollen homogeneous rubber network. Grobler, J.H.A., et al. [1993, p.575-577, eng] 47-3562
Inclusion-exclusion calculation of the dipole-dipole energy of hexagonal ice and of cubic ice. Huckaby, D.A., et al. [1993, p.8105-8109, eng] 47-3581
Thermodynamic stability of clathrate, pt.2. Tanaka, H., et al. [1993, p.8110-8118, eng] 47-3582
Ab initio studies on the structural and dynamical *properties of ice.* Lee, C.Y., et al. [1993, p.4863-4872, eng] 47-3583
Defect theory for the glass transition and residual entropy of hyperquenched water. Johari, G.P., [1993, p.7324-7329, eng] 47-3684
Simulation of water-ice layers on a silver iodide substrate. Taylor, J.H., et al. [1993, p.9732-9741, eng] 47-3984
Properties of a statistical model of ice at low temperatures. Barkema, G.T., et al. [1993, p.2059-2067, eng] 47-4463
Adsorbate spectra for amorphous ice. Buch, V., et al. [1993, *p.2265-2268, eng*] 47-4464
Low-energy electron diffraction study of oxygen, water and *ice adsorption on Pt(111).* Starke, U., et al. [1993, p.432-437, eng] 47-4732
Water II is a "strong" liquid. Angell, C.A., [1993, p.6339-6341, eng] 47-4748
Simulation of liquid and solid phases of water. Clementi, E., et al. [1993, p.205-213, eng] 47-4755
Raman and infrared spectra of hexagonal ice between 0 and 400/cm—a molecular dynamics simulation. Sciortino, F., et al. [1993, p.547-558, eng] 47-4760
Diffusion of atomic hydrogen in ice-Ih. Bartels, D.M., et al. [1993, p.129-134, eng] 47-4855
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O2 electron attachment resonances on amorphous ice surfaces. Huels, M.A., et al. [1993, p.340-346, eng] 47-5191
Monomer molecular adsorption on ice Ih. Bell, K.P., et al. [1993, p.4160-4167, eng] 47-5272
Pauling potential in ice quantum tunneling. Consolini, G., et al. [1993, p.4227-4228, eng] 47-5273

Mongolia

Studying ice wedges in Mongolia. Gorbunov, A.P., [1991, p.70-76, rus] 47-400
Characteristics of the seasonal thawing of permafrost in Mongolia. Babinski, Z., et al. [1991, p.223-229, *eng*] 47-2569

—Orhon River

Cryogenesis in the soil-plant cover in the floodplains of Mongolia. Maksimovich, S.V., et al. [1991, p.34-37, rus] 47-4806

Monitors

Arctic insects as indicators of environmental change. Danks, H.V., [1992, p.159-166, eng] 47-519
Monitoring of periglacial phenomena in the Furggentälti Swiss Alps. Krummenacher, B., et al. [1992, p.149-155, eng] 47-1755
Polar hydrology—Svalbard. [1992, 49p., eng] 47-1889
Cold-weather concreting study. Hover, K.C., [1992, p.458-464, eng] 47-2291
Of measured risks: the environmental impacts of the Prudhoe Bay, Alaska oil field. Maki, A.W., [1992, p.1691-1707, eng] 47-2604
State of the arctic environment: updated draft proposal for AMAP. Reiersen, L.O., [1992, p.391-403, eng] 47-3721
Winter storm mapping: a Geographic Information Systems Transportation application. Swift, L.B., et al. [1992, p.60-71, eng] 47-4359
Storm water regulations—aircraft deicer/anti-icers operations. Espey, W.H., Jr., et al. [1993, p.2333-2338, *eng*] 47-4452
Effects of road salt reduction on salting efficiency. Augustin, H., et al. [1983, p.21-78, ger] 47-5001
Organization and technical facilities of the radiation monitoring of sunken objects with radioactive components. Nosov, N.A., [1993, p.237-249, eng] 47-5034
U.S. interagency coastal and marine monitoring programs for determining levels of Arctic radioactivity. Curtis, W.R., et al. [1993, p.343-357, *eng*] 47-5041

Monomolecular films

Monomer molecular adsorption on ice Ih. Bell, K.P., *et* al. [1993, p.4160-4167, eng] 47-5272

Montmorillonite

See also: Clay minerals

Moorings

Constructing mooring structures under conditions of the Far North. Gerasimova, E.I., [1992, p.15-18, rus] 47-372
Icebreaking defense buoy. Coleman, R.K., [1988, 4 col., eng] 47-3639
Removable bottom founded structure. Beskow, R.H., et al. [1988, 16 col., eng] 47-3763
Model study of cable-moored conical platform. Nixon, W.A., et al. [1993, p.12-31, eng] 47-4284

Morainal lakes

See also: Glacial lakes

Moraines

Microclimate of an interlobate complex *in western Finland.* Rajakorpi, A., [1984, p.237-337, eng] 47-10
Lichenometric and radiocarbon dating of Holocene glaciation, Cordillera Blanca, Peru. Rodbell, D.T., [1992, p.19-29, eng] 47-52
Lithology of glacial deposits in the western part of the Don Glacier tongue. Gaigalas, A.I., et al. [1992, p.118-135, rus] 47-69
Boulder beach formed by waves from a calving glacier, Eqip Sermia, West Greenland. Nielsen, N., [1992, p.159-168, eng] 47-226
Effect of ice flow on the distribution of fragmented material in a moraine. Demidov, I.N., [1991, p.186-190, rus] 47-341
Depositional model for Rogen moraine, with examples from the Avalon Peninsula, Newfoundland. Fisher, T.G., et al. [1992, p.669-686, eng] 47-378
Arctic push moraines, a case study of the Thompson Glacier moraine, Axel Heiberg Island, N.W.T., Canada. Lehmann, R., [1992, p.161-171, eng] 47-1011
Recent fluctuations of glaciers in the Gongga mountains. Su, Z., et al. [1992, p.163-167, eng] 47-1105
Ground moraines in European northeastern Russia and their lithostratigraphic significance. Andreicheva, L.N., [1992, 124p., rus] 47-1499
Preliminary research of sedimentary fabric of modern till in Qilian Mountains. Wu, A.B., [1985, p.73-81, chi] 47-1521
Quaternary glaciation of the north slope of Karakorum Mountains. Xu, D.M., [1991, p.233-242, eng] 47-1609
Studies of some acid springs in till, Lofsdalen, Sweden. Knutsson, G., [1992, p.366-375, eng] 47-1969
Lichenometric dating of a Norwegian moraine sequence Bickerton, R.W., et al. [1992, p.227-237, eng] 47-1999
Mid-Holocene glacial activity in the Pyrenees. Gellatly, A.F., et al. [1992, p.266-270, eng] 47-2000
Stability of moraine lakes in high alpine glacier regions. Haeberli, W., [1992, p.361-364, ger] 47-2203
Glacial landforms on an extinct volcano in Jilin Province. Li, B.L., [1992, p.431-438, chi] 47-2224
Soil catena variation along an alpine climatic transect, northern Peruvian Andes. Miller, D.C., et al. [1992, p.211-223, *eng*] 47-2252
Using structural-petrographic analysis for studying glacier *movement.* Golubev, V.N., et al. [1991, p.139-143, rus] 47-2804
Southern boundary of the last Kara ice sheet. Grosval'd, M.G., et al. [1991, p.154-159, rus] 47-2806
Tree-ring dating of moraines. McCarthy, D.P., et al. [1993, p.63-68, eng] 47-3430
Hummocky moraine on the Isle of Skye, Scotland. Benn, D.I., [1992, p.781-799, eng] 47-3442
Paleoclimatic implications of a South Wales moraine. Shakesby, R.A., et al. [1993, p.69-79, eng] 47-3471
Deglaciation of Finnish Lapland. Kujansuu, R., [1992, p.21-31, eng] 47-3544
Preliminary study of the surficial geology of Virden area, *southwestern Manitoba.* Sun, S., [1993, p.57-61, eng] 47-3705
Sedimentary record and Neoglacial history of Tide Lake, northwestern British Columbia. Clague, J.J., et al. [1992, p.2383-2396, eng] 47-3715
Shear-induced folding in Arsia Mons aureole: evidence for low-latitude Martian glaciations. Anguita, F., et al. [1992, p.11-22, eng] 47-3722
Stratigraphy of a moraine deposited in a marine *environment.* Brandal, M.K., et al. [1991, p.3-14, eng] 47-3832
Some influences of ice thrusting in geotechnical engineering. Cruden, D.M., et al. [1991, p.127-134, eng] 47-3872
Processes and materials of glacially derived deposits. Hawkins, A.B., et al. [1991, p.171-180, eng] 47-3874
Engineering implications of glacially derived deposits. Atkinson, J.H., et al. [1991, p.271-279, eng] 47-3884
Morphosedimentological dynamics and coastal evolution in the Kongsfjorden area, Spitsbergen. Héquette, A., [1992, *p.321-328, eng*] 47-4076
Moraine composition as glaciological indicator. *Serebriannyi, L.R., et al. [1993, p.63-69, eng]* 47-4145
Glaciation in the Yukon Territory. Ward, B.C., et al. [1992, p.2007-2012, eng] 47-4158
Stagnant glacier ice, St. Elias Mountains, Yukon. Johnson, P.G., [1992, p.13-19, eng] 47-4319
Moraines and late glacial activity in southern Värmland, southwestern Sweden. Lundqvist, J., [1992, p.245-252, eng] 47-4333
Mass wasting on valley-side ice-cored moraines, *Boundary* Glacier, Alberta Canada. Mattson, L.E., et al. [1991, p.123-128, *eng*] 47-4335
Palimpsest glacial landscape in northwestern Sweden. Kleman, J., [1992, p.305-325, eng] 47-4342
Glacial landform distribution in Yunnan Province, China. Aniya, M., [1992, p.1-12, eng] 47-4360
Glacial geology in Peruvian mountains. Rodbell, D.T., [1993, p.923-934, eng] 47-4580
Equilibrium line altitude correlation of Norwegian glaciers. Torsnes, I., et al. [1993, p.106-116, eng] 47-4743
Deposition of the Late Wisconsin Johnston moraine, *southcentral Wisconsin.* Lundqvist, J., et al. [1993, p.53-59, eng] 47-4751
Till stratigraphy and glacial history of the Vestfold Hills *area, East Antarctica.* Hirvas, H., et al. [1993, p.81-95, eng] 47-4753
Dating Holocene moraines of Black Rapids Glacier, Delta River valley, central Alaska Range. Reger, R.D., et al. [1993, p.51-59, eng] 47-4778
Moraine-ridge formation along a stationary ice front in Iceland. Krüger, J., [1993, p.101-109, eng] 47-4851
Use of meltwater stream material loads in the estimation of glacial erosion rates. Warburton, J., et al. [1993, p.19-28, *eng*] 47-4983
Dating of ice-marginal moraines of a Norwegian glacier, *Bickerton,* R.W., et al. [1993, p.45-66, eng] 47-5006
Dating of weathered Peruvian Pleistocene mountain moraines. Rodbell, D.T., [1993, p.133-143, eng] 47-5121
Neoglacial glacier fluctuations in the Canadian Rockies. Luckman, B.H., et al. [1993, p.144-153, eng] 47-5122
Isotope dating of Taylor Glacier moraines. Brook, E.J., et *al.* [1993, p.11-23, *eng*] 47-5202
Glacier fluctuation relation to moraine cushion plant variation. Frenot, Y., et al. [1993, p.140-144, eng] 47-5269

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See also: Geomorphology

Morphology

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Mortars

Behaviour of high erosion-resistant silica fume-mortars for repair of hydraulic structures. Berra, M., et al. [1989, p.827-847, eng] 47-57

Mortars *(cont.)*

Effect of sealers on the freeze-thaw resistance of mortar. Litvan, G.G., [1992, p.1141-1147, eng] 47-791

Keeping *mortar materials warm in winter.* Camillo, J., [1992, p.463-465, eng] 47-1510

Freeze-thaw resistance of mortar-polymer admixtures. Atzeni, C., *et al.* [1993, p.301-308, eng] 47-3421

Method of preparing and molding mortar or like. Suzuki, T., [1988, 8 col., eng] 47-3495

Silica *fume-polymer mortars for rehabilitation of bridge* decks. Bürge, T.A., [1993, p.1273-1286, eng] 47-3615

Mosses

Relationship between frost tolerance and sugar concentration of various bryophytes in summer and winter. Rütten, D., et al. [1992, p.260-265, eng] 47-774

Geographic laws of spatial soil cover organization in the Yamal Peninsula. Aparin, B.F., et al. [1992, p.88-94, eng] 47-1709

Soil microbial communities under cryptogamic plants in tundra and arctic deserts. Parinkina, O.M., et al. [1992, p.185-189, eng] 47-1727

Bryophytes of the Melville Hills region, Northwest Territories. Scotter, G.W., et al. [1992, p.100-104, eng] 47-1880

Primary production and organic matter destruction in Spitsbergen tundra. Opaliński, K.W., [1991, p.419-432, eng] 47-2198

Motor vehicles

Efficiency of hydraulic gears of motor vehicles at low temperatures. Kaverzin, S.V., [1986, 141p., rus] 47-95

Winter operability: equipment problems and their remedies. Diemand, D., [1992, p.124-137, eng] 47-587

Snow removing equipment for a multipurpose motor vehicle chassis. Nishnevich, E.L., *et al.* [1991, p.14-15, rus] 47-2062

Atactic polypropylene as a viscosity index improver for *low-temperature oils.* Alekseev, A.P., et al. [1993, p.509-512, eng] 47-4385

Development of shock absorbers for snow removal graders. Kumamoto, Y., et al. [1993, p.30-33, jpn] 47-4789

Shock absorption for the KBR-80 compact snowplow. Yamada, Y., et al. [1980, p.23-30, jpn] 47-4929

Determining the operational visibility of snowplows (part 2). Yanagisawa, Y., [1980, p.31-36, jpn] 47-4930

Trends in snow removal machinery at the Hokkaido Development Bureau. Katada, Y., [1980, p.37-45, jpn] 47-4931

Tests on safety of snow removal trucks (part 1). Matsusaka, H., [1980, p.72-79, jpn] 47-4933

Tests on improving the efficiency of rotary snowplows. Motoya, H., [1980, p.80-85, jpn] 47-4934

Tests *on improving* the efficiency of rotary snowplows. Motoya, H., et al. [1981, p.27-34, jpn] 47-4935

Tests on safety of snow removal trucks. Takeda, Y., et al. [1981, p.35-44, jpn] 47-4936

Mechanism for changing the edge of a snow removal grader. Horibe, K., et al. [1982, p.47-50, jpn] 47-4939

Tests on improving a (shear pin) safety mechanism for snow removal graders. Horibe, K., et al. [1982, p.51-56, jpn] 47-4940

Tests on sideways skidding of compact snowplows. Sakai, M., et al. [1982, p.57-66, jpn] 47-4941

Performance tests on the KBR-81 compact snowplow. Sakai, M., [1983, p.33-48, jpn] 47-4944

Tests on snow removal machinery. Yanagisawa, Y., [1983, p.49-66, jpn] 47-4945

Tests on improving the efficiency of road surface maintenance. Itabashi, N., [1983, p.67-88, jpn] 47-4946

Tests on snow removal machinery. Yanagisawa, Y., et al. [1984, p.15-42, jpn] 47-4947

Tests on improving the efficiency of road surface maintenance. Shoji, K., et al. [1984, p.43-68, jpn] 47-4948

Performance tests on a 400 PS-class rotary snowplow with an automatic control device. Yanagisawa, Y., *et al.* [1985, p.21-26, jpn] 47-4949

Developing a device to record snowplow operation. Matsuzaki, K., *et al.* [1985, p.43-52, jpn] 47-4950

Tests on snow removal trucks. Itabashi, N., et al. [1987, p.35-56, jpn] 47-4957

Tests on developing studless snowplows. Kawakami, S., et al. [1987, p.57-66, jpn] 47-4958

Tests on rotary snow removal machinery. Yamagami, M., *et al.* [1988, p.82-119, jpn] 47-4962

Performance tests on rotary snow plows in single file. Sasaki, T., et al. [1990, p.1-9, jpn] 47-4963

Tests on snow removal trucks. Nakajima, J., et al. [1990, p.36-67, jpn] 47-4966

Tests on developing snowplows with a variable curved *surface.* Nagahora, K., *et al.* [1991, p.25-50, jpn] 47-4968

Tests on developing a device to modify the blade cutting *edge of road maintenance equipment.* Nagahora, K., et al. [1991, p.51-56, jpn] 47-4969

Performance tests on the 10t class B-B-D snow removal truck. Nakajima, J., et al. [1991, p.74-91, jpn] 47-4972

Development of a reverse blade type, shear-pinless device for a snow removal grader. Nagahora, K., et al. [1992, p.1-21, jpn] 47-4973

Development of a guidance system for a snow dump truck. Kubota, S., et al. [1992, p.55-69, jpn] 47-4974

Driver behavior during winter conditions. Gabestad, K.O., et al. [1988, 54p. + appends., nor] 47-4992

Influence of studded tires on roadway surfaces. Bereza-Kudrycki, W., [1985, 55p., eng] 47-5008

Determination of road wear from studded tires. Knoflacher, H., et al. [1974, 90p., ger] 47-5010

See also: All terrain vehicles; Amphibious vehicles; Snow vehicles; Tank trucks; Tracked vehicles; Tractors

Motors

See also: Engines

Mountain glaciers

Lichenometric and radiocarbon dating of Holocene glaciation, Cordillera Blanca, Peru. Rodbell, D.T., [1992, p.19-29, eng] 47-52

Recent fluctuations of glaciers in Valtellina (Italian Alps) and climatic variations. Pelfini, M., et al. [1992, p.309-313, eng] 47-472

Revision of Kuhle's ice sheet hypothesis related to Tibetan glaciation. Shi, Y.F., et al. [1992, p.19-35, eng] 47-777

Pleistocene montane glaciations in the Mackenzie Mountains, Northwest Territories. Duk-Rodkin, A., et al. [1992, p.69-83, eng] 47-829

Proceedings. [1992, 239p., eng] 47-1076

Glacioclimatological features in the Tanggula mountains, China. Ding, Y.J., et al. [1992, p.1-6, eng] 47-1077

Relation between recent glacier variations and climate in the Tien Shan mountains, central Asia. Liu, C.H., et al. [1992, p.11-16, eng] 47-1079

Movement mechanisms of Ürümqi Glacier No.1, Tien Shan mountains, China. Huang, M.H., [1992, p.39-44, eng] 47-1084

Experimental study of the water and heat balance in the *source of the Ürümqi River in the Tien Shan mountains.* Kang, E.S., et al. [1992, p.55-66, eng] 47-1087

Some glacio-micrometeorological features on the north side *of Mount Qogir (K2), Karakoram mountains.* Ding, Y.J., [1992, p.67-72, eng] 47-1088

Glacial and lake fluctuations in the area of the west *Kunlun mountains* during the last 45,000 years. Li, S.J., et al. [1992, p.79-84, eng] 47-1090

Prediction of mountain glacier mass balance changes. Ageta, Y., et al. [1992, p.89-94, eng] 47-1092

Dramatic retreat of Mount Kenya's glaciers between 1963 and 1987: greenhouse forcing. Hastenrath, S., et al. [1992, p.127-133, eng] 47-1097

Simultaneous monitoring of mass balance fluctuations of and runoff from Tien Shan glaciers. Diurgerov, M.B., et al. [1992, p.134, eng] 47-1098

Recent fluctuations of *glaciers in the Gongga mountains.* Su, Z., et al. [1992, p.163-167, eng] 47-1105

Identification of glaciers with surge characteristics on the *Tibetan Plateau.* Zhang, W.J., [1992, p.168-172, eng] 47-1106

Can the mass balance of the entire glacier area of the Tien Shan be estimated. Diurgerov, M.B., et al. [1992, p.173-179, eng] 47-1107

Progress and prospect for research on mountain glaciers in China. Xie, Z.C., [1992, p.207-211, eng] 47-1113

Oscillations of mountain glaciers in post-glacial time. Solomina, O.N., [1992, p.56-65, rus] 47-1251

Features of physical geography and glacial resources in Qilian Mountains. Wu, G.H., [1985, p.1-8, chi] 47-1513

Climatic effects on the development of Qilian glaciers. Ding, L.F., et al. [1985, p.9-15, chi] 47-1514

Observations supporting the Pleistocene inland glaciation of High Asia. Kuhle, M., [1991, p.133-231, eng] 47-1608

Quaternary glaciation of the north slope of Karakorum Mountains. Xu, D.M., [1991, p.233-242, eng] 47-1609

Precipitation conditions for the development of the present glaciers on the northern slope of Karakorum. Ding, Y.J., [1991, p.243-248, eng] 47-1610

Giant avalanche on K2 Mount, Karakorum. Shen, Y.P., [1991, p.249-254, eng] 47-1611

Characteristics of glacier outburst flood in the Yarkant River, Karakorum Mountains. Feng, Q.H., [1991, p.255-263, eng] 47-1612

Mountain glacier fluctuations and climatic change during the last 100 years. Wang, N.L., et al. [1992, p.242-250, chi] 47-1664

Radioactive fallout on Tyrolean glaciers. Ambach, W., et al. [1991, p.7-17, ger] 47-1901

Discovery of human bones in the Prägratkees (Tyrolean Alps) in 1953 and 1990. Ambach, E., et al. [1992, p.37-41, ger] 47-1905

Recent trends in glaciers and glacier runoff, Wind River Range, Wyoming. Marston, R.A., et al. [1989, p.159-169, eng] 47-2578

Interrelation between the altitude of the equilibrium line, air temperature, and runoff in the Sary-Tor Glacier. Diurgerov, M.B., et al. [1991, p.136-139, rus] 47-2803

Using satellite data to determine glacier radiation field. Gratton, D.J., et al. [1993, p.315-331, eng] 47-2886

Reports on the Glaciological Survey of 1990. Armando, E., et al. [1991, p.263-310, ita] 47-3171

Glacial retreat in the Pyrenees. [1993, p.116-117, eng] 47-3318

Glacier inventory and atlas of West Greenland. Weidick, A., et al. [1992, 194p., eng] 47-3519

Hydroclimatological variations in an alpine glacier basin. Gurnell, A.M., et al. [1992, p.821-839, eng] 47-3679

Degree-day glacier mass balance modelling. Johannesson, T., et al. [1993, 40p., eng] 47-3707

Mountain structure and glaciation of the Caucasus Mountains. Marcinek, J., et al. [1990, p.242-251,270, ger] 47-3793

Satellite image atlas of glaciers of the world. Glaciers of the Middle East and Africa. Williams, R.S., Jr., ed. [1991, 70p., eng] 47-3822

Glaciers of Turkey. Kurter, A., [1991, p.G1-G30, eng] 47-3823

Glaciers of Iran. Ferrigno, J.G., [1991, p.G31-G47, eng] 47-3824

Glaciers of Africa. Young, J.A.T., et al. [1991, p.G49-G70, eng] 47-3825

Mass balance of a cirque glacier in the Italian Alps. Catasta, G., et al. [1993, p.87-90, eng] 47-3942

Subglacial flow of a mountain glacier. Fountain, A.G., [1993, p.143-156, eng] 47-3948

Rapid advance of Pumarikish Glacier, Hispar Glacier basin, Karakoram Himalaya. Wake, C.P., et al. [1993, p.204-207, eng] 47-3953

Glaciers. Hambrey, M.J., et al. [1992, 207p., eng] 47-4009

Moraine composition as glaciological indicator. Serebriannyi, L.R., et al. [1993, p.63-69, eng] 47-4145

Glaciation in the Yukon Territory. Ward, B.C., et al. [1992, *p.2007-2012, eng*] 47-4158

Glaciers of the Swiss Alps 1985/86 and 1986/87. Aellen, M., et al. [1991, 140p., ger] 47-4219

Geomorphic features as indicators of *climatic fluctuations* in a periglacial environment, northern Sweden. Nyberg, R., et al. [1990, p.203-210, eng] 47-4314

Glacial landform distribution in Yunnan Province, China. Aniya, M., [1992, p.1-12, eng] 47-4360

Land ice and climate. Van der Veen, C.J., [1992, p.437-450, *eng*] 47-4500

Late-Quaternary glaciation as a proxy for climate change in the central Andes. Seltzer, G.O., [1993, p.129-138, eng] 47-4711

Rhine-Linth glacier in the upper Wurm: a model of the last alpine glaciation. Keller, O., et al. [1993, p.15-17, eng] 47-4749

Conditions of the Pleistocene glaciation of mountainous regions. Klimaszewski, M., [1993, p.1-18, eng] 47-4982

Dating of weathered Peruvian Pleistocene mountain moraines. Rodbell, D.T., [1993, p.133-143, eng] 47-5121

Neoglacial glacier fluctuations in the Canadian Rockies. Luckman, B.H., et al. [1993, p.144-153, eng] 47-5122

Glacial icemelt in the Wind River Range, Wyoming. Pochop, L.O., et al. [1990, p.118-124, eng] 47-5216

Glacial and climatic history of the central Peruvian Andes. Wright, H.E., Jr., et al. [1989, p.439-445, eng] 47-5256

Mountain soils

Opal cutans in the profile of mountain tundra sod soil in the extreme north-east of the USSR. Pustovoitov, K.E., [1990, p.12-17, eng] 47-474

Some indices of the biological activity of soils of the mountain meadow belt of the northwestern Caucasus. Efremov, A.L., [1981, p.76-78, eng] 47-475

Indices of the humus state of some high-mountain soils of Western Pamir. Demin, V.V., [1981, p.77-79, eng] 47-476

Soil denitrification rates in a subalpine watershed of the eastern Sierra Nevada. Walker, R.F., *et al.* [1992, p.217-231, eng] 47-510

Nutrient cycle in high-meadow alpine soils. Stepanov, A.L., *et al.* [1989, *p.55-57, eng*] 47-745

Elements of the material balance under conditions of an alpine lichen heath of the North Caucasus. Makarov, M.I., [1983, p.58-61, eng] 47-799

Soils of alpine mountains. Legros, J.P., [1992, p.155-181, eng] 47-1211

Frost heave and creep in the Sör Rondane Mountains, Antarctica. Matsuoka, N., et al. [1992, p.271-280, eng] 47-1584

Prospecting and mapping of mountain permafrost and associated phenomena. King, L., et al. [1992, p.73-81, eng] 47-1746

Distribution of mountain permafrost and climate. Cheng, G.D., et al. [1992, p.83-91, eng] 47-1747

Present-day periglacial processes and landforms in mountain areas. Lautridou, J.P., et al. [1992, p.93-101, eng] 47-1748

Interactions and relations between mountain permafrost, glaciers, snow and water. Harris, S.A., et al. [1992, p.103-110, eng] 47-1749

Construction, environmental problems and natural hazards in periglacial mountain belts. Haeberli, W., (1992, p.111-124, eng) 47-1750

Automated permafrost mapping using a computer program. Keller, F., (1992, p.133-138, eng) 47-1752

Model of potential direct solar radiation for investigating occurrences of mountain permafrost. Funk, M., et al, (1992, p.139-142, eng) 47-1753

Ground temperature measurements in mountain permafrost, Jotunheimen, southern Norway. Ødegard, R.S., et al, (1992, p.231-234, eng) 47-1776

Permafrost environment of the Daisetsu Mountains, Hokkaido, Japan. Sone, T., (1992, p.235-240, eng) 47-1777

Note on ground thermal regimes and global solar radiation at 4720 m a.s.l., High Andes of Argentina. Happoldt, H., et al, (1992, p.241-245, eng) 47-1778

Periglacial microforms in the Lesotho Highlands. Harvey, P.M., et al, (1992, p.353-361, eng) 47-2242

Soil catena variation along an alpine climatic transect, northern Peruvian Andes. Miller, D.C., et al, (1992, p.211-223, eng) 47-2252

Holocene mire development at a Japanese alpine site. Takahashi, N., (1990, p.93-156, eng) 47-2603

Freeze-thaw activity in the Abisko Mountains, Sweden. Nyberg, R., (1993, p.37-47, eng) 47-3116

Periglacial processes in Mongolian mountains. Cui, Z.J., et al, (1992, p.55-62, eng) 47-3127

Small-scale patterned ground, Comeragh Mountains, southeast Ireland. Wilson, P., (1992, p.63-70, eng) 47-3128

Landscapes and soils of the mountain subarctic Transbaikal. Kuz'min, V.A., et al, (1992, p.94-98, rus) 47-3269

Mountain permafrost and climatic change. Haeberli, W., et al, (1993, p.165-174, eng) 47-4151

Slow soil movement in Tarfala Valley, Kebnekaise Mountains, Swedish Lapland. Jahn, A., (1991, p.93-107, eng) 47-4309

Mountain tundra

See also: Alpine tundra

Mountains

Initiation of first snow surveys in the Himalayas—a brief appraisal. Dhar, O.N., et al, (1985, p.164-174, eng) 47-536

Use of radiation absorbing for clearing snow in mountainous regions. Vombatkere, S.G., (1985, p.222-239, eng) 47-574

Use of radiation absorbing materials for clearing snow in mountainous areas. Sharma, H.D., (1985, p.240-247, eng) 47-575

Construction techniques for expedient air strips in snowbound regions. Natarajan, T.K., et al, (1985, p.293-317, eng) 47-580

Outline of avalanches in the Tien Shan mountains. Hu, R.J., et al, (1992, p.7-10, eng) 47-1078

Energy balance of a snow cover and simulation of snowmelt in the western Tien Shan mountains, China. Ma, H., et al, (1992, p.73-78, eng) 47-1089

Avalanches in the Tien Shan mountains, China. Wei, W.S., (1992, p.140, eng) 47-1100

Evaluating the nival-glacial climate of mountains to be used for recreation. Suprunenko, IU.P., (1982, p.34-41, rus) 47-1247

Solar UV-spectra in various environmental conditions. Huber, M., et al, (1992, p.413-415, eng) 47-1810

Physical assessment of the wind chill index. Ennemoser, O., et al, (1991, p.76-82, ger) 47-2059

Identification and mitigation of glacier-related hazards: examples from the Cordillera Blanca, Peru. Reynolds, J.M., (1992, p.143-157, eng) 47-2077

Active rock glaciers in central northern Tian Shan. Schröder, H., (1992, p.109-119, ger) 47-2666

Evidence of periglacial processes in Virginia mountains. Whittecar, G.R., et al, (1992, p.487-494, eng) 47-2704

Dynamic modeling of the spatial distribution of precipitation in remote mountainous areas. Barros, A.P., et al, (1993, p.1195-1214, eng) 47-4254

Geomorphic features as indicators of climatic fluctuations in a periglacial environment, northern Sweden. Nyberg, R., et al, (1990, p.203-210, eng) 47-4314

Monitoring of snowcover in high mountain terrain with ERS-1 SAR. Haefner, H., et al, (1993, p.583-588, eng) 47-4446

Paleoclimatology of Atacama Altiplano, northern Chile. Messerli, B., et al, (1993, p.117-127, eng) 47-4710

Exceptional rain-snow event of February 1990 in the Northern Alps. Blanchet, G., (1993, p.68-77, fre) 47-4761

Predicting wilderness snow water equivalent with nonwilderness snow sensors. McGurk, B.J., et al, (1993, p.85-94, eng) 47-4993

Mud circulation

See also: Drilling fluids

Mudflows

Extreme heavy debris flow in Mt. Gongga. Lu, R.R., (1992, p.174-177, chi) 47-1655

Water-snow flows in the Khibiny Mountains. Sapunov, V.N., (1991, p.94-99, rus) 47-2794

Municipal engineering

Snow removal equipment with an emergency water pump. Hoshino, J., et al, (1991, p.145-150, jpn) 47-2519

Hydraulic transportation machine development for snow removal from urban areas. Umemura, T., (1992, p.287-297, eng) 47-3207

Fencing pays off big for arctic community. Weber, S., (1992, p.8-11, eng) 47-3836

Engineering geology of the USSR; platform regions in European USSR. Komarov, I.S., ed, (1992, 2 vols., rus) 47-3858

Tests on urban snow removal. Sumita, N., et al, (1991, p.1-24, jpn) 47-4967

Snow removal in Sapporo City. Segawa, T., (1984, p.80-84, jpn) 47-5072

Developing comprehensive technology to make cities snowproof. Shibata, M., et al, (1984, p.85-89, jpn) 47-5073

See also: Urban planning

Naleds

Formation of seasonal ice bodies. Pollard, W.H., et al, (1992, p.281-304, eng) 47-856

Glaciation of the Verkhoyansk-Kolyma region. Koreisha, M.M., (1989, 143p., rus) 47-869

Problems in the study of naleds; collected scientific papers. Alekseev, V.R., ed, (1991, 238p., rus) 47-2424

Basic problems in the study of naleds. Alekseev, V.R., (1991, p.5-23, rus) 47-2425

Hydrology of naleds: basic results and research tasks. Sokolov, B.L., (1991, p.24-40, rus) 47-2426

Physical and terrain-indicating bases for satellite monitoring of naleds in ground water. Topchiev, A.G., (1991, p.40-45, rus) 47-2427

Geochemical processes during naled formation. Ivanov, A.V., (1991, p.45-54, rus) 47-2428

Mechanism of the development of the naled process. Rumiantsev, E.A., (1991, p.55-66, rus) 47-2429

Naled systems in river basins as a result of the interaction of surface and ground waters. Kravchenko, V.V., et al, (1991, p.66-76, rus) 47-2430

Heat and water balance of naleds. Delkin, B.N., (1991, p.76-89, rus) 47-2431

Information analysis in the study of naleds. Kolotaev, V.N., et al, (1991, p.90-95, rus) 47-2432

Mathematical model for qualitative analysis of naleds. Nevskii, S.D., (1991, p.95-103, rus) 47-2433

Annual dynamics of naleds in ground water and methods for calculating them. Markov, M.L., (1991, p.103-116, rus) 47-2434

Stochastic method for forecasting estimated parameters of naleds. Dement'ev, V.A., (1991, p.116-123, rus) 47-2435

Ways of refining the calculation of naled ice melting. Ergin, V.P., (1991, p.123-128, rus) 47-2436

Electron-microscopic studies of naled salts. Ivanov, A.V., et al, (1991, p.128-131, rus) 47-2437

Studying naleds to estimate fresh ground water reserves. Kulakov, V.V., et al, (1991, p.131-137, rus) 47-2438

Study of naleds by skiers with a high level of athletic skill while traversing courses. Delkin, B.N., et al, (1991, p.137-145, rus) 47-2439

Thermal regime of a naled valley in the BAM zone. Gavrilova, M.K., (1991, p.146-151, rus) 47-2440

Microclimate of the naled valley of the Volkhov stream in Southern Yakutia. Potapov, A.M., (1991, p.152-157, rus) 47-2441

Naled formation under reduced moisture conditions. Pisarskii, B.I., et al, (1991, p.157-162, rus) 47-2442

Naleds of the Putorana Plateau and their effect on valley landscapes. Gienko, A.IA., et al, (1991, p.162-166, rus) 47-2443

Naleds in the Altay Mountains. Sheinkman, V.S., (1991, p.166-176, rus) 47-2444

River naleds in Kazakhstan. Bellinson, M.M., (1991, p.176-181, rus) 47-2445

Naleds in the Kungur cave. Dorofeev, E.P., (1991, p.181-188, rus) 47-2446

Passability of naled areas in river valleys. Alekseev, V.R., (1991, p.189-205, rus) 47-2447

Winter temperature regime of culverts in channels with naleds. Kuz'minykh, A.I., et al, (1991, p.205-210, rus) 47-2448

System approach to selecting anti-naled procedures. Merkulov, D.M., et al, (1991, p.210-214, rus) 47-2449

Effectiveness of anti-naled measures during road building. Nevskii, S.D., (1991, p.214-218, rus) 47-2450

Naleds and forecasting them on mountain highways in Kirgizia. Turgunbaev, A.T., (1991, p.219-225, rus) 47-2451

Creating naleds for water supply and irrigation in valleys of freezing rivers. Vdovin, IU.I., (1991, p.225-233, rus) 47-2452

Artificial naled formation for water storage. Krasnov, IU.N., (1991, p.233-235, rus) 47-2453

Using naleds for regulating the flow of mountain rivers in Siberia. Busygin, V.V., et al, (1991, p.236-238, rus) 47-2454

Elastic shield to protect road culverts from naleds. Dement'eva, O.V., (1992, p.13, rus) 47-2902

Dissipative structures of rivers in the cryolithozone. Markov, M.L., (1991, p.11-20, rus) 47-3283

Natural gas

Many challenges ahead for exploration, development in Norwegian-Russian Arctic. Johansen, B., (1992, p.31-32, eng) 47-919

Interannual variations in tundra methane emission: a 4-year time series at fixed sites. Whalen, S.C., et al, (1992, p.139-159, eng) 47-1053

Plant-dependent CH4 emission in a subarctic Canadian fen. Whiting, G.J., et al, (1992, p.225-231, eng) 47-1378

Micrometeorological measurements of CH4 and CO2 exchange between the atmosphere and subarctic tundra. Fan, S.M., et al, (1992, p.16,627-16,643, eng) 47-1458

Methane emissions from tundra environments in the Yukon-Kuskokwim Delta, Alaska. Bartlett, K.B., et al, (1992, p.16,645-16,660, eng) 47-1459

Methane emissions from Alaska arctic tundra: an assessment of local spatial variability. Morrissey, L.A., et al, (1992, p.16,661-16,670, eng) 47-1460

Methane transport in macrophytes of a tundra lake. Chanton, J.P., et al, (1992, p.16,681-16,688, eng) 47-1462

Carbon isotopes in methane emitted from Alaskan wetlands. Martens, C.S., et al, (1992, p.16,689-16,701, eng) 47-1463

Methane in permafrost sediments on the Kolyma-Indigirka lowland. Rivkina, E.M., et al, (1992, p.559-562, rus) 47-1497

Flux of CO2 and CH4 from lakes and rivers in arctic Alaska. Kling, G.W., et al, (1992, p.23-36, eng) 47-1601

Global change related to gas hydrate stability. Judge, A.S., et al, (1992, p.251-263, eng) 47-2025

Seasonality of methane emissions from five lakes and associated wetlands of the Colorado Rockies. Smith, L.K., et al, (1992, p.323-338, eng) 47-2235

Technological scheme for removing impurities from biogas. Nekrasov, V.G., (1990, p.30-31, rus) 47-2475

Improving the effectiveness of drying gas in northern regions. Mukhtarov, K.A., et al, (1990, p.42-43, rus) 47-2476

Ensuring reliable gas supply in Yakutia. Dement'ev, IU.L., (1991, p.24-25, rus) 47-2479

Gas field production in an area with permafrost development. Mikhailov, N.V., (1991, p.4-5, rus) 47-2480

Yamal: problems in geocryology and hydrology. Makhonin, G.I., et al, (1991, p.12-13, rus) 47-2484

On the thermodynamic stability of clathrate hydrate. I. Tanaka, H., et al, (1993, p.4098-4109, eng) 47-2673

Methane hydrate layers in deep sea mud. Hyndman, R.D., (1992, p.21-26, eng) 47-2821

Thaw depth effects on tundra methane flux. Vourlitis, G.L., et al, (1993, p.329-337, eng) 47-3434

Significance of stomatal control on methane release from Carex-dominated wetlands. Morrissey, L.A., et al, (1993, p.339-355, eng) 47-3435

Environmental and biotic controls over methane flux from arctic tundra. Torn, M.S., et al, (1993, p.357-368, eng) 47-3436

Permafrost methane content: 1. Experimental data from sites in northern Alaska. Rasmussen, R.A., et al, (1993, p.591-594, eng) 47-3437

Permafrost methane content: 2. Modeling theory and results. Moraes, F., et al, (1993, p.595-607, eng) 47-3438

Methane in permafrost—preliminary results from coring at Fairbanks, Alaska. Kvenvolden, K.A., et al, (1993, p.609-616, eng) 47-3439

Russia's Rosshelf sets timetable for arctic offshore field development, (1993, p.31-34, eng) 47-3527

Russia pins energy hopes on western Siberia gas, (1992, p.17-20, eng) 47-3528

Thermodynamic stability of clathrate, pt.2. Tanaka, H., et al, (1993, p.8110-8118, eng) 47-3582

Episodic fluxes of methane from subarctic fens. Windsor, J., et al, (1992, p.441-452, eng) 47-3717

Ice mill for chemical analysis of trace gases in ice bubbles. Fuchs, A., et al, (1993, p.199-203, eng) 47-3952

1992 annual report on Alaska's mineral resources. Bohn, D., ed, (1992, 65p., eng) 47-4215

Development of natural gas resources in northwest Siberia. Michel, F.A., (1993, p.19-24, eng) 47-4269

Recent developments of the Mackenzie Delta Pipeline Project. Kaustinen, O.M., (1993, p.101-115, eng) 47-4276

Teshekpuk Lake oil and gas resource assessment. Bascle, R.J., (1993, 20p., eng) 47-4893

Kodiak National Wildlife Refuge oil and gas resource assessment. Bascle, R.J., et al, (1993, 21p., eng) 47-4894

Innoko National Wildlife Refuge oil and gas resource assessment. Bascle, R.J., et al, (1993, 20p., eng) 47-4895

Hydrocarbon gas traces in snow cover. Vyshemirskii, V.S., et al, (1993, p.1-4, eng) 47-5194

Natural resources

International law and the Antarctic Treaty System. Watts, A., (1992, 469p., eng) 47-1243

Developing the productive energies of Northern USSR. Granberg, A.G., ed, (1991, 229p., rus) 47-2457

Natural resources *(cont.)*

American practices in developing arctic resources. Halley, D., [1991, p.16-19, rus] **47-2485**

Economic Quaternary geology in Sweden—some comments on the contemporary situation. Königsson, L.K., [1992, p.75-87, eng] **47-3549**

Applied quaternary geology in Estonia. Raukas, A., [1992, p.89-96, eng] **47-3550**

Gulags and goldmines. Louis, N., [1992, p.28-34, eng] **47-3860**

U.S. rangeland technology: rehabilitating Russia's oil, gas production sites. McKendrick, J.D., et al, [1993, p.4-7, eng] **47-4096**

1992 annual report on Alaska's mineral resources. Bohn, D., ed, [1992, 65p., eng] **47-4215**

Development of natural gas resources in northwest Siberia. Michel, F.A., [1993, p.19-24, eng] **47-4269**

Northern regulatory approvals. Beaubier, H., [1993, p.92-100, eng] **47-4275**

Arctic: arena for international environmental security?. Kolodkin, A., et al, [1993, p.277-289, eng] **47-4727**

Future of Russian oil. Moe, A., et al, [1992, p.20-24, rus] **47-4874**

Teshekpuk Lake oil and gas resource assessment. Bascle, R.J., [1993, 20p., eng] **47-4893**

Kodiak National Wildlife Refuge oil and gas resource assessment. Bascle, R.J., et al, [1993, 21p., eng] **47-4894**

Innoko National Wildlife Refuge oil and gas resource assessment. Bascle, R.J., et al, [1993, 20p., eng] **47-4895**

Navigation

Fluctuations in the water level of the Yenisey estuary during the summer-fall navigation period. Ivanova, A.A., [1991, p.122-127, rus] **47-3699**

Experiment in organizing the automated gathering and processing of hydrometeorological information for ships. Safronov, V.A., [1991, p.145-152, rus] **47-3965**

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Needle ice

See also: Ice needles

Nepal

Estimation of streamflow change by global warming. *Fukushima, Y., et al, [1991, p.181-188, eng]* **47-1305**

Netherlands

Periglacial microjointing and faulting in Weichselian fluvio-aeolian deposits. Mol, J., et al, [1993, p.15-30, eng] **47-5005**

Neutron activation analysis

Chemical composition of precipitation in Uzbekistan. Kulmatov, R.A., et al, [1993, p.413-419, eng] **47-4068**

Neutron diffraction

Premelting of ice in exfoliated graphite: a neutron diffraction study. Gay, J.M., et al, [1992, p.33-41, eng] **47-1383**

Neutron diffraction studies of high pressure ice. Londono, J.D., et al, [1993, p.4878-4888, eng] **47-3234**

Neutron scattering

Freezing in confined geometries. Sokol, P.E., et al, [1992, p.777-779, eng] **47-180**

Inelastic incoherent neutron scattering study of D2O and H2O ice VIII in the range 2-140 meV. Kolesnikov, A.I., et al, [1992, p.308-312, eng] **47-195**

Effects of material mixing on planetary gamma ray spectroscopy. Squyres, S.W., et al, [1992, p.14,701-14,715, eng] **47-377**

Liquid water with an *ab initio* potential: X-ray and neutron scattering from 238 to 368 K. Corongiu, G., et al, [1992, p.2030-2038, eng] **47-2048**

Structural study of water confined in porous glass by *neutron scattering*. Bellissent-Funel, M.C., et al, [1993, p.4246-4252, eng] **47-2675**

Simulation of liquid and solid phases of water. Clementi, E., et al, [1993, p.205-213, eng] **47-4755**

New Zealand

Increased ultraviolet radiation in New Zealand. Seckmeyer, G., et al, [1992, p.135-137, eng] **47-374**

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Evaluating the nival-glacial climate of mountains to be used for recreation. Suprunenko, IU.P., [1982, p.34-41, rus] **47-1247**

Glaciological examination—a necessary phase of developing arctic and subarctic regions. Il'ina, E.A., [1991, p.186-190, rus] **47-2811**

Nivation

Spatial patterns of geochemical denudation in a Colorado alpine environment. Caine, N., [1992, p.63-88, eng] **47-847**

Vertical movements of boulders in a subnival boulder pavement at 2800 m a.s.l. in the Alps (France). Pissart, A., et al, [1992, p.203-208, eng] **47-1771**

Naleds in the Altay Mountains. Sheinkman, V.S., [1991, p.166-176, rus] **47-2444**

Sediment transfer on the floor of the Martinelli Snowpatch, Colorado Front Range, U.S.A. Caine, N., [1992, p.133-144, eng] **47-4323**

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Noise (sound)

Modeling spectra of weather noise. Alekseev, G.V., [1992, p.50-55, rus] **47-3805**

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Nomographs

Using field methods to determine strength properties of *snow*. Samoilov, R.S., et al, [1991, p.170-177, rus] **47-2809**

New wind-chill nomogram. Rees, W.G., [1993, p.229-234, eng] **47-4703**

North America

Glaciers of North America: a field guide. Ferguson, S.A., [1992, 176p., eng] **47-459**

North Atlantic Ocean

Cause-effect relationships in the interactive processes of the ocean and atmosphere in the North Atlantic. Zablotskii, G.A., et al, [1992, p.105-115, rus] **47-3810**

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I-129 as a tracer of European reprocessing emissions in the North Atlantic and Arctic oceans. Zhou, Z.Q., et al, [1993, p.145-156, eng] **47-5027**

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Ship of opportunity section to the North Pole: upper ocean temperature observations. Quadfasel, D., et al, [1992, p.777-789, eng] **47-4854**

North Sea

Variations in the ice edge in the European North Sea, 1966-1991, from satellite data. Eckardt, M., et al, [1992, p.241-242, ger] **47-215**

Protective wall for an offshore platform in the North Sea. Volkov, IU.S., [1990, p.30-31, rus] **47-2162**

Temporal evolution of artificial radioactivity in the North and Baltic Sea. Nies, H., et al, [1993, p.225-236, eng] **47-5033**

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Northern Sea Route

Northern Sea Route and the policy of new Russia. Granberg, A.G., [1992, p.5-14, eng] **47-4210**

Chronology of the International Northern Sea Route Project. Simonsen, H., [1992, p.26-33, eng] **47-4211**

History of the Northern Sea Route. Armstrong, T., [1992, p.34-42, eng] **47-4212**

Northern Sea Route—rosy prospects for commercial shipping?. Wergeland, T., [1992, p.43-57, eng] **47-4213**

Northern Sea Route: a new era in Soviet policy?. Östreng, W., [1991, p.259-287, eng] **47-4217**

Northern Sea Route—now open. Ivanov, IU., et al, [1992, p.15-20, eng] **47-4872**

Geopolitics of the Northern Sea Route. Östreng, W., [1992, p.21-25, eng] **47-4873**

Regulations for navigation on the seaways of the Northern Sea Route. [1991, 23p., eng] **47-4892**

Northwest Passage

Breaking the ice. Goldsack, B., [1992, p.22-27, eng] **47-3859**

Norway

Ice problems in the Arendal River system, Norway. *Björkenes, A., [1988, p.227-234, nor]* **47-735**

Ice problems in power plants and rivers in Norway. Results from an inquiry. Fossdal, M.L., et al, [1988, p.235-236, nor] **47-736**

Deicing of roads in Norway with brine. Stotterud, R., et al, [1992, 9p., eng] **47-931**

BIBSYS as a polar literature database. Sveum, T., [1992, p.95-101, eng] **47-1399**

Comparison of snowmelt intensities in urban and rural areas of Norway. Sand, K., [1990, 13p., eng] **47-1684**

Urban snowmelt research in Norway: measurements and modelling approach. Thorolfsson, S.T., et al, [1991, 8p., eng] **47-1685**

Norwegian Meteorological Institute. Förland, E.J., [1988, 4p., eng] **47-1687**

Recent results from drill cores on Jostedalsbreen. *Gjessing, Y., [1988, 18p., nor]* **47-1690**

Cold air production and drainage in Finnmarksvidda. Part 6. Diurnal and group averages from measurements in the period 1987-1988. Hanssen-Bauer, I., [1989, 51p., nor] **47-1691**

Cold air production and drainage in Finnmarksvidda. Part 5. Cold air drainage along the Alta Valley during a week in winter with a weak pressure gradient over Finnmark. Hanssen-Bauer, I., [1988, 17p., nor] **47-1692**

Cold air production and drainage in Finnmarksvidda. Part 4. Study on the drainage flow through a canyon with variable scale wind pressure. Hanssen-Bauer, I., [1988, 20p., nor] **47-1693**

Cold air production and drainage in Finnmarksvidda. Part 3. Study on the flow in a canyon with *neutral* stability. Gjessing, Y., et al, [1988, 22p., nor] **47-1694**

Cold air production and drainage in Finnmarksvidda. Part 2. Diurnal and group averages from measurements in the period 1984-87. Hanssen-Bauer, I., et al, [1988, 104p., nor] **47-1695**

Cold air production and drainage in Finnmarksvidda. Part 1. Statement of the problem, background data and outline. Gjessing, Y., et al, [1988, 17p., nor] **47-1696**

Ground temperature measurements in mountain permafrost, Jotunheimen, southern Norway. Ødegard, R.S., et al, [1992, p.231-234, eng] **47-1776**

Runoff from rain and snowmelt in Norway. Thorolfsson, S.T., et al, [1992, p.127-135, nor] **47-1959**

Design events in urban and suburban areas in coastal Norway. Basis for model modification. Thorolfsson, S.T., [1992, p.154-161, nor] **47-1960**

Use of a digital terrain model in snowmelt modeling. *Kolberg, S., [1992, p.196-203, nor]* **47-1961**

Phosphorus in runoff from soil erosion areas. Brynildsen, A., [1992, p.346-353, nor] **47-1968**

Flood forecasting and snow mapping by satellite. Lundquist, D., et al, [1992, p.453-459, nor] **47-1972**

Effects of Alta's development on ice conditions. Asvall, R.P., [1992, p.469-478, nor] **47-1973**

Effect of water course regulation on the local climate. Nordli, P.O., [1992, p.497-505, nor] **47-1974**

Geomorphological changes in a river after its regulation. Fergus, T., [1992, p.506-514, eng] **47-1975**

On the choice of threshold levels in partial duration series. Rosbjerg, D., et al, [1992, p.604-615, eng] **47-1977**

KOFOT—a practical tool for comparative analysis and extension of runoff series. Hisdal, H., et al, [1992, p.622-631, eng] **47-1978**

Variations of climate and glacier mass balance, Svartisen, Norway. Theakstone, W.H., et al, [1992, p.703-710, eng] **47-1982**

Discharge from a glacier in Norway. Knudsen, N.T., et al, [1992, p.718-727, eng] **47-1984**

Volumetric changes at the East Svartisen ice cap during 1945-85. Knudsen, N.T., et al, [1992, p.728-735, eng] **47-1985**

Excursion guide for northern Finland-Norway-Sweden. Revised edition. Sollid, J.L., ed, [1989, 105p., eng] **47-2116**

Persistence of the ozone layer over Norway and Russia. Henriksen, K., et al, [1993, p.145-154, eng] **47-2595**

Hydrogeology of the Gardermoen Airport. Englund, J.O., ed, [1992, Var. p., eng] **47-2822**

Hydrogeology at Romerike. Jörgensen, P., et al, [1992, p.3/1-3/10, eng] **47-2823**

Contaminants in the Gardermoen areal. Snekkerbakken, A.M., [1992, p.6/1-6/5, eng] **47-2825**

Long precipitation series in Norway—analysis of homogeneity and regionalization. Hanssen-Bauer, I., et al, [1993, p.J56-J61, eng] **47-3085**

Formation of glacial flutes: assessment of models. Gordon, J.E., et al, [1992, p.709-731, eng] **47-3441**

Glacial stratigraphy in Norway. Andersen, B.G., [1992, p.61-71, eng] **47-3548**

Degree-day glacier mass balance modelling. Jóhannesson, T., et al, [1993, 40p., eng] **47-3707**

Multidisciplinary offshore site investigations. Butenko, G., et al, [1991, p.195-202, eng] **47-3876**

Afforestation of spruce in the Vesteraalen Islands, Norway. Kaasen, N.O., et al, [1993, p.427-436, eng] **47-4553**

Forest and arboretum development in Norway. Slettjord, S., [1993, p.437-451, eng] **47-4554**

Equilibrium line altitude correlation of Norwegian glaciers. Torsnes, I., et al, [1993, p.106-116, eng] **47-4743**

Petroleum policy in the north. Moe, A., [1991, p.211-231, eng] **47-4860**

—Fridtjof Glacier

Ice thickness and subglacial topography of the Fridtjof *Glacier based on data from ground-based radar sounding.* Glazovskii, A.F., et al, [1991, p.161-166, rus] **47-336**

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Reconstructing Holocene glacier variations from glacial lake sediments. Karlén, W., et al, [1992, p.327-348, eng] **47-4343**

Dating of ice-marginal moraines of a Norwegian glacier. Bickerton, R.W., et al, [1993, p.45-66, eng] **47-5006**

—Nordaustlandet

Distribution of chemical elements in the glacier cores obtained at Nordaustlandet. Punning, IU.-M.K., et al, [1991, p.170-176, rus] **47-338**

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—Spitsbergen

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Climatic conditions of outflow from a glacier in Spitsbergen. Pereyma, J., [1991, p.135-146, eng] 47-28

Remote sensing of tidewater glaciers in Svalbard. Glazovskii, A.F., et al, [1991, p.151-161, eng] 47-30

Thermokarstic and glaciokarstic hydrology in Spitsbergen glaciers. Krawczyk, W.E., et al, [1991, p.185-198, eng] 47-33

Radiative temperature of ice surface in Svalbard, 1991. Takahashi, S., et al, [1992, p.286-289, jpn] 47-151

Mineralization of natural waters on Spitsbergen. Gokhman, V.V., [1991, p.147-155, rus] 47-333

Mass balance of Spitsbergen glaciers in 1988/89 and 1989/90 balance years. Troitskii, L.S., [1991, p.167-170, rus] 47-337

Spores and pollen from the glaciers and periglacial zone of the Arctic and Antarctica. Surova, T.G., et al, [1991, p.181-185, rus] 47-340

Reflection of twentieth-century climatic warming in glacier cores from Nordaustlandet. Sin'kevich, S.A., [1992, p.114-122, eng] 47-1763

Glaciofluvial sediment transfer of a subpolar glacier, Erikbreen, Svalbard. Vatne, G., et al, [1992, p.253-266, eng] 47-2121

Thermal regime of a valley glacier, Erikbreen, northern Spitsbergen. Ödegard, R.S., et al, [1992, p.69-79, eng] 47-2352

Icebergs and bergy bits in Kongsfjorden, Spitsbergen. Dowdeswell, J.A., et al, [1992, p.81-91, eng] 47-2353

Metals in water, ice, and biological material from Spitsbergen. Drbal, K., et al, [1992, p.99-101, eng] 47-2355

Geochemistry of soils of Spitsbergen. Dobrovol'skii, V.V., [1990, p.1-15, eng] 47-2758

Volumetric hydrothermal state and regime of Spitsbergen glaciers. Macheret, Iu.IA., et al, [1991, p.40-53, rus] 47-2787

Air inclusions as an index of ice formation conditions on polar glaciers. Samoilov, O.Iu., [1991, p.118-121, rus] 47-2799

Studies of the tidewater Hansbreen Glacier on Spitsbergen. Glazovskii, A.F., et al, [1991, p.143-149, rus] 47-2805

Pb-210 in an ice core from Spitsbergen. Suzuki, T., et al, [1992, p.84-87, eng] 47-3008

Evaluating the role of the West Spitsbergen current in the formation of a sea ice boundary. Makshtas, A.P., et al, [1992, p.157-164, rus] 47-3814

Hydrographic characteristics of the Strokdammane Plain, west Spitsbergen, Svalbard. Akerman, H.J., [1992, p.169-182, eng] 47-4326

—Svalbard

ARCTIC '91: The Expedition ARK-VIII/3 of RV *Polarstern* in 1991. Fütterer, D.K., ed, [1992, 267p., eng] 47-40

Humus accumulation and soil formation in Svalbard. Lag, J., [1992, p.222-228, eng] 47-1734

Rock glaciers in Svalbard and Norway. Sollid, J.L., et al, [1992, p.215-220, eng] 47-1773

Polar hydrology: Norwegian hydrological research activities in Svalbard. Sand, K., et al, [1992, p.693-702, nor] 47-1981

Establishment of gauging stations under arctic conditions—the Svalbard experience. Skretteberg, R., [1992, p.711-717, eng] 47-1983

Hydrobiological studies in the Arctic: the structure of bottom communities. Vozzhinskaia, V.B., et al, [1992, p.1332-1335, rus] 47-2039

Volumetric hydrothermal state and regime of Spitsbergen glaciers. Macheret, Iu.IA., et al, [1991, p.40-53, rus] 47-2787

Reflection of 20th-century climatic warming in the glacier cores of Nordaustlandet. Sin'kevich, S.A., [1991, p.53-59, rus] 47-2788

Pre-Holocene marine limit on Hopen, Svalbard. Zale, R., et al, [1993, p.159-164, eng] 47-4853

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Extremes of the vertical distribution of hydrochemical indicators in the Norwegian Sea. Pivovarov, S.V., [1990, p.160-164, rus] 47-3603

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Problem of the baroclinic instability of integral circulation of waters in the Norwegian Sea. Pavlov, V.K., et al, [1991, p.50-58, rus] 47-3690

Structure and circulation of waters in the area of the anticyclonic gyre in the northeastern Norwegian Sea. Alekseev, G.V., et al, [1991, p.14-23, rus] 47-3955

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Power plants of future icebreakers. Kulikov, A., [1990, p.43-44, rus] 47-4092

Proceedings, [1993, 647p., eng] 47-5013

Radioecological risk assessment for solid radioactive waste (SRW) dumped into the Kara Sea by the former USSR. Lystsov, V.N., [1993, p.395-414, eng] 47-5045

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Energy density of water and ice nucleation. [Comment]. Wilen, L., [1993, p.1469, eng] 47-2318

Anomalous freezing point depression of solvents in a swollen homogeneous rubber network. Grobler, J.H.A., et al, [1993, p.575-577, eng] 47-3562

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Homogeneous ice nucleation and supercooled liquid water in orographic wave clouds. Heymsfield, A.J., et al, [1993, p.2335-2353, eng] 47-4891

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Soil denitrification rates in a subalpine watershed of the eastern Sierra Nevada. Walker, R.F., et al, [1992, p.217-231, eng] 47-510

Annual nutrient budget for an alpine grassland in the Garhwal Himalaya. Sundriyal, R.C., et al, [1992, p.21-26, eng] 47-512

Nutrient cycle in high-meadow alpine soils. Stepanov, A.L., et al, [1989, p.55-57, eng] 47-745

Seasonal changes in the nutrient cycle of woody plants at the timberline. Sakio, H., et al, [1992, p.47-52, eng] 47-794

Sediment evolution in an ice-covered lake. Catalan, J., [1992, p.945-955, eng] 47-1266

Nitrogen mineralization and streamwater chemistry, Rock Creek watershed, Denali National Park, U.S.A. Stottlemyer, R., [1992, p.291-303, eng] 47-1586

Silicon budget for an Alaskan arctic lake. Cornwell, J.C., et al, [1992, p.37-44, eng] 47-1602

Geochemistry of a tundra stream on the North Slope of Alaska. Peterson, B.J., et al, [1992, p.61-69, eng] 47-1604

Influence of light and nutrient addition upon the sediment chemistry of iron in an arctic lake. Sugai, S.F., et al, [1992, p.91-101, eng] 47-1606

Regularities of the nitrogen regime of seasonally freezing soils of Karelia. Fedorets, N.G., [1992, p.220-222, eng] 47-1733

Pine response to fertilization through snow cover. Marshall, V.G., et al, [1992, p.225-238, eng] 47-2016

Atmospheric loading of nitrogen to alpine tundra in the Colorado Front Range. Sievering, H., et al, [1992, p.339-346, eng] 47-2236

Long-term response of an arctic sedge to climate change: a simulation study. Leadley, P.W., et al, [1992, p.323-340, eng] 47-2288

Nitrogen storage in an alpine herb. Jaeger, C.H., et al, [1992, p.578-585, eng] 47-2711

Effect of climate change on C:N pools in a boreal watershed ecosystem. Stottlemyer, R., [1992, p.451-460, eng] 47-2731

Influence of beaver and bogs on greenhouse gases at Voyageurs National Park. Johnston, C.A., et al, [1992, p.471-479, eng] 47-2732

Nitrate transport in subalpine streams. Coats, R., et al, [1993, p.17-21, eng] 47-2850

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Scotia Sea zooplankton ecology in winter. Hopkins, T.L., et al, [1993, p.81-105, eng] 47-3604

Seasonal variations in dissolved inorganic nitrogen utilization in a subarctic Alaskan lake. Gu, B.H., et al, [1993, p.273-288, eng] 47-3647

Proceedings, [1993, 112p., eng] 47-3968

Aircraft measurement of atmospheric CO2 over Siberia. Izumi, K., et al, [1993, p.21-29, eng] 47-3971

Measurement of methane concentration in the atmosphere over Siberia. Uchiyama, M., [1993, p.30-35, jpn] 47-3972

Carbon cycle in Siberia and global warming. Takahashi, K., [1993, p.47-50, jpn] 47-3974

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Nitrogen uptake and new production in the Greenland Sea: the spring *Phaeocystis* bloom. Smith, W.O., Jr., [1993, p.4681-4688, eng] 47-4390

Mixotrophic algae in three ice-covered lakes of the Pocono Mountains, U.S.A. Berninger, U.G., et al, [1992, p.263-272, eng] 47-4517

Isotopic geochemistry of an ice-covered antarctic lake. Wharton, R.A., Jr., et al, [1993, p.159-172, eng] 47-4906

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Evaluation of limits to the performance of the surface roughness meter. Johnson, F., et al, [1993, p.140-145, eng] 47-4591

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See also: Air water interactions

Ocean atmosphere interactions

See also: Air water interactions

Ocean bottom

Submersible observations of an iceberg pit and scour on the Grand Banks of Newfoundland. Barrie, J.V., et al. [1992, p.1-6, eng] 47-446

Analysis of the estimates of mean climatological rate of the bottom and deep water renewal. Popov, A.V., [1990, p.94-97, eng] 47-1230

Origin of sediment pellets from the arctic seafloor: sea ice or icebergs?. Goldschmidt, P.M., et al. [1992, p.S539-S565, eng] 47-1278

Stratigraphy of Quaternary sediments in the Arctic Ocean. Nowaczyk, N.R., et al. [1992, p.S567-S601, eng] 47-1279

Experiment to monitor four iceberg scours on the Grand Banks of Newfoundland. Davidson, S.H., et al. [1991, 110p., eng] 47-2115

Electromagnetic communications through the seawater-ice-air interface. Steeves, G., et al. [1991, p.638-644, eng] 47-2182

Submersible video of iceberg scours on the Grand Banks. Cameron, G., et al. [1992, 44p., eng] 47-2340

Submarine cryolithogenesis in the Arctic. Shpolianskaia, N.A., [1991, p.65-70, rus] 47-2790

Investigation of Arctic Ocean bottom sediments. Danilov, I.D., et al. [1991, p.77-82, eng] 47-2888

Effect of bottom relief on the circulation of water in the northern European basin. Semenov, G.A., [1991, p.133-144, rus] 47-3964

Cretaceous chemosynthetic carbonate mounds in the Canadian Arctic. Beauchamp, B., et al. [1992, p.434-450, eng] 47-3987

Iceberg scouring in Scoresby Sund and on the East Greenland continental shelf. Dowdeswell, J.A., et al. [1993, p.37-53, eng] 47-4297

Application of offshore drilling technology to the entombment of artificial sources of radioactivity on the sea floor. Francis, T.J.G., [1993, p.367-377, eng] 47-5043

See also: Bottom sediment; Bottom topography

Ocean currents

Relation between coastal boundary current and sea level. Part 1. *The Soya warm current.* Tsurubayashi, T., *et al.* [1992, p.47-50, jpn] 47-114

Water exchange between Kuril Basin and Pacific Ocean. Kawasaki, Y., et al. [1992, p.173-176, eng] 47-136

Seasonal variation of Oyashio Water southeast off Hokkaido. Kono, T., et al. [1992, p.177-181, eng] 47-137

Plankton cycle, currents and temperatures in the Okhotsk Sea. Saito, H., et al. [1992, p.182-187, eng] 47-138

Physical and dynamic properties of sea ice in the polar oceans. Gow, A.J., et al. [1991, 46p., eng] 47-704

Investigation of a mushroom-like flow in the shelf edge area of northern seas. Voloshina, I.P., et al. [1992, p.317-322, eng] 47-782

Analytical model of the dynamics of an arctic eddy lens. Zharnitskii, E.V., [1990, p.544-548, eng] 47-1231

Three-dimensional acoustic waveguide in the Labrador Sea. Bogdanov, K.T., et al. [1990, p.563-565, eng] 47-1232

Tracing upper waters of the Nansen Basin in the Arctic Ocean. Anderson, L.G., et al. [1992, p.S425-S433, eng] 47-1272

Halocarbon ratio and tritium/He-3 dating of water masses in the Nansen Basin, Arctic Ocean. Wallace, D.W.R., *et al.* [1992, *p.S435-S458, eng*] 47-1273

Internal waves and mixing in the Arctic Ocean. D'Asaro, E.A., et al. [1992, p.S459-S484, eng] 47-1274

Distribution of dominant copepods in the Nansen Basin, Arctic Ocean, in summer. Hirche, H.J., et al. [1992, p.S485-S505, eng] 47-1275

Recent distribution of planktonic foraminifera in the *Nansen Basin, Arctic Ocean.* Carstens, J., et al. [1992, p.S507-S524, eng] 47-1276

Stratigraphy of Quaternary sediments in the Arctic Ocean. Nowaczyk, N.R., et al. [1992, p.S567-S601, eng] 47-1279

Sediment facies and bottomwater current on the continental slope in the northwestern Weddell Sea. *Brehme, I.,* [1992, 127p., ger] 47-1435

Bio-optical variability across the Arctic Front. Trees, C.C., et al. [1992, p.455-461, eng] 47-1470

Acoustical measurement of current and vorticity beneath ice. Menemenlis, D., et al. [1992, p.827-849, eng] 47-1473

Wind and tidal induced currents in an ice covered ocean. Furnes, G.E., [1992, p.608-617, eng] 47-1848

Coastal jet and ice flow movement. Bando, K., et al. [1992, p.772-776, eng] 47-1872

Modeling the seasonal variability of a coupled arctic ice-ocean system. Häkkinen, S., et al. [1992, p.20,285-20,304, eng] 47-2341

Ocean interactions with the base of Amery Ice Shelf, Antarctica. Hellmer, H.H., et al. [1992, *p.20,305-*20,317, eng] 47-2342

Oceanographic features in the Newfoundland marginal ice zone, March-April 1990. Tang, C.L., [1992, p.151-172, eng] 47-2345

Detection of Labrador current by radar tracking of ice floe movement. Ikeda, M., et al. [1992, p.223-245, eng] 47-2349

Oscillation in sea ice-thermohaline circulation. Yang, J.Y., et al. [1992, p.80-82, eng] 47-2386

Sea ice and salinity variability in the Arctic using a coupled sea ice-ocean model. Weatherly, J.W., et al. [1992, *p.83-86, eng*] 47-2387

Investigation of the general circulation of the Arctic Ocean with an isopycnal model. Holland, D.M., et al. [1992, p.98-100, eng] 47-2391

Three dimensional pseudovorticity field in the west Spitsbergen current. Chu, P.C., [1992, p.101-104, eng] 47-2392

Acoustic Doppler current profiler observations of currents adjacent to refreezing leads. Muench, R.D., et al. [1992, p.J56-J59, eng] 47-2416

Isotopic pleiad of oxygen in atmospheric precipitation in the polar regions. Nikolaev, V.I., et al. [1991, p.109-112, rus] 47-2796

Sea-ice interaction with the thermohaline circulation. *Yang, J.Y., et al.* [1993, *p.217-220, eng*] 47-2859

Propagation of coastal-trapped waves under an ice cover in Hudson Bay. Reynaud, T., et al. [1992, p.593-620, eng] 47-2880

Internal waves in an ice-covered basin. Pisarev, S.P., [1991, p.42-46, eng] 47-2887

Okhotsk Sea water anomaly: implications for ventilation in the North Pacific. Talley, L.D., [1991, *p.S171-S190,* eng] 47-2909

Apparent moratorium on greenhouse warming. Kellogg, W.W., [1993, p.265-267, eng] 47-3045

Scientific concept of the Arctic Climate System Study (ACSYS). Augstein, E., ed, [1992, 89p. + appends., eng] 47-3291

Wind stress in an ocean general circulation model (part 1). Matsuura, T., et al. [1991, p.39-68, jpn] 47-3292

Suspended sediment character and distribution in McBeth Fiord, Baffin Island. Winters, G.V., et al. [1992, p.25-35, eng] 47-3351

Late Quaternary land-sea interactions: Fennoscandia and Svalbard—the Nordic seas. Larsen, E., et al. [1991, p.151-159, eng] 47-3487

Strength of the Nordic heat pump. Broecker, W.S., [1992, p.173-181, eng] 47-3557

Reconstructed paleoclimatic meltwater anomalies. Sarnthein, M., et al. [1992, p.183-200, eng] 47-3558

Atlantic circulation simulation with sea ice interface model, pt.1. Oberhuber, J.M., [1993, p.809-829, eng] 47-3568

Atlantic circulation simulation with sea ice interface *model, pt.2.* Oberhuber, J.M., [1993, *p.830-845, eng*] 47-3569

JARE-32 oceanographic data, Nov. 1990-Mar.1991. Nakamura, H., et al. [1993, 50p., eng] 47-3620

Calculating tidal movements in the Kara Sea. Dmitriev, N.E., et al. [1991, p.14-21, rus] 47-3686

Parametrization of the coefficient of vertical turbulent *viscosity in modeling of water circulation in arctic seas.* Kulakov, M.IU., et al. [1991, p.22-33, rus] 47-3687

Problem of water circulation in the Kara Sea. Doronin, N.IU., et al. [1991, p.34-41, rus] 47-3688

Thermohaline water circulation in the Norwegian energy-active zone during spring 1987. Proshutinskii, A.IU., et al. [1991, p.42-49, rus] 47-3689

Problem of the baroclinic instability of integral circulation of waters in the Norwegian Sea. Pavlov, V.K., et al. [1991, p.50-58, rus] 47-3690

Analysis of factors determining the circulation of waters in the Chukchi Sea. Kulakov, M.IU., et al. [1991, p.59-64, rus] 47-3691

Estimates of parameters of vertical turbulent exchange in *the Chukchi Sea based on observational data.* Pavlov, V.K., et al. [1991, p.101-106, rus] 47-3696

Method of carrying out profiling observations of currents with the aid of moored, heated buoy stations (PPBS). Pavlov, V.K., et al. [1991, p.107-116, rus] 47-3697

Formation mechanism of the vertical structure of the Greenland convective gyre. Bogorodskii, P.V., et al. [1992, p.138-144, rus] 47-3812

Evaluating the role of the West Spitsbergen current in the formation of a sea ice boundary. Makshtas, A.P., et al. [1992, p.157-164, rus] 47-3814

Initial instrument measurements of the current in the region of the cold bottom water dome in the Greenland Sea. Alekseev, G.V., et al. [1992, p.165-168, rus] 47-3815

Circulation and hydrography in the northwestern Gulf of Alaska. Musgrave, D.L., et al. [1992, p.1499-1519, eng] 47-3817

Structure and circulation of waters in the area of the anticyclonic gyre in the northeastern Norwegian Sea. Alekseev, G.V., et al. [1991, p.14-23, rus] 47-3955

Deep and bottom waters of the Greenland Sea—formation and transformation processes. Popov, A.V., [1991, p.44-55, rus] 47-3957

Large-scale variations in the thermal regime of the Norwegian Sea during 1959-1984. Shevchenko, A.V., [1991, *p.56-65, rus*] 47-3958

Large-scale structure and characteristics of the average circulation of waters. Romantsov, V.A., [1991, p.75-97, rus] 47-3960

Effect of bottom relief on the circulation of water in the northern European basin. Semenov, G.A., [1991, p.133-144, rus] 47-3964

Position, structure and characteristics of the dynamics of the polar frontal zone. Romantsov, V.A., [1991, p.157-181, rus] 47-3967

Ice extent and flux in the Grand Banks-Labrador Sea area Argus, S.D., et al. [1988, p.11-14, eng] 47-4176

High-latitude processes in a coupled ocean-atmosphere general circulation model. Roberts, D.L., [1988, p.89-91, eng] 47-4190

Effects of variable eddy viscosity on wave-induced currents under ice. Melsom, A., [1993, p.78-88, eng] 47-4218

Greenland Sea hydrographic studies. Budéus, G., et al. [1993, p.9985-10,000, *eng*] 47-4371

Numerical study of haline convection beneath leads in sea ice. Smith, D.C., IV, et al. [1993, p.10,069-10,083, eng] 47-4377

Use of ERS-1 SAR to measure ice flux in the East Greenland current. Wadhams, P., et al. [1993, p.283-287, eng] 47-4426

Ocean circulation revealed by ice floe tracking. Ikeda, M., et al. [1993, p.351-353, eng] 47-4438

Climate system modeling. Trenberth, K.E., ed, [1992, 788p., eng] 47-4497

Ocean circulation. Niiler, P.P., [1992, p.117-148, eng] 47-4498

Global coupled models: atmosphere, ocean, sea ice. Meehl, G.A., [1992, p.555-581, eng] 47-4501

Arctic Ocean Buoy Program data report for 1 January 1987-31 December 1987. Colony, R.L., et al. [1990, 152p., eng] 47-4670

Arctic Ocean Buoy Program data report for 1 January 1988-31 December 1988. Colony, R.L., et al. [1991, 181p., eng] 47-4671

Arctic Ocean Buoy Program data report for 1 January 1989-31 December 1989. Colony, R.L., et al. [1991, 158p., eng] 47-4672

Arctic Ocean Buoy Program data report for 1 January *1990-31 December 1990.* Colony, R.L., *et al.* [1991, 142p., eng] 47-4673

Doppler acoustic studies of fine scale variability in the Arctic Ocean. Pinkel, R., et al. [1992, p.17-23, eng] 47-4715

Noise generation in the marginal ice zone. Johannessen, O.M., et al. [1992, p.28-38, eng] 47-4717

Spatial variation in ambient sound level within ice edge eddies. Johannessen, O.M., et al. [1993, p.563-571, eng] 47-4837

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Frontal zones of the Barents Sea. Chvilev, S.V., [1991, p.89-95, eng] 47-4928

Artificial radioactivity, and mixing in the Arctic. Denner, W.W., et al. [1993, p.191-200, eng] 47-5030

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Storm-generated currents and offshore sediment transport in the Beaufort Sea. Héquette, A., et al. [1993, p.283-304, eng] 47-5201

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Surface water temperature changes in the high latitudes of the Southern Hemisphere over the last glacial-interglacial cycle. Pichon, J.J., et al. [1992, p.289-318, eng] 47-786

Microbial ecology of the 1989 antarctic oil spill. Karl, D.M., [1992, p.77-89, eng] 47-1257

Performance of portland and blast furnace slag cement concretes in marine environments. Osborne, G.J., [1993, p.1303-1323, eng] 47-3616

Freeze thaw resistance of underwater concrete aggregates. *Fukudome, K.,* et al. [1993, p.1565-1582, eng] 47-3618

Arctic: arena for international environmental security?. Kolodkin, A., et al. [1993, p.277-289, eng] 47-4727

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On ice-coupled waves: a comparison of data and theory. Squire, V.A., et al. [1992, p.269-280, eng] 47-1034

Large amplitude sea/ice coupling. Fox, C., [1992, p.293-304, eng] 47-1036

Wave attenuation in the marginal ice zone during LIMEX. Liu, A.K., et al. [1992, p.192-206, eng] 47-2347

Ice-floe collisions interpreted from acceleration data during LIMEX '89. McKenna, R.F., et al. [1992, p.246-269, eng] 47-2350

Wave height observations in the Okhotsk Sea in winter. Mizuno, Y., et al. [1992, p.331-336, jpn] 47-2503

Beaufort Sea extreme waves study. Eid, B.M., *et al.* [1992, Var. p., eng] 47-2622

Additional resistance of ice-navigating ships to regular head waves. Savin, S.S., et al. [1992, p.9-12, rus] 47-2918

Propagation of M2 waves in the Arctic Ocean. Proshutinskii, A.IU., et al. [1991, p.6-13, rus] 47-3685

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Breakup of shore fast sea ice. Squire, V.A., [1993, p.211-218, eng] 47-3925

Comparison of the mass-loading and elastic plate models of an ice field. Squire, V.A., [1993, p.219-229, eng] 47-3926

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Finite-floe wave reflection and transmission coefficients from a semi-infinite model. Meylan, M., et al. [1993, p.12,537-12,542, eng] 47-4524

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Oceanographic surveys

Hydrocarbon pollution of ocean sediments. Steinhauer, M.S., et al. [1992, p.223-253, eng] 47-1170

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Suspended sediment character and distribution in McBeth Fiord, Baffin Island. Winters, G.V., et al. [1992, p.25-35, eng] 47-3351

JARE-31 oceanographic survey in Lützow-Holm Bay. 1990-1991. Ushio, S., et al. [1993, 34p., eng] 47-3619

JARE-32 oceanographic data, Nov. 1990-Mar.1991. Nakamura, H., et al. [1993, 50p., eng] 47-3620

Large-scale oceanographic surveys and their methodological significance in a comprehensive investigation of the Barents Sea. Denisov, V.V., et al. [1991, p.121-132, rus] 47-3963

Paleoclimate record for Northwind Ridge, western Arctic Ocean. Poore, R.Z., et al. [1993, p.149-159, eng] 47-4152

Sea ice flexure noise attenuation during seismic surveys. Ostrander, W.J., [1986, 14 col., eng] 47-4260

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Review of GEOSAT data over Canadian east coast waters. Topliss, B.J., et al. [1993, p.117-130, eng] 47-4590

Discovery of a new sea ice diatom genus. Poulin, M., [1993, p.223-233, eng] 47-4735

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Effect of severe storms on the ice cover of the northern Tatarskiy Strait. Martin, S., et al. [1992, p.17,753-17,764, eng] 47-1064

Distribution of dominant copepods in the Nansen Basin, Arctic Ocean, in summer. Hirche, H.J., et al. [1992, p.S485-S505, eng] 47-1275

GLOBEC workshop on southern ocean marine biology. [1991, 150p., eng] 47-1281

Polar Ocean Profiler: a new generation of oceanographic and meteorological sensory platform. Morison, J.H., et al. [1991, p.627-632, eng] 47-2180

Autonomous Conductivity Temperature Vehicle: recent developments. Morison, J.H., et al. [1991, p.633-637, eng] 47-2181

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Using a nuclear submarine for arctic research. Keigwin, L.D., et al. [1992, p.209,220-221, eng] 47-2600

Ice sheet glaciations in Northern Eurasia and their role in the history of the ocean. Grosval'd, M.G., et al. [1991, p.3-15, rus] 47-2782

Internal waves in an ice-covered basin. Pisarev, S.P., [1991, p.42-46, eng] 47-2887

Remote sensing of phytoplankton chlorophyll concentrations. Yoder, J.A., et al. [1993, p.181-193, eng] 47-3462

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Atlantic circulation simulation with sea ice interface model, pt.2. Oberhuber, J.M., [1993, p.830-845, eng] 47-3569

Meso-scale characteristics of the distribution of water masses in the Chukchi Sea. Abramov, V.A., et al. [1990, p.126-132, rus] 47-3599

Microfaunal evidence for elevated Pliocene temperatures in the Arctic Ocean. Cronin, T.M., et al. [1993, p.161-173, eng] 47-4153

Patterns of ice-rafted detritus in the glacial North Atlantic (40-55 deg N). Grousset, F.E., et al. [1993, p.175-192, eng] 47-4154

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Proceedings. [1993, 2 vol., eng] 47-4415

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Advances in sea-ice research based on remotely sensed passive microwave data. Barry, R.G., et al. [1993, p.4-12, eng] 47-5271

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Many challenges ahead for exploration, development in Norwegian-Russian Arctic. Johansen, B., [1992, p.31-32, eng] 47-919

Designing production structures for the Russian Arctic. [1992, p.33,53, eng] 47-920

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Minerals Management Service regulation of floating drilling unit operations. Kuranel, R.Y., et al. [1992, p.227-241, eng] 47-1031

Nansen Arctic Ocean Drilling Program. Johnson, L., et al. [1992, p.553-556, eng] 47-1840

Construction of platforms for the Russian northern continental shelf. Eranti, E., et al. [1992, p.557-563, eng] 47-1841

Major hydrocarbon structures in Barents Sea, Kara Sea regions. [1993, p.34-35, eng] 47-2004

Geochemistry of an offshore well in northeast Alaska. Banet, A.C., Jr., [1993, 51p. + maps., eng] 47-2618

Canada's offshore technology meets the arctic challenges. [1985, p.133-135, eng] 47-2914

Oil from beneath the ice. Kamenshchikov, L., [1992, p.9-11, rus] 47-2934

1988 Endicott Environmental Monitoring Program. Final report. Dewey, R.K., ed, [1992, 5 vols., eng] 47-3456

Russia's Rosshelf sets timetable for arctic offshore field development. [1993, p.31-34, eng] 47-3527

Floating drilling platform. Mäkinen, E., et al. [1988, 4 col., eng] 47-3846

Composite platform for petroleum workings in polar seas. Michel, D., et al. [1986, 6 col., eng] 47-4259

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Short and long term coastal changes along the U.S. Beaufort Sea. Miller, M.C., et al. [1992, p.600-607, eng] 47-1847

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Offshore structures

Abstracts. [1992, 415p., eng] 47-106

Problems of choice of sea ice cover parameters design criteria. Truskov, P.A., et al. [1992, p.21-26, eng] 47-108

Interaction between sea ice floes and protective coastal structure. Roppongi, K., et al. [1992, p.86-90, jpn] 47-121

Experimental study on overtopping of ice floes at breakwater. Sasajima, T., et al. [1992, p.91-95, jpn] 47-122

On double-barriered ice-resistant structure. Hagiwara, K., et al. [1992, p.96-100, jpn] 47-123

Earthquake response of offshore structures in sea ice (part 5). Sugai, K., et al. [1992, p.101-105, jpn] 47-124

Earthquake response of offshore structures in sea ice (part 6). Takada, Y., et al. [1992, p.106-110, jpn] 47-125

Study on the abrasion of the structure surface due to a movement of ice sheet. Takahashi, Y., et al. [1992, p.121-125, jpn] 47-126

Vibrations of offshore ice-resistant structures. Khrapatyi, N.G., et al. [1992, p.300-301, eng] 47-154

Definition of loading regime for offshore structures from drifting ice cover. Bekker, A.T., [1992, p.302-306, eng] 47-155

Ice loads on concrete supports. Almazov, V.O., et al. [1992, p.359-362, eng] 47-165

Retrospective of platform development in Cook Inlet, Alaska. Visser, R.C., [1992, p.146-150,202-203, eng] 47-224

Designing production structures for the Russian Arctic. [1992, p.33,53, eng] 47-920

Hydroelastic stability of marine risers. Rzentkowski, G., et al. [1991, p.31-41, eng] 47-1141

Approximation of interference effects in dynamic ice-structure interactions. Abul-Azm, A.G., et al. [1992, p.299-309, eng] 47-1799

Proceedings. Vol.2. [1992, 806p., eng] 47-1828

Construction of platforms for the Russian northern continental shelf. Eranti, E., et al. [1992, p.557-563, eng] 47-1841

Determination of design values for sea ice physico-mechanical properties. Polomoshnov, A.M., et al. [1992, p.641-650, eng] 47-1852

Verification of CSA code for fixed offshore concrete structures. Allyn, N., et al. [1992, 62p., eng] 47-2119

Protective wall for an offshore platform in the North Sea. Volkov, IU.S., [1990, p.30-31, rus] 47-2162

Study on icing of marine structures. Hirasawa, M., et al. [1991, p.271-276, jpn] 47-2499

Tests on arch-shaped ice-resisting walls for offshore structures. Ellis, R.M., et al. [1993, p.42-51, eng] 47-2547

Local contact pressures in ship/ice and structure/ice interactions. Masterson, D.M., et al. [1993, p.169-185, eng] 47-2648

Evaluation of FCAW consumables for offshore and arctic structure fabrication. Bala, S.R., et al. [1993, p.76-82, eng] 47-2667

Canada's offshore technology meets the arctic challenges. [1985, p.133-135, eng] 47-2914

Oil from beneath the ice. Kamenshchikov, L., [1992, p.9-11, rus] 47-2934

Massive ice interactions with offshore structures. Lu, M.C., [1992, 153p., eng] 47-3129

Electrochemical characteristics of aluminum galvanic anodes in an arctic seawater. Tamada, A., et al. [1993, p.261-277, eng] 47-3176

Abrasion of concrete structures by ice. Huovinen, S., [1993, p.69-82, eng] 47-3286

Model tests of dynamic ice loading on the Chinese JZ-20-2 jacket platform. Timco, G.W., et al. [1992, p.819-832, eng] 47-3304

Mobile marine operations structure. Bhalaik, A., et al. [1989, 38 col., eng] 47-3323

Arctic production terminal facility. Williams, T.E., [1988, 4 col., eng] 47-3415

Arctic offshore structure and installation method therefor. Turner, J.W., [1988, 8 col., eng] 47-3418

Icebreaking defense buoy. Coleman, R.K., [1988, 4 col., eng] 47-3639

Removable bottom founded structure. Beskow, R.H., et al. [1988, 16 col., eng] 47-3763

Foundation improvement by artificial freezing. Spalding, A.V., et al. [1988, 6 col., eng] 47-3769

Floating drilling platform. Mäkinen, E., et al. [1988, 4 col., eng] 47-3846

Floating ice pressures on sloping and vertical structures. Arunachalam, V.M., et al. [1993, p.231-245, eng] 47-3927

Pipeline insulation system. Patterson, M.M., [1987, 4 col., eng] 47-4004

Arctic structure of composite wall construction. Birdy, J.N., et al. [1987, 14 col., eng] 47-4007

Effective structural design plan for a marine steel platform in sea ice conditions. Berniker, IA.S., et al. [1993, p.12-15, rus] 47-4087

Pipeline launching module. Hemphill, D.P., [1986, 4 col., eng] 47-4100

Ice deflector. Marthinsen, A., [1988, 4 col., eng] 47-4101

Offshore structures *(cont.)*
Analytical solutions for modelling of ice structure interaction. Koreneva, E.B., [1993, p.59-61, eng] 47-4121
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Composite platform for petroleum workings in polar seas. Michel, D., et al, [1986, 6 col., eng] 47-4259
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Pipeline trenching. Langner, C.G., [1986, 4 col., eng] 47-4262
Ice forces on light piers in the St. Lawrence Seaway. Frederking, R.M.W., et al, [1992, p.67-72, eng] 47-4280
Model study of cable-moored conical platform. Nixon, W.A., et al, [1993, p.12-31, eng] 47-4284
Computer-based simulation of the ice fracture near a vertical pile. Matskevitch, D.G., et al, [1992, p.123-128, eng] 47-4286
Contact force and damage evolution in a moving uniaxial ice bar. Shin, J.G., et al, [1992, p.129-134, eng] 47-4287
Ice forces in dynamic ice structure interaction. Eranti, E., [1992, p.204-211, eng] 47-4304
Ice action onto multilegged structures due to change of water level. Matskevitch, D.G., et al, [1992, p.222-227, eng] 47-4306
Problems of design for operation and transportation in subarctic offshore environments. Fuglem, M.K., et al, [1993, p.311-322, eng] 47-4472
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Oil from beneath the ice. Kamenshchikov, L., [1992, p.9-11, rus] 47-2934
U.S. rangeland technology: rehabilitating Russia's oil, gas production sites. McKendrick, J.D., et al, [1993, p.4-7, eng] 47-4096
Proceedings, [1993, 2078p. (2 vols.), eng] 47-4465
Disposal of fine tails produced at the Syncrude oil sands mine. Lord, E.R.F., et al, [1993, p.203-212, eng] 47-4466
Disposal of Athabasca oilsand fine tailings. Sheeran, D., et al, [1993, p.221-228, eng] 47-4467
Field investigation of bioremediation of tundra with residual hydrocarbons. Wooters, K., et al, [1993, p.331-337, eng] 47-4474
Case study of arctic in situ bioremediation. Ramert, P.C., et al, [1993, p.339-346, eng] 47-4475
Remediation of diesel contaminated site in a cold climate. Whitlock, C., et al, [1993, p.977-984, eng] 47-4479

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Groundwater issues relating to an Alaskan methanol spill. Robertson, S.B., [1992, p.936-940, eng] 47-234
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Simulation of oil slick transport in Great Lakes connecting channels: user's manual. Shen, H.T., et al, [1991, 69p., eng] 47-693
Effect of inoculation on the biodegradation of weathered Prudhoe Bay crude oil. Mueller, J.G., et al, [1992, p.95-102, eng] 47-864
Natural cleaning processes of arctic waters and ice from petroleum hydrocarbons. Il'inskii, V.V., et al, [1991, p.91-101, rus] 47-889
Microbial ecology of the 1989 antarctic oil spill. Karl, D.M., [1992, p.77-89, eng] 47-1257
Prince William Sound starts to recover. Nichols, A.B., [1990, p.48-55, eng] 47-1697
Arctic pipeline risk assessments. Weber, B.J., et al, [1992, p.15-20, eng] 47-1831
Study of oil intrusion influence on physical properties of sea ice. Gavrilo, V.P., et al, [1992, p.666-669, eng] 47-1856
AMOP—the Arctic and Marine Oilspill Program. Thornton, D.E., et al, [1992, 9p., eng] 47-2330
Development of a national directory of Canadian marine oilspill specialists. Harper, J.R., et al, [1991, 62p., eng] 47-2334
Fate and effects of dispersed crude oil under icy conditions simulated in mesocosms. Siron, R., et al, [1993, p.273-302, eng] 47-2657
Ecological situation and protection of flora and fauna of the Barents Sea. Matishov, G.G., ed, [1991, 211p., rus] 47-4660
Symposium on Antarctic Logistics and Operations, 5th. Proceedings. Melander, O., ed, [1993, 365p., eng] 47-5111
Prevention, response and remediation of petroleum pollution. Kohlmeyer, C.R.C., [1993, p.157-172, eng] 47-5112

Oil storage
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Russia's Rosshelf sets timetable for arctic offshore field development. [1993, p.31-34, eng] 47-3527

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On the interannual variation in sea ice area of the Okhotsk Sea. Sekine, Y., et al, [1992, p.30-33, jpn] 47-110
Effect of global atmospheric circulation on Okhotsk Sea ice. Sekine, Y., et al, [1992, p.34-36, jpn] 47-111
Climatology of atmospheric cyclones over the Sea of Okhotsk. Umemoto, T., [1992, p.37-40, eng] 47-112
Relation between coastal boundary current and sea level. Part 1. The Soya warm current. Tsurubayashi, T., et al, [1992, p.47-50, jpn] 47-114
Water exchange between Kuril Basin and Pacific Ocean. Kawasaki, Y., et al, [1992, p.173-176, eng] 47-136
Seasonal variation of Oyashio Water southeast off Hokkaido. Kono, T., et al, [1992, p.177-181, eng] 47-137
Plankton cycle, currents and temperatures in the Okhotsk Sea. Saito, H., et al, [1992, p.182-187, eng] 47-138
Multi-sensor data set and sea ice study. Nishio, F., et al, [1992, p.272-276, jpn] 47-148
Satellite observations of the area of sea ice in the Sea of Okhotsk. Enomoto, H., et al, [1992, p.281-284, eng] 47-150
Ice productivity of the northeastern Okhotsk Sea. IAkunin, L.P., et al, [1992, p.348-350, eng] 47-162
ice forecast in the Japan and Okhotsk Seas. Plotnikov, V.V., [1992, p.351-354, eng] 47-163
Probability forecast of the sea ice cover and sea ice edge position in the Okhotsk Sea. Plotnikov, V.V., [1992, p.355-356, eng] 47-164
Variability of area of ice cover in Far East seas. Petrova, V.A., et al, [1989, p.77-81, eng] 47-1226
Wave height observations in the Okhotsk Sea in winter. Mizuno, Y., et al, [1992, p.331-336, jpn] 47-2503
Okhotsk Sea water anomaly: implications for ventilation in the North Pacific. Talley, L.D., [1991, p.S171-S190, eng] 47-2909

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Optical absorption
Diode laser humidity sensor for cold environments. Phase I. Final technical report. Stanton, A.C., et al, [1988, 35p., eng] 47-4861

Optical properties
Aerosol optical characteristics of the arctic atmosphere. Sakunov, G.G., et al, [1989, p.53-58, eng] 47-1223
Bio-optical variability across the Arctic Front. Trees, C.C., et al, [1992, p.455-461, eng] 47-1470
Annual cycle of radiation fluxes over the Arctic Ocean: sensitivity to cloud optical properties. Curry, J.A., et al, [1992, p.1267-1280, eng] 47-1549
Overview of sea ice physical properties and their variability. Richter-Menge, J.A., et al, [1992, p.486-497, eng] 47-1808
Lidar measurement of cirrus clouds backscattering. Ansmann, A., et al, [1992, p.7113-7131, eng] 47-2663
Fiber optic probe system. Brossia, C.E., et al, [1989, 20 col., eng] 47-3108
Cirrus optical properties determination from actinometric observations. Tarasova, T.A., [1992, p.690-696, eng] 47-3156
Measuring the point spread function of sea ice *in situ*. Voss, J.M., et al, [1992, p.517-526, eng] 47-3735
Influence of sea ice particulate matter on ocean irradiance. Fritsen, C.H., et al, [1992, p.527-541, eng] 47-3736
Observations and theoretical studies of microwave emission from thin saline ice. Wensnahan, M.R., et al, [1993, p.8531-8545, eng] 47-3983
Bio-optical observations of first-year arctic sea ice. Perovich, D.K., et al, [1993, p.1059-1062, eng] 47-4266
Mid- and far-infrared spectroscopy of ices: optical constants and integrated absorbances. Hudgins, D.M., et al, [1993, p.713-870, eng] 47-4736
Optical characteristics of arctic-source bitumens. Goodarzi, F., et al, [1993, p.359-376, eng] 47-4829
Refractive indices of water and ice in the 0.65- to 2.5-micron spectral range. Kou, L.H., et al, [1993, p.3531-3540, eng] 47-5147
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Organic nuclei
Bacterial ice nucleation proteins. Ruggles, J.A., [1992, 140p., eng] 47-276
Structure-function relationships of insect antifreeze proteins. Wu, D.W., [1991, 187p., eng] 47-286
Effect of ice nucleating active bacteria on insect cold-hardiness. Strong-Gunderson, J.M., [1991, 83p., eng] 47-287
Cloning and sequencing of a bacterial ice nucleation gene. Zhao, J.L., [1991, 179p., eng] 47-289
Lipoprotein ice nucleators and antifreeze proteins in insects. Xu, L., [1990, 106p., eng] 47-314
Ice-nucleating activity in the freeze-tolerant tardigrade *Adorybiotus coronifer*. Westh, P., et al, [1991, p.401-404, eng] 47-2107

Organic soils
Indices of the humus state of some high-mountain soils of Western Pamir. Demin, V.V., [1981, p.77-79, eng] 47-476
Use of organic nitrogen by an Arctic sedge. Chapin, F.S., III, et al, [1993, p.150-153, eng] 47-1597
Climate warming and the carbon cycle in the permafrost zone of the former Soviet Union. Kolchugina, T.P., et al, [1993, p.149-163, eng] 47-4150
Response of shrub-tussock community to vehicle use. Ahlstrand, G.M., et al, [1993, p.142-149, eng] 47-4746

Organizations
Directory of Norwegian polar scientists, [1991, 154p., eng] 47-2337
Frozen ground, [1992, 24p., eng] 47-2589
Use of digital geographical databases in hydrological modelling, [1993, 158p., eng] 47-2830
Frozen ground, [1992, 23p., eng] 47-3264
Overview of the National Institute of Polar Research '92, [1992, 32p., jpn] 47-3520
Witness the Arctic, [1993, 15p. + insert, eng] 47-3521
Arctic information and data: a guide to selected resources, [1992, 50p., eng] 47-3523
State of the arctic environment: updated draft proposal for AMAP. Reiersen, L.O., [1992, p.391-403, eng] 47-3721
1993 joint meeting of ASME, ASCE and Society of Engineering Science, [1993, 2 vols. (Pertinent p.352-374), eng] 47-3761
Natural hazards data resources directory. Hennig, L.M., ed, [1990, 247p. (Pertinent p.7-8,82-84), eng] 47-3821
Frozen ground, [1993, 24p., eng] 47-4611
Arctic Centre news. Lange, M.A., ed, [1993, 12p., eng] 47-4613
International and American efforts to coordinate glaciological programs. Field, W.O., [1991, 17p., eng] 47-4643
Outline of the Civil Engineering Research Institute, 1992, [1992, 37p., jpn] 47-4689
Biennial report, 1991-1992, [1993, 52p., eng] 47-4899
Shinjo Branch of the National Research Center for Disaster Prevention Science and Technology. Nakamura, T., [1985, p.53-60, jpn] 47-5100
Annual report 1992, [1993, 39p., eng] 47-5247

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Dependence of ice formation on arrangement of *submerged tubes*. Hirata, T., et al, [1992, p.681-687, eng] 47-8
Positioning of satellite navigation system during snowfall. Tranquilla, J.M., et al, [1993, p.295-299, eng] 47-3361
Crystal structure of typical snow crystals of low temperature types. Sato, N., et al, [1989, p.521-528, eng] 47-3467
Novel processes of dislocation multiplication observed in ice. Shearwood, C., et al, [1993, p.205-210, eng] 47-3777
On the reproduction of ice from a common seed. Barrette, P., et al, [1993, p.153-156, eng] 47-4290
Vertical directivity measurements of ice cracking. Greening, M.V., et al, [1993, p.553-562, eng] 47-4836
Monomer molecular adsorption on ice Ih. Bell, K.P., et al, [1993, p.4160-4167, eng] 47-5272
Pauling potential in ice quantum tunneling. Consolini, G., et al, [1993, p.4227-4228, eng] 47-5273
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Arctic contaminants: sources, occurrence and pathways. Barrie, L.A., et al, [1992, p.1-74, eng] 47-261
Origin of sediment pellets from the arctic seafloor: sea ice or icebergs?. Goldschmidt, P.M., et al, [1992, p.S539-S565, eng] 47-1278
Elemental source signatures of aerosols from the Canadian high Arctic. Landsberger, S., et al, [1992, p.181-187, eng] 47-1554
Origin of dust in polar regions. Gillette, D.A., [1991, p.1719-1732, eng] 47-2221
Rock glacier geomorphology in the Canadian Arctic. Evans, D.J.A., [1993, p.17-35, eng] 47-3115
Origin of ground ice in arctic caves. Lauriol, B., et al, [1993, p.77-85, eng] 47-3119
Hydrogen and oxygen isotopes and the origin of the ice in peat plateaus. Harris, S.A., et al, [1992, p.19-27, eng] 47-3123
Arctic haze: patterns and relationships to regional signatures of trace gases. Khalil, M.A.K., et al, [1993, p.27-36, eng] 47-3461
Isotope tracing of sulfate trends in Colorado lakes. Turk, J.T., et al, [1993, p.415-431, eng] 47-4759

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Galloping instability of ice coated poles. Durgin, F.H., et al. [1992, p.675-686, eng] 47-1193
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Effect of fatigue on the bearing capacity of floating ice sheets. Haynes, F.D., et al. [1993, p.257-263, eng] 47-3929
Simulation of ice-shedding on electrical transmission lines using ADINA. Jamaleddine, A., et al. [1993, p.523-536, eng] 47-4857
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Geologic modeling of glacial fan deltas. Tuttle, K.J., [1992, p.4/1-4/13, eng] 47-2824
Morphosedimentological dynamics and coastal evolution in the Kongsfjorden area, Spitsbergen. Héquette, A., [1992, p.321-328, eng] 47-4076
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Oxygen isotope data from McMurdo Ice Shelf. Kellogg, T.B., et al. [1991, p.73-76, eng] 47-2470
Isotopic pleiad of oxygen in atmospheric precipitation in the polar regions. Nikolaev, V.I., et al. [1991, p.109-112, rus] 47-2796
Mathematical analysis of ice-water isotopic relationships. Burn, C.R., et al. [1993, p.109-112, eng] 47-3786
Oxygen isotopic content variation in snow at Mizuho Station. Ageta, Y., [1993, p.24-31, jpn] 47-4357
Oxygen isotope composition of ground ice (application to paleogeocryological reconstruction). Vasil'chuk, IU.K., [1992, 2 vols. (684p.) + 2 foldouts, rus] 47-4656
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Cloud acidity, lower troposphere and stratospheric ozone depletion. Lin, N.H., [1991, 190p., eng] 47-47
On the age of stratospheric air and ozone depletion potential in polar regions. Pollock, W.H., et al. [1992, p.12,993-12,999, eng] 47-77
Optical effects of polar stratospheric clouds on the retrieval of TOMS total ozone. Torres, O., et al, [1992, p.13,015-13,024, eng] 47-79
Reactive nitrogen, ozone, and nitrate aerosols observed in the arctic stratosphere in January 1990. Kondo, Y., et al, [1992, p.13,025-13,038, eng] 47-80
Ozone and stratospheric polar vortices. Petzoldt, K., [1992, p.181-182, ger] 47-211
Model for quasi-stationary planetary waves in the total ozone. Wirth, V., [1992, p.192-193, ger] 47-212
Stratospheric trace constituents, ozone and nitric acid. Hanson, D.R., [1989, 85p., eng] 47-350
Increased ultraviolet radiation in New Zealand. Seckmeyer, G., et al, [1992, p.135-137, eng] 47-374
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Ozone 'minihole' over northern Scandinavia. Rabbe, A., et al, [1992, p.1447-1451, eng] 47-739
Volcanic aerosol and ozone over Antarctica, Spring 1991. Deshler, T. et al, [1992, p.1819-1822 eng] 47-870
Aerosols and ozone behavior over Thule. Di Sarra, A., [1992, p.1823-1826, eng] 47-871
Possibility of an Arctic ozone hole in a doubled-CO2 climate. Austin, J., et al, [1992, p.221-225, eng] 47-907
Chemical mechanisms behind ozone depletion. Folkins, I., et al, [1992, p.294-297, eng] 47-1071
Results of investigating the middle atmosphere at antarctic station Molodezhnaya. Ivanova, I.N., et al, [1991, p.30-34, eng] 47-1178
New lidar systems. Castagnoli, F., et al, [1992, p.185-203, eng] 47-1201
O3 and NO2 absorption cross section measurements by multipath spectrophotometer. Bonasoni, P., et al, [1992, p.205-211, eng] 47-1202
Stratospheric ozone depletion 1990 status report. Kurylo, M.J., [1992, p.221-226, eng] 47-1204
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Brewer spectrophotometry in total ozone measurements. Anav, A., et al, [1992, p.277-284, eng] 47-1207
Stratospheric GCM for polar ozone studies. Pitari, G., et al, [1992, p.285-316, eng] 47-1208
Antarctic temperature perturbation due to the QBO and the secular ozone trend. Pitari, G., et al, [1992, p.317-329, eng] 47-1209
Role of sulfate aerosols in the stratospheric ozone climatology. Pitari, G., [1992, p.331-347, eng] 47-1210
Total ozone changes and stratospheric wind and temperature. Xiong, K., et al, [1992, p.45-50, chi] 47-1256
Seasonal variations of ozone trends. Entzian, G., et al, [1990, p.(10)265-(10)268, eng] 47-1283
Quo vadimus re the springtime antarctic ozone depletion?. Rycroft, M.J., [1990, p.(10)275-(10)277, eng] 47-1284
Stratospheric sudden cooling after solar proton event. Kodama, M., et al, [1992, p.361-366, eng] 47-1336
Lidar detection of ozone in the troposphere and lower stratosphere. Browell, E.V., [1991, p.77-89, eng] 47-1338
Vapor pressures of solid hydrates of nitric acid and PSCs. Worsnop, D.R., et al, [1993, p.71-74, eng] 47-1339
Arctic Boundary Layer Expedition (ABLE 3A): July-August 1988. Harriss, R.C., et al, [1992, p.16,383-16,394, eng] 47-1444
Summertime photochemistry of the troposphere at high northern latitudes. Jacob, D.J., et al, [1992, p.16,421-16,431, eng] 47-1446
Large-scale variability of ozone and aerosols in the summertime arctic and sub-arctic troposphere. Browell, E.V., et al, [1992, p.16,433-16,450, eng] 47-1447
Tropospheric ozone and aerosol observations: the Alaskan Arctic. Gregory, G.L., et al, [1992, p.16,451-16,471, eng] 47-1448
Deposition of ozone to tundra. Jacob, D.J., et al, [1992, p.16,473-16,479, eng] 47-1449
Earth's ozone shield and its variation. Aleksandrov, E.L., et al, [1992, 288p., rus] 47-1501
Impact of heterogeneous chemistry on model predictions of ozone changes. Granier, C., et al, [1992, p.18,015-18,033, eng] 47-1565
Ozone hole chemistry. Crutzen, P.J., et al, [1992, p.1113-1116, eng] 47-1566
Total atmospheric ozone measurements in Antarctica, 1988-1989. IUrganov, L.N., et al, [1991, p.66-69, rus] 47-1577
Radiative climate forcing from stratospheric ozone loss. Ramaswamy, R., et al, [1992, p.810-812, eng] 47-1593
Heterogeneous reactions in the antarctic autumn stratosphere. Keys, J.G., et al, [1993, p.49-51, eng] 47-1594
Heterogeneous interactions of ClONO2 and HCl on nitric acid trihydrate at 202 K. Abbatt, J.P.D., et al, [1992, p.7674-7679, eng] 47-1768
Solar UV-spectra in various environmental conditions. Huber, M., et al, [1992, p.413-415, eng] 47-1810
Antarctic Project: physics of the atmosphere and cosmophysics. Collection of publications Jan. 1986-July 1991. Vol.1, [1991, 634p., eng] 47-1821
Lidar measurements of antarctic atmospheric parameters. Stefanutti, L., et al, [1991, p.27-41, ita] 47-1822
Ozone hole over Antarctica. Visconti, G., [1991, p.102-117, ita] 47-1823
Atmospheric microphysical measurements in Terra Nova Bay. Guerrini, A., et al, [1991, p.145-154, ita] 47-1824
Ozone hole. Stefanutti, L., [1991, p.159-164, ita] 47-1825
Ozone cross section measurements in 339-355 nm region and at different temperatures. Cacciani, M., et al, [1991, p.259-264, eng] 47-1826
Lidar in Antarctica. Stefanutti, L., et al, [1991, p.623-629, eng] 47-1827
Chemical and dynamic processes in the antarctic ozone depletion. Eckman, R.S., et al, [1993, p.(1)311-(1)319, eng] 47-1930
Climatic parameters and ground-level ozone at Terra Nova Bay. Giovanelli, G., et al, [1991, p.483-495, eng] 47-2007
International environmental politics and ozone depletion. Litfin, K.T., [1992, 474p., eng] 47-2046
Seasonal cycle of nitrogen oxides in the arctic troposphere at Barrow, Alaska. Honrath, R.E., Jr., et al, [1992, p.20,615-20,630, eng] 47-2054
Measurements of HCl column amounts over McMurdo in 1989. Liu, X., et al, [1992, p.20,795-20,804, eng] 47-2055
Diagnostic model study of the seasonal variation of global ozone and the antarctic ozone hole. Akiyoshi, H., et al, [1992, p.20,837-20,853, eng] 47-2056
Aerosols in the Arctic—results and evidence from the 1991/1992 EASOE aircraft measurement campaigns. Below, M., et al, [1992, p.S1019-S1022, eng] 47-2075
1991 ozone hole. Clarkson, T.S., et al, [1992, p.303-309, eng] 47-2165
DSIR's stratospheric trace gas program. Matthews, W.A., et al, [1992, p.311-321, eng] 47-2166
1990 spring stratospheric denitrification. Gobbi, G.P., et al, [1992, p.323-326, eng] 47-2167
Pinatubo in the Antarctic?. Stefanutti, L., et al, [1992, p.327-343, eng] 47-2168
DIAL ozone measurements at Dumont d'Urville Station. Stefanutti, L., et al, [1992, p.345-358, eng] 47-2169
Simulation of lidar depolarization by polar stratospheric clouds. Flesia, C., et al, [1992, p.359-365, eng] 47-2170
1991 spring lidar PSC studies at McMurdo. Adriani, A., et al, [1992, p.367-373, eng] 47-2171
PSC in a 2D model and the secular ozone trend. Pitari, G., et al, [1992, p.375-396, eng] 47-2172
Total ozone measurements with Dobson and Brewer spectrophotometers. Nichol, S.E., et al, [1992, p.469-475, eng] 47-2173
Auroral activity and O3 content. Orsini, S., et al, [1992, p.477-490, eng] 47-2174
Tropospheric and stratospheric thin clouds at McMurdo. Adriani, A., et al, [1992, p.491-503, eng] 47-2175
Aerosol role in the ozone hole. Prendez, M., [1992, p.10-12, spa] 47-2300
Stratospheric stability and tropospheric circulations over the South Pole. Neff, W.D., [1992, p.115-120, eng] 47-2396
Persistence of the ozone layer over Norway and Russia. Henriksen, K., et al, [1993, p.145-154, eng] 47-2595
Arctic ozone loss declines. Bush, S., [1992, p.210, eng] 47-2601
Ozone depletion over the polar caps caused by solar protons. Stephenson, J.A.E., et al, [1992, p.2425-2428, eng] 47-2771
Relation between arctic sea ice extent and ozone levels. Marko, J.R., et al, [1993, p.37-40, eng] 47-2843
Surface ozone concentrations in Antarctica. Gruzdev, A.N., et al, [1992, p.41-47, eng] 47-2847
Laboratory measurements of the loss of ClO on Pyrex, ice and NAT at 183 K. Kenner, R.D., et al, [1993, p.193-196, eng] 47-2857
Anomalies in the intra-annual ozone variability in polar *regions from ozone sounding area.* Gruzdev, A.N., et al, [1991, p.272-279, eng] 47-2897
Ozone and water vapor variations related to the solar diurnal tide. Sivkov, A.M., et al, [1993, p.815-826, eng] 47-2929
Results of ozonesonde observations at Syowa Station in 1990. Shibata, S., et al, [1992, p.46-52, eng] 47-3004
Stratospheric ozone depletion and denitrification in spring 1990. Deshler, T., [1991, p.242-244, eng] 47-3055
Atmospheric infrared emission measurements at the South Pole. Murcray, F.J., et al, [1991, p.278-281, eng] 47-3058
Heterogeneous reactions on sulfuric acid surfaces. Williams, L.R., et al, [1993, p.122-126, eng] 47-3101
Ozone loss in Antarctica: the implications for global change. Pyle, J.A., et al, [1992, p.219-226, eng] 47-3141
Stratospheric ozone on Adélie Coast. Aimedieu, P., [1990, p.47-49, fre] 47-3161
Atmospheric physics and chemistry of Adélie Coast. Polian, G., [1990, p.50-59, fre] 47-3162
French research on polar ozone. Pommereau, J.P., [1991, p.28-35, fre] 47-3179
Atmospheric and climatic changes. Golitsyn, G.O., et al, [1992, p.33-43, rus] 47-3285
Uptake of HNO3 onto ice, NAT, and frozen sulfuric acid. Hanson, D.R., [1992, p.2063-2066, eng] 47-3319
Rifting, ozone layer and the level of the world ocean. Syvorotkin, V.L., et al, [1992, p.731-733, rus] 47-3335
Measuring instrument for atmospheric ClO and O3. Waters, J.W., et al, [1993, p.597-602, eng] 47-3444
Tropospheric ozone annual variation at both poles. Gruzdev, A.N., et al, [1993, p.89-98, eng] 47-3530
Recent surface ozone measurements at Molodezhnaya and Mirnyy stations. Gruzdev, A.N., et al, [1993, p.99-105, eng] 47-3531
Tropospheric ozone distribution in Antarctica and European Arctic. Taalas, P., et al, [1993, p.106-119, eng] 47-3532
Bromoalkane production by antarctic ice algae. Sturges, W.T., et al, [1993, p.120-126, eng] 47-3533
Finding of antarctic "ozone hole". Chubachi, S., [1991, p.23-29, jpn] 47-3625
Stratospheric ozone in the Arctic and Antarctic (Review). Danilov, A.D., et al, [1992, p.1-10, eng] 47-3629
Multifractal cloud properties data assessment. Gautier, C., et al, [1992, 15p., eng] 47-3632
Stratospheric ozone variations 1957-1990. Xanthakis, J., et al, [1993, p.109-125, eng] 47-3713
Stratospheric denitrification indicated by firn core chemistry. Mulvaney, R., et al, [1993, p.5213-5220, eng] 47-3785
Modeling of trace species in the arctic stratosphere. *Chipperfield, M.P., et al, [1993, p.7199-7218, eng]* 47-3828
Stratospheric cooling over Scandinavia. Claud, C., et al, [1993, p.7229-7243, eng] 47-3829

Ozone *(cont.)*

Springtime ozone depletion and volatile organic compounds in the lower Arctic atmosphere. Yokouchi, Y., [1993, p.40-41, eng] 47-3973

Effect of competitive adsorption on polar stratospheric cloud reactions. Mozurkewich, M., [1993, p.355-358, eng] 47-4140

Laboratory simulations of PSC particle formation. Marti J., et al. [1993, p.359-362, eng] 47-4141

Decrease in total ozone concentration in the polar cap following solar proton flares. Shumilov, O.I., et al. [1991, p.17-21, eng] 47-4251

Spectroscopic probe of model polar stratospheric cloud films. Koehler, B.G., et al. [1993, p.10,563-10,571, eng] 47-4294

Antarctic polar stratospheric cloud chemistry. Drdla, K., et al. [1993, p.8965-8981, eng] 47-4382

Atmospheric NO3. 4. Vertical profiles at middle and polar latitudes at sunrise. Smith, J.P., et al. [1993, p.8983-8989, eng] 47-4383

Ozone depletion and UV-B radiation in the Antarctic—limitations to ecological assessment. Karentz, D., [1992, p.231-232, eng] 47-4505

Antarctic ozone lidar system. Stefanutti, L., et al. [1992, p.3-12, eng] 47-4720

On the relation between ozone and potential vorticity. Allaart, M.A.F., et al. [1993, p.811-814, eng] 47-4726

Environmental and climatic links between Antarctica and South Africa. Lucas, M.I., et al. [1991, p.193-219, eng] 47-4978

SANAE total column ozone: 1980 to 1990. Bodeker, G.E., et al. [1991, p.220-221, eng] 47-4979

Natural ozone depletion over Antarctica. Stephenson, J.A.E., et al. [1991, p.222, eng] 47-4980

Probing stratospheric ozone. Rodriguez, J.M., [1993, p.1128-1129, eng] 47-5132

Chlorine chemistry on polar stratospheric cloud particles in the Arctic winter. Webster, C.R., et al. [1993, p.1130-1134, eng] 47-5133

Seasonal evolution of reactive chlorine in the Northern Hemisphere stratosphere. Toohey, D.W., et al. [1993, p.1134-1136, eng] 47-5134

Characteristics of cold volcanic aerosols. Toon, O., et al, [1993, p.1136-1140, eng] 47-5135

In Situ observations of aerosols and ClO after Pinatubo eruption. Wilson, J.C., et al, [1993, p.1140-1143, eng] 47-5136

Chemical loss of ozone in the Arctic polar vortex in the winter of 1991-1992. Salawitch, R.J., et al. [1993, p.1146-1149, eng] 47-5138

Ozone loss inside the northern polar vortex during the 1991-1992 winter. Proffitt, M.H., et al, [1993, p.1150-1154, eng] 47-5139

Ozone and aerosol changes during the 1991-1992 Airborne Arctic Stratospheric Expedition. Browell, E.V., et al, [1993, p.1155-1158, eng] 47-5140

Partitioning of nitrogen oxides in the lower arctic troposphere during spring 1988. Bottenheim, J.W., et al. [1993, p.15-27, eng] 47-5144

Pacific warming and antarctic ozone depletion. Mo, K.C., [1993, p.1375-1391, eng] 47-5213

Pack ice

Kinematics of two dimensional granular material on a non-linear viscous base. Ito, H., [1992, p.65-68, eng] 47-117

Effect of naturally-occurring ice thickness variations in reducing global loads on offshore structures. Sackinger, W.M., et al. [1992, p.253-265, eng] 47-1033

Numerical simulation of pack ice movement using the momentum conservation method. Rheem, C.K., et al, [1992, 7p., eng] 47-2117

Surface energy measurements on the arctic ice pack. Wolfe, D.E., et al. [1992, p.72-75, eng] 47-2384

Spatial structure of the surface temperature field of arctic pack ice determined with AVHRR. Lindsay, R., et al. [1992, p.76-79, eng] 47-2385

Arctic sea ice albedo: a comparison of two satellite-derived data sets. Schweiger, A.J., et al, [1993, p.41-44, eng] 47-2844

Environment and phytoplankton at the Scotia Sea ice edge. Lipski, M., [1991, p.507-513, eng] 47-3088

Krill migration at the ice edge in the Scotia/Weddell confluence. Godlewska, M., et al, [1991, p.583-592, eng] 47-3093

Adjoint sensitivity theory for a pack ice momentum model. Sykes, J.F., et al, [1992, p.881-889, eng] 47-3353

Homogeneous ice regions in the northeastern Kara Sea. Egorov, A.G., et al, [1990, p.6-14, rus] 47-3584

Mesoscale simulation of the arctic ice pack. Hopkins, M.A., [1993, p.85-96, eng] 47-3744

Particulate matter in pack ice of the Beaufort Gyre. Reimnitz, E., et al, [1993, p.186-198, eng] 47-3951

Forecasting Caspian Sea ice edge. Bukharitsin, P.I., et al. [1992, p.58-63, eng] 47-3992

Cod schooling behavior in relation to drifting pack ice. Crawford, R.E., et al, [1993, p.345-357, eng] 47-4061

East antarctic sea ice: albedo, thickness distribution, and snow cover. Allison, I., et al, [1993, p.12,417-12,429, eng] 47-4519

Drag coefficients for winter antarctic pack ice. Wamser, C., et al, [1993, p.12,431-12,437, eng] 47-4520

Learning behavior of sea ice. Denner, W.W., [1993, p.527-536, eng] 47-4834

Observation of flooded ice in arctic regions Goroch, A.K., et al, [1993, p.1305-1324, eng] 47-4905

Potential transport of radionuclides and other pollutants by arctic sea ice. Pfirman, S.L., et al, [1993, p.267-284, eng] 47-5036

Topography of the upper and lower surfaces of 10 hectares of deformed sea ice. Melling, H., et al, [1993, p.349-369, eng] 47-5206

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—Karakoram Range

Evaluating the distribution and regime of Karakorum glaciers using data from space images. Nosenko, G.A., [1991, p.87-94, rus] 47-325

Paleobotany

Spores and pollen from the glaciers and periglacial zone of the Arctic and Antarctica. Surova, T.G., et al, [1991, p.181-185, rus] 47-340

Reconstruction of the development of vegetation in the high-latitude Arctic. Serebriannyi, L.R., et al, [1984, p.75-84, rus] 47-1249

Holocene vegetation histories from three sites in the tundra of northwestern Quebec, Canada. Gajewski, K., et al, [1992, p.329-336, eng] 47-1589

Influence of cryoconservation on amino acids composition of archeoseeds in permafrost. Stakhov, L.F., et al, [1992, p.259-262, eng] 47-1741

Viable microorganisms in permafrost: the spectrum of possible applications to new investigations. Gilichinskii, D.A., [1992, p.268-270, eng] 47-1743

Peatland development in relation to Holocene climatic change in Manitoba and Saskatchewan (Canada). Kuhry, P., et al, [1992, p.1070-1090, eng] 47-1798

Late Neogene glacio-eustatic record. Ishman, S.E., et al, [1992, p.327-347, eng] 47-2047

Periglacial processes in Mongolian mountains. Cui, Z.J., et al, [1992, p.55-62, eng] 47-3127

Palynological investigations of Siberian Miocene deposits. Zyrianov, E.V., [1992, p.285-294, eng] 47-3322

Review of the Late Pleistocene stratigraphy of Reykjavik, Iceland. Eiriksson, J., et al, [1991, p.143-150, eng] 47-3486

Last interglacial in northernmost Sweden. Robertsson, A.M., [1991, p.173-181, eng] 47-3489

Problems of the last interglacial in arctic Siberia. Sher, A.V., [1991, p.215-222, eng] 47-3491

Paleoclimatology of the Saint Lawrence River basin. Richard, P.J.H., et al, [1992, p.151-172, fre] 47-3788

Ostrova De-Longa: an analysis of palaeoenvironmental data. Makeev, V., et al, [1992, p.301-306, eng] 47-3857

Pliocene fossil *Nothofagus* (southern beech) from Antarctica. Webb, P.N., et al, [1993, p.135-165, eng] 47-4535

Paleoclimatology of Atacama Altiplano, northern Chile. Messerli, B., et al, [1993, p.117-127, eng] 47-4710

Penultimate great earthquake in Alaska. Combellick, R.A., [1993, p.7-15, eng] 47-4774

Geologic use of polar marine diatoms. Leventer, A., et al, [1993, p.134-253, eng] 47-4823

Paleoclimatology

Chinese loess and antarctic ice core changes over the last 150,000 years. Kang, J.C., et al, [1991, p.15-23, eng] 47-37

Geomorphological evidence of Holocene climatic change from northwest Ellesmere Island, Canadian high arctic. Evans, D.J.A., et al, [1992, p.148-158, eng] 47-55

Growth of the Müller Ice Shelf during the Little Ice Age. Stein, A.B., [1992, 56p., eng] 47-71

Problem of paleoglacioclimatic reconstruction of Pleistocene glaciations in Western Siberia. Sukhorukova, S.S., [1991, p.78-84, rus] 47-170

Equilibrium line altitude variations with latitude, today and during the late Wisconsin. Pelto, M.S., [1992, p.41-46, eng] 47-198

Paleogeography of Leningrad in the post-glacial period. Zavarzin, L.G., [1991, p.91-100, rus] 47-240

Geology of Quaternary deposits and recent tectonics in glacial regions of eastern Europe. Evzerov, V.IA., ed, [1992, 55p., rus] 47-241

Rock glaciers and the Holocene paleoclimatic record of the La Sal Mountains, Utah. Nicholas, J.W., [1992, 208p., eng] 47-278

Late Quaternary glaciation and climatic change in the northern Peruvian Andes. Rodbell, D.T., [1992, 233p., eng] 47-282

Effect of glaciation on the paleoecological situation in northeastern USSR. Shishorina, Zh.G., [1991, p.190-195, rus] 47-342

Discovery of ice massifs in Late Pleistocene sediments in the Ural coast of Baydaratskaya Guba. Koniakhin, M.A., et al, [1991, p.227-228, rus] 47-345

Soviet glaciological studies in 1990. Glazovskii, A.F., [1991, p.229-240, rus] 47-346

Significance of cryoturbation phenomena in environmental reconstruction. Van Vliet-Lanoë, B., [1988, p.85-96, eng] 47-427

Weichselian permafrost in western Europe. Van Vliet-Lanoë, B., [1989, p.109-113, eng] 47-440

Merely the tip of the ice core. Peel, D.A., [1992, p.274-275, eng] 47-483

Greenland ice core shows irregular glacial interstadials. Johnsen, S.J., et al, [1992, p.311-313, eng] 47-485

Cenozoic marine and permafrost history of the North Slope. Carter, L.D., et al, [1992, p.44-51, eng] 47-611

Sand dunes and paleoclimatology of northern Alaska. Galloway, J.P., et al, [1992, p.100-111, eng] 47-613

Marine deposits and paleoclimatology of the North Slope. Nelson, R.E., et al, [1992, p.219-222, eng] 47-619

Pliocene climates of the Northern Hemisphere. Thompson, R.S., ed, [1991, 45p., eng] 47-629

Ages of the Fossvogur layers and the Alftanes end-moraine, SW-Iceland. Hjartarson, A., [1989, p.21-31, eng] 47-711

Surface water temperature changes in the high latitudes of the Southern Hemisphere over the last glacial-interglacial cycle. Pichon, J.J., et al, [1992, p.289-318, eng] 47-786

Environmental information from ice cores. Delmas, R.J., [1992, p.1-21, eng] 47-787

Stable isotope distribution in the Cazadora Glacier. Eraso, A., et al, [1989, p.50-60, spa] 47-812

Paleoclimatic implications of new data on the origin of "greze" layering. Bertran, P., et al, [1992, p.97-112, fre] 47-831

Aerosol and general atmospheric circulation models. Genthon, C., [1992, p.371-389, eng] 47-836

Tropical ice core paleoclimatic records, Quelccaya Ice Cap, Peru, A.D. 470 to 1984. Thompson, L.G., et al, [1992, 106p. + 5.25" floppy disk, eng] 47-839

Paleoperiglacial processes in the central Appalachians. Clark, G.M., et al, [1992, p.31-61, eng] 47-846

Defining the boundaries of the Late-Glacial isotope episodes. Broecker, W.S., [1992, p.135-138, eng] 47-986

Interpretation of ice age-gas differences in polar ice cores. Sowers, T., et al, [1992, p.15,683-15,697, eng] 47-996

Paleoclimatology of continental ice sheet in response to CO2 variations. Gallée, H., et al, [1992, p.15,713-15,740, eng] 47-998

Periglacial geomorphology in the Netherlands. Vandenberghe, J., [1992, p.65-75, eng] 47-1006

Glaciological and periglacial investigation in Inner Mongolia. Hofmann, J., [1992, p.139-154, eng] 47-1009

Trends and features of climatic changes in the past 5000 years recorded by the Dunde ice core. Yao, T.D., et al, [1992, p.21-24, eng] 47-1081

Glacial and lake fluctuations in the area of the west Kunlun mountains during the last 45,000 years. Li, S.J., et al, [1992, p.79-84, eng] 47-1090

Reduced solar luminosity and atmospheric carbon dioxide. Kasting, J.F., [1992, p.676-677, eng] 47-1220

Frozen archives. [1992, 37p., eng] 47-1234

Karginsky sea terraces in northern West Siberia and the problem of the Sartan glaciation. Avdalovich, S.A., et al, [1982, p.89-100, rus] 47-1245

Past climate changes as deduced from Canadian ice cores. Koerner, R.M., [1992, p.61-70, eng] 47-1426

Radiocarbon date list VII: Baffin Island, N.W.T., Canada. Kaufman, D.S., ed, [1992, 82p., eng] 47-1433

Sediment facies and bottomwater current on the continental slope in the northwestern Weddell Sea. Brehme, I., [1992, 127p., ger] 47-1435

Late Quaternary sedimentation at the continental margin of the southeastern Weddell Sea, Antarctica. Weber, M., [1992, 165p., ger] 47-1436

Geochemistry and environmental evolution at the Great Wall Station. Zhao, J.L., [1991, 178p., chi] 47-1438

Tree ring climatology as reflected in Qilian glaciers. Liu, G.Y., et al, [1985, p.97-108, chi] 47-1524

On problems of Quaternary Ice Age in Qilian Mountains. Wu, G.H., [1985, p.116-123, chi] 47-1526

Study on the climatic variation in the Qilian Mountain region for the historical period. Kang, X.C., [1992, p.54-63, chi] 47-1539

Jakobshavn Isbrae area during the climatic optimum. Weidick, A., [1992, p.67-72, eng] 47-1640

Quaternary glaciation in the Qinghai-Xizang Plateau. Deng, X.F., et al, [1992, p.153-160, chi] 47-1652

Glaciologic studies on Guliya Ice Cap. Yao, T.D., et al, [1992, p.233-241, chi] 47-1663

Present state of ice core bubble study. Zhang, L.M., et al, [1992, p.277-284, chi] 47-1669

Global changes during the latest glacial-interglacial cycle. Kotlyakov, V.M., et al, [1992, p.89-113, eng] 47-1762

Asthenospheric ice-load effects in a global dynamical-system model of the Pleistocene climate. Saltzman, B., et al, [1992, p.1-11, eng] 47-1791

Peatland development in relation to Holocene climatic change in Manitoba and Saskatchewan (Canada). Kuhry, P., et al, [1992, p.1070-1090, eng] 47-1798

Ice sheet growth simulation including ice albedo feedback. Deblonde, G., et al, [1992, p.37-55, eng] 47-1885

Carbonate isotopic composition of the loess-paleosol sequence and its implication of paleoclimatic change. Gu, Z.Y., [1991, p.1979-1983, eng] 47-1951

Black carbon concentration in Byrd Station ice core: from 13,000 to 700 years before present. Chylek, P., et al, [1992, p.625-629, eng] 47-2005

Paleoclimate change and heat flow density inferred from *temperature data in the Superior Province of the Canadian Shield*. Shen, P.Y., et al. (1992, p.143-165, eng) 47-2021
Evidence of climatic changes from Canadian borehole measurements. Beltrami, H., et al. (1992, p.167-184, eng) 47-2022
Alaskan borehole temperature for the last 1000 years. Kakuta, S., (1992, p.225-244, *eng*) 47-2023
Toward using borehole temperatures to calibrate an *isotopic paleothermometer* in central Greenland. Cuffey, K.M., et al. (1992, p.265-268, eng) 47-2026
Paleoclimate of the northwestern Altai Mountains in the Eopleistocene. Derevianko, A.P., et al. (1992, p.842-846, rus) 47-2038
Weichselian stratigraphy and palaeoenvironments at Bellsund, western Svalbard. Landvik, J.Y., et al. (1992, p.335-358, eng) 47-2044
Climate since A.D. 1500. Bradley, R.S., ed. (1992, 679p., eng) 47-2078
Climate since A.D. 1500: introduction. Bradley, R.S., et al. (1992, p.1-16, *eng*) 47-2079
Hudson's Bay Company ships' log-books as sources of sea ice data, 1751-1870. Catchpole, A.J.W., (1992, p.17-39, eng) 47-2080
Historical and instrumental evidence of climate: western Hudson Bay, Canada, 1714-1850. Ball, T.F., (1992, p.40-73, eng) 47-2081
Historical climate records from the northeastern United States, 1640-1900. Baron, W.R., (1992, p.74-91, eng) 47-2082
Documentary evidence for changes in the climate of Iceland, *A.D. 1500 to 1800*. Ogilvie, A.E.J., (1992, p.92-117, eng) 47-2083
Monthly temperature and precipitation in central Europe 1525-1979. Pfister, C., (1992, p.118-142, eng) 47-2084
Reconstructing the climate of northern Italy from archive sources. Camuffo, D., et al. (1992, p.143-154, eng) 47-2085
Three historical data series on floods and anomalous climatic events in Italy. Pavese, M.P., et al. (1992, p.155-170, eng) 47-2086
Documentary evidence from the U.S.S.R. Borisenkov, E.P., (1992, p.171-183, eng) 47-2087
Climatic variations in the longest instrumental records. Jones, P.D., et al. (1992, p.246-268, eng) 47-2088
Mapping climate using tree-rings from western North America. Fritts, H.C., et al. (1992, p.269-295, eng) 47-2089
Dendroclimatic evidence from northern North America. D'Arrigo, R.D., et al. (1992, p.296-311, eng) 47-2090
Dendroclimatic evidence from the Great Plains of the United States. Meko, D.M., (1992, p.312-330, eng) 47-2091
Dendroclimatic evidence from eastern North America. Cook, E.R., *et al.* (1992, p.331-348, *eng*) 47-2092
Dendroclimatic evidence from the northern Soviet Union. Graybill, D.A., et al. (1992, p.393-414, eng) 47-2093
Dendroclimatic evidence from the western Himalaya. Hughes, M.K., (1992, p.415-431, eng) 47-2094
Dendroclimatic studies in China. Wu, X.D., (1992, p.432-445, eng) 47-2095
South American dendroclimatological records. Boninsegna, J.A., (1992, p.446-462, eng) 47-2096
Ice core climate signals from Mount Logan, Yukon, A.D. 1700-1897. Holdsworth, G., et al. (1992, p.483-504, eng) 47-2097
Arctic from Svalbard to Severnaya Zemlya: climatic *reconstructions from ice cores*. Tarussov, A.V., (1992, p.505-516, eng) 47-2098
Ice core evidence from Peru and China. Thompson, L.G., (1992, p.517-548, eng) 47-2099
Ice core evidence from the Antarctic Peninsula region. Peel, D.A., (1992, p.549-571, eng) 47-2100
Paleoenvironmental conditions in Antarctica since A.D. 1500: ice core evidence. Mosley-Thompson, E., (1992, p.572-591, eng) 47-2101
Climatic variations over the last 500 years. Jones, P.D., et al. (1992, p.649-665, eng) 47-2102
Nature and causes of climate change: assessing the long-term future. Goodess, C.M., et al. (1992, 248p., eng) 47-2223
Periglacial phenomena and Pleistocene environmental conditions in the Netherlands—an overview. Vandenberghe, J., (1992, p.363-374, eng) 47-2243
Evidence for east antarctic continental glaciation. Breza, J.R., et al. (1992, p.161-178, eng) 47-2459
Last interglacial-glacial transition in North America. Clark, P.U., ed. (1992, 317p., eng) 47-2678
Last interglacial-glacial transition in North America: introduction. Clark, P.U., (1992, p.1-11, eng) 47-2679
Historical overview of early Wisconsin glaciation. Goldthwait, R.P., (1992, p.13-18, eng) 47-2680
Marine oxygen isotope record: constraints on timing and extent of ice-growth events (120-65 ka). Mix, A.C., (1992, p.19-30, eng) 47-2681
Uranium-series dating of coastal deposits. Muhs, D.R., (1992, p.31-51, eng) 47-2682
Wisconsinan ice-sheet initiation. Peteet, D.M., et al. (1992, p.53-69, eng) 47-2683
Last interglacial-glacial transition in Illinois: 123-25 ka Curry, B.B., et al. (1992, p.71-88, eng) 47-2684
Ages of the Whitewater and Fairhaven tills in southwestern Ohio and southeastern Indiana. Miller, B.B., et al. (1992, p.89-98, eng) 47-2685
Reevaluation of early Wisconsinan stratigraphy of northern Ohio. Szabo, J.P., (1992, p.99-107, *eng*) 47-2686
Early Wisconsinan in the north-central part of the Lake *Erie basin: a new interpretation*. Dreimanis, A., (1992, p.109-118, eng) 47-2687
Sedimentary and biological record of the last interglacial-glacial transition at Toronto, Canada. Eyles, N., et al. (1992, p.119-137, eng) 47-2688
Sunnybrook drift in the Toronto area, Canada: reinvestigation and reinterpretation. Hicock, S.R., et al. (1992, p.139-161, eng) 47-2689
On the age of the penultimate full glaciation of New England. Oldale, R.N., et al. (1992, p.163-170, eng) 47-2690
Early Wisconsinan events in southern Quebec. Lamothe, M., et al. (1992, p.171-184, eng) 47-2691
Pre-late Wisconsinan chronology of Nova Scotia, Canada. Stea, R.R., et al. (1992, p.185-206, eng) 47-2692
Hudson Bay lowland Quaternary stratigraphy. Thorleifson, L.H., et al. (1992, p.207-221, eng) 47-2693
Last interglacial-glacial transition in Baffin Bay. Miller, G.H., et al. (1992, p.223-231, eng) 47-2694
Sangamonian and early Wisconsinan *glacial record in the* western Canadian Arctic. Vincent, J.S., (1992, p.233-252, *eng*) 47-2695
Sangamonian and early Wisconsinan stages in western Canada and northwestern United States. Clague, J.J., et al. (1992, p.253-268, eng) 47-2696
Early Wisconsinan alpine glaciation in the western United States. Colman, S.M., et al. (1992, p.269-278, eng) 47-2697
Early Wisconsin lakes and glaciers in the Great Basin, U.S.A. Oviatt, C.G., et al. (1992, p.279-287, eng) 47-2698
Pre-late Wisconsin paleolimnologic record from the Estancia Valley, central New Mexico. Bachhuber, F.W., (1992, p.289-307, eng) 47-2699
General circulation model under ice age conditions. Joussaume, S., (1993, p.2767-2805, eng) 47-2702
Air inclusions as an index of ice formation conditions on polar glaciers. Samollov, O.IU., (1991, p.118-121, rus) 47-2799
Dendro-indication of climatic conditions in the areas of glaciation in the polar Urals and southern Tien-Shan. *Adamenko, V.N., et al. (1991, p.159-164, rus)* 47-2807
Start of a glacial. Kukla, G.J., ed. (1992, 353p., eng) 47-2831
Interglacial-glacial transitions. Kukla, G.J., et al. (1992, p.1-13, eng) 47-2832
Interglacial to glacial climatic change: observations from selected Colombian pollen records. Hooghiemstra, H., et al. (1992, p.71-84, eng) 47-2833
Marine palynology of interglacial-glacial transitions. Dupont, L.M., (1992, p.137-155, eng) 47-2834
Norwegian Sea record *of the last interglacial to glacial* transition. Duplessy, J.C., et al. (1992, p.173-183, *eng*) 47-2835
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Transition from interglaciation to glaciation in North America. Dreimanis, A., (1992, p.225-251, *eng*) 47-2838
Caspian transgression as an indicator of the interglacial-glacial transition. Zubakov, V.A., (1992, p.253-271, eng) 47-2839
Working hypotheses for glaciation/deglaciation mechanisms. Oeschger, H., (1992, p.273-289, eng) 47-2840
Insolation regime of the warm to cold transitions. Kukla, G.J., et al. (1992, p.307-339, eng) 47-2842
Contributions to antarctic research III. Elliot, D.H., ed. (1992, 155p., *eng*) 47-2867
Oxygen isotope study of ice fields in East Antarctica. *Faure, G., et al. (1992, p.15-26, eng)* 47-2869
Antarctic scallop shell proxy records. Berkman, P.A., et al. (1992, p.27-38, eng) 47-2870
Late Pleistocene ice sheet grounding in the Ross Sea. Anderson, J.B., et al. (1992, p.39-62, eng) 47-2871
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Pliocene-Pleistocene seismic stratigraphy of the Ross Sea. Alonso, B., et al. (1992, p.93-103, *eng*) 47-2873
Analysis of gravity measurements on the Ross Ice Shelf, *Antarctica*. Greischar, L.L., et al. (1992, p.105-155 + 1 microfiche, eng) 47-2874
Equilibrium climate model and high latitude glaciation. Oglesby, R.J., (1990, 243p., eng) 47-2894
Intrinsic thermodynamical time-scales of the atmosphere-ocean-cryosphere climate system. Chu, P.C., (1993, p.433-438, eng) 47-3052
Periglacial processes in Mongolian mountains. Cui, Z.J., et al. (1992, p.55-62, eng) 47-3127
Ice core record for past and future climate studies Lorius, C.J., et al. (1992, p.227-234, eng) 47-3142
Sedimentary record of antarctic climate change Barker, P.F., (1992, p.259-267, eng) 47-3145
Oxygen-18 in permafrost ice. Vaikmae, R., (1992, p.587-601, eng) 47-3151
Eocene-Oligocene climatic and biotic evolution. Prothero, D.R., ed. (1992, 568p., eng) 47-3165
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Early Pleistocene paleoclimate indicated by Greenland sediments. Penney, D.N., (1993, p.49-66, eng) 47-3460
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Last interglacial evidence in Northern Hemisphere high latitudes. Anderson, P., et al. (1991, p.9-28, eng) 47-3478
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Last interglaciation in Alaska: *stratigraphy and* paleoecology of potential sites. Hamilton, T.D., et al. (1991, p.49-71, eng) 47-3480
Framework for interpreting paleoclimatic variations in eastern Beringia. Bartlein, P.J., et al. (1991, p.73-83, eng) 47-3481
Interglaciation palynology in the Yukon. Schweger, C.E., et al. (1991, p.85-94, eng) 47-3482
Paleoenvironments in the northwest North Atlantic. De Vernal, A., et al. (1991, p.95-106, eng) 47-3483
Isotope stage 5 (130-74 ka) in Greenland—a review. Funder, S., et al. (1991, p.107-122, eng) 47-3484
Last interglacial as recorded in the Greenland ice sheet and Canadian arctic ice caps. Reeh, N., (1991, p.123-142, eng) 47-3485
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Eemian-Early Weichselian N-S temperature gradients: North Atlantic-NW Europe. Sejrup, H.P., et al. (1991, p.161-166, eng) 47-3488
Last interglacial in northernmost Sweden. Robertsson, A.M., (1991, p.173-181, eng) 47-3489
Climatic rhythm of the last interglacial in northern Eurasia. Velichko, A.A., et al. (1991, p.191-213, eng) 47-3490
Problems of the last interglacial in arctic Siberia. Sher, A.V., (1991, p.215-222, eng) 47-3491
Insolation effects on last interglacial climate. Kutzbach, J.E., et al. (1991, p.223-229, eng) 47-3492
General circulation models, palaeoclimatic data and last interglacial climates. Harrison, S.P., et al. (1991, p.231-242, eng) 47-3493
Mire ecosystems on raised peat bogs in Finland. Korhola, A., (1992, p.25-94, eng) 47-3525
Proceedings. (1992, 344p., eng) 47-3555
Strength of the Nordic heat pump. Broecker, W.S., (1992, p.173-181, eng) 47-3557
Reconstructed paleoclimatic meltwater anomalies. Sarnthein, M., et al. (1992, p.183-200, eng) 47-3558
Reconstruction of paleoclimatic sea surface salinity. Duplessy, J.-C., et al. (1992, p.201-217, eng) 47-3559
Ice-core evidence for a Holocene meltwater cap. Fisher, D.A., (1992, p.267-293, eng) 47-3560
Palynological correlation of paleoclimatic changes. Peteet, D.M., (1992, p.327-344, eng) 47-3561
Initiation of maritime ice sheets. Kerr, A.D., (1990, p.69-79, eng) 47-3574
Astronomical theory of glaciation cycles. Grieger, B., (1990, p.81-96, eng) 47-3575
On the world's ice ages and changing environments. Eronen, M., et al. (1990, 72p., eng) 47-3701
Shear-induced folding in Arsia Mons aureole: evidence for low-latitude Martian glaciations. Anguita, F., et al. (1992, p.11-22, eng) 47-3722
Problem of palaeokarst in Tibet. Sweeting, M.M., et al. (1991, p.316-325, eng) 47-3780
Paleoclimatology of the Saint Lawrence River basin. Richard, P.J.H., et al. (1992, p.151-172, fre) 47-3788
Paleoecological interpretation of sand dunes at the tree line, northeast sector of Hudson Bay, Quebec. Saint-Laurent, D., et al. (1992, p.209-220, fre) 47-3790
Paleoclimate sensitivity to glacial ice cover. deMenocal, P.B., et al. (1993, p.7265-7287, eng) 47-3831
Quaternary engineering geology. Fookes, P.G., (1991, p.73-98, eng) 47-3870
Theme lecture: Periglacial and slope processes. Hutchinson, J.N., (1991, p.283-331, eng) 47-3885
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Paleoclimatology *(cont.)*
Glaciation and deglaciation mechanisms in a coupled two-dimensional climate–ice-sheet model. Berger, A., et al. [1993, p.45-49, eng] 47-3939
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Fossil ice wedge formation near Tiksi. Fukuda, M., [1993, p.101-103, eng] 47-3980
Constraints on ice-sheet thickness over Tibet during the last 40,000 years. Gupta, S.K., et al. [1992, p.283-290, eng] 47-4022
Swedish varve chronology—a review. Boygle, J., [1993, p.1-19, eng] 47-4073
Permafrost distribution changes in Pleistocene Soviet Union. Kondratieva, K.A., et al. [1993, p.113-119, eng] 47-4147
Paleoclimate record for Northwind Ridge, western Arctic Ocean. Poore, R.Z., et al. [1993, p.149-159, eng] 47-4152
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Pediments and cold-climate conditions, Barn Mountains, unglaciated northern Yukon, Canada. French, H.M., et al. [1992, p.145-157, eng] 47-4324
Moraines and late glacial activity in southern Värmland, southwestern Sweden. Lundqvist, J., [1992, p.245-252, eng] 47-4333
Deglaciation and shoreline displacement on Alexandra Land, Franz Josef Land. Glazovskii, A.F., et al. [1992, p.283-293, eng] 47-4340
Glacial landforms and the age of deglaciation in the Tiksi area, East Siberia. Grosval'd, M.G., et al. [1992, p.295-304, eng] 47-4341
Palimpsest glacial landscape in northwestern Sweden. Kleman, J., [1992, p.305-325, eng] 47-4342
Marine sediment records of Pleistocene climate. Birchfield, G.E., et al. [1993, p.10,385-10,399, eng] 47-4392
Lacustrine deposits around Lake Vanda and Don Juan Pond. Smith, G.I., et al. [1993, p.83-94, eng] 47-4398
Paleoecology of peats from the Chukchi Sea shelf region. Elias, S.A., et al. [1992, p.371-378, eng] 47-4408
Coastal geomorphology of the Martian northern plains. Parker, T.J., et al. [1993, p.11,061-11,078, eng] 47-4410
Modeling the *delta*O-18-derived record of Quaternary climatic change with low dynamical systems. Saltzman, B., [1987, p.355-380, eng] 47-4453
Ice sheet dynamics and the Pleistocene ice ages. Birchfield, G.E., [1987, p.381-398, eng] 47-4454
Relaxation oscillator model of the ice age cycle. Peltier, W.R., [1987, p.399-416, eng] 47-4455
Faint young sun paradox: climate model with sea-ice. Molnar, G.I., et al. [1991, p.135-138, eng] 47-4482
Oceanic boundary layer in the tropics during the last ice age. Betts, A.K., et al. [1991, p.480-483, eng] 47-4494
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Modeling large climatic changes of the past. Kutzbach, J.E., [1992, p.669-688, eng] 47-4502
Extension of the Vostok ice core paleoclimate record. Jouzel, J., et al. [1993, p.407-411, eng] 47-4573
Late Quaternary continental paleohydrology as related to *future environmental change*. Starkel, L., [1993, p.95-108, eng] 47-4586
Glacials-interglacials in Vostok: climate and greenhouse gases. Lorius, C.J., et al. [1993, p.131-143, eng] 47-4587
"Recent warming": ice core evidence from tropical ice cores with emphasis on Central Asia. Thompson, L.G., et al. [1993, p.145-156, eng] 47-4588
Isotopic analysis of carbon dioxide from air trapped in polar ice. Lang, S.J., [1991, 148p., eng] 47-4604
Permafrost and Holocene shoreline regression in arctic Canada. Adams, J., [1993, 66p., eng] 47-4606
Constraints imposed by the ice core data on the budgets of *nitrous oxide and methane*. Khalil, M.A.K., et al. [1989, p.403-410, eng] 47-4639
Snow line plunge and the Ice Age. Kuhle, M., [1988, p.15-18, eng] 47-4645
Oxygen isotope composition of ground ice (application to *paleogeocryological reconstructio*). Vasil'chuk, IU.K., [1992, 2 vols. (684p.) + 2 foldouts, rus] 47-4656
Greenland Ice Sheet Project Two. GISP2 internal data report 1991. [1991, Var. p., eng] 47-4669
Paleoclimatology of Atacama Altiplano, northern Chile. Messerli, B., et al. [1993, p.117-127, *eng*] 47-4710
Late-Quaternary glaciation as a proxy for climate change in the central Andes. Seltzer, G.O., [1993, p.129-138, eng] 47-4711
Paleoclimatic implications of Alaskan coastal marine deposits. Kaufman, D.S., et al. [1993, p.21-33, *eng*] 47-4733
Paleosoils of the southern Yenisey region of Siberia: chronology, paleogeography, and cryogenesis. [Amskikh, A.F., [1991, p.27-34, rus] 47-4805
Geologic use of polar marine diatoms. Leventer, A., et al. [1993, p.134-253, eng] 47-4823
Stratigraphy and paleoclimatic analysis of deep water antarctic glacial marine sediments. Domack, E.W., [1993, p.89-104, eng] 47-4825
Cadmium concentration changes in antarctic ice and snow. Boutron, C.F., et al. [1993, p.431-441, eng] 47-4833
Strategies for modelling climate changes. Lliboutry, L.A., [1993, p.385-398, *eng*] 47-4845
Palaeo-environmental studies on the Greenland ice sheet margin. Reeh, N., et al. [1993, p.66-68, eng] 47-4919
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Hydrology and hydrochemistry of natural waters of East Antarctica. Shmideberg, N.A., [1992, p.65-76, rus] 47-4923
Environmental and climatic links between Antarctica and South Africa. Lucas, M.I., et al. [1991, p.193-219, *eng*] 47-4978
Paleoclimatic variables derived from subarctic treeline dendrochronology. Yamaguchi, D.K., et al. [1993, p.256-262, eng] 47-5123
First annual West Antarctic ice sheet (WAIS) science workshop. *Bindschadler, R.A., ed.* [1993, 58p., *eng*] 47-5245
Global beryllium 10 cycle. McHargue, L.R., et al. [1991, p.141-158, eng] 47-5261
Modelling the last ice-age cycle with 2-D climate models. Herterich, K., et al. [1993, p.107-116, eng] 47-5267

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Effect of glaciation on the paleoecological situation in northeastern USSR. Shishorina, Zh.G., [1991, p.190-195, rus] 47-342
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Ecology and palaeoecology of the northern treeline. MacDonald, G.M., et al. [1992, p.113-120, eng] 47-1431
Viable microorganisms in permafrost: the spectrum of possible applications to *new investigations*. *Gilichinskii*, D.A., [1992, p.268-270, eng] 47-1743
Impact of glaciation on paleoecological conditions in northeastern Russia. Shishorina, Zh.G., [1992, p.160-166, eng] 47-1766
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Cretaceous chemosynthetic carbonate mounds in the Canadian Arctic. Beauchamp, B., et al. [1992, p.434-450, eng] 47-3987
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2000-year lichen-snowkill chronology for the Colorado Front Range, USA. Benedict, J.B., [1993, p.27-33, eng] 47-4144
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Pollen and spores from glaciers and from the proglacial zone in the Arctic and Antarctica. Surova, T.G., et al. [1992, p.167-173, eng] 47-1767
Holocene mire development at a Japanese alpine site. Takahashi, N., [1990, p.93-156, eng] 47-2603
Determination of pollen accumulation rates in frozen sediments. Wang, X.C., et al. [1993, p.87-93, eng] 47-3120
Palynological investigations of Siberian Miocene deposits. Zyrianov, E.V., [1992, p.285-294, eng] 47-3322
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Pleistocene vertebrates and other fossils from Epiguruk, northwestern Alaska. Hamilton, T.D., et al. [1993, p.381-389, eng] 47-5143
Glacial and climatic history of the central Peruvian Andes. Wright, H.E., Jr., et al. [1989, p.439-445, eng] 47-5256
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Buildings for harsh environments. Wallhead, M., [1989, 8 col., eng] 47-3107
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Particle size distribution
Seed entrapment in alpine ecosystems: effects of soil particle size and diaspore morphology. Chambers, J.C., et al. [1991, p.1668-1677, eng] 47-767
Light scattering by nonspherical ice grains: an application to noctilucent cloud particles. Mishchenko, M.I., [1992, p.203-211, eng] 47-772
Monitoring grain size of suspended sediments in rivers. Bogen, J., [1992, p.183-190, eng] 47-1813
Investigation of cirrus microstructure on May 15, 1989. Burkovskaia, S.N., et al. [1992, p.714-724, eng] 47-3157
Magnitude of error factors in estimates of snow-particle *masses from images*. Detwiler, A.G., et al. [1993, p.804-809, eng] 47-3512
Calculation of microwave brightness temperatures over a thunderstorm. Muller, B.M., et al. [1993, p.1006-101 eng] 47-3567
High ice crystal production in winter cumuli over the Japan Sea. Takahashi, T., [1993, p.451-454, eng] 47-3729
Microholographic study of cloud layers. Borrmann, S., et al. [1993, p.277-293, eng] 47-3772
Observations of cirrus cloud microphysical properties. Noone, K.B., et al. [1993, p.294-303, eng] 47-3773
Vertical structure and size distributions of Martian aerosols from solar occultation measurements. Chassefière, E., et al. [1992, p.46-69, eng] 47-3923
Size distribution of particles in precipitation and river waters in the Baikal Lake region. Anokhin, IU.A., et al. [1992, p.19-26, eng] 47-3989
Collision between graupel particles: a field observation and theory. Mizuno, H., et al. [1992, p.1037-1043, eng] 47-4019
Method for determining cirrus cloud particle sizes using lidar and radar backscatter technique. Intrieri, J.M., et al. [1993, p.1074-1082, eng] 47-4081
Measurements of cloud-droplet-size distributions in *polluted and unpolluted stratiform*. Alkezweeny, A.J., et al. [1993, p.106-115, eng] 47-4166
Glacial landform distribution in Yunnan Province, China. Aniya, M., [1992, p.1-12, eng] 47-4360
Measurements of high number densities of ice crystals in *the tops of tropical cumulonimbus*. *Knollenberg, R.G.*, et al. [1993, p.8639-8664, eng] 47-4379
Parameterization of the radiative properties of cirrus clouds. Fu, Q., et al. [1993, p.2008-2025, eng] 47-4459
Polarimetric measurements in a severe hailstorm. Zrnić, D.S., et al. [1993, p.2223-2238, eng] 47-4706
High-resolution radiometry of cirrus clouds. Ou, S.C., et al. [1993, p.2171-2180, eng] 47-4713
Measurement of drop size and liquid water content in clouds. Bachalo, W.D., et al. [1988, 66p., eng] 47-4903

Snow surface scattering theory and particle size distribution. West, R., et al. [1993, p.426-437, eng] 47-5268

Particles
Theory of ice premelting in monosized powders. Cahn, J.W., et al. [1992, p.101-108, eng] 47-181
Effects of small ice crystals on cirrus infrared radiative properties. Takano, Y., et al. [1992, p.1487-1493, eng] 47-411
Possibility of using the third central moment of doppler spectra to indicate ice particles. Marchenko, P.E., et al. [1991, p.14-18, rus] 47-748
Particle transport to the snow surface at the South Pole. Hogan, A.W., et al. [1993, p.188-207, eng] 47-3536
Influence of sea ice particulate matter on ocean irradiance. Fritsen, C.H., et al. [1992, p.527-541, eng] 47-3736
On the engulfment of spherical particles by a moving ice-liquid interface. Lipp, G., et al. [1993, p.475-489, eng] 47-4289
Thermal effects on the shape of a solidifying interface near a foreign particle. Casses, P., et al. [1993, p.13-20, eng] 47-4756
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Patagonia
Subglacial drainage of Heim Glacier in Patagonia. Lario Gomez, J., [1991, p.163-170, spa] 47-31

Patterned ground
Significance of cryoturbation phenomena in environmental reconstruction. Van Vliet-Lanoë, B., [1988, p.85-96, eng] 47-427
Frost heave and creep on an experimental slope. Coutard, J.P., et al. [1988, p.13-23, eng] 47-439
Miniature sorted stripes in the Páramo de Piedras Blancas (Venezuelan Andes). Pérez, F.L., [1992, p.125-157, eng] 47-850
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Field and laboratory studies of patterned ground in a Colorado alpine region. Benedict, J.B., [1992, 38p., eng] 47-1434
Numerical simulation of self-organized stone stripes. Werner, B.T., et al. [1993, p.142-145, eng] 47-1596
Some geophysical problems involving convection in porous media. Nield, D.A., [1991, p.985-1006, eng] 47-2862
Small-scale patterned ground, Comeragh Mountains, southeast Ireland. Wilson, P., [1992, p.63-70, eng] 47-3128
Soil tongues—periglacial relics or active zones. Hinkel, K.M., [1993, p.75-83, eng] 47-5203
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Pavement bases
Temperature and suction profiles beneath highway pavements: computed and measured. Pufahl, D.E., et al. [1991, p.268-276, eng] 47-1126
Chemical undercutting of ice on highway pavement materials. Blackburn, R.R., et al. [1991, p.230-242, eng] 47-1807
Effect of the freezing of a foundation on the bearing capacity of a rigid airfield pavement. Onopa, I.A., et al. [1990, p.96-101, rus] 47-2759
Subsurface drainage of pavement structures: current Corps of Engineers and industry practice. Allen, W.L., [1991, 31p., eng] 47-3339

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Pavements
Traffic safety of porous asphalt surface layers during winter—results of a study on highways. Ferrero, T., et al. [1992, p.359-362, ger] 47-50
Some typical problems encountered in roads and airfield pavements in snowbound areas. Arya, I.R., et al. [1985, p.279-286, eng] 47-578
Pavements in seasonal frost areas. Aggarwal, R.C., et al. [1985, p.381-386, eng] 47-584
Field testing of a model for water flow and heat transport in variably saturated, variably frozen soil. Xu, X., et al. [1991, p.300-308, eng] 47-1128
Proceedings of the 37th Annual Conference. [1992, 307p. + appends., eng] 47-1133
Evaluation of frost action mitigation procedures for highly frost-susceptible soils. MacKay, M.H., et al. [1992, p.91-109, eng] 47-1134
Performance of asphalt concrete airport pavements during thaw weakening periods. Janoo, V.C., et al. [1992, p.167-183, eng] 47-1135
Statistical analysis of low temperature thermal stress restrained specimen test results. Jung, D.H., et al. [1992, p.200-223, eng] 47-1136
Evaluation of polymer-modified asphalts in Ontario. Joseph, P., et al. [1992, p.243-269, eng] 47-1137
Concepts and procedures for evaluation/design of materials and flexible pavements. Ruth, B.E., et al. [1992, p.270-288, eng] 47-1138
Low temperature cracking experiment at USACRREL Frost Effects Research Facility. Kanerva, H.K., et al. [1992, p.289-307, eng] 47-1139
Evaluation of recycled asphalt pavements in cold climates. Mushule, N.K.M., [1990, 123p., eng] 47-1316
Hole story: facts and fallacies of potholes. [1989, n.p., eng] 47-1492
Influence of wind, temperature, and deicing chemicals on snow accretion. Adams, E.E., et al. [1991, p.182-187, eng] 47-1801
Mineral criterion for evaluating the frost-susceptibility of pavement structures and soils. Brandl, H., [1992, p.3034-3035, eng] 47-1818
Improved ice and snow control with pavement-specific forecasting. Kelley, J.R., [1992, p.46-47,83, eng] 47-1920
Reuse of converted asphalt in asphalt binders and asphalt deck layers—examination of long-term reactions. Charif, K., [1992, p.97-104, ger] 47-2002
Pavement admixtures compounded with antifreezes. Ninomiya, H., et al. [1992, p.155-160, jpn] 47-2516
Freeze retardants admixed to asphalt pavements. Sanjo, K., et al. [1992, p.161-166, jpn] 47-2517
Recycling of scrap wood for cold region asphalt pavements. Takami, K., et al. [1991, p.51-56, jpn] 47-2533
Improving laboratory freezing tests. Saito, T., et al. [1991, p.85-90, jpn] 47-2535
Test characteristics of asphalts with antifreeze admixtures. Ninomiya, H., et al. [1991, p.91-96, jpn] 47-2536
Use of falling weight deflectometer (FWD) to characterize seasonal variation in pavement response. Janoo, V.C., et al. [1992, p.395-404, eng] 47-2628
Use of steel meshes against longitudinal frost cracks in flexible pavements. Salmenkaita, S., [1993, p.79-82, eng] 47-4124
Frost penetration beneath cleared pavements. McCormick, G., [1993, p.117-126, eng] 47-4130
Highway construction and management in cold regions. MacLeod, D.R., [1993, p.137-161, eng] 47-4278
Mathematical model of frost heave and thaw settlement in pavements. Guymon, G.L., et al. [1993, 126p., eng] 47-4870
Manual for planning and implementing road surface *condition studies in wintertime*—vol.1 and 2. Gabestad, K.O., [1988, 2 vols., nor] 47-4991
Actual conditions and countermeasures for pavement abrasion. Iijima, H., [1985, p.42-51, jpn] 47-5082
Frost heave damage to roads from abnormally low temperatures. Ito, N., [1985, p.73-76, jpn] 47-5086
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Paving
Cold weather compaction. Brakey, B., [1992, 16p., eng] 47-861

Peat
Application of ground penetrating radar techniques to peatland investigations. Hänninen, P., [1992, p.217-221, eng] 47-635
GPR applications in geotechnical investigations of peat for *road survey purposes.* Saarenketo, T., et al. [1992, p.293-305, eng] 47-636
Paleoecology of an interglacial peat deposit, Nuyakuk, southwestern Alaska, U.S.A. Elias, S.A., et al. [1992, p.85-96, eng] 47-830
Effect of soil freezing on the composition and properties of humus. Plotnikova, T.A., et al. [1992, p.203-208, eng] 47-1730
Humus accumulation and soil formation in Svalbard. Lag, J., [1992, p.222-228, eng] 47-1734
Peatland development in relation to Holocene climatic *change in Manitoba and Saskatchewan (Canada).* Kuhry, P., et al. [1992, p.1070-1090, eng] 47-1798
Geochemistry of soils of Spitsbergen. Dobrovol'skii, V.V., [1990, p.1-15, eng] 47-2758
Hydrogen and oxygen isotopes and the origin of the ice in peat plateaus. Harris, S.A., et al. [1992, p.19-27, eng] 47-3123
Mire ecosystems on raised peat bogs in Finland. Korhola, A., [1992, p.25-94, eng] 47-3525
Applied quaternary geology in Estonia. Raukas, A., [1992, p.89-96, eng] 47-3550
Episodic fluxes of methane from subarctic fens. Windsor, J., et al. [1992, p.441-452, eng] 47-3717
Basic genetic patterns of peaty-podzolic-gleyey soils. Zaboeva, I.V., [1991, p.4-12, rus] 47-4103
Palsa formation in floating peat and related vegetation cover as illustrated by a fen bog in the MacMillan Pass, Yukon Territory, Canada. Harris, S.A., et al. [1992, p.349-362, eng] 47-4344
Paleoecology of peats from the Chukchi Sea shelf region. Elias, S.A., et al. [1992, p.371-378, eng] 47-4408
Geochemistry of Mackenzie river sediments. Yunker, M.B., et al. [1993, *p.3041-3061, eng*] 47-4458
Penultimate great earthquake in Alaska. Combellick, R.A., [1993, p.7-15, *eng*] 47-4774
On the characteristics of mass transfer during the freezing of peat. Brovka, G.P., et al. [1991, p.51-56, rus] 47-4809
Bomb radiocarbon in arctic Alaskan aquatic and terrestrial biota. Schell, D.M., [1993, p.135-144, eng] 47-5026
Carbon storage in peat based on regionality of Russian mires. Botch, M.S., [1993, p.101-107, eng] 47-5232
Methane from northern peatlands and climate change. Frolking, S., [1993, p.109-124, eng] 47-5233
Estimating carbon budgets of Canadian forest ecosystems *using a national scale model.* Apps, M.J., et al. [1993, p.243-252, eng] 47-5240

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Penetration tests
Sharp cone testing of creep properties of frozen sand. Ladanyi, B., et al. [1992, p.757-764, eng] 47-1440
Load-controlled cone penetration tests in permafrost and ice. Ladanyi, B., et al. [1992, *p.1-8, eng*] 47-2677
Results from indentation tests in sea ice. Kärnä, T., et al. [1993, *p.177-185, eng*] 47-4245
Deep ice penetrator/instrumented test results. Rychnovsky, R.E., [1988, 25p., eng] 47-4641
Ice penetration tests of a water/ice penetrator Rychnovsky, R.E., [1987, 50p., eng] 47-4642

Penetrometers
Erratum: sharp cone testing of creep properties of frozen sand. Ladanyi, B., et al. [1992, p.1008, eng] 47-3355

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Performance
Bothnian Experiment in Preparation for ERS-1, 1988 (BEPERS-88)--an overview. Askne, J., et al. [1992, p.2377-2398, eng] 47-254
SAR image classification of ice in the Gulf of Bothnia. Sun, Y., et al. [1992, p.2489-2514, eng] 47-260
Formation and calculation of snow reserves on agricultural fields with a snow fence. Kaliuzhnyi, I.L., et al. [1991, p.22-34, rus] 47-381
Effectiveness of snow fences in cultivated fields. Petropavlovskaia, M.S., et al. [1991, p.57-66, rus] 47-384
Enhancement of computer model of tracked vehicle performance on snow-covered terrain. Wong, J.Y., [1992, p.341-357, eng] 47-408
Icebreaker face-off. Cox, B., [1992, p.52-53, eng] 47-444
Some studies in gamma attenuation for application in snow gauging. Rao, M.V.N., et al. [1985, p.144-148, eng] 47-533
Neural network-based adaptive radar detection scheme for small ice targets in sea clutter. Bhattacharya, T.K., et al. [1992, p.1528-1529, eng] 47-741
Analysis of cool storage for air conditioning. Chen, S.L., et al. [1992, p.553-563, eng] 47-1055
Polar Ocean Profiler: new generation sensor platform. May, C.W., et al. [1992, p.73-81, eng] 47-1060
HF bi-phase shift keying radar: application to ice sounding in western Alps and Spitsbergen glaciers. Nicollin, F., et al. [1992, p.1025-1033, eng] 47-1260
Ranging performance of satellite laser altimeters. Gardner, C.S., [1992, p.1061-1072, eng] 47-1261
*Thickness profiling of freshwater ice using a millimeter-*wave FM-CW radar. Yankielun, N.E., et al. [1992, p.1094-1100, eng] 47-1262
Evaluating the technical level of snowplows. Shtain, A.I., et al. [1990, p.23-24, rus] 47-1415
Errors in net radiometry: comparison and evaluation of six radiometer designs. Halldin, S., et al. [1992, p.762-783, eng] 47-1471
Aircraft take-off laboratory simulation for de/anti-icing study. Laforte, J.L., et al. [1992, p.183-193, eng] 47-1578
Analysis of energy dissipation caused by snow compaction during displacement plowing. Hansen, A.C., [1991, p.177-181, *eng*] 47-1800
Influence of wind, temperature, and deicing chemicals on snow accretion. Adams, E.E., et al. [1991, p.182-187, eng] 47-1801
Negatively buoyant jet (or plume) with applications to snowplow exit flow behavior. Lindberg, W.R., et al. [1991, p.219-229, eng] 47-1806
Concentration of black liquor by freeze crystallization. Egan, C.J., et al. [1982, p.471-479, eng] 47-1882
Freeze-control strategy and air-to-air energy recovery performance. Phillips, E.G., et al. [1992, p.44-45,48-49, *eng*] 47-1936
Ice mechanics in the LeadEx program. Coon, M.D., et al. [1991, p.651-656, eng] 47-2184
Characteristics of heat pump system operating with frost formation. Aoki, K., et al. [1991, p.391-396, eng] 47-2566
Non-chloride accelerating admixture for Class CF fly ash. Brook, J.W., et al. [1990, p.51-54, eng] 47-2719
Winter concreting of auto assembly plant floor. Ayers, C., et al. [1989, P.23-27, eng] 47-2751
Comparison of in-cloud measurements obtained with six PMS 2D-C probes. Gayet, J.F., et al. [1993, p.180-194, eng] 47-2768
Low temperature properties of motor oils. Riga, A.T., [1992, p.227-242, eng] 47-2884
Solifluction meter for permafrost sites. Lewkowicz, A.G., [1992, p.11-18, eng] 47-3122

Performance *(cont.)*

Analysis of ground-probing radar data: predictive deconvolution. LaFleche, P.T., et al. [1991, p.134-139, eng] 47-3309

Aerodynamic effects of deicing and anti-icing fluids. Reinmann, J.J., et al. [1993, p.8-9, eng] 47-3310

Contrasting requirements for Type II de anti-icing fluids. Ross, J.F., et al. [1993, p.10-13, eng] 47-3311

Aerodynamic effects of aircraft ground deicing anti-icing fluids. Hill, E.G., et al. [1993, p.24-34, eng] 47-3314

Aerodynamic effects of ground de anti-icing fluids on Fokker 50 and Fokker 100. van Hengst, J., [1993, p.35-40, eng] 47-3315

M[illegible]urement of microbial biomass in arctic tundra. Cheng, W.X., et al. [1993, p.135-141, eng] 47-3347

Rotational Raman lidar to measure the atmospheric temperature from the ground to 30 km. Nedeljkovic, D., et al. [1993, p.90-101, eng] 47-3357

Repeat-pass interferometry with airborne synthetic aperture radar. Gray, A.L., et al. [1993, p.180-191, eng] 47-3359

Steering system for vehicle such as snowmobile. Bibollet, J.-C., [1988, 6 col., eng] 47-3498

Canadian experience with air cushion vehicle skirts. Sullivan, P.A., et al. [1993, p.23-34, eng] 47-3797

Air conditioning energy *conservation through ice storage.* Tassou, S.A., et al. [1992, p.419-425, eng] 47-3798

Icing on a small horizontal-axis wind turbine--part 1: glaze ice profiles. Bose, N., [1992, p.75-85, eng] 47-3921

Icing *on* a small horizontal-axis wind turbine—part 2: three dimensional ice and wet snow formations. Bose, N., [1992, p.87-96, eng] 47-3922

Ice detector estimation of atmospheric icing on a cable. McComber, P., et al. [1993, p.305-316, eng] 47-3933

Oden—a new concept in icebreaker design. [1989, p.E71-E74, eng] 47-4078

Test of airborne, side-looking synthetic aperture radar. Graham, D.F., et al. [1991, p.257-265, eng] 47-4161

Influence of filling charge, evaporator *length and* condenser length on the performance of a right-angled *thermosyphon.* Lock, G.S.H., et al. [1993, p.207-211, eng] 47-4248

Influence of evaporator and condenser inclination on the performance of a right-angled thermosyphon. Lock, G.S.H., et al. [1993, p.213-217, eng] 47-4249

Sprinkler snow melting on railway tracks. Sawase, K., et al. [1992, p.727-738, eng] 47-4364

Sea ice deformation observed with ERS-1 SAR. Rothrock, D.A., et al. [1993, p.301-306, eng] 47-4429

Finnish ERS-1 *Baltic Sea ice experiment in winter* 1992. Leppäranta, M., et al. [1993, p.307-312, eng] 47-4430

Arctic sea ice microwave signature and geophysical processes study. Onstott, R.G., et al. [1993, p.329-332, eng] 47-4434

Evaluating ERS-1 ice motion and classification products. Fetterer, F.M., et al. [1993, p.373-375, eng] 47-4442

Applications of ERS-1 SAR data for analyzing riverine and coastal processes and geomorphology. Gatto, L.W., et al. [1993, p.873-878, eng] 47-4449

Model comet made from mineral dust and H2O-CO2 ice: *sample preparation development.* Roessler, K., et al. [1990, p.379-388, eng] 47-4567

Review of GEOSAT data over Canadian east coast waters. Topliss, B.J., et al. [1993, p.117-130, eng] 47-4590

Evaluation of limits to the performance of the surface roughness meter. Johnson, F., et al. [1993, p.140-145, eng] 47-4591

Tracked vehicle performance over snow-covered slopes. Muro, T., [1993, p.143-155, eng] 47-4889

Evaluation of ice prevention properties of road surface with calcium chloride admixture. Augustin, H., et al. [1986, 60p., ger] 47-4988

Evaluation of air flow over an anti-icing fluid film. Laforte, J.L., et al. [1993, p.96-104, eng] 47-5007

Laboratory simulation of a cometary nucleus: experimental setup and first results. Kochan, H., et al. [1989, p.487-492, eng] 47-5124

Bore-hole survey at dome GRIP 1991. Gundestrup, N.S., et al. [1993, p.399-402, eng] 47-5209

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Periglacial processes

Contemporary periglacial nature in connection with problems of its management. *Golubchikov, IU.N.,* [1992, p.3-10, rus] 47-183

Spores and pollen from the glaciers and periglacial zone of the Arctic and Antarctica. Surova, T.G., et al. [1991, p.181-185, rus] 47-340

Rock glaciers II: models and mechanisms. Whalley, W.B., et al. [1992, p.127-186, eng] 47-423

Periglacial geomorphology. Boardman, J., [1992, p.339-345, eng] 47-425

Periglacial shoreline erosion of a rocky coast: George River estuary, northern Quebec. Fournier, A., et al. [1992, p.926-942, eng] 47-443

Karstic denudation and tufas deposits in high alpine *mountains (Alpes, France).* Chardon, M., [1992, p.19-38, eng] 47-742

Periglacial and eolian processes in southern France. Ambert, P., et al. [1992, p.55-71, fre] 47-778

Paleoclimatic implications of new data on the origin of "greze" layering. Bertran, P., et al. [1992, p.97-112, fre] 47-831

Periglacial geomorphology: Proceedings. [1992, 354p., eng] 47-844

Periglacial geomorphology: what, where, when. Thorn, C.E., [1992, p.1-30, eng] 47-845

Paleoperiglacial processes in the central Appalachians. Clark, G.M., et al. [1992, p.31-61, eng] 47-846

Freeze thaw at a glacier headwall. *Gardner, J.S.,* [1992, p.89-102, eng] 47-848

Mechanical weathering in the Antarctic: a maritime perspective. Hall, K.J., [1992, p.103-123, eng] 47-849

Miniature sorted stripes in the Páramo de Piedras Blancas (Venezuelan Andes). Pérez, F.L., [1992, p.125-157, eng] 47-850

Snow avalanche paths as periglacial conduits. Butler, D.R., et al. [1992, p.185-202, eng] 47-852

Long-term rates of contemporary solifluction in the Canadian Rocky Mountains. Smith, D.J., [1992, p.203-221, eng] 47-853

Active-layer detachment slides on Ellesmere Island. Lewkowicz, A.G., [1992, p.223-250, eng] 47-854

Buoyancy forces induced by freeze-thaw in the active layer. Hallet, B., et al. [1992, p.251-279, eng] 47-855

Patterned ground formation and solar radiation ground heating. McKay, G., [1992, p.249-263, eng] 47-985

Periglacial geomorphology in the Netherlands. Vandenberghe, J., [1992, p.65-75, eng] 47-1006

Glaciological and periglacial investigation in Inner Mongolia. Hofmann, J., [1992, p.139-154, eng] 47-1009

Nature and geomorphological relationships of earth hummocks (thufa) in Iceland. Gerrard, J., [1992, p.173-182, eng] 47-1012

Ecology of recently-deglaciated terrain. Matthews, J.A., [1992, 386p., eng] 47-1066

Soils of cold climate regions. Campbell, I.B., et al. [1992, p.183-201, eng] 47-1212

New reports theorizing on the periglacial zone and *historical geocryology.* Velichko, A.A., et al. [1982, p.113-119, rus] 47-1246

Field and laboratory studies of patterned ground in a Colorado alpine region. Benedict, J.B., [1992, 38p., eng] 47-1434

Frost heave and creep in the Sör Rondane Mountains, Antarctica. Matsuoka, N., et al. [1992, p.271-280, eng] 47-1584

Breakup of limestone bedrock by frost shattering and chemical weathering, eastern Canadian Arctic. Dredge, L.A., [1992, p.314-323, eng] 47-1588

Comprehensive regional division of the global periglacial geomorphology. Zhu, C., [1992, p.161-167, chi] 47-1653

Present-day periglacial processes and landforms in mountain areas. Lautridou, J.P., et al. [1992, p.93-101, eng] 47-1748

Construction, environmental problems and natural hazards *in periglacial mountain belts.* Haeberli, W., [1992, p.111-124, eng] 47-1750

Monitoring of periglacial phenomena in the Furggentälti Swiss Alps. Krummenacher, B., et al. [1992, p.149-155, eng] 47-1755

Creep of alpine permafrost, investigated on the Murtel rock glacier. Wagner, S., [1992, p.157-162, eng] 47-1756

Observations on the rock glaciers of Monte Emilius (Valle d'Aosta, Italy). Smiraglia, C., [1992, p.163-168, eng] 47-1757

Evidence of intrapermafrost groundwater flow beneath an active rock glacier in the Swiss Alps. Vonder Mühll, D.S., [1992, p.169-173, eng] 47-1758

Permafrost creep and rockglaciers. Barsch, D., [1992, p.175-188, eng] 47-1769

Permafrost research sites in the Alps. Haeberli, W., et al. [1992, p.189-202, eng] 47-1770

Vertical movements of boulders in a subnival boulder pavement at 2800 m a.s.l. in the Alps (France). Pissart, A., et al. [1992, p.203-208, eng] 47-1771

10 year surficial velocities on a rock glacier (Laurichard, French Alps). Francou, B., et al. [1992, p.209-213, eng] 47-1772

Rock glaciers in Svalbard and Norway. Sollid, J.L., et al. [1992, p.215-220, eng] 47-1773

Climatic factors related to mountain periglacial processes. Ahumada, A.L., [1992, p.221-224, eng] 47-1774

Alpine periglacial landforms of eastern North America: a review. Clark, G.M., et al. [1992, p.225-230, eng] 47-1775

Ground temperature measurements in mountain permafrost, Jotunheimen, southern Norway. Ödegard, R.S., et al. [1992, p.231-234, eng] 47-1776

Permafrost environment of the *Daisetsu Mountains,* Hokkaido, Japan. Sone, T., [1992, p.235-240, eng] 47-1777

Note on ground thermal regimes and global solar radiation at 4720 m a.s.l., High Andes of Argentina. Happoldt, H., et al. [1992, p.241-245, eng] 47-1778

Perennial névés and the hydrology of rock glaciers. Tenthorey, G., [1992, p.247-252, eng] 47-1779

Active rock glaciers and the lower limit of discontinuous alpine permafrost, Khumbu Himalaya, Nepal Jakob, M., [1992, p.253-256, eng] 47-1780

Southern limit of relict rock glaciers, Central Apennines, Italy. Dramis, F., et al. [1992, p.257-260, eng] 47-1781

Statistical analysis of the spatial distribution of rock glaciers, Spanish Central Pyrenees. Chueca, J., [1992, p.261-265, eng] 47-1782

Rock glaciers and periglacial phenomena in the Southern Carpathians. Urdea, P., [1992, p.267-273, eng] 47-1783

Response of the Canadian permafrost environment to climatic change. Woo, M.K., et al. [1992, p.287-317, eng] 47-2018

Evidence of periglacial influence on fragipan formation. Payton, R.W., [1992, p.621-644, eng] 47-2190

Morphology of Quaternary deposits in the southern Netherlands. Kasse, K., et al. [1992, p.327-342, eng] 47-2240

Cryoturbations: a sediment structural analysis. Vandenberghe, J., [1992, p.343-352, eng] 47-2241

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Proceedings of the 1st International Conference on Cryopedology, [1992, 272p., eng] 47-1699

Microorganisms in permafrost. Zviagintsev, D.G., [1992, p.229-232, eng] 47-1735

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Permafrost bibliography update 1988-1992. Brennan, A.M., ed, [1993, 401p., eng] 47-3672

Rock of ages. Harrison, S., [1992, p.1-4, eng] 47-3861

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Evidence of intrapermafrost groundwater flow beneath an active rock glacier in the Swiss Alps. Vonder Mühll, D.S., [1992, p.169-173, eng] 47-1758
Report on field work in Svalbard. Bruland, O., [1992, 11p., nor] 47-2012
Main project 1991—water balance and a model of drainage in permafrost areas. Bruland, O., [1991, Var.p., nor] 47-2248
Role of permafrost and seasonal frost in the hydrology of northern wetlands in North America. Woo, M.K., et al. [1993, p.5-31, eng] 47-2634
Hydrogen and oxygen isotopes and the origin of the ice in peat plateaus. Harris, S.A., et al. [1992, p.19-27, eng] 47-3123
Wetland properties of permafrost soils in Alaska. Ping, C.L., et al. [1992, p.198-205, eng] 47-3898
Free meandering in the conditions of a cryolithic zone of the Yamal Peninsula. Savitskii, V.A., [1992, p.27-33, eng] 47-3990
Three-dimensional model of an Alaskan river polar fan-delta. Lindsay, J.F., [1992, p.183-201, eng] 47-4366
Computerized simulation of permafrost mass transfer. Kozlov, A.N., et al. [1992, p.63-67, eng] 47-4384
Debris flow in Canadian continuous permafrost area. Harris, S.A., et al. [1993, p.41-56, eng] 47-4984
Hydrological properties of frozen soil. Perfect, E., et al. [1993, p.767-781, eng] 47-5250

Permafrost indicators
Weichselian permafrost in western Europe. Van Vliet-Lanoë, B., [1989, p.109-113, eng] 47-440
Prospecting and mapping of mountain permafrost and associated phenomena. King, L., et al. [1992, p.73-81, eng] 47-1746
Model of potential direct solar radiation for investigating occurrences of mountain permafrost. Funk, M., et al. [1992, p.139-142, eng] 47-1753
Permafrost occurrence from BTS measurements and climatic parameters in the eastern Swiss Alps. Hoelzle, M., [1992, p.143-147, eng] 47-1754
Permafrost creep and rockglaciers. Barsch, D., [1992, p.175-188, eng] 47-1769
Climatic factors related to mountain periglacial processes. Ahumada, A.L., [1992, p.221-224, eng] 47-1774
Ground temperature measurements in mountain permafrost, Jotunheimen, southern Norway. Ödegard, R.S., et al. [1992, p.231-234, eng] 47-1776
Active rock glaciers and the lower limit of discontinuous alpine permafrost, Khumbu Himalaya, Nepal. Jakob, M., [1992, p.253-256, eng] 47-1780
Southern limit of relict rock glaciers, Central Apennines, Italy. Dramis, F., et al. [1992, p.257-260, eng] 47-1781
Hummocks and hummocky landscapes as indicators of the natural conditions of Tien Shan. Tarakanov, A.G., [1991, p.112-118, rus] 47-2042
Evidence of periglacial influence on fragipan formation. Payton, R.W., [1992, p.621-644, eng] 47-2190
Radiocarbon dating of west Spitsbergen Quaternary deposits. Forman, S.L., et al. [1993, p.1-6, eng] 47-4015
Permafrost changes in Europe during the last Glacial. Vandenberghe, J., et al. [1993, p.121-135, eng] 47-4148
Mechanics of bedrock frost heaving in permafrost regions. Michaud, Y., [1991, 128p., eng] 47-4900
Periglacial microjointing and faulting in Weichselian fluvio-aeolian deposits. Mol, J., et al. [1993, p.15-30, eng] 47-5005

Permafrost mass transfer
Arctic push moraines, a case study of the Thompson Glacier moraine, Axel Heiberg Island, N.W.T., Canada. Lehmann, R., [1992, p.161-171, eng] 47-1011
Creep of alpine permafrost, investigated on the Murtel rock glacier. Wagner, S., [1992, p.157-162, eng] 47-1756
Permafrost creep and rockglaciers. Barsch, D., [1992, p.175-188, eng] 47-1769
10 year surficial velocities on a rock glacier (Laurichard, French Alps). Francou, B., et al. [1992, p.209-213, eng] 47-1772
Solifluction meter for permafrost sites. Lewkowicz, A.G., [1992, p.11-18, eng] 47-3122
Debris flow in Canadian continuous permafrost area. Harris, S.A., et al. [1993, p.41-56, eng] 47-4984

Permafrost origin
Recent cryomorphic soils and underlying permafrost. Gubin, S.V., [1992, p.56-59, eng] 47-1704
Interactions and relations between mountain permafrost, glaciers, snow and water. Harris, S.A., et al. [1992, p.103-110, eng] 47-1749

Permafrost physics
Canada-Russia geotechnical studies of permafrost: Bovanenkovo test site. Kurfurst, P.J., ed. [1992, 402p., eng] 47-977
Cavity development in ice-rich permafrost, Pangnirtung, Baffin Island, Northwest Territories. Hyatt, J.A., [1992, p.293-313, eng] 47-2238
Determination of pollen accumulation rates in frozen sediments. Wang, X.C., et al. [1993, p.87-93, eng] 47-3120
Dielectric properties of frozen clay and silt soils. Moore, J.C., et al. [1993, p.265-273, eng] 47-3930
Field pile load tests in saline permafrost. 1. Test procedures and results. Biggar, K.W., et al. [1993, p.34-45, eng] 47-4162
Field pile load tests in saline permafrost. 2. Analysis of results. Biggar, K.W., et al. [1993, p.46-59, eng] 47-4163

Permafrost preservation
Human-induced permafrost degradation and thermokarst. Gallinger, B.J., et al. [1991, 228p., eng] 47-2106
Clamp for arctic pipeline support. Morton, A.W., [1988, 4 col., eng] 47-3414
Pipeline insulation system. Patterson, M.M., [1987, 4 col., eng] 47-4004
Thermal behavior of rip rap in a cross-drainage structure. Lozano, N., [1993, p.35-43, eng] 47-4118
Development of natural gas resources in northwest Siberia. Michel, F.A., [1993, p.19-24, eng] 47-4269
Refreezing of a building foundation on permafrost. Claisse, M., et al. [1993, p.303-309, fre] 47-4471
Case study of arctic in situ bioremediation. Ramert, P.C., et al. [1993, p.339-346, eng] 47-4475
Planetary maximum CO2 and ecosystems of the North. Zimov, S.A., et al. [1993, p.21-34, eng] 47-5225
See also: Permafrost control

Permafrost samplers
Sampling frozen soils. Tarnocai, C., [1993, p.755-765, eng] 47-5249

Permafrost structure
Upper surface layer of permafrost; collected scientific papers. Mel'nikov, P.I., ed. [1991, 100p., rus] 47-392
Using geophysical methods to study an ice-rich intermediate layer in permafrost. Pugach, V.B., et al. [1991, p.87-91, rus] 47-402
Borehole logging in alpine permafrost, Upper Engadin, Swiss Alps. Vonder Mühll, D.S., et al. [1992, p.125-132, eng] 47-1751
Formation of the cryogenic structure of the upper layer of permafrost. Konstantinov, S.A., [1991, p.48-53, rus] 47-1989
Cavity development in ice-rich permafrost, Pangnirtung, Baffin Island, Northwest Territories. Hyatt, J.A., [1992, p.293-313, eng] 47-2238
Cryoprotective properties of water in the earth cryolithosphere and its role in exobiology. Gilichinskii, D.A., et al. [1993, p.65-75, eng] 47-2658

Holocene water-level fluctuations of a subarctic lake at the tree line in northern Quebec. Payette, S., et al. [1993, p.7-14, eng] 47-4072

Sampling frozen soils. Tarnocai, C., [1993, p.755-765, eng] 47-5249

Permafrost surveys

Multisource evidential classification of surface cover and frozen ground. Peddle, D.R., et al. [1992, p.3375-3380, eng] 47-1443

Detection of sub-sea permafrost by electromagnetic sounding. Palacky, G.J., et al. [1992, p.1419-1427, eng] 47-1509

Prospecting and mapping of mountain permafrost and associated phenomena. King, L., et al. [1992, p.73-81, eng] 47-1746

Borehole logging in alpine permafrost, Upper Engadin, Swiss Alps. Vonder Mühll, D.S., et al. [1992, p.125-132, eng] 47-1751

Automated permafrost mapping using a computer program. Keller, F., [1992, p.133-138, eng] 47-1752

Creep of alpine permafrost, investigated on the Murtel rock glacier. Wagner, S., [1992, p.157-162, eng] 47-1756

Evidence of intrapermafrost groundwater flow beneath an active rock glacier in the Swiss Alps. Vonder Mühll, D.S., [1992, p.169-173, *eng*] 47-1758

Permafrost research sites in the Alps. Haeberli, W., et al. [1992, p.189-202, eng] 47-1770

Rock glaciers in Svalbard and Norway. Sollid, J.L., et al. [1992, p.215-220, eng] 47-1773

Climate of Spitsbergen. Hanssen-Bauer, I., et al. [1990, 40p., eng] 47-1918

Main project 1991—water balance and a model of drainage in permafrost areas. Bruland, O., [1991, Var.p., nor] 47-2248

Solifluction meter for permafrost sites. Lewkowicz, A.G., [1992, p.11-18, eng] 47-3122

Hydrogen and oxygen isotopes and the origin of the ice in peat plateaus. Harris, S.A., et al. [1992, p.19-27, eng] 47-3123

Analysis of ground-probing radar data: predictive deconvolution. LaFleche, P.T., et al. [1991, p.134-139, eng] 47-3309

Permafrost methane content: 1. Experimental data from sites in northern Alaska. Rasmussen, R.A., et al. [1993, p.591-594, eng] 47-3437

Methane in permafrost—preliminary results from coring at Fairbanks, Alaska. *Kvenvolden*, K.A., et al. [1993, p.609-616, eng] 47-3439

Algorithms for alpine land cover classification. Peddle, D.R., [1993, p.31-44, eng] 47-3723

Classification of permafrost active layer depth from remotely sensed and topographic evidence. Peddle, D.R., et al. [1993, p.67-80, eng] 47-3918

Subsurface temperatures and geothermal gradients on the North Slope of Alaska. Collett, T.S., et al. [1993, p.275-293, eng] 47-3931

Biochemical indicators of gold deposits in permafrost. Taisaev, T.T., et al. [1993, p.215-220, eng] 47-4059

Permafrost distribution changes in Pleistocene Soviet Union. Kondratieva, K.A., *et al.* [1993, p.113-119, eng] 47-4147

Permafrost thermal properties

Recent warming of permafrost in the Yukon Territory. Burn, C.R., [1992, p.327-350, eng] 47-858

Mathematical modelling of near-shore permafrost thermal regimes, western Canadian Arctic. Wang, B.L., [1992, p.202-209, chi] 47-1659

Fractal geometry of thermal and chemical time series from *the active layer*, Alaska. Outcalt, S.I., et al. [1992, p.315-322, eng] 47-2239

Modeling the thermodynamic processes of permafrost. Mal'kov, IU.K., [1990, 155p., rus] 47-2317

Characteristics of the relict cryolithozone of the West Siberian Plain. Zemtsov, A.A., et al. [1992, p.103-107, rus] 47-3267

Permafrost and Holocene shoreline regression in arctic Canada. Adams, J., [1993, 66p., eng] 47-4606

Temperature determination of saline permafrost. Gokhman, M.R., [1993, p.23-26, eng] 47-4730

Permafrost thickness

Regional characteristics governing permafrost thickness. Kalinin, V.M., et al. [1990, 142p., rus] 47-99

Borehole logging in alpine permafrost, Upper Engadin, Swiss Alps. Vonder Mühll, D.S., et al. [1992, p.125-132, eng] 47-1751

Characteristics of the seasonal thawing of permafrost in Mongolia. Babinski, Z., et al. [1991, p.223-229, eng] 47-2569

Classification of permafrost active layer depth from remotely sensed and topographic evidence. Peddle, D.R., et al. [1993, p.67-80, eng] 47-3918

Permafrost distribution changes in Pleistocene Soviet Union. *Kondratieva*, K.A., et al. [1993, p.113-119, eng] 47-4147

Computerized simulation of permafrost mass transfer. Kozlov, A.N., et al. [1992, p.63-67, eng] 47-4384

Permafrost and Holocene shoreline regression in arctic Canada. Adams, J., [1993, 66p., eng] 47-4606

Oxygen isotope composition of ground ice (application to paleogeocryological reconstruction). Vasil'chuk, IU.K., [1992, 2 vols. (684p.) + 2 foldouts, rus] 47-4656

Permafrost transformation

Investigation of evolution of the Arctic shelf cryolithozone by mathematical simulation. Sigunov, IU.A., et al. [1992, p.13-19, eng] 47-244

Rock glaciers II: models and mechanisms. Whalley, W.B., et al. [1992, p.127-186, eng] 47-423

Impacts of summer warming on the energy and water balance of wetland tundra. Rouse, W.R., et al. [1992, p.305-326, eng] 47-1375

Response of the Canadian permafrost environment to climatic change. Woo, M.K., et al. [1992, p.287-317, eng] 47-2018

Reduced geothermal gradients in the shallow West-Siberian Platform. Duchkov, A.D., et al. [1992, p.245-250, *eng*] 47-2024

Climatic change effects on Swedish periglacial environment. Akerman, H.J., [1991, p.176-187, *eng*] 47-2854

Some geophysical problems involving convection in porous media. Nield, D.A., [1991, p.985-1006, eng] 47-2862

Rock glacier geomorphology in the Canadian Arctic. Evans, D.J.A., [1993, p.17-35, eng] 47-3115

Pleistocene periglacial structures and landforms in western Czechoslovakia. Czudek, T., [1993, p.65-75, eng] 47-3118

Effect of site disturbance on the soil thermal regime near Fort Simpson, Northwest Territories, Canada. Hayhoe, H.N., et al. [1993, p.37-44, eng] 47-3426

Permafrost methane content: 1. Experimental data from sites in northern Alaska. Rasmussen, R.A., et al. [1993, *p.591-594, eng*] 47-3437

Permafrost methane content: 2. Modeling theory and results. Moraes, F., et al. [1993, p.595-607, eng] 47-3438

Problems of the last interglacial in arctic Siberia. Sher, A.V., [1991, p.215-222, eng] 47-3491

Climate and permafrost. Gavrilova, M.K., [1993, p.99-111, eng] 47-4146

Climate warming and the carbon cycle in the permafrost *zone of the former Soviet Union*. Kolchugina, T.P., et al. [1993, p.149-163, eng] 47-4150

Mountain permafrost and climatic change. Haeberli, W., et al. [1993, p.165-174, eng] 47-4151

Model for the hydrologic and climatic behavior of water on Mars. Clifford, S.M., [1993, p.10,973-11,016, eng] 47-4409

Periglacial microjointing and faulting in Weichselian fluvio-aeolian deposits. Mol, J., et al. [1993, p.15-30, eng] 47-5005

Permafrost weathering

Soils of cold climate regions. Campbell, I.B., et al. [1992, p.183-201, eng] 47-1212

Cryogenic (frost-related) systems of some gold-quartz deposits. Taisaev, T.T., [1991, p.178-182, eng] 47-3799

Biochemical indicators of gold deposits in permafrost. Taisaev, T.T., et al. [1993, p.215-220, eng] 47-4059

Mechanics of bedrock frost heaving in permafrost regions. Michaud, Y., [1991, 128p., eng] 47-4900

Permeability

Effect of soil stress on its water permeability during freezing and forecasting frost heave intensity. Karlov, V.D., [1991, p.77-82, rus] 47-238

Determining the intrinsic permeability of frazil ice. Part 2: field investigations. White, K.D., et al. [1992, 15p., *eng*] 47-695

Observations of the water-vein system in polycrystalline ice. Mader, H.M., [1992, p.333-347, eng] 47-1386

Subsurface drainage of pavement structures: current Corps of Engineers and industry practice. Allen, W.L., [1991, 31p., eng] 47-3339

Silica fume replacement of cement—effects on concrete durability. Hooton, R.D., [1993, p.143-151, eng] 47-4351

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Peru

Late Quaternary glaciation and climatic change in the northern Peruvian Andes. Rodbell, D.T., [1992, 233p., eng] 47-282

Tropical ice core paleoclimatic records, Quelccaya Ice Cap, Peru, A.D. 470 to 1984. Thompson, L.G., et al. [1992, 106p. + 5.25" floppy disk, eng] 47-839

Ice core evidence from Peru and China. Thompson, L.G., [1992, p.517-548, eng] 47-2099

Glacial geology in Peruvian mountains. Rodbell, D.T., [1993, p.923-934, eng] 47-4580

—Andes

Glacial and climatic history of the central Peruvian Andes. Wright, H.E., Jr., et al. [1989, p.439-445, eng] 47-5256

—Cordillera Blanca

Dating of weathered Peruvian Pleistocene mountain moraines. Rodbell, D.T., [1993, p.133-143, eng] 47-5121

Petroleum

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Petroleum industry

Frozen assets, [1992, p.33-36, eng] 47-51

Principles of development of diesel fuel composition with pour-point depressants. Mitusova, T.N., et al. [1992, p.3-7, eng] 47-205

Retrospective of platform development in Cook Inlet, Alaska. Visser, R.C., [1992, p.146-150,202-203, eng] 47-224

Trans-Alaska Pipeline reroute meets schedule. Newcomer, E.S., et al. [1992, p.49-57, eng] 47-823

Many challenges ahead for exploration, development in Norwegian-Russian Arctic. Johansen, B., [1992, p.31-32, eng] 47-919

Civil engineering in the arctic North Slope, Alaska. Manikian, V., [1992, p.1-6, eng] 47-1829

Major hydrocarbon structures in Barents Sea, Kara Sea regions. [1993, p.34-35, eng] 47-2004

Of measured risks: the environmental impacts of the Prudhoe Bay, Alaska oil field. Maki, A.W., [1992, p.1691-1707, eng] 47-2604

Considerations in the design of effects monitoring strategies, Beaufort Sea case study. Thomas, D.J., [1992, 54p. + append., eng] 47-2621

Beaufort Region Environmental Assessment and Monitoring Program (BREAM). Final report for 1991/1992. [1992, 359p. + appends., eng] 47-2623

Arctic production terminal facility. Williams, T.E., [1988, 4 col., eng] 47-3415

Arctic offshore structure and installation method therefor. Turner, J.W., [1988, 8 col., eng] 47-3418

Russia's Rosshelf sets timetable for arctic offshore field development, [1993, p.31-34, eng] 47-3527

Pipeline insulation system. Patterson, M.M., [1987, 4 col., eng] 47-4004

Arctic structure of composite wall construction. Birdy, J.N., et al. [1987, 14 col., eng] 47-4007

Petroleum policy in the north. Moe, A., [1991, p.211-231, eng] 47-4860

Future of Soviet oil supplies to the West. Moe, A., [1991 p.137-167, eng] 47-4867

Future of Russian oil. Moe, A., et al. [1992, p.20-24, *rus*] 47-4874

Petroleum products

Nuclear lighter "Sevmorput". Smirnov, V., et al. [1990, p.22-23, rus] 47-4089

Phase transformations

Predicting ice formation parameters in closed systems. Dubina, M.M., et al. [1992, p.91-97, rus] 47-68

Finite element modelling of natural-convection-controlled change of phase. Usmani, A.S., et al. [1992, p.1019-1036, *eng*] 47-193

Theoretical studies on binary homogeneous nucleation. Laaksonen, A., [1992, 12p., *eng*] 47-229

Far-IR study of irradiated amorphous ice: an unreported oscillation between amorphous and crystalline phases. Hudson, R.L., et al. [1992, p.6500-6504, eng] 47-251

Solution of inverse heat conduction problems with phase changes by the mollification method. Murio, D.A., [1992, p.45-57, eng] 47-265

Experiments on the solidification of a binary alloy in a rectangular cavity. Cao, W.Z., [1991, 186p., eng] 47-298

Heat transfer and population in phase change media. *Core*, K.L., [1991, 99p., eng] 47-304

Calculation of phase diagrams of gas-hydrates. Lundgaard, L., et al. [1992, *p.141-149, eng*] 47-589

Transitions in frozen gelatinized-starch systems studied by differential scanning calorimetry. Liu, H., et al. [1992, p.179-183, eng] 47-743

Controlling nucleation in protein solutions. DeMattei, R.C., et al. [1992, p.21-30, eng] 47-769

Enthalpy formulation of the conduction problem with phase changes. Cesari, F., [1992, p.983-987, eng] 47-775

Effects of natural convection on ice formation inside a horizontal cylinder. Chen, S.L., et al. [1992, p.131-145, *eng*] 47-790

Bénard convection in binary mixtures with Soret effects and *solidification*. *Zimmermann*, G., et al. [1992, p.657-682, eng] 47-820

Dynamic simulation of phase changes in snowpacks and soils. Grant, R.F., [1992, p.1051-1062, eng] 47-902

Ice cold storage using direct contact phase change. Utaka, Y., et al. [1989, p.469-475, eng] 47-914

Characteristics of the freezing heat transfer of layered air-water flow in a circular tube. Fukusako, S., et al. [1989, p.91-97, eng] 47-915

Dielectric study of the structure of hyperquenched glassy water and its crystallized forms. Johari, G.P., et al. [1992, p.5851-5855, eng] 47-988

Monomer polymerization in frozen liquids via UV *irradiation*. Egorov, V.V., *et al.* [1992, p.95-97, *eng*] 47-1118

Determination of the phase interface of the aggregate state of water in soil. Kitaev, V.V., [1989, p.84-92, eng] 47-1222

Thermal behaviour of the water-vein system in polycrystalline ice. Mader, H.M., [1992, p.359-374, eng] 47-1388

Waste water reuse by freeze concentration with a falling film reactor. Müller, M., et al. [1992, p.1475-1482, eng] 47-1552

Effect of restricted geometries on the structure and thermodynamic properties of ice. Handa, Y.P., et al. [1992, p.8594-8599, eng] 47-1569

Mass transfer in frozen soil. Padilla, F., et al. [1988, p.121-126, *eng*] 47-1580

Phase transformations *(cont.)*
Thermocapillary convection during solid-liquid phase change. Voth, T.E., et al, [1992, p.1068-1070, eng] 47-1673
Stresses in ground-freezing problems with infinite boundaries. Askar, H.G., [1993, p.58-73, eng] 47-1759
Application of infinite elements to phase change situations on deforming meshes. Sullivan, J.M., Jr., et al, [1992, p.1861-1874, eng] 47-1915
Ice formation in sucrose solutions. Shalaev, E.IU., et al, [1992, p.213-220, eng] 47-1933
Quantum tunneling in irradiated ice. Muto, H., et al, [1992, p.5211-5213, eng] 47-1937
Ultraviolet-induced amorphization of cubic ice and its implications for the evolution of ice grains. Kouchi, A., et al, [1991, p.87-90, eng] 47-2111
Potential role of heterogeneous nucleation in the cloud element formation at high altitudes. Hagen, D.E., et al, [1992, p.291-294, eng] 47-2270
Production and heat transfer characteristics of liquid ice as new PCM. Fukusako, S., et al, [1992, p.347-364, eng] 47-2298
Mathematical modelling of heat transfer in freeze drying. Nastaj, J., [1991, p.405-413, eng] 47-2305
Anomalies of the shock compressibility of water. Bogdanov, G.E., et al, [1992, p.162-165, eng] 47-2458
Study on phase changes of heterogeneous composite materials: effects of parameters on solidification process. Hirasawa, Y., et al, [1991, p.225-230, eng] 47-2556
Concurrent freezing and sublimation of a liquid-saturated porous slab. Vaidyanathan, N., et al, [1991, p.251-259, eng] 47-2565
Novel differential scanning calorimetric studies of supercooled organic liquids. Murthy, S.S.N., et al, [1993, p.509-514, eng] 47-2605
Adaptive finite element analysis of axisymmetric freezing. Sutanto, E., et al, [1992, p.3301-3312, eng] 47-2609
Solution of solidification problem using a microcomputer. Rabin, Y., et al, [1993, p.673-683, eng] 47-2653
Thermal nonequilibrium of freezing bodies of water with the environment. Falko, L.I., [1991, p.115-118, rus] 47-2798
Sea-ice interaction with the thermohaline circulation. Yang, J.Y., et al, [1993, p.217-220, eng] 47-2859
Changes in microstructure of fine-grained soils due to freezing. Grechishchev, S.E., et al, [1992, p.1-10, eng] 47-3121
Simulation of hexagonal ice molecular dynamics. Sciortino, F., et al, [1993, p.5694-5700, eng] 47-3155
Neutron diffraction studies of high pressure ice. Londono, J.D., et al, [1993, p.4878-4888, eng] 47-3234
Recent advances in research on water-freezing and ice-melting problems. Fukusako, S., et al, [1993, p.90-105, eng] 47-3287
Solidification in saline solutions. Rubinsky, B., et al, [1993, p.157-167, eng] 47-3288
Melting transition at ice crystal glass substrate interface. Furukawa, Y., et al, [1993, p.1137-1142, eng] 47-3289
Dual freezing chamber system and method for water purification. Chang, C.N., [1989, 14 col., eng] 47-3332
Observations of the initial stage of ice phase evolution in supercooled clouds. Nevzorov, A.N., et al, [1992, p.69-76, eng] 47-3458
Growth rate of polyhedral ice crystals growing from the vapor phase and their habit change. Sei, T., et al, [1989, p.495-502, eng] 47-3465
Three-dimensional growth in ice dendrites. Furukawa, Y., et al, [1993, p.234-239, eng] 47-3469
Formation of patterns during growth of snow crystals. Yokoyama, E., [1993, p.251-257, eng] 47-3470
Polarimetric signatures in the stratiform region of a mesoscale convective system. Zrnic, D.S., et al, [1993, p.678-693, eng] 47-3508
Mathematical modeling of melting and freezing processes. Alexiades, V., et al, [1993, 323p., eng] 47-3541
Ductile ice. Schulson, E.M., *et al*, [1993, p.151-157, eng] 47-3564
Ab initio studies on the structural and dynamical properties of ice. Lee, C.Y., *et al*, [1993, p.4863-4872, eng] 47-3583
Hail growth hysteresis. Johnson, D.B., et al, [1992, p.2525-2532, eng] 47-3674
Defect theory for the glass transition and residual entropy of hyperquenched water. Johari, G.P., [1993, p.7324-7329, eng] 47-3684
Snow crystals, natural and man made. Mason, B.J., [1992, p.227-243, eng] 47-3718
Pressure effects on non-freezing water layer thickness. Bardasov, S.A., et al, [1992, p.160-166, eng] 47-3733
Calorimetric investigation of solution glass transition. Mehl, P.M., [1993, p.177-197, eng] 47-3779
Solution freezing characteristics in an immersed tube. Yamada, M., et al, [1993, p.54-62, eng] 47-3792
Numerical modeling of heat transfer in irregular solidification of a liquid. Nikitenko, N.I., et al, [1993, p.519-528, eng] 47-3800
Dielectric properties of frozen clay and silt soils. Moore, J.C., et al, [1993, p.265-273, eng] 47-3930
Aqueous salt solution solidification. Heschel, I., et al, [1993, p.63-66, ger] 47-4063
Immersed tube heat transfer in a melting ice bed. Fukusako, S., et al, [1993, p.353-359, eng] 47-4064
Thermal equilibrium in porous media with concurrent flow and freezing. Tao, Y.X., et al, [1993, p.323-332, eng] 47-4065
Modeling and numerical simulations of dendritic crystal growth. Kobayashi, R., [1993, p.410-423, eng] 47-4071
High-pressure melting--solidification of a substance. Zelenetskii, A.B., et al, [1993, p.1037-1044, eng] 47-4075
Solvation, freezing, and the crystal/liquid interface: modern theories and computer simulation. Haymet, A.D.J., [1993, p.415-426, eng] 47-4216
Dynamical criterion for freezing of colloidal liquids. Löwen, H., et al, [1993, p.1557-1560, eng] 47-4347
Form of cyclonic precipitation and its thermal impact. Gedzelman, S.D., et al, [1993, p.1957-1978, eng] 47-4355
Solidification of a binary mixture in a rectangular cavity. Zampino, M.A., et al, [1992, p.629-639, eng] 47-4361
Numerical study of three-dimensional natural convection and freezing in water. Yeoh, G.H., et al, [1992, p.640-650, eng] 47-4362
Freezing. Haymet, A.D.J., [1992, p.363-405, eng] 47-4367
Nucleation. Oxtoby, D.W., [1992, p.407-442, eng] 47-4368
Simulation of extraterrestrial ammonia-water ice system. Yarger, J., et al, [1993, p.13,109-13,117, eng] 47-4412
Freezing of water between vertical tubes. Kim, C.J., et al, [1993, p.2647-2656, eng] 47-4414
Properties of a statistical model of ice at low temperatures. Barkema, G.T., et al, [1993, p.2059-2067, eng] 47-4463
Hail detection using active and passive radars. Ajvazyan, H.M., et al, [1993, p.1155-1174, eng] 47-4510
Simulation of extraterrestrial ice solution melting curves. Boone, S., et al, [1991, p.603-610, eng] 47-4635
Onset and evolution of penetrative convection during the melting process in a porous medium. Nguyen, T.H., et al, [1992, p.381-392, eng] 47-4708
Effects of surfaces on the melting/freezing behavior of fluids in derivatized- and nude-porous silica. Malhotra, V.M., et al, [1993, p.121-126, eng] 47-4709
Temperature determination of saline permafrost. Gokhman, M.R., [1993, p.23-26, eng] 47-4730
On the ductile-to-brittle transition in ice under *compression.* Batto, R.A., et al, [1993, p.2219-2225, eng] 47-4731
Water II is a "strong" liquid. Angell, C.A., [1993, *p.6339-6341, eng*] 47-4748
Simulation of liquid and solid phases of water. Clementi, E., et al, [1993, p.205-213, eng] 47-4755
Influence of polysaccharides on the glass transition in frozen sucrose solutions and ice cream. Goff, H.D., et al, [1993, p.1268-1277, eng] 47-4849
Low-temperature physics: an introduction for scientists and engineers. McClintock, P.V.E., et al, [1992, 296p., eng] 47-4858
Soil-fabric measurement using phase transition porosimetry. Gunnink, B.W., et al, [1993, p.1019-1036, eng] 47-5105
Numerical and experimental study on supercooled laminar flow of water. Ismail, K.A.R., et al, [1991, p.899-903, eng] 47-5108
Effect of the water density extremum on the solidification process. Braga, S.L., et al, [1991, p.1185-1192, eng] 47-5110
Simplified numerical solution of the Miller model of secondary frost heave. Fowler, A.C., et al, [1993, p.327-336, eng] 47-5204
Complete model for the laminar flow of supercooled liquid water. Ismail, K.A.R., et al, [1992, p.335-349, eng] 47-5265
Thermodynamics of high-pressure ice. Chizhov, V.E., [1993, p.253-262, eng] 47-5266
See also: Solid phases
Phenology
Monitoring of environmental conditions in the Alaskan *forests using ERS-1 SAR data.* Rignot, E.J., *et al*, [1992, p.530-532, eng] 47-649
Characterization of fungi ecosystems in subarctic alder forests. Brunner, I., et al, [1992, p.1247-1258, eng] 47-1483
Reproductive ecology of *Saxifraga oppositifolia:* phenology, mating system, and reproductive success. Stenström, M., et al, [1992, p.337-343, eng] 47-1590
Bioclimatology of frost. Kalma, J.D., et al, [1992, 144p., eng] 47-1794
Nitrogen storage in an alpine herb. Jaeger, C.H., et al, [1992, p.578-585, eng] 47-2711
Performance and phenology of alpine herbs along a snow-*melting gradient.* Kudo, G., [1992, p.297-304, eng] 47-3340
Ecological genetic variation in seed banks. McGraw, J.B., [1993, p.45-49, eng] 47-3427
Effect of snow-free duration on leaf life-span of four alpine plant species. Kudo, G., [1992, p.1684-1688, eng] 47-3826
Dendrochimatological analysis of tree growth patterns. Osawa, A., [1993, p.55-58, eng] 47-3975
Freezing tolerance of an arctic-subarctic cushion plant. Junttila, O., et al, [1993, p.423-426, eng] 47-4911
Glacier fluctuation relation to moraine cushion plant variation. Frenot, Y., et al, [1993, p.140-144, eng] 47-5269
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Summertime photochemistry of the troposphere at high northern latitudes. Jacob, D.J., et al, [1992, p.16,421-16,431, eng] 47-1446
Deposition of ozone to tundra. Jacob, D.J., et al, [1992, p.16,473-16,477, eng] 47-1449
Summertime tropospheric composition over Alaska. Sandholm, S.T., et al, [1992, p.16,481-16,509, eng] 47-1450
Detection of radical pairs in glassy systems. Harrison, N., et al, [1993, p.59-61, eng] 47-2110
Spring measurements of tropospheric bromine at Barrow, Alaska. Sturges, W.T., et al, [1993, p.201-204, eng] 47-2858
Chemical components of snow from Queen Maud Land. Kamiyama, K., et al, [1992, p.88-98, eng] 47-3009
HNO3 variations in volcanic layers of polar ice. Laj, P., et al, [1993, p.219-230, eng] 47-3463
Atmospheric NO3. 4. Vertical profiles at middle and polar latitudes at sunrise. Smith, J.P., et al, [1993, p.8983-8989, eng] 47-4383
Photogrammetric surveys
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Satellite radiometric mapping of glacier surfaces. Parrot, J.F., et al, [1992, p.425-440, eng] 47-2661
Mass balance variations of an alpine glacier. Giada, M., et al, [1991, p.221-227, ita] 47-3170
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Determination of glacier speed by time-lapse photography under unfavorable conditions. Harrison, W.D., et al, [1992, p.257-265, eng] 47-466
Measurement, analysis, and modeling of deformation of the shelf flow, Byrd Glacier. Zhao, Z.H.M., [1990, 108p., eng] 47-486
Measurement of glacier velocity using satellite image data. Scambos, T.A., et al, [1992, p.177-186, eng] 47-2555
Satellite remote sensing of subalpine forest types. Franklin, S.E., [1992, p.25-35, eng] 47-4827
Photographic equipment
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Enhancement of microwave images of sea ice. Full, W.E., et al, [1993, p.1-23, eng] 47-3917
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Terminus of Hubbard Glacier, Alaska. Krimmel, R.M., et al, [1992, p.151-157, eng] 47-1103
Measuring the point spread function of sea ice *in situ.* Voss, J.M., et al, [1992, p.517-526, eng] 47-3735
TV-video observations of bed and basal sliding on Storglaciären, Sweden. Pohjola, V.A., [1993, p.111-118, eng] 47-3945
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Avalanche videos. Dennis, A., [1992, p.53-54, eng] 47-1086
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Photointerpretation
Glacier recession in Iceland and Austria. Hall, D.K., et al, [1992, p.10-13, eng] 47-178
Possibilities of snow cover estimation using satellite imageries. Joshi, M.D., et al, [1985, p.120-124, eng] 47-530
Approach to slope and subsurface studies in avalanche prone area by air photos. Pathak, R.C., et al, [1985, p.204-211, eng] 47-539
Avalanche dating and avalanche accident feed-back. Rao, N.M., [1985, p.212-225, eng] 47-540
Terminus of Hubbard Glacier, Alaska. Krimmel, R.M., et al, [1992, p.151-157, eng] 47-1103
Registration of vehicular tracks on the Svalbard archipelago. Raheim, E., [1992, 51p., eng] 47-1890
Quaternary landforms on Spitsbergen. Lindner, L., et al, [1992, p.91-101, eng] 47-4649
See also: Geobotanical interpretation
Photometric analysis
See also: Photometry
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Optics on a fractal surface and the photometry of the regoliths. Drossart, P., [1993, p.381-393, eng] 47-4994
Photosynthesis
Seasonal changes in the sea ice brine community, McMurdo Sound. Stoecker, D.K., et al, [1992, p.265-278, eng] 47-520

Relationship between frost tolerance and sugar concentration of various bryophytes in summer and winter. Rütten, D., et al. [1992, p.260-265, eng] 47-774

Effects of summer frosts and subsequent shade on foliage gas exchange in peatland tamarack and black spruce. Dang, Q.L., et al. [1992, p.973-979, eng] 47-1188

O2 and CO2 concentrations in the Weddell Sea in the spring of 1988. Bouquegneau, J.M., et al. [1992, p.163-170 eng] 47-1326

Microplankton respiration relationship with ice cover and ice edge. Martínez, R., et al. [1992, p.275-282, eng] 47-1332

Fluorescence and photosynthesis in phytoplankton from permanently ice-covered lakes. Lizotte, M.P., et al. [1991, p.226-228, eng] 47-2192

Plankton primary productivity in an arctic lake: 71.2 deg N—diurnal variations of productivity under the midnight sun. Berge, D., et al. [1988, 85p., nor] 47-2247

Lake ice radiation transmittance related to photosynthesis. Bolsenga, S.J., et al. [1992, p.95-104, eng] 47-2286

Salinity, temperature, and photophysiology of antarctic sea ice microalgae. Arrigo, K.R., et al. [1992, p.746-756, eng] 47-2594

Fluorescence and phytoplankton photosynthesis *in* Lake Bonney. Neale, P.J., et al. [1991, p.228-230, eng] 47-3053

Design of greenhouses for the manipulation of temperature in tundra plant communities. Debevec, E.M., et al. [1993, p.56-62, eng] 47-3429

C4 photosynthesis in alpine species of the Pamirs. Pyankov, V.I., et al. [1992, p.421-430, eng] 47-3472

Effect of snow-free duration on leaf life-span of four alpine plant species. Kudo, G., [1992, p.1684-1688, eng] 47-3826

CO2 concentration in a forest and photosynthesis. Koike, T., et al. [1993, p.69-74, eng] 47-3977

Angiosperm acclimation beneath lake ice. Spencer, W.E., et al. [1993, p.985-991, eng] 47-4169

Photosynthetic photon flux effect on *Larix* frost hardiness. Hansen, J.M., et al. [1993, p.204-212, eng] 47-4998

Platelet ice ecosystem in McMurdo Sound. Arrigo, K.R., et al. [1993, p.173-185, eng] 47-5200

Physical properties

Properties of no-fines concrete containing silica fume. Tamai, M., [1989, p.799-814, eng] 47-56

Properties of high-strength concrete with silica fume using *high-range water reducer* of slump retaining type. Mitsui, K., et al. [1989, p.79-97, eng] 47-62

Year-round accelerating admixture. Brook, J.W., et al. [1989, p.535-555, eng] 47-66

Low-temperature properties of desorbed raffinates and their hydrocarbon group components. Alekhina, N.I., et al. [1992, p.44-48, eng] 47-206

Observations of the snowcover on sea ice in the Gulf of Bothnia. Crocker, G.B., [1992, p.2433-2445, eng] 47-257

Densification and stability of a seasonal snow pack. Agrawal, K.C., et al. [1985, p.99-111, eng] 47-528

On some physical properties of snowpack. Puri, S.R., et al. [1985, p.133-143, eng] 47-532

Dynamics of arctic ice shelves and ice islands. Jeffries, M.O., [1992, p.245-267, eng] 47-827

Physical properties of suspended ice crystals with respect to optical effects. Hogan, A.W., [1990, p.123-132, eng] 47-912

Environment of the antarctic sea ice brine channels. Weissenberger, J., [1992, 159p., ger] 47-1598

Overview of sea ice physical properties and their variability. Richter-Menge, J.A., et al. [1992, p.486-497, eng] 47-1806

Reuse of converted asphalt in asphalt binders and asphalt deck layers—examination of long-term reactions. Charif, K., [1992, p.97-104, ger] 47-2002

Polymer-modified asphalts—international research results on possible modifications and properties Schneider, U., [1992, p.14-20, ger] 47-2003

Freeze-thaw durability of lightweight carbon fiber reinforced cement composites. Soroushian, P., et al. [1992, p.491-494, eng] 47-2548

Parametric analysis for thawing frozen spheroidal (prolate and oblate) or finitely cylindrical food. Sheen, S., et al. [1992, p.236-240, eng] 47-2606

Composition and properties of glacigenic sediments in the southwestern Barents Sea. Saettem, J., et al. [1991, p.229-255, eng] 47-3175

Engineering properties of rubberized concrete. Eldin, N.N., et al. [1992, p.912-923, eng] 47-3307

Frost resistance of high-strength concrete. Pigeon, M., et al. [1992, p.975-980, fre] 47-3342

Suspended sediment character and distribution in McBeth Fiord, Baffin Island. Winters, G.V. et al. [1992, p.25-35, eng] 47-3351

Freeze-thaw resistance of mortar-polymer admixtures. Atzeni, C., et al. [1993, p.301-308, eng] 47-3421

Fast-ice properties and structure in McMurdo Sound. Jeffries, M.O., et al. [1991, p.94-95, eng] 47-3516

Proceedings. [1993, 1681p. (2 vols.), eng] 47-3605

Deicer scaling resistance of concrete pavement aggregates. Marchand, J., et al. [1993, p.151-178, eng] 47-3606

Silica fume in concrete—an overview. Khayat, K.H., et al. [1993, p.835-872, eng] 47-3611

Silica fume composition influence on concrete properties. Batrakov, V.G., et al. [1993, p.943-963, eng] 47-3612

Wet-mix silica fume shotcrete: effect of silica fume form. Morgan, D.R., et al. [1993, p.1251-1271, eng] 47-3614

Spacing of icicles. Makkonen, L., et al. [1993, p.317-322, eng] 47-3934

Frost resistance of roller compacted concrete. Osipov, A.D., et al. [1993, p.400-404, eng] 47-4013

Mean spacing of air voids in hardened concrete. *Attiogbe, E.K., [1993, p.174-181, eng]* 47-4352

High-resolution radiometry of cirrus clouds. Ou, S.C., et al. [1993, p.2171-2180, eng] 47-4713

Optical characteristics of arctic-source bitumens. Goodarzi, F., et al. [1993, p.359-376, eng] 47-4829

Effects of road salt reduction on salting efficiency. Augustin, H., et al. [1983, p.21-78, ger] 47-5001

Bore-hole survey at dome GRIP 1991. Gundestrup, N.S., et al. [1993, p.399-402, eng] 47-5209

Distribution of icicles. Croft, P.J., et al. [1990, p.34, eng] 47-5258

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Physiological effects

Responses of antarctic diatoms to a simulated sea-ice formation environment. Gleitz, M., et al. [1992, p.271-278, eng] 47-1943

Energy cost of level cross-country skiing and the effect of the friction of the ski. Saibene, F., et al. [1989, p.791-795, eng] 47-2320

New wind-chill nomogram. Rees, W.G., [1993, p.229-234, eng] 47-4703

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Piers

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Experience with pile sinking *in plastic-frozen soils* by bored-driven and bored-drop methods. Vlokh, V.P., [1993, p.124-125, eng] 47-2061

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Field pile load tests in saline permafrost. 1. Test procedures and results. Biggar, K.W., et al. [1993, p.34-45, eng] 47-4162

Field pile load tests in saline permafrost. 2. Analysis of results. Biggar, K.W., et al. [1993, p.46-59, eng] 47-4163

Pile behavior in saline frozen soils. Biggar, K.W., et al. [1993, p.319-337, eng] 47-4514

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Pile structures

Ice loads on vertical bridge pier at two different model scales. Christensen, F.T., *et al.* [1992, p.93-110, *eng*] 47-585

Approximation of interference effects in dynamic ice-structure interactions. Abul-Azm, A.G., et al. [1992, p.299-309, eng] 47-1799

Determining the design values for the depth of seasonal thawing of permafrost for pile foundations. Tsurikov, A.S., et al. [1992, p.22-25, rus] 47-2901

Multifunctional combined foundations on permafrost soils. Nekliudov, V.S., et al. [1993, p.164-167, eng] 47-3576

Foundation improvement by artificial freezing. Spalding, A.V., et al. [1988, 6 col., *eng*] 47-3769

Computer-based simulation of the ice fracture near a *vertical pile.* Matskevitch, D.G., et al. [1992, p.123-128, eng] 47-4286

Ice action onto multilegged structures due to change of water level. Matskevitch, D.G., et al. [1992, p.222-227, eng] 47-4306

Frost-susceptible soils as foundations of structures. Orlov, V.O., et al. [1992, 166p., rus] 47-4977

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Performance of piles in thawing ground. Torgashev, V.V., et al, [1990, 96p., rus] 47-98

Calculating the mutual effect of piles on the magnitude of frost heave forces. Puskov, V.I., et al. [1991, p.83-92, *rus*] 47-191

Some aspects of the statistical evaluation of the mechanical properties of soil and foundations. Gerasimov, A.S., [1991, p.82-91, rus] 47-239

Protection of pyramidal piles and driven blocks from frost heaving. Zhukov, N.V., et al. [1993, p.104-109, *eng*] 47-2060

Laboratory and field performance of high alumina cement based grout for piling in permafrost. Biggar, K.W., et al. [1991, p.42/1-42/9, eng] 47-2228

Using cast-in-situ concrete for bored and cast-in-place piles in permafrost soils in the Noril'sk industrial region. Lukina, F.Kh., et al. [1991, p.18-19, rus] 47-2361

Will northern piles last. Mikhailov, N.V., et al. [1991, p.6-7, rus] 47-2478

Design of piles in permafrost under combined lateral and axial load: discussion and reply. *Budkowska, B.B., et* al. [1992, p.162-166, eng] 47-2642

Ice breaker. Hellmann, J.H., et al. [1989, 8 col., eng] 47-3325

Creep movements in soils at shallow depths and their effects on engineering structures. Eigenbrod, K.D., [1993, p.127-136, eng] 47-4131

Field pile load tests in saline permafrost. 1. Test procedures and results. Biggar, K.W., et al. [1993, p.34-45, eng] 47-4162

Creep response of laterally loaded piles in ice and permafrost. Puswewala, U.G.A., et al. [1993, p.223-240, eng] 47-4285

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Pipe flow

Characteristics of the freezing heat transfer of layered air-water flow in a circular tube. Fukusako, S., et al. [1989, p.91-97, eng] 47-915

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Trans-Alaska Pipeline reroute meets schedule. Newcomer, E.S., et al. [1992, p.49-57, eng] 47-823

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Field-tested model for freeze protection of arctic multiphase pipelines. Eager, K., [1992, p.142-145, *eng*] 47-223

Frost heave and deformation of buried chilled pipelines. [1986, 71p., eng] 47-437

Thermogravitational convection of low temperature water in pipes with electric heating elements. Agapkin, V.M., et al. [1991, p.115-120, eng] 47-825

Freezable, flotable water lines?. Ainsworth, L., [1992, p.42-43, eng] 47-1884

Guard against freezing in water lines. Kenny, T.M., [1991, p.44-47, eng] 47-1996

Measures to prevent freezing of the Hakucho Bridge drain pipes. Yoneta, Y., et al. [1991, p.209-214, jpn] 47-2542

Freezing system plugs pipeline segments for repair. [1992, *p.64, eng*] 47-2637

Frost heave forces on buried pipelines subject to freeze thaw. [1992, 68p., eng] 47-3150

Ice plugs help in pipeline retrofit. [1993, p.67, eng] 47-3526

Freeze safe valve. Roper, B.G., [1988, 8 col., eng] 47-3633

Numerical modeling of heat transfer in irregular solidification of a liquid. Nikitenko, N.I., et al. [1993, p.519-528, *eng*] 47-3800

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Clamp for arctic pipeline support. Morton, A.W., [1988, 4 col., eng] 47-3414

Pipeline insulation

Pipeline insulation system. Patterson, M.M., [1987, 4 col., eng] 47-4004

Pipeline supports

Clamp for arctic pipeline support. Morton, A.W., [1988, 4 col., eng] 47-3414

Pipelines

Hydroelastic stability of marine risers. Rzentkowski, G., et al. [1991, p.31-41, eng] 47-1141

Arctic pipeline risk assessments. Weber, B.J., et al. [1992, p.15-20, eng] 47-1831

Of measured risks: the environmental impacts of the Prudhoe Bay, Alaska oil field. Maki, A.W., [1992, p.1691-1707, eng] 47-2604

Pipeline channel crossings in the Mackenzie Delta. Traynor, S., et al. [1992, 90p. + append., eng] 47-2620

Mathematical modelling of the thawing of permafrost beneath a pipeline. Semerikov, A.V., et al. [1992, p.23-24, *rus*] 47-2903

Site surveys of pipelines in the Far North. Kharionovskii, V.V., [1993, p.30-35, *rus*] 47-4083

Pipeline launching module. Hemphill, D.P., [1986, 4 col., eng] 47-4100

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Galloping instability of ice coated poles. Durgin, F.H., et al. [1992, p.675-686, eng] 47-1193

Pipes (tubes) *(cont.)*

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API X65 grade normalized and tempered seamless tubes with improved low temperature toughness. Cumino, G., et al. [1992, p.134-141, eng] **47-1837**

Dependence of post-stable fluidelastic behavior on the degrees-of-freedom of a tube bundle. Lever, J.H., et al. [1992, p.167-187, eng] **47-1913**

Characteristics of heat pump system operating with frost formation. Aoki, K., et al. [1991, p.391-396, eng] **47-2566**

In-slab hydronic heating systems warm rooms indoors, melt snow and ice outdoors. Smith, A., [1990, p.851-856, eng] **47-2715**

Estimation of casings strength properties. Medvedskii, R.I., et al. [1992, p.68-69, eng] **47-3265**

Snow removal device for vehicle. Motohashi, Y., [1989, 12 col., eng] **47-3324**

Water freezing enhancement for thermal storage brine tube. Holowczenko, A., et al. [1988, 6 col., eng] **47-3641**

Trustworthy simplified vacuum systems. Henry, R.D., [1987, 6 col., eng] **47-3850**

Cargo container lift device. Hatley, J.F., [1987, 6 col., eng] **47-3852**

Swirl anti-ice system. Rosenthal, H.A., [1987, 6 col., eng] **47-3853**

Immersed tube heat transfer in a melting ice bed. Fukusako, S., et al. [1993, p.353-359, eng] **47-4064**

Influence of filling charge, evaporator length and condenser length on the performance of a right-angled thermosyphon. Lock, G.S.H., et al. [1993, p.207-211, eng] **47-4248**

Influence of evaporator and condenser inclination on the performance of a right-angled thermosyphon. Lock, G.S.H., et al. [1993, p.213-217, eng] **47-4249**

Heat transfer from a cylinder buried in a frozen medium. Oosthuizen, P.H., et al. [1992, p.457-475, eng] **47-5264**

See also: Heat pipes; Water pipes

Piston corers

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Pit and mound topography

Submersible observations of an iceberg pit and scour on the Grand Banks of Newfoundland. Barrie, J.V., et al. [1992, p.1-6, eng] **47-446**

Central pit and dome craters: exposing the interiors of Ganymede and Callisto. Schenk, P.M., [1993, p.7475-7498, eng] **47-3839**

Pits (excavations)

Temperate firn constitutive equation derived from strain rates. Ambach, W., et al. [1993, p.295-303, eng] **47-3932**

Place names

See also: Gazetteers

Placer mining

Cryogenic structure and properties of technogenic soils of placer mines in Northern Yakutia. Samylin, I.A., et al. [1991, p.76-87, rus] **47-401**

Water quality and placer mining in interior Alaska, 1992. Ray, S.R., [1993, 83p., eng] **47-4763**

Water quality and placer mining in interior Alaska, 1991. Ray, S.R., [1992, 73p., eng] **47-4770**

Heavy mineral analysis from Alaska placer mines. Wood, J.E., [1992, 7p., eng] **47-4771**

Plains

Periglacial and eolian processes in southern France. Ambert, P., et al. [1992, p.55-71, fre] **47-778**

Prairie Blowing Snow Model: characteristics, validation, operation. Pomeroy, J.W., et al. [1993, p.165-192, eng] **47-3801**

Hydrology of a prairie slough. Woo, M.K., et al. [1993, p.175-207, eng] **47-4170**

See also: Floodplains

Planetary environments

Coupled subsurface-boundary layer model of water on Mars. Zent, A.P., et al. [1993, p.3319-3337, eng] **47-2670**

Martian permafrost. Costard, F., [1993, p.91-100, eng] **47-3835**

Surface ices and the atmospheric composition of Pluto. Owen, T.C., et al. [1993, p.745-748, eng] **47-5129**

See also: Mars (planet); Venus (planet)

Plankton

Theoretical approaches to the study of ecosystems in the arctic and subarctic seas. Matishov, G.G., ed. [1992, 162p., rus] **47-182**

Radiolarian fauna at the ice edge in the Greenland Sea during summer, 1988. Swanberg, N.R., et al. [1992, p.297-320, eng] **47-199**

Sea ice diatoms and ice edge planktonic diatoms in the Weddell Sea. Ligowski, R., et al. [1992, p.9-20, eng] **47-442**

1991 cruise report of ARKTIS VIII/2. Rachor, E., ed. [1992, 150p., eng] **47-1218**

Expedition ARKTIS VIII/1 of RV *Polarstern* in 1991. Kattner, G., ed. [1992, 75p., ger] **47-1221**

Distribution of dominant copepods in the Nansen Basin, Arctic Ocean, in summer. Hirche, H.J., et al. [1992, p.S485-S505, eng] **47-1275**

Recent distribution of planktonic foraminifera in the Nansen Basin, Arctic Ocean. Carstens, J., et al. [1992, p.S507-S524, eng] **47-1276**

Diatom assemblages in arctic sea ice: indicator for ice drift pathways. Abelmann, A., [1992, p.S525-S538, eng] **47-1277**

Vertical stability of surface waters and phytoplankton bloom in Weddell Sea marginal ice zone. Veth, C., et al. [1992, p.237-243, eng] **47-1329**

Microplankton respiration relationship with ice cover and ice edge. Martinez, R., et al. [1992, p.275-282, eng] **47-1332**

Biogeochemistry and zoogeography of lakes and rivers in arctic Alaska. Kling, G.W., et al. [1992, p.1-14, eng] **47-1599**

Responses of antarctic diatoms to a simulated sea-ice formation environment. Gleitz, M., et al. [1992, p.271-278, eng] **47-1943**

Seasonal changes of antarctic marine bacterioplankton. Delille, D., et al. [1991, p.213-218, eng] **47-2070**

Plankton primary productivity in an arctic lake: 71.2 deg N—diurnal variations of productivity under the midnight sun. Berge, D., et al. [1988, 85p., nor] **47-2247**

Plankton ecology in an ice-covered lake. Vanderploeg, H.A., et al. [1992, p.175-183, eng] **47-2287**

Southern ocean phytoplankton pigment concentrations. Comiso, J.C., et al. [1993, p.2419-2451, eng] **47-2625**

Environment and phytoplankton at the Scotia Sea ice edge. Lipski, M., [1991, p.507-513, eng] **47-3088**

Microflagellates and diatoms at the Scotia Sea and Weddell Sea confluence. Kopczynska, E., [1991, p.515-528, eng] **47-3089**

Distribution of phytoplankton at the ice edge in the Scotia/Weddell confluence. Ligowski, R., et al. [1991, p.529-546, eng] **47-3090**

Macrozooplankton near the ice edge in the Scotia/Weddell Confluence. Siciński, J., et al. [1991, p.565-582, eng] **47-3092**

Krill abundance and distribution in the Scotia/Weddell Confluence. Godlewska, M., et al. [1991, p.593-603, eng] **47-3094**

Ichthyoplankton near the ice edge in the Scotia/Weddell confluence. Skóra, K.E., [1991, p.605-611, eng] **47-3095**

Remote sensing of phytoplankton chlorophyll concentrations. Yoder, J.A., et al. [1993, p.181-193, eng] **47-3462**

Scotia Sea zooplankton ecology in winter. Hopkins, T.L., et al. [1993, p.81-105, eng] **47-3604**

Winter plankton assemblages at the Weddell and Scotia Seas ice edge. Garrison, D.L., et al. [1993, p.311-338, eng] **47-3628**

Seasonal variations in dissolved inorganic nitrogen utilization in a subarctic Alaskan lake. Gu, B.H., et al. [1993, p.273-288, eng] **47-3647**

Results of the Third Joint US-USSR Bering & Chukchi Seas Expedition (BERPAC), Summer 1988. Nagel, P.A., ed. [1988, 415p., eng] **47-3864**

Nitrogen uptake and new production in the Greenland Sea: the spring *Phaeocystis* bloom. Smith, W.O., Jr., [1993, p.4681-4688, eng] **47-4390**

Silica cycle in the Weddell Sea. Leynaert, A., et al. [1993, p.1-15, eng] **47-4574**

Ecological situation and protection of flora and fauna of the Barents Sea. Matishov, G.G., ed. [1991, 211p., rus] **47-4660**

Phytoplankton in the Weddell Sea marginal ice zone. Kang, S.H., et al. [1993, p.335-348, eng] **47-4722**

Discovery of a new sea ice diatom genus. Poulin, M., [1993, p.223-233, eng] **47-4735**

Bomb radiocarbon in arctic Alaskan aquatic and terrestrial biota. Schell, D.M., [1993, p.135-144, eng] **47-5026**

Plant ecology

Cost of tundra plant structures: evaluation of concepts and currencies. Chapin, F.S., III, [1989, p.1-19, eng] **47-20**

Rhizobia from legumes in the Canadian Arctic. Prévost, D., et al. [1987, p.313-324, eng] **47-253**

Plant reproductive ecology and community structure along a subalpine snowmelt gradient. Ingersoll, C.A., [1991, 184p., eng] **47-296**

Growth forms of a tundra grass of northern Alaska. Dobson, J.L., [1991, 73p., eng] **47-312**

Soil denitrification rates in a subalpine watershed of the eastern Sierra Nevada. Walker, R.F., et al. [1992, p.217-231, eng] **47-510**

Nutrient cycle in high-meadow alpine soils. Stepanov, A.L., et al. [1989, p.55-57, eng] **47-745**

Seed entrapment in alpine ecosystems: effects of soil particle size and diaspore morphology. Chambers, J.C., et al. [1991, p.1668-1677, eng] **47-767**

Postfire shift from lichen-spruce to lichen-tundra vegetation at tree line. Arseneault, D., et al. [1992, p.1067-1081, eng] **47-773**

Seasonal changes in the nutrient cycle of woody plants at the timberline. Sakio, H., et al. [1992, p.47-52, eng] **47-794**

Ecology of recently-deglaciated terrain. Matthews, J.A., [1992, 386p., eng] **47-1066**

Climate change and its effects on Canadian arctic plant communities. Edlund, S.A., [1992, p.121-137, eng] **47-1432**

Root mechanical properties related to disturbed and stressed habitats in the Arctic. Jonasson, S., et al. [1992, p.179-186, eng] **47-1557**

Reproductive ecology of *Saxifraga oppositifolia*: phenology, mating system, and reproductive success. Stenstrom, M., et al. [1992, p.337-343, eng] **47-1590**

Phytomass and primary productivity in several communities of a central Himalayan alpine meadow, India. Rikhari, H.C., et al. [1992, p.344-351, eng] **47-1591**

Energy balance of dry tundra in West Greenland. Rott, H., et al. [1992, p.352-362, eng] **47-1592**

Zonation of flora and vegetation of the northern declivity of the Karakoram/Kunlun Mountains (SW Xinjiang China). Dickoré, W.B., [1991, p.265-284, eng] **47-1613**

Estimating effects of snow on shrub availability for black-tailed deer in southwestern British Columbia. Hovey, F.W., et al. [1992, p.308-313, eng] **47-1760**

Bioclimatology of frost. Kalma, J.D., et al. [1992, 144p., eng] **47-1794**

Hydrobiological studies in the Arctic: the structure of bottom communities. Vozzhinskaia, V.B., et al. [1992, p.1332-1335, rus] **47-2039**

Long-term response of an arctic sedge to climate change: a simulation study. Leadley, P.W., et al. [1992, p.323-340, eng] **47-2288**

Problems in identifying the tundra type of vegetation. IUrtsev, B.A., [1991, p.30-41, rus] **47-2356**

Phytocatena in the vegetation cover of mountain territories. Kholod, S.S., [1991, p.42-51, rus] **47-2357**

Analysis of the composition of cryophyte steppe communities. Slinchenkova, E.IU., [1991, p.52-67, rus] **47-2358**

CO2-gas exchange and annual production in plant communities of the Khibiny mountain tundra. Politova, N.IU., [1991, p.217-225, rus] **47-2359**

Nitrogen storage in an alpine herb. Jaeger, C.H., et al. [1992, p.578-585, eng] **47-2711**

Dynamics of plant communities related to global changes of climate. Puzachenko, IU.G., [1992, p.481-487, eng] **47-2733**

Performance and phenology of alpine herbs along a snow-melting gradient. Kudo, G., [1992, p.297-304, eng] **47-3340**

Response of subarctic forest tundra to climatic factors. Timoney, K.P., et al. [1992, p.1-9, eng] **47-3348**

Shoreline shrub development in relation to isostatic rebound. von Mörs, I., et al. [1993, p.15-23, eng] **47-3423**

Ecological genetic variation in seed banks. McGraw, J.B., [1993, p.45-49, eng] **47-3427**

Modeling of tussock phosphatase activity. Moorhead, D.L., et al. [1993, p.50-55, eng] **47-3428**

Design of greenhouses for the manipulation of temperature in tundra plant communities. Debevec, E.M., et al. [1993, p.56-62, eng] **47-3429**

Tree-ring dating of moraines. McCarthy, D.P., et al. [1993, p.63-68, eng] **47-3430**

C4 photosynthesis in alpine species of the Pamirs. Pyankov, V.I., et al. [1992, p.421-430, eng] **47-3472**

Climate of Finland in relation to its hydrology, ecology and culture. Solantie, R., [1990, 130p., eng] **47-3540**

American arctic lichens. 1. The macrolichens. Thomson, J.W., [1984, 504p., eng] **47-3671**

Vegetation of stressed calcareous screes and slopes on Sverdrup Pass, Ellesmere Island, Canada. Maycock, P.F., et al. [1992, p.2359-2377, eng] **47-3837**

Anthropogenic tundra disturbance and patterns of response in the eastern Canadian Arctic. Forbes, B.C., [1993, 333p. + append., eng] **47-3914**

Analysis of spermatophytes flora of Sakha SSR (Yakutskaya), eastern Siberia. Takahashi, H., [1993, p.82-86, eng] **47-3978**

Effect of latitude on leaf size and lifespan. Kudo, G., [1993, p.87-94, eng] **47-3979**

Plant colonization in a polar oceanic environment. Andre, M.F., [1992, p.329-347, eng] **47-4077**

Ecological analysis of pigment content in the leaves of mountain-tundra dwarf shrubs. Korniushenko, G.A., et al. [1992, p.55-77, rus] **47-4093**

"Panarctic Flora and Fauna" Workshop (Moscow, 25 Feb.-1 Mar.; Leningrad, 4-6 Mar. 1991). IUrtsev, B.A., [1992, p.140-144, rus] **47-4094**

2000-year lichen-snowkill chronology for the Colorado Front Range, USA. Benedict, J.B., [1993, p.27-33, eng] **47-4144**

Structural and ice effects on salt water marsh hydrology. Ballestero, T.P., et al. [1993, p.150-155, eng] **47-4451**

Zonality of macrolichens in British Columbia. Goward, T., et al. [1992, 60p., eng] **47-4516**

Forest development in cold climates. Alden, J., ed. [1993, 566p., eng] **47-4525**

Socioeconomic importance of forests in Iceland. Blondal, S., [1993, p.1-13, eng] **47-4526**

Molecular bases for adaptation of coniferous trees to cold climates. Durzan, D.J., [1993, p.15-42, eng] **47-4527**

Growth and development of northern forest trees as affected by temperature and light. Junttila, O., et al. [1993, p.43-57, eng] **47-4528**

Winter desiccation resistance selection at timberlines. Larsen, J.B., [1993, p.59-64, eng] 47-4529

Growth of mountain birch (*Betula pubescens* Ehrh.) in response to changing temperature. Skre, O., [1993, p.65-78, eng] 47-4530

Mountain birch and afforestation in Sweden and Iceland. Sveinbjörnsson, B., et al, [1993, p.79-88, eng] 47-4531

Causes of alpine timberline: a review of the hypotheses. Wardle, P., [1993, p.89-103, eng] 47-4532

Physiology of trees at treeline. Grace, J., et al, [1993, p.105-114, eng] 47-4533

Treeline in relation to climate, with special reference to oceanic areas. Tuhkanen, S., [1993, p.115-134, eng] 47-4534

Pliocene fossil *Nothofagus* (southern beech) from Antarctica. Webb, P.N., et al, [1993, p.135-165, eng] 47-4535

Predicting afforestation success during climatic warming at the northern limit of forests. Solomon, A.M., et al, [1993, p.167-188, eng] 47-4536

Climate change as seen by trees and by climate modelers. Bowling, S.A., [1993, p.189-202, eng] 47-4537

Effects of wind on boreal forests. Robertson, A., [1993, p.203-225, eng] 47-4538

Biometeorological monitoring at forest sites. Thorgeirsson, H., et al, [1993, p.227-239, eng] 47-4539

Genetic diversity of tree populations at their arctic limits. Tigerstedt, P.M.A., [1993, p.241-250, eng] 47-4540

Potential species and provenances for forest development in cold climates. Hagman, M., [1993, p.251-263, eng] 47-4541

Species and provenance choice at northern tree limits in maritime climates. Lines, R., [1993, p.265-276, eng] 47-4542

Seed collections from North American trees for marginal sites in the Nordic countries. Skaret, G., et al, [1993, p.277-291, eng] 47-4543

Accelerating adaptation of trees at tree limits by selective breeding. Lindgren, D., [1993, p.299-320, eng] 47-4545

Selection and breeding of Scots pine for northern Sweden. Nilsson, J.E., [1993, p.321-332, eng] 47-4546

Provenance and individual variation in climatic hardiness of Scots pine in northern Finland. Mikola, J., [1993, p.333-342, eng] 47-4547

Hybridization among provenances of lodgepole pine. Fries, A., [1993, p.343-356, eng] 47-4548

Icelandic birch genetics and reforestation. Anamthawat-Jónsson, K., et al, [1993, p.357-368, eng] 47-4549

Chloroplast DNA diversity, phylogenetics, and hybridization in *Picea*. Sigurgeirsson, A., et al, [1993, p.369-382, eng] 47-4550

Genetic variation in early frost tolerance of spruce from northwestern North America. Dietrichson, J., [1993, p.383-391, eng] 47-4551

History of tree planting on the Aleutian Islands. Bruce, D., [1993, p.393-426, eng] 47-4552

Afforestation of spruce in the Vesteraalen Islands, Norway. Kaasen, N.O., et al, [1993, p.427-436, eng] 47-4553

Forest and arboretum development in Norway. Slettjord, S., [1993, p.437-451, eng] 47-4554

Forest development in Iceland. Loftsson, J., [1993, p.453-461, eng] 47-4555

Potential tree line in the Faroe Islands. Leivsson, T.G., [1993, p.463-474, eng] 47-4556

Forest trials at high elevations in Britain. Nixon, C.J., et al, [1993, p.475-489, eng] 47-4557

Wind and wave forests: a case study and implications for silviculture. Robertson, A., [1993, p.491-510, eng] 47-4558

Alpine timberline of Tibet. Li, B.S., [1993, p.511-527, eng] 47-4559

Forestry in New Zealand's southern high country. Ledgard, N.J., [1993, p.529-548, eng] 47-4560

Seed and vegetation dynamics in an alpine herb field: effects of disturbance type. Chambers, J.C., [1993, p.471-485, eng] 47-4584

Occurrence of algae on tundra soils in Oscar II Land, Spitsbergen. Oleksowicz, A.S., et al, [1992, p.131-147, eng] 47-4652

Spatial heterogeneity of high mountain vegetation in the Andean desert zone of Chile. Squeo, F.A., et al, [1993, p.203-209, eng] 47-4712

Plant competition over winter in alpine shrubland and grassland, Snowy Mountains, Australia. Egerton, J.J.G., et al, [1993, p.124-129, eng] 47-4745

Response of shrub-tussock community to vehicle use. Ahlstrand, G.M., et al, [1993, p.142-149, eng] 47-4746

Cryogenesis in the soil-plant cover in the floodplains of Mongolia. Maksimovich, S.V., et al, [1991, p.34-37, rus] 47-4806

Development of a new de-icing agent. Washüttl, J., et al, [1985, 34p., ger] 47-5009

Glacier fluctuation relation to moraine cushion plant variation. Frenot, Y., et al, [1993, p.140-144, eng] 47-5269

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Cost of tundra plant structures: evaluation of concepts and currencies. Chapin, F.S., III, [1989, p.1-19, eng] 47-20

Cold acclimation in sibling deciduous and evergreen peach trees. Arora, R., et al, [1992, p.1562-1568, eng] 47-231

Relationship between frost tolerance and sugar concentration of various bryophytes in summer and winter. Rütten, D., et al, [1992, p.260-265, eng] 47-774

Collapse of peroxide-scavenging systems in apple flower-buds associated with freezing injury. Kuroda, H., et al, [1992, p.743-750, eng] 47-1000

Effects of summer frosts and subsequent shade on foliage gas exchange in peatland tamarack and black spruce. Dang, Q.L., et al, [1992, p.973-979, eng] 47-1188

Protection of membrane integrity in Medicago sativa L. by glycinebetaine against the effects of freezing. Zhao, Y., et al, [1992, p.541-543, eng] 47-1264

Relation of acclimating bud water to winter hardiness. Vertucci, C.W., et al, [1992, p.503-511, eng] 47-1950

Effect of acid mist on spruce frost resistance. Eamus, D., et al, [1993, p.135-142, eng] 47-2017

Expression of a bacterial ice nucleation gene in plants. Baertlein, D.A., et al, [1992, p.1730-1736, eng] 47-2249

Formation of cryoresistance and hardiness of plants to low temperatures. Manuil'skii, V.D., [1992, 185p., rus] 47-2282

CO2-gas exchange and annual production in plant communities of the Khibiny mountain tundra. Politova, N.IU., [1991, p.217-225, rus] 47-2359

On the new and rare in the West Siberian arctic species of the genus *Carex (Cyperaceae).* Rebristaia, O.V., [1991, p.1772-1775, rus] 47-2571

Study of the morphological variability of *Poa argunensis (Poaceae).* Olonova, M.V., [1992, p.76-85, rus] 47-2572

Dust-accumulative capacity of pine and birch phytocenosis in forest-steppe regions in Siberia. Skripal'shchikova, L.N., [1992, p.39-43, rus] 47-3272

Significance of stomatal control on methane release from *Carex*-dominated wetlands. Morrissey, L.A., et al, [1993, p.339-355, eng] 47-3435

Environmental and biotic controls over methane flux from *arctic tundra. Torn, M.S., et al,* [1993, p.357-368, eng] 47-3436

C4 photosynthesis in alpine species of the Pamirs. P'iankov, V.I., et al, [1992, p.421-430, eng] 47-3472

CO2 concentration in a forest and photosynthesis. Koike, T., et al, [1993, p.69-74, eng] 47-3977

Effect of latitude on leaf size and lifespan. Kudo, G., [1993, p.87-94, eng] 47-3979

Biochemical indicators of gold deposits in permafrost. Taisaev, T.T., et al, [1993, p.215-220, eng] 47-4059

Ecological analysis of pigment content in the leaves of *mountain-tundra* dwarf shrubs. Korniushenko, G.A., et al, [1992, p.55-77, rus] 47-4093

Angiosperm acclimation beneath lake ice. Spencer, W.E., *et al,* [1993, p.985-991, *eng*] 47-4169

Fertilizer placement for conventional and no-tillage barley in the subarctic. Cochran, V.L., et al, [1992, p.1973-1978, eng] 47-4356

Time- and temperature-dependent solute loading of isolated thylakoids during freezing. Bakaltcheva, I., et al, [1992, p.607-615, eng] 47-4370

Molecular bases for adaptation of coniferous trees to cold climates. Durzan, D.J., [1993, p.15-42, eng] 47-4527

Growth and development of northern forest trees as affected by temperature and light. Junttila, O., et al, [1993, p.43-57, eng] 47-4528

Winter desiccation resistance selection at timberlines. Larsen, J.B., [1993, p.59-64, eng] 47-4529

Growth of mountain birch (Betula pubescens Ehrh.) in response to changing temperature. Skre, O., [1993, p.65-78, eng] 47-4530

Physiology of trees at treeline. Grace, J., et al, [1993, p.105-114, eng] 47-4533

Inverse relation between frost survival and atmospheric pressure. Halloy, S., et al, [1993, p.117-123, eng] 47-4744

Photosynthetic photon flux effect on *Larix* frost hardiness. Hansen, J.M., et al, [1993, p.204-212, eng] 47-4998

Plant tissues

Cold acclimation in sibling deciduous and evergreen peach trees. Arora, R., et al, [1992, p.1562-1568, eng] 47-231

Seasonal changes in the nutrient cycle of woody plants at the timberline. Sakio, H., et al, [1992, p.47-52, eng] 47-794

Cell shape and localisation of ice in leaves of overwintering wheat during *frost stress in the field.* Pearce, R.S., et al, [1992, p.324-331, eng] 47-795

Bubble-formation damage to plant xylem due to freeze thaw cycling. Sperry, J.S., et al, [1992, p.605-613, eng] 47-903

Collapse of peroxide-scavenging systems in apple flower-buds associated with freezing injury. Kuroda, H., et al, [1992, p.743-750, eng] 47-1000

Root cold hardiness and native distribution of subalpine conifers. Coleman, M.D., et al, [1992, p.932-938, eng] 47-1187

Protection of membrane integrity in *Medicago sativa* L. by glycinebetaine against the effects of freezing. Zhao, Y., et al, [1992, p.541-543, eng] 47-1264

Anomalous 11-year deltaC-14 cycle at high latitudes? Damon, P.E., et al, [1992, p.235-238, eng] 47-1479

Relation of acclimating bud water to winter hardiness. Vertucci, C.W., et al, [1992, p.503-511, eng] 47-1950

Expression of a bacterial ice nucleation gene in plants. Baertlein, D.A., et al, [1992, p.1730-1736, eng] 47-2249

Formation of cryoresistance and hardiness of plants to low temperatures. Manuil'skii, V.D., [1992, 185p., rus] 47-2282

Frost hardiness of dormant *Salix* shoots. von Fircks, H.A., [1992, p.317-323, *eng*] 47-2296

Protective modification of freeze stress in plant tissue. Olien, R., [1992, p.255-260, eng] 47-2885

C4 photosynthesis in alpine species of the Pamirs. P'iankov, V.I., et al, [1992, p.421-430, eng] 47-3472

Thermal analysis of freezing of conifer seedling buds. Stushnoff, C., et al, [1992, p.1305-1309, eng] 47-3841

Frost, canker, and dieback of Douglas-fir in the central interior of British Columbia. Reich, R.W., et al, [1993, p.373-379, eng] 47-3843

Cultivation practice influence on conifer seedling frost tolerance. Calmé, S., et al, [1993, *p.503-511, eng*] 47-3844

Effects of deicing salt on roadside Scots pine foliage. Hautala, E.L., et al, [1992, p.179-185, eng] 47-3995

Ecological analysis of pigment content in the leaves of mountain-tundra dwarf shrubs. Korniushenko, G.A., et al, [1992, p.55-77, rus] 47-4093

Shading effects on spruce frost damage. Örlander, G., [1993, p.27-36, eng] 47-4296

Time- and temperature-dependent solute loading of isolated thylakoids during freezing. Bakaltcheva, I., et al, [1992, p.607-615, eng] 47-4370

Molecular bases for adaptation of coniferous trees to cold *climates.* Durzan, D.J., [1993, p.15-42, *eng*] 47-4527

Icelandic birch genetics and reforestation. Anamthawat-Jónsson, K., et al, [1993, p.357-368, eng] 47-4549

Chloroplast DNA diversity, phylogenetics, and hybridization in *Picea*. Sigurgeirsson, A., et al, [1993, p.369-382, eng] 47-4550

Freezing tolerance of an arctic/subarctic cushion plant. Junttila, O., et al, [1993, p.423-426, eng] 47-4911

Plants (botany)

Seasonal changes in the nutrient cycle of woody plants at *the timberline.* Sakio, H., et al, [1992, p.47-52, eng] 47-794

Root *mechanical* properties related to disturbed and stressed habitats in the Arctic. Jonasson, S., et al, [1992, p.179-186, eng] 47-1557

Phytomass and primary productivity in several communities of a central Himalayan alpine meadow, India. Rikhari, H.C., et al, [1992, p.344-351, eng] 47-1591

Zonation of flora and vegetation of the northern declivity of the Karakoram/Kunlun Mountains (SW Xinjiang China). Dickoré, W.B., [1991, p.265-284, eng] 47-1613

Influence of cryoconservation on amino acids composition of archeoseeds in permafrost. Stakhov, L.F., et al, [1992, p.259-262, eng] 47-1741

Estimating effects of snow on shrub availability for black-tailed deer in southwestern British Columbia. Hovey, F.W., et al, [1992, p.308-313, eng] 47-1760

Bioclimatology of frost. Kalma, J.D., et al, [1992, 144p., eng] 47-1794

Formation of cryoresistance and hardiness of plants to low temperatures. Manuil'skii, V.D., [1992, 185p., rus] 47-2282

Problems in identifying the tundra type of vegetation. IUrtsev, B.A., [1991, p.30-41, rus] 47-2356

Analysis of the composition of cryophyte steppe communities. Slinchenkova, E.IU., [1991, p.52-67, rus] 47-2358

On the new and rare in the West Siberian arctic species of the genus *Carex (Cyperaceae).* Rebristaia, O.V., [1991, p.1772-1775, rus] 47-2571

Study of the morphological variability of *Poa argunensis (Poaceae).* Olonova, M.V., [1992, p.76-85, rus] 47-2572

Effect of snow-free duration on leaf life-span of four alpine plant species. Kudo, G., [1992, p.1684-1688, eng] 47-3826

Effects of deicing salt on roadside Scots pine foliage. Hautala, E.L., et al, [1992, p.179-185, eng] 47-3995

Ecological analysis of pigment content in the leaves of mountain-tundra dwarf shrubs. Korniushenko, G.A., et al, [1992, p.55-77, rus] 47-4093

"Panarctic Flora and Fauna" Workshop (Moscow, 25 Feb.-1 Mar.; Leningrad, 4-6 Mar. 1991). IUrtsev, B.A., [1992, p.140-144, rus] 47-4094

Zonality of macrolichens in British Columbia. Goward, T., et al, [1992, 60p., eng] 47-4516

Grass plants in Yakutia. Petrova, A.N., [1990, 125p., rus] 47-4654

Plants (botany) *(cont.)*
Ecological situation and protection of flora and fauna of the Barents Sea. Matishov, G.G., ed. [1991, 211p., rus] 47-4660
Taxonomic revision of a herb distribution in arctic landscapes. Bayer, R.J., [1993, p.150-159, eng] 47-4747
Cryology of soils; collected scientific papers. Gilichinskii, D.A., ed, [1991, 131p., rus] 47-4801
Cryogenesis in the soil-plant cover in the floodplains of Mongolia. Maksimovich, S.V., et al, [1991, p.34-37, rus] 47-4806
Microflora of soils in the Arctic and its activity. Parinkina, O.M., [1991, p.87-91, rus] 47-4815
Mineral feeding of plants—to increase bioproductivity and protect frozen soils. Gershevich, E.G., et al, [1991, p.115-120, rus] 47-4820
Freezing tolerance of an arctic/subarctic cushion plant. Junttila, O., et al, [1993, p.423-426, eng] 47-4911
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Plants (industries)
See also: Industrial buildings

Plastic coatings
See also: Protective coatings

Plastic deformation
Analysis of energy dissipation caused by snow compaction during displacement plowing. Hansen, A.C., [1991, p.177-181, eng] 47-1800
Effects of electric fields on ice deformation. Petrenko, V.F., et al, [1993, p.173-185, eng] 47-3174
Novel processes of dislocation multiplication observed in ice. Shearwood, C., et al, [1993, p.205-210, eng] 47-3777
Long-term deformation of freeze saline soils. Alifanova, A.A., [1992, p.74-79, eng] 47-3834

Plastic properties
Frost resistance of superplasticized air-entrained concrete. Siebel, E., [1989, p.297-319, eng] 47-63
Evaluation of superplasticizers in concrete. Mukherjee, P.K., [1989, p.625-644, eng] 47-67
See also: Ice plasticity; Snow plasticity

Plastics
Lamp mounting. Klaus, D.A., [1988, 6 col., eng] 47-3766
Thermal properties of a plastic at cryogenic temperatures. Humer, K., et al, [1993, p.686-691, eng] 47-4765
See also: Cellular plastics

Plastics snow friction
Studying the friction and adhesive properties of snow. Ermakov, K.K., et al, [1991, p.191-195, rus] 47-2812
Plastic moldboards for snow plows and the like. Ciula, J.C., [1989, 14 col., eng] 47-3111

Plates
Ice dam preventer. Daniel, G.S., [1988, 4 col., eng] 47-3497
Arctic structure of composite wall construction. Birdy, J.N., et al, [1987, 14 col., eng] 47-4007
Steel selection for arctic ships: effects of elevated loading rate on toughness. Tyson, W.R., et al, [1993, p.261-265, eng] 47-4830

Pleistocene
Problem of paleoglacioclimatic reconstruction of Pleistocene glaciations in Western Siberia. Sukhorukova, S.S., [1991, p.78-84, rus] 47-170
Multiple glaciations and sea level changes, northern Ellesmere Island, high arctic Canada. Lemmen, D.S., et al, [1992, p.137-152, eng] 47-225
Effect of glaciation on the paleoecological situation in northeastern USSR. Shishorina, Zh.G., [1991, p.190-195, rus] 47-342
Discovery of ice massifs in Late Pleistocene sediments in the Ural coast of Baydaratskaya Guba. Koniakhin, M.A., et al, [1991, p.227-228, rus] 47-345
Periglacial geomorphology. Boardman, J., [1992, p.339-345, eng] 47-425
Computerized simulation of Barents Sea glaciation. Isaksson, E., [1992, p.295-301, eng] 47-470
Advance and retreat of Cordilleran ice sheets in Washington, U.S.A. Easterbrook, D.J., [1992, p.51-68, eng] 47-828
Pleistocene montane glaciations in the Mackenzie Mountains, Northwest Territories. Duk-Rodkin, A., et al, [1992, p.69-83, eng] 47-829
Ground moraines in European northeastern Russia and their lithostratigraphic significance. Andreicheva, L.N., [1992, 124p., rus] 47-1499
Influence of glacier hydrology on the dynamics of a large Quaternary ice sheet. Arnold, N., et al, [1992, p.109-124, eng] 47-1559
Observations supporting the Pleistocene inland glaciation of High Asia. Kuhle, M., [1991, p.133-231, eng] 47-1608
Quaternary glaciation of the north slope of Karakorum Mountains. Xu, D.M., [1991, p.233-242, eng] 47-1609
Impact of glaciation on paleoecological conditions in northeastern Russia. Shishorina, Zh.G., [1992, p.160-166, eng] 47-1766
Asthenospheric ice-load effects in a global dynamical-system model of the Pleistocene climate. Saltzman, B., et al, [1992, p.1-11, eng] 47-1791
Postglacial emergence in the Canadian High Arctic: integrating glacioisostasy, eustasy, and late deglaciation. England, J., [1992, p.984-999, eng] 47-1796
Deglacial chronology for Baffin I. and Hudson Strait. Stravers, J.A., et al, [1992, p.1000-1017, eng] 47-1797
Ice sheet growth simulation including ice albedo feedback. Deblonde, G., et al, [1992, p.37-55, eng] 47-1885
Paleoclimate of the northwestern Altai Mountains in the Eopleistocene. Derevianko, A.P., et al, [1992, p.842-846, rus] 47-2038
Periglacial phenomena and Pleistocene environmental conditions in the Netherlands—an overview. Vandenberghe, J., [1992, p.363-374, eng] 47-2243
Hudson Bay free-air gravity anomaly and glacial rebound. James, T.S., [1992, p.861-864, eng] 47-2598
Labrador Sea bottom sediments related to iceberg rafting. Andrews, J.T., et al, [1992, p.1087-1090, eng] 47-2631
Evidence of periglacial processes in Virginia mountains. Whittecar, G.R., et al, [1992, p.487-494, eng] 47-2704
Geomorphology of erosional forms in a glacial valley. Musial, A., et al, [1987, p.97-109, eng] 47-2770
Ice sheet glaciations in Northern Eurasia and their role in the history of the ocean. Grosval'd, M.G., et al, [1991, p.3-15, rus] 47-2782
Southern boundary of the last Kara ice sheet. Grosval'd, M.G., et al, [1991, p.154-159, rus] 47-2806
Interglacial-glacial transitions. Kukla, G.J., et al, [1992, p.1-13, eng] 47-2832
Investigation of Arctic Ocean bottom sediments. Danilov, I.D., et al, [1991, p.77-82, eng] 47-2888
Pleistocene periglacial structures and landforms in western Czechoslovakia. Czudek, T., [1993, p.65-75, eng] 47-3118
Early Pleistocene paleoclimate indicated by Greenland sediments. Penney, D.N., [1993, p.49-66, eng] 47-3460
Pleistocene glaciation in Iceland. Eirfksson, J., et al, [1992, p.733-757, eng] 47-3473
Late Pleistocene ice age scenarios based on observational evidence. Deblonde, G., et al, [1993, p.709-727, eng] 47-3475
Paleoenvironments in the northwest North Atlantic. De Vernal, A., et al, [1991, p.95-106, eng] 47-3483
Last interglacial as recorded in the Greenland ice sheet and Canadian arctic ice caps. Reeh, N., [1991, p.123-142, eng] 47-3485
Review of the Late Pleistocene stratigraphy of Reykjavík, Iceland. Eirfksson, J., et al, [1991, p.143-150, eng] 47-3486
Climatic rhythm of the last interglacial in northern Eurasia. Velichko, A.A., et al, [1991, p.191-213, eng] 47-3490
Problems of the last interglacial in arctic Siberia. Sher, A.V., [1991, p.215-222, eng] 47-3491
Proceedings, [1992, 344p., eng] 47-3555
Quaternary deposit chronology derived from varve dating. Björck, S., et al, [1992, p.25-44, eng] 47-3556
Strength of the Nordic heat pump. Broecker, W.S., [1992, p.173-181, eng] 47-3557
Reconstructed paleoclimatic meltwater anomalies. Sarnthein, M., et al, [1992, p.183-200, eng] 47-3558
Reconstruction of paleoclimatic sea surface salinity. Duplessy, J.-C., et al, [1992, p.201-217, eng] 47-3559
Ice-core evidence for a Holocene meltwater cap. Fisher, D.A., [1992, p.267-293, eng] 47-3560
Palynological correlation of paleoclimatic changes. Peteet, D.M., [1992, p.327-344, eng] 47-3561
Glaciomarine sediment indicators of Weddell Sea depositional processes. Kuhn, G., et al, [1993, p.477-487, eng] 47-3644
Sedimentary record and Neoglacial history of Tide Lake, northwestern British Columbia. Clague, J.J., et al, [1992, p.2383-2396, eng] 47-3715
Observations of postglacial uplift at Churchill, Manitoba. Tushingham, A.M., [1992, p.2418-2425, eng] 47-3716
Late Quaternary glacial marine sediment record. Praeg, D., et al, [1992, p.133-150, eng] 47-3787
Paleoclimatology of the Saint Lawrence River basin. Richard, P.J.H., et al, [1992, p.151-172, fre] 47-3788
Ice scours in the sediments of glacial Lake Iroquois, Prince Edward County, eastern Ontario. Gilbert, R., et al, [1992, p.189-194, eng] 47-3789
Paleoclimate sensitivity to glacial ice cover. deMenocal, P.B., et al, [1993, p.7265-7287, eng] 47-3831
Stratigraphy of a moraine deposited in a marine environment. Brandal, M.K., et al, [1991, p.3-14, eng] 47-3832
Late Pleistocene vertebrates and other fossils from Epiguruk, northwestern Alaska. Hamilton, T.D., et al, [1993, p.381-389, eng] 47-3899
Consolidation of sediments by glaciers. Boulton, G.S., et al, [1993, p.26-44, eng] 47-3938
Glacigenic deposits of the Central Deep: a key to the Late Quaternary evolution of the eastern Barents Sea. Gataullin, V., et al, [1993, p.47-58, eng] 47-4017
Physical signatures of Pleistocene ice advance in Norway Lonne, I., [1993, p.59-70, eng] 47-4018
Permafrost distribution changes in Pleistocene Soviet Union. Kondratieva, K.A., et al, [1993, p.113-119, eng] 47-4147
Permafrost changes in Europe during the last Glacial. Vandenberghe, J., et al, [1993, p.121-135, eng] 47-4148
Paleoclimate record for Northwind Ridge, western Arctic Ocean. Poore, R.Z., et al, [1993, p.149-159, eng] 47-4152
Patterns of ice-rafted detritus in the glacial North Atlantic (40-55 deg N). Grousset, F.E., et al, [1993, p.175-192, eng] 47-4154
Erosion of bedrock by subglacial meltwater, Georgian Bay, Ontario: a regional view. Kor, P.S.G., et al, [1991, p.623-642, eng] 47-4155
Glaciation in the Yukon Territory. Ward, B.C., et al, [1992, p.2007-2012, eng] 47-4158
Reconstruction of glacial events in southeastern New Brunswick. Foisy, M., et al, [1991, p.1594-1612, eng] 47-4159
On the extent and thickness of the Innuitian Ice Sheet: a postglacial-adjustment approach. Tushingham, A.M., [1991, p.231-239, eng] 47-4160
Mega-scale glacial lineations and cross-cutting ice-flow landforms. Clark, C.D., [1993, p.1-29, eng] 47-4250
Preconsolidation pressures in the Battleford Formation, southern Saskatchewan, Canada. Sauer, E.K., et al, [1991, p.1613-1623, eng] 47-4257
Pediments and cold-climate conditions, Barn Mountains, unglaciated northern Yukon, Canada. French, H.M., et al, [1992, p.145-157, eng] 47-4324
Glacial landform distribution in Yunnan Province, China. Aniya, M., [1992, p.1-12, eng] 47-4360
Marine sediment records of Pleistocene climate. Birchfield, G.E., et al, [1993, p.10,385-10,399, eng] 47-4392
Last glacial maximum on Spitsbergen, Svalbard. Mangerud, J., et al, [1992, p.1-31, eng] 47-4406
Paleoecology of peats from the Chukchi Sea shelf region. Elias, S.A., et al, [1992, p.371-378, eng] 47-4408
Modeling the *delta*O-18-derived record of Quaternary climatic change with low dynamical systems. Saltzman, B., [1987, p.355-380, eng] 47-4453
Ice sheet dynamics and the Pleistocene ice ages. Birchfield, G.E., [1987, p.381-398, eng] 47-4454
Relaxation oscillator model of the ice age cycle. Peltier, W.R., [1987, p.399-416, eng] 47-4455
Glacial geology in Peruvian mountains. Rodbell, D.T., [1993, p.923-934, eng] 47-4580
Glacials-interglacials in Vostok: climate and greenhouse gases. Lorius, C.J., et al, [1993, p.131-143, eng] 47-4587
"Recent warming": ice core evidence from tropical ice cores with emphasis on Central Asia. Thompson, L.G., et al, [1993, p.145-156, eng] 47-4588
Late Wisconsin subglacial megaflood paths in Alberta. Rains, B., et al, [1993, p.323-326, eng] 47-4594
Effects of CO2 increase on climate dynamics. Saltzman, B., et al, [1993, p.1051-1054, eng] 47-4630
Oxygen isotope composition of ground ice (application to paleogeocryological reconstruction). Vasil'chuk, IU.K., [1992, 2 vols. (684p.) + 2 foldouts, rus] 47-4656
Late-Quaternary glaciation as a proxy for climate change in the central Andes. Seltzer, G.O., [1993, p.129-138, eng] 47-4711
Greenland: a temptation and a challenge. Dansgaard, W., et al, [1993, p.12-16, eng] 47-4728
Paleoclimatic implications of Alaskan coastal marine deposits. Kaufman, D.S., et al, [1993, p.21-33, eng] 47-4733
Rhine-Linth glacier in the upper Wurm: a model of the last alpine glaciation. Keller, O., et al, [1993, p.15-17, eng] 47-4749
Stratigraphy and origin of an area of hummocky glacial topography, northern Wisconsin, U.S.A. Attig, J.W., et al, [1993, p.61-67, eng] 47-4752
Till stratigraphy and glacial history of the Vestfold Hills area, East Antarctica. Hirvas, H., et al, [1993, p.81-95, eng] 47-4753
Early and recent cryogenic phenomena in subaerial deposits and soils in southern Central Siberia. Vorob'eva, G.A., [1991, p.20-26, rus] 47-4804
Strategies for modelling climate changes. Lliboutry, L.A., [1993, p.385-398, eng] 47-4845
Pre-Holocene marine limit on Hopen, Svalbard. Zale, R., et al, [1993, p.159-164, eng] 47-4853
Palaeo-environmental studies on the Greenland ice sheet margin. Reeh, N., et al, [1993, p.66-68, eng] 47-4919
Conditions of the Pleistocene glaciation of mountainous regions. Klimaszewski, M., [1993, p.1-18, eng] 47-4982
Periglacial microjointing and faulting in Weichselian fluvio-aeolian deposits. Mol, J., et al, [1993, p.15-30, eng] 47-5005
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Glacial and climatic history of the central Peruvian Andes. Wright, H.E., Jr., et al. [1989, p.439-445, eng] 47-5256

Modelling the last ice-age cycle with 2-D climate models. Herterich, K., et al. [1993, p.107-116, eng] 47-5267

See also: Ice age theory

Pluto

Surface ices and the atmospheric composition of Pluto. Owen, T.C., et al. [1993, p.745-748, eng] 47-5129

Podsol

Aspects of the genesis, geography and evolution of the soils of Greenland. Jakobsen, B.H., [1992, p.71-84, eng] 47-1707

Investigations of primary minerals cryogenic weathering as *related to podzolization*. Martynenko, I.A., et al. [1992, p.149-153, eng] 47-1721

Effect of soil freezing on the composition and properties of humus. Plotnikova, T.A., et al. [1992, p.203-208, eng] 47-1730

Seasonality in the mineral stability of a subalpine spodosol. Zabowski, D., et al. [1992, p.497-507, eng] 47-2189

Basic genetic patterns of peaty-podzolic-gleyey soils. Zaboeva, I.V., [1991, p.4-12, rus] 47-4103

Current processes in slightly soddy-podzolic loamy soils. Kanev, V.V., [1991, p.13-29, rus] 47-4104

Effect of fertilization and liming on the potassium condition of soils. Kuznetsova, E.G., et al. [1991, p.56-65, rus] 47-4107

Using schist and schist ash as a means of improving *cultivated podzol soils.* IUditseva, I.I., et al. [1991, p.66-75, rus] 47-4108

Role of nitrogen in podzol soils in the formation of a crop of annual agrocenoses. Beznosikov, V.A., [1991, p.98-106, rus] 47-4111

Effect of manure-lignin compost on soil and agricultural crop yields. Shvetsova, V.M., et al. [1991, p.107-113, rus] 47-4112

Residence time of carbon in soils of the boreal zone. Kobak, K., et al. [1993, p.51-57, eng] 47-5228

Distribution and renovation time of soil carbon in boreal and subarctic ecosystems of European Russia. Cherkinskii, A.E., et al. [1993, p.65-69, eng] 47-5230

Characteristics of forest biogeocenoses. Pervova, N., [1993, p.79-85, eng] 47-5231

Poland

—Tatra Mountains

High-energy geomorphic events in the Polish Tatra Mountains. Kotarba, A., [1992, p.123-131, eng] 47-4322

Lichenometrical studies and dating of debris flow deposits in the High Tatra Mountains, Poland. Jonasson, C., et al. [1991, p.141-146, eng] 47-4337

Polar atmospheres

On the age of stratospheric air and *ozone depletion* potential in polar regions. Pollock, W.H., et al. [1992, p.12,993-12,999, eng] 47-77

Stratospheric composition and temperatures poleward of 60N. Remsberg, E.E., et al. [1992, p.13,001-13,014, eng] 47-78

Optical effects of polar stratospheric clouds on the retrieval of *TOMS total ozone*. Torres, O., et al. [1992, p.13,015-13,024, eng] 47-79

Reactive nitrogen, ozone, and nitrate aerosols observed in the arctic stratosphere in January 1990. Kondo, Y., et al. [1992, p.13,025-13,038, eng] 47-80

Numerical model of polar mesospheric cloud formation and evolution. Jensen, E.J., [1990, 183p., eng] 47-88

Carbon dioxide and other trace gases in arctic seas. Kelley, J.J., et al, [1992, p.3-20, eng] 47-107

German Meteorologists Meeting 1992. [1992, 425p., ger] 47-209

Variability of the arctic stratosphere in winter. Labitzke, K., et al. [1992, p.179-180, ger] 47-210

Ozone and stratospheric polar vortices. Petzoldt, K., [1992, p.181-182, ger] 47-211

Model for quasi-stationary planetary waves in the total ozone. Wirth, V., [1992, p.192-193, ger] 47-212

Trace gases in the winter arctic atmosphere. Adrian, G.P., et al, [1992, p.210-211, ger] 47-213

Spatial-temporal variability of surface inversions in the Arctic. Timerev, A.A., et al. [1991, p.39-44, eng] 47-267

Nitrogen oxides in the arctic troposphere. Honrath, R.E., Jr., [1992, 289p., eng] 47-271

Microphysical, chemical and meteorological aspects of aerosol hazes in the Arctic. Brock, C.A., [1991, 323p., eng] 47-308

Major cloud plumes in the Arctic and their relation to fronts and ice movement. Fett, R.W., [1992, p.925-945, eng] 47-591

Buoyant convection above open leads in arctic pack ice. Serreze, M.C., et al, [1992, p.J3/45-J3/48, eng] 47-880

Climatology of surface-based inversion in the North American Arctic. Bradley, R.S., et al. [1992, p.15,699-15,712, eng] 47-997

Physical variation of water vapor, and the relation with carbon dioxide. Egan, W.G., et al. [1992, p.2245-2248, eng] 47-1145

Synopsis of research conducted under the 1991/1992 northern contaminants program. Murray, J.L., ed. [1992, 213p., eng] 47-1147

Results of investigating the middle atmosphere at antarctic station Molodezhnaya. Ivanova, I.N., et al. [1991, p.30-34, eng] 47-1178

Bromoform in the Nansen Basin in the Arctic Ocean. Krysell, M., [1991, p.187-197, eng] 47-1195

Arctic environment: past, present and future. Woo, M.K., ed. [1992, 164p., eng] 47-1421

No great change: a commentary on 50 years of watching arctic science. Hare, F.K., [1992, p.7-16, eng] 47-1422

Arctic climate in the future. Etkin, D., et al. [1992, p.17-34, eng] 47-1423

Ice and snow in the Arctic and global change. Adams, P., [1992, p.35-44, eng] 47-1424

Snow, sea ice and climate: a study of scales. LeDrew, E.F., et al, [1992, p.45-59, eng] 47-1425

Past climate changes as deduced from Canadian ice cores. Koerner, R.M., [1992, p.61-70, eng] 47-1426

Composition of the arctic troposphere. Barrie, L.A., [1992, p.71-77, eng] 47-1427

Organic micropollutants in arctic snow and firn. Gregor, D.J., [1992, p.79-90, eng] 47-1428

Arctic streamflow. Woo, M.K., [1992, p.105-111, eng] 47-1430

Large-scale variability of ozone and aerosols in the summertime arctic and sub-arctic troposphere. Browell, E.V., et al. [1992, p.16,433-16,450, eng] 47-1447

Tropospheric ozone and aerosol observations: *the Alaskan Arctic. Gregory, G.L., et al,* [1992, p.16,451-16,471, eng] 47-1448

Sampling of radioactive isotopes in the arctic atmosphere. Dibb, J.E., et al, [1992, p.16,709-16,715, eng] 47-1465

Gravity wave dynamics within the polar atmosphere. Wu, Y.F., et al, [1992, p.1781-1789, eng] 47-1474

Anomalous 11-year deltaC-14 cycle at high latitudes?. Damon, P.E., et al, [1992, p.235-238, eng] 47-1479

Annual cycle of radiation fluxes over the Arctic Ocean: sensitivity to cloud optical properties. Curry, J.A., et al, [1992, p.1267-1280, eng] 47-1549

Elemental source signatures of aerosols from the Canadian high Arctic. Landsberger, S., et al, [1992, p.181-187, eng] 47-1554

In situ meteorological sounding archives for arctic studies. Kahl, J.D., et al, [1992, p.1824-1830, eng] 47-1625

High latitude environments and environmental change. Kullman, L., [1992, p.478-488, eng] 47-1744

Polar hydrology—Svalbard. [1992, 49p., eng] 47-1889

Temperature and precipitation series at Norwegian arctic *meteorological stations.* Nordli, P.Ø., [1990, 14p., eng] 47-1917

Determinations of methyl iodide in the antarctic atmosphere and the south polar sea. Reifenhäuser, W., et al, [1992, p.2905-2912, eng] 47-1948

Thermodynamics of pollutant removal as an indicator of possible source areas for arctic haze. Bowling, S.A., et al, [1992, p.2953-2961, eng] 47-1949

One-dimensional modeling study of carbonaceous haze effects on the springtime arctic environment. Emery, C.A., et al, [1992, p.20,599-20,613, eng] 47-2053

Seasonal cycle of nitrogen oxides in the arctic troposphere at Barrow, Alaska. *Honrath, R.E., Jr., et al,* [1992, *p.20,615-20,630, eng*] 47-2054

Measurements of HCl column amounts over McMurdo in 1989. Liu, X., et al, [1992, p.20,795-20,804, eng] 47-2055

Diagnostic model study of the seasonal variation of global ozone and the antarctic ozone hole. Akiyoshi, H., et al, [1992, p.20,837-20,853, eng] 47-2056

Aerosols in the Arctic—results and evidence from the 1991/1992 EASOE aircraft measurement campaigns. Below, M., et al, [1992, p.S1019-S1022, eng] 47-2075

Simulation of lidar depolarization by polar stratospheric clouds. Flesia, C., et al, [1992, p.359-365, eng] 47-2170

1991 *spring lidar PSC studies at McMurdo.* Adriani, A., et al, [1992, p.367-373, eng] 47-2171

PSC in a 2D model and the secular ozone trend. Pitari, G., et al, [1992, p.375-396, eng] 47-2172

Auroral activity and O3 content. Orsini, S., et al, [1992, p.477-490, eng] 47-2174

Tropospheric and stratospheric thin clouds at McMurdo. Adriani, A., et al, [1992, p.491-503, eng] 47-2175

Correlation of arctic cloud climatologies. Schweiger, A.J., et al, [1992, p.1514-1527, eng] 47-2179

Polar precipitation chemistry. Delmas, R.J., [1991, p.1669-1691, eng] 47-2218

Origin of dust in polar regions. Gillette, D.A., [1991, p.1719-1732, eng] 47-2221

Arctic automatic weather station field data 1990-91. Alt, B.T., et al, [1992, 54p. + appends., eng] 47-2339

Preprints. [1992, 146p. + joint papers, eng] 47-2362

Polar cloudiness: some results from ISCCP and other cloud climatologies. Rossow, W.B., [1992, p.1-3, eng] 47-2363

Cloud optical thickness in the Arctic. Leontyeva, E., et al, [1992, *p.4-6, eng*] 47-2364

Unusual cloud forms in the arctic winter boundary layer. Byers, C.A., et al, [1992, p.7-10, eng] 47-2365

Atmospheric longwave radiation spectrum on the antarctic *plateau.* Walden, V.P., et al, [1992, p.11-12, eng] 47-2366

Arctic radiative fluxes and cloud forcing estimated from the ISCCP C2 cloud data set. Schweiger, A.J., et al, [1992, p.13-16, eng] 47-2367

Microphysical processes occurring in ice crystal plumes emanating from arctic leads. Pinto, J.O., et al, [1992, p.17-20, eng] 47-2368

Spectral interactions of radiation and sea ice. Ebert, E.E., et al, [1992, p.21-24, eng] 47-2369

Arctic energy fluxes over sea ice from satellite data. Francis, J.A., [1992, p.25-28, eng] 47-2370

Katabatic surges across the Ross *Ice Shelf. Bromwich,* D.H., et al, [1992, p.29-32, eng] 47-2371

Case study of the Jan. 9-10, 1992 polar low in the Bering Sea. Hefner, D.B., [1992, p.33-36, eng] 47-2372

Polar low dynamics. Montgomery, M.T., [1992, p.37, eng] 47-2373

Diagnostic study of the evolution of an intense North American anticyclone during winter 1989. Tan, Y.C., et al, [1992, p.38-41, eng] 47-2374

Determining realistic wind stress forcing fields for marine arctic regions. Davidson, K.L., et al, [1992, p.44-47, eng] 47-2376

Characteristics of the lower troposphere during LEADEX 92. Persson, P.O.G., et al, [1992, p.50-53, eng] 47-2378

Mesoscale meteorological modeling support for LEADEX. Thompson, W.T., et al, [1992, p.58-61, eng] 47-2380

Meteorological prerequisites for sea ice. Thorndike, A.S., [1992, p.62-63, eng] 47-2381

Modeling the interactions of sea ice and climate in the central Arctic. Moritz, R.E., et al, [1992, p.105-108, eng] 47-2393

Interactive atmospheric surface-layer modifications for a large-scale sea-ice model. Stössel, A., et al, [1992, p.109-110, eng] 47-2394

Climatic differences in Antarctica from automatic weather stations. Stearns, C.R., et al, [1992, p.111-114, eng] 47-2395

Stratospheric stability and tropospheric circulations over the South Pole. Neff, W.D., [1992, p.115-120, eng] 47-2396

Pressure and temperature anomalies in the southern oscillation. Smith, S.R., et al, [1992, p.121-124, eng] 47-2397

NCAR CCM1 simulation of the modern arctic climate. *Bromwich, D.H., et al,* [1992, *p.129-132, eng*] 47-2399

Simulation of the arctic climatology with the NCAR CCM-2. Battisti, D.S., et al, [1992, p.133-136, eng] 47-2400

Tropospheric temperature trends in *the Arctic.* Stone, R.S., et al, [1992, p.137-140, eng] 47-2401

Lower tropospheric temperature trends over the Arctic Ocean: 1950-1990. Kahl, J.D., et al, [1992, p.141-144, eng] 47-2402

Continental polar mesolows over North America in winter. Kahrs, J.E., [1992, p.145-146, eng] 47-2403

Mountain *effects on the antarctic circulation.* Egger, J., [1992, p.J3-J7, eng] 47-2404

Generation mechanisms of quasi-stationary waves in the Southern Hemisphere. Quintanar, A.I., et al, [1992, p.J8-J11, eng] 47-2405

Modelling of the mean and turbulent structure of the arctic atmospheric boundary layer. McInnes, K.L., et al, [1992, p.J13-J15, eng] 47-2406

Stratification of the atmospheric boundary layer in the arctic marginal ice zone. Frederickson, P.A., et al, [1992, p.J16-J19, eng] 47-2407

Boundary-layer structure near an ice edge as a function of wind direction. Glendening, J.W., [1992, p.*J20-J23,* eng] 47-2408

Synoptic influence on inversion winds at the South Pole. Neff, W.D., [1992, p.J24-J28, eng] 47-2409

Acoustic remote sensing study of boundary layer blocking near Ross Island, Antarctica. Liu, Z., et al, [1992, p.J29-J32, eng] 47-2410

Remote sensing of the arctic boundary layer. Wolfe, D.E., et al, [1992, p.J33-J36, eng] 47-2411

Turbulence structure of the atmospheric surface layer over arctic ice and near a lead. Gaynor, J.E., et al, [1992, p.J37-J40, eng] 47-2412

Modelling the horizontally inhomogeneous cloudy boundary layer in the presence of leads. Alam, A., et al, [1992, p.J41-J44, eng] 47-2413

Extending the antarctic meteorological record using ice-sheet temperature profiles. Nicholls, K.W., et al, [1993, p.141-150, eng] 47-2462

Measurements of airborne carbonaceous aerosols in the eastern Arctic. Hansen, A.D.A., et al, [1992, p.429-433, eng] 47-2544

Combined system for observations of tropospheric and stratospheric thin clouds. Adriani, A., et al, [1993, p.34-40, eng] 47-2552

Studies of the arctic aerosol in Greenland. Heidam, N.Z., [1990, 116p., dan] 47-2585

Arctic ozone loss declines. Bush, S., [1992, p.210, eng] 47-2601

Present-day antarctic climatology of the NCAR Community Climate Model Version 1. Tzeng, R.Y., et al, [1993, p.205-226, eng] 47-2707

Polar atmospheres *(cont.)*

Atmospheric water-vapour transport to Antarctica inferred from radiosonde data. Connolley, W.M., et al. [1993, p.325-342, eng] **47-2712**

Water soluble organic constituents in arctic aerosols and snow pack. Li, S.M., et al. [1993, p.45-48, eng] **47-2845**

Surface ozone concentrations in Antarctica. Gruzdev, A.N., et al. [1992, p.41-47, eng] **47-2847**

Spring measurements of tropospheric bromine at Barrow, Alaska. Sturges, W.T., et al. [1993, p.201-204, eng] **47-2858**

Tropospheric aerosol and climate: *results from numerical experiments.* Kolomeev, M.P., et al. [1991, p.253-257, eng] **47-2896**

Anomalies in the intra-annual ozone variability in polar regions from ozone sounding area. Gruzdev, A.N., et al. [1991, p.272-279, eng] **47-2897**

Estimation of arctic precipitation from water vapor flux *convergence.* Walsh, J.E., et al. [1993, p.324-328, eng] **47-3048**

Low-frequency climate variations over the Northern Hemisphere. Hurrell, J.W., et al. [1993, p.355-360, eng] **47-3050**

High frequency satellite *cloud motion at high latitudes.* Herman, L.D., [1993, p.465-468, eng] **47-3077**

Heterogeneous reactions on sulfuric acid surfaces. Williams, L.R., et al. [1993, p.122-126, eng] **47-3101**

Improvements in general circulation model performance in simulating antarctic climate. Simmonds, I., [1990, p.287-300, eng] **47-3149**

French research on polar ozone. Pommereau, J.P., [1991, p.28-35, fre] **47-3179**

Scientific concept of the Arctic Climate System Study (ACSYS). Augstein, E., ed. [1992, 89p. + appends., eng] **47-3291**

Wind stress in an ocean general circulation model *(part 1).* Matsuura, T., et al. [1991, p.39-68, jpn] **47-3292**

High-altitude and polar humidity. Schlatter, T., [1992, p.39-40, eng] **47-3457**

Hydrometeorological and ice conditions in the arctic seas of the USSR during 1990-1991. Siniurin, IU.N., [1992, p.93-96, eng] **47-3459**

Arctic haze: patterns and relationships to *regional* signatures of trace gases. Khalil, M.A.K., et al. [1993, p.27-36, eng] **47-3461**

NO2 measurements in the polar stratosphere. Roscoe, H.K., et al. [1993, p.257-276, eng] **47-3464**

Recent variations of sea ice and air temperature in high latitudes. Chapman, W.L., et al. [1993, p.33-47, eng] **47-3477**

Last interglacial evidence in Northern Hemisphere high latitudes. Anderson, P., et al. [1991, p.9-28, eng] **47-3478**

Land-ocean-atmosphere relationships during last interglacial. Anderson, P., et al. [1991, p.29-48, eng] **47-3479**

Framework for interpreting paleoclimatic variations in eastern Beringia. Bartlein, P.J., et al. [1991, p.73-83, eng] **47-3481**

Insolation effects on last interglacial climate. Kutzbach, J.E., et al. [1991, p.223-229, eng] **47-3492**

Mass balance *simulation of the antarctic ice sheet.* Fortuin, J.P.F., et al. [1990, p.31-56, eng] **47-3572**

Finding of antarctic "ozone hole". Chubachi, S., [1991, p.23-29, jpn] **47-3625**

Calculating the circulation and thermobarometric background in long range meteorological forecasts. Vinogradov, N.D., [1989, p.6-11, rus] **47-3653**

Nature of the annual variation in the circumpolar eddy and its calculation in weather forecasting in the Arctic. Dmitriev, A.A., [1989, p.12-25, rus] **47-3654**

Objectivization of the analysis and diagnosis of near surface and high altitude mean ESP fields. Sel'tser, P.A., [1989, p.26-42, rus] **47-3655**

Characteristics of synoptic processes in homogeneous groups of macro-changes in the Arctic. Kuznetsov, A.V., et al. [1989, p.43-52, rus] **47-3656**

Numerical experiment in hydrodynamic forecasting of pressure fields 5 days in advance in the Arctic. Evseev, M.P., et al. [1989, p.53-65, rus] **47-3657**

Quantitative characteristics of mid-latitude air exchange during basic types of transformations. Sel'tser, P.A., [1989, p.76-87, rus] **47-3659**

Diagnosis of large-scale reconstructions in the troposphere of the Northern Hemisphere. Kurazhov, V.K., et al, [1989, p.97-103, rus] **47-3661**

Manifestation of intensive latitudinal and meridional air exchange in the Northern Hemisphere. Sel'tser, P.A., et al, [1989, p.104-112, rus] **47-3662**

Using hydrodynamic surface fields at a geopotential of 500 *gPa for medium-range forecasting of a surface pressure* field. Baranov, G.I., et al. [1989, p.113-117, rus] **47-3663**

Dependence of the formation of anomalies in air temperature above arctic seas during the autumn period on the H500 field. Korzhikov, A.IA., [1989, p.122-127, rus] **47-3664**

Static stability parameter and the variation of barometric formations. Golev, D.A., [1989, p.148-151, rus] **47-3667**

Processes that block zonal flow in the atmosphere. Tsvetkov, A.S., [1989, p.152-157, rus] **47-3668**

Conditions for formation of significant anomalies in pressure and air temperature during December-February Vangengeim, T.G., [1989, p.158-162, rus] **47-3669**

Problem of climatic standards of temperature and air pressure in the Northern Hemisphere. Bolotinskaia, M.Sh., [1989, p.163-169, rus] **47-3670**

Methanesulfonic acid in coastal antarctic snow related to sea-ice extent. Welch, K.A., et al. [1993, p.443-446, eng] **47-3728**

Stratospheric denitrification indicated by firn core *chemistry.* Mulvaney, R., et al. [1993, p.5213-5220, eng] **47-3785**

Prospects for the development of methods for forecasting climatic changes in polar regions. Alekseev, G.V., [1992, p.5-21, rus] **47-3803**

Stochastic regime of large-scale atmospheric waves. Bekriaev, R.V., [1992, p.22-49, rus] **47-3804**

Modeling spectra of weather noise. Alekseev, G.V., [1992, p.50-55, rus] **47-3805**

Sparse parameter quasi-solenoidal model of large-scale atmospheric movements. Bekriaev, R.V., [1992, p.56-74, rus] **47-3806**

Effect of a meridional profile of surfaces on the characteristics of large-scale atmospheric waves. Bekriaev, R.V., et al. [1992, p.75-86, rus] **47-3807**

Problem of nonlinear interaction of Rossby waves with zonal flow. Podgornyi, I.A., [1992, p.87-99, rus] **47-3808**

Convergence of the solution to certain models of climatic *systems.* Liubich, M.IU., [1992, p.100-104, rus] **47-3809**

Modeling of trace species in the arctic stratosphere. Chipperfield, M.P., et al, [1993, p.7199-7218, eng] **47-3828**

Stratospheric cooling over Scandinavia. *Claud, C., et al,* [1993, p.7229-7243, eng] **47-3829**

Equatorial atmospheric influence on polar stratospheric temperatures. Kodera, K., [1993, p.7245-7250, eng] **47-3830**

Navy arctic seas weather analysis and forecast. Vol.8, Part 2. Fett, R.W., ed, [1992, Var. p., eng] **47-3911**

Springtime ozone depletion and volatile organic compounds in the lower Arctic atmosphere. Yokouchi, Y., [1993, p.40-41, eng] **47-3973**

Cleanup in the Arctic. Josephson, J., [1993, p.585, eng] **47-4020**

Ammonium to sulphate ratio in aerosol and snow of Greenland and antarctic regions. Silvente, E., et al, [1993, p.687-690, eng] **47-4167**

Preprints, [1988, 160p., eng] **47-4173**

Seasonal variations of atmospheric circulation and sea ice motion in the Arctic. McLaren, A.S., et al, [1988, p.20-23, eng] **47-4177**

Short-period changes in sea ice and atmospheric conditions. Maslanik, J.A., et al, [1988, p.28-31, eng] **47-4178**

North Atlantic sea ice sensitivities of monthly dynamical forecasts. Walsh, J.E., et al, [1988, p.32-35, eng] **47-4179**

Synoptic ice melt from Nimbus-7 SMMR. Crane, R.G., et al, [1988, p.36-39, eng] **47-4180**

Lead patterns in arctic sea ice. Barry, R.G., et al, [1988, p.40-43, eng] **47-4181**

Summer cryospheric and atmospheric variability in the Arctic Basin. Robinson, D.A., et al, [1988, p.44-47, eng] **47-4182**

Long-range forecasts of arctic sea level pressure. Ross, B., et al, [1988, p.48-51, eng] **47-4183**

Synoptic activity in the Arctic Basin in summer, 1979-1985. Serreze, M.C., et al, [1988, p.52-55, eng] **47-4184**

Atmospheric boundary layer features observed in the *spring marginal ice zone.* Guest, P.S., et al, [1988, p.73-74, eng] **47-4185**

Arctic ice conditions and the 500 mb component. Englebretson, R.E., [1988, p.79-82, eng] **47-4187**

Polar low sensitivity to sea surface temperature. Langland, R.H., et al, [1988, p.83-86, eng] **47-4188**

High-latitude processes in a *coupled ocean-atmosphere general circulation model.* Roberts, D.L., [1988, p.89-91, eng] **47-4190**

Submicron size aerosols and weather forecasting in East Antarctica. Lal, M., [1988, p.105-107, eng] **47-4193**

Experimental studies of clouds and acrosols along the antarctic coast. Saxena, V.K., et al, [1988, p.108-111, eng] **47-4194**

"Major" arctic haze event north of Point Barrow, Alaska, April 1986. Schnell, R.C., et al, [1988, p.112-115, eng] **47-4195**

Atmospheric transport of aerosols and haze to Barrow, Alaska. Herbert, G.A., et al, [1988, p.116-118, eng] **47-4**

High latitude wind velocities derived from polar orbiting satellite imagery. Warren, D., et al, [1988, p.119-12 eng] **47-41**

Satellite observations over the Greenland and Barents seas. *Claud, C., et al,* [1988, p.122-125, eng] **47-4198**

Structure of sub-synoptic-scale vortices in polar airstreams from AVHRR and TOVS data. Turner, J., et al, [1988, p.126-128, eng] **47-4199**

Satellite observation of high latitude surface and cloud types using pattern recognition. Ebert, E.E., [1988, p.133-136, eng] **47-4201**

Clouds over both polar regions from the ISCCP pilot data sets. Raschke, E., et al, [1988, p.137-140, eng] **47-4202**

Southern Oscillation signal in Antarctica. Savage, M.L., et al, [1988, p.141-144, eng] **47-4203**

Observation of recurrent temperature lapse near the surface at the South Pole. Obremski, J.S., et al, [1988, p.145-147, eng] **47-4204**

Prediction of restricted visibility at the McMurdo airfield. Hale, R.A., et al, [1988, p.148-150, eng] **47-4205**

Decrease in total ozone concentration in the polar cap following solar proton flares. Shumilov, O.I., et al, [1991, p.17-21, eng] **47-4251**

Occurrence of ozone laminae near the boundary of the stratospheric polar vortex. Reid, S.J., et al, [1993, *p.8883-8890, eng]* **47-4381**

Antarctic polar stratospheric cloud chemistry. Drdla, K., et al, [1993, p.8965-8981, eng] **47-4382**

Atmospheric NO3. 4. Vertical profiles at middle and polar latitudes at sunrise. Smith, J.P., et al, [1993, p.8983-8989, eng] **47-4383**

Sea ice—a climate component. Gudmandsen, P., [1993, p.9-13, *eng]* **47-4416**

Preprints, [1991, 528p. + joint papers, eng] **47-4480**

Temperature trends and circulation changes on the Northern Hemisphere in winter. Van Loon, H., [1991, p.12-15, eng] **47-4481**

Atmospheric circulation anomalies in the arctic basin. Serreze, M.C., et al, [1991, p.350-353, eng] **47-4488**

Recent climate variability in the Antarctic Peninsula. King, J.C., [1991, p.354-357, eng] **47-4489**

Simultaneous winter sea ice and atmospheric circulation anomaly patterns. Agnew, T., [1991, p.362-365, eng] **47-4491**

TOVS temperature sounding record for the Arctic. Khalsa, S.J.S., et al, [1991, p.366-367, eng] **47-4492**

Atmospheric forcings on albedo over arctic sea ice. Serreze, M.C., et al, [1991, p.396-399, eng] **47-4493**

Comparison of global climate model simulations of polar regions. Crane, R.G., et al, [1991, p.488-491, eng] **47-4495**

Sulfur mass loading of *the atmosphere from volcanic* eruptions. Sigurdsson, H., et al, [1990, 7p. + appends., eng] **47-4618**

Polar lows and katabatic winds as a triggering mechanism. Wos, K.A., [1992, 139p., eng] **47-4622**

Climate model sensitivity to sea ice albedo parameterization. Morassutti, M.P., [1991, p.25-36, *eng]* **47-4640**

Polaarialueiden tutkimus ja globaalinen ilmaston-ja ympäristönmuutos. Launiainen, J., [1993, p.21-31, fin] **47-4996**

Identification of clear and cloudy pixels at high latitudes *from AVHRR radiances.* Sakellariou, N.K., et al, [1993, p.2005-2024, eng] **47-5106**

Partitioning of nitrogen oxides in the lower arctic troposphere during spring 1988. Bottenheim, J.W., et al, [1993, p.15-27, eng] **47-5144**

Pacific warming and antarctic ozone depletion. Mo, K.C., [1993, p.1375-1391, eng] **47-5213**

Satellite retrieval of lower-tropospheric ice crystal clouds in the polar regions. Wilson, L.D., et al, [1993, p.1467-1472, eng] **47-5214**

Arctic atmospheric CO2 bimodal distribution. Semiletov, I.P., et al, [1993, p.35-42, eng] **47-5226**

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Polar regions

Microbiology of antarctic soils. Vishniac, H.S., [1993, p.297-341, eng] **47-4597**

Decrease in growth rates of atmospheric CFCs 11 and 12. Elkins, J.W., et al, [1993, p.780-783, eng] **47-5126**

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Polar stratospheric clouds

Stratospheric denitrification indicated by firn core chemistry. Mulvaney, R., et al, [1993, p.5213-5220, eng] **47-3785**

Modeling of trace species in the arctic stratosphere. Chipperfield, M.P., et al, [1993, p.7199-7218, eng] **47-3828**

Effect of competitive adsorption on polar stratospheric cloud reactions. Mozurkewich, M., [1993, p.355-358, eng] **47-4140**

Laboratory simulations of PSC particle formation. Marti, J., et al, [1993, p.359-362, eng] **47-4141**

Survey and new measurements of ice vapor pressure at temperatures between 170 and 250K. Marti, J., et al, [1993, p.363-366, eng] **47-4142**

...troscopic probe of model polar stratospheric cloud ...ns. Koehler, B.G., et al, [1993, p.10,563-10,571, g] **47-4294**

...tarctic polar stratospheric cloud chemistry. Drdla, K., et al, [1993, p.8965-8981, eng] **47-4382**

Influence of solar wind on cloud microphysics. Tinsley, B.A., et al, [1993, p.10,375-10,384, eng] **47-4391**

Lidar for monitoring polar stratospheric clouds. Stefanutti, L., et al, [1992, p.13-17, eng] **47-4721**

Polarization (charge separation)

Scattering by rain and melting snow. Kharadly, M.M.Z., [1989, p.406-410, eng] **47-19**

Fundamentals of amplitude-phase measurements using induced polarization. Mel'nikov, V.P., et al. (1974, 222p., rus) 47-2911

Polarization of electromagnetic emissions from cracking ice. Petrenko, V.F., (1993, p.301-305, eng) 47-3168

Electrochemical characteristics of aluminum galvanic anodes in an arctic seawater. Tamada, A., et al. (1993, p.261-277, eng) 47-3176

Inclusion-exclusion calculation of the dipole-dipole energy of hexagonal ice and of cubic ice. Huckaby, D.A., et al. (1993, p.8105-8109, eng) 47-3581

Dielectric properties of frozen clay and silt soils. Moore, J.C., et al. (1993, p.265-273, eng) 47-3930

Dielectric study of frozen aqueous ionic solutions. Laudat, J., et al. (1991, p.211-224, eng) 47-3998

Effect of voltage polarity on icicles grown on line insulators. Farzaneh, M., et al. (1992, p.297-302, eng) 47-4303

Simulation of liquid and solid phases of water. Clementi, E., et al. (1993, p.205-213, eng) 47-4755

Polarization (waves)

Polarimetric radar remote sensing of hailstorms. Zhao, Y., (1990, 256p., eng) 47-85

Unsupervised segmentation of polarimetric SAR data using the covariance matrix. Rignot, E.J., et al. (1992, p.697-705, eng) 47-356

Light scattering by nonspherical ice grains: an application to noctilucent cloud particles. Mishchenko, M.I., (1992, p.203-211, eng) 47-772

Observing precipitation through dual-polarization radar measurements. Herzegh, P.H., et al. (1992, p.1365-1374, eng) 47-822

Radar sensing of precipitation: circular polarization effects. Antar, Y.M.M., et al. (1992, p.7-16, eng) 47-1562

Ice-cloud depolarization of backscatter for CO2 and other infrared lidars. Eberhard, W.L., (1992, p.6485-6490, eng) 47-2043

Multiple-scattering lidar experiments. Werner, C., et al. (1992, p.1731-1745, eng) 47-3160

Polarimetric observations and theory of millimeter-wave backscatter from snow cover. Mead, J.B., et al. (1993, p.38-46, eng) 47-3172

Positioning of satellite navigation system during snowfall. Tranquilla, J.M., et al. (1993, p.295-299, eng) 47-3361

Polarimetric signatures in the stratiform region of a mesoscale convective system. Zrnic, D.S., et al. (1993, p.678-693, eng) 47-3508

Depolarization of radio waves by ice crystals. Maekawa, Y., et al. (1993, p.249-259, eng) 47-4062

Automated dual polarization complex for studying the characteristics of cumulonimbus. Dinevich, L.A., et al. (1992, p.79-95, rus) 47-4659

Polarimetric measurements in a severe hailstorm. Zrnić, D.S., et al. (1993, p.2223-2238, eng) 47-4706

Polarized infrared radiation in ice crystals. Takano, Y., et al. (1993, p.1243-1256, eng) 47-4737

Pollen

Spores and pollen from the glaciers and periglacial zone of the Arctic and Antarctica. Surova, T.G., et al. (1991, p.181-185, rus) 47-340

Glacial landforms and the age of deglaciation in the Tiksi area, East Siberia. Grosval'd, M.G., et al. (1992, p.295-304, eng) 47-4341

See also: Palynology

Pollution

Chemical analysis of snow cover as an indicator of contamination in the Kola Peninsula. Boltenko, E.L., et al. (1991 p.60-64, rus) 47-1987

DC flashover performance of iced insulators under pressure and pollution conditions. Zhang, J.H., et al. (1991, p.957-960, eng) 47-2177

Arctic environmental cooperation after Rovaniemi—what now. Stokke, O.S., (1992, p.221-234, eng) 47-4901

See also: Air pollution; Fallout; Impurities; Oil spills; Snow impurities; Soil pollution; Thermal pollution; Water pollution

Polycrystalline ice

See also: Ice crystals

Polygonal topography

See also: Patterned ground

Polymers

Atmospheric durability of polymer-fiber composites in cold climates. Bulmanis, V.N., et al. (1992, p.698-705, eng) 47-207

Low-temperature shaping of thick-walled composite rings. Stephanychev, E.I., et al. (1992, p.478-481, eng) 47-245

Softening of rigid polyvinyl chloride by high concentrations of aqueous solutions of methylene chloride. Parker, L.V., et al. (1992, 40p., eng) 47-696

Transitions in frozen gelatinized-starch systems studied by differential scanning calorimetry. Liu, H., et al. (1992, p.179-183, eng) 47-743

Poly(vinyl alcohol) hydrogels prepared by freezing-thawing cyclic processing. Stauffer, S.R., et al. (1992, p.3932-3936, eng) 47-744

Effect of temperature on the strength of adhesive joints. Adams, R.D., et al. (1992, p.185-190, eng) 47-878

Monomer polymerization in frozen liquids via UV irradiation. Egorov, V.V., et al. (1992, p.95-97, eng) 47-1118

Evaluation of polymer-modified asphalts in Ontario. Joseph, P., et al. (1992, p.243-269, eng) 47-1137

Freezable, flotable water lines?. Ainsworth, L., (1992, p.42-43, eng) 47-1884

Polymer-modified asphalts - international research results on possible modifications and properties. Schneider, U., (1992, p.14-20, ger) 47-2003

Tensile strength of unidirectional fiber composites at low temperatures. Dutta, P.K., (1992, p.782-792, eng) 47-2230

Study of the ice nucleating properties of various polymers. Sosnikova, E.V., (1992, p.168-172, rus) 47-2529

Concrete freeze/thaw resistance in the presence of deicer solutions. Bordeleau, D., et al. (1992, p.547-553, eng) 47-2546

Studying the friction and adhesive properties of snow. Ermakov, K.K., et al. (1991, p.191-195, rus) 47-2812

Anomalous behavior of ice in solutions of ice-binding arabinoxylans. Williams, R.J., (1992, p.105-113, eng) 47-2883

Protective modification of freeze stress in plant tissue. Olien, R., (1992, p.255-260, eng) 47-2885

Freeze-thaw resistance of mortar-polymer admixtures. Atzeni, C., et al. (1993, p.301-308, eng) 47-3721

Use of silicone masses to prevent the formation of ice on substrates. Achtenberg, T., et al. (1988, 8 col., eng) 47-3494

Anomalous freezing point depression of solvents in a swollen homogeneous rubber network. Grobler, J.H.A., et al. (1993, p.575-577, eng) 47-3562

Silica fume-polymer mortars for rehabilitation of bridge decks. Bürge, T.A., (1993, p.1273-1286, eng) 47-3615

Silicone emulsion having improved freeze/thaw resistance. Bakken, K.L., (1987, 8 col., eng) 47-3851

Water II is a "strong" liquid. Angell, C.A., (1993, p.6339-6341, eng) 47-4748

Monomer molecular adsorption on ice Ih. Bell, K.P., et al. (1993, p.4160-4167, eng) 47-5272

Polynyas

Polynomial trend surface analysis applied to AVHRR images to improve definition of arctic leads. Keppler, D.T., et al. (1992, p.197-218, eng) 47-982

Skeletal modeling of ice leads. Banfield, J., (1992, p.918-923, eng) 47-1258

Investigation of antarctic sea ice concentration. Lomax, A.S., (1992, 102p., eng) 47-2763

Microwave remote sensing of polynyas. Martin, S., et al. (1992, p.303-311, eng) 47-3029

One method of analyzing the interdependence of short time series. Chepurina, M.A., (1990, p.77-83, rus) 47-3591

JARE-31 oceanographic survey in Lützow-Holm Bay, 1990-1991. Ishio, S., et al. (1993, 34p., eng) 47-3619

Evidence [illegible] ic winter coastal polynya. Anders[illegible] p.221-226, eng) 47-3652

Study of [illegible] ter polynya using passive microwav[illegible] red imagery. Press, M.J., et al. (1993, p.92-[illegible] eng) 47-3726

Effect of the water-exchange index on the temperature regime of hydrostation pools. Gotlib, IA.L., et al. (1993, p.462-468, eng) 47-4014

East Siberian Arctic Region Expedition '92: the Laptev Sea—its significance for arctic sea-ice formation and transpolar sediment flux. Dethleff, D., et al. (1993, p.3-44, eng) 47-4220

Arctic coastal polynya observations with ERS-1 SAR and DMSP SSM/I. Cavalieri, D.J., et al. (1993, p.295-299, eng) 47-4428

Sediment export by ice rafting from a coastal polynya, arctic Alaska, U.S.A. Reimnitz, E., et al. (1993, p.83-98, eng) 47-4741

Ocean convection and the creation of polynyas. Schmalzl, J., et al. (1993, p.371-383, eng) 47-4844

See also: Ice openings

Polywater

See also: Anomalous water

Ponds

Sludges from cold regions lagoons. Schneiter, R.W., et al. (1993, p.146-155, eng) 47-3675

Hydrographic characteristics of the Strokdammane Plain, west Spitsbergen, Svalbard. Akerman, H.J., (1992, p.169-182, eng) 47-4326

Pontoon bridges

Floating ice beam impact forces against a sloped structure. Coutermarsh, B.A., (1993, 51p., eng) 47-5244

Porosity

Effect of industrial by-products on the frost resistance of concrete. Fagerlund, G., (1989, p.33-52, eng) 47-12

Frost resistance of superplasticized air-entrained concrete. Siebel, E., (1989, p.297-319, eng) 47-63

Model for deicer scaling resistance of field concretes containing high-range water reducers. Whiting, D., et al. (1989, p.343-359, eng) 47-64

Influence of soluble alkalies on air-entrainment in concrete admixtures. Pigeon, M., et al. (1992, p.24-31, eng) 47-82

High porosity of basal till at Burroughs glacier, southeastern Alaska. Ronnert, L., et al. (1992, p.849-852, eng) 47-246

Determining the intrinsic permeability of frazil ice. Part 2, field investigations. White, K.D., et al. (1992, 15p., eng) 47-695

Comment on porosities of ice films used to simulate stratospheric cloud surfaces. Keyser, L.F., et al. (1993, p.2800-2803, eng) 47-3178

Laboratory studies of the porosity of bottom ice, formed during static ice formation. Tyshko, K.P., et al. (1990, p.155-159, rus) 47-3602

Effect of voltage polarity on icicles grown on line insulators. Farzaneh, M., et al. (1992, p.297-302, eng) 47-4303

Silica fume replacement of cement - effects on concrete durability. Hooton, R.D., (1993, p.143-151, eng) 47-4351

Mean spacing of air voids in hardened concrete. Attiogbe, E.K., (1993, p.174-181, eng) 47-4352

Soil-fabric measurement using phase transition porosimetry. Gunnink, B.W., et al. (1993, p.1019-1036, eng) 47-5105

Porous materials

Theory of ice premelting in monosized powders. Cahn, J.W., et al. (1992, p.101-108, eng) 47-181

Effect of restricted geometries on the structure and thermodynamic properties of ice. Handa, Y.P., et al. (1992, p.8594-8599, eng) 47-1569

Freezing flow in a subcooled permeable medium. Griffiths, S.K., et al. (1992, p.1036-1041, eng) 47-1672

Comparison between wave propagation in water-saturated and air-saturated porous materials. Albert, D.G., (1993, p.28-36, eng) 47-1678

Temperature evolution of porous ice samples covered by a dust mantle. Kömle, N.I., et al. (1992, p.204-212, eng) 47-1953

Heat transfer characteristics of ice capsules for encapsulated cool storage systems. Arnold, D., (1991, p.335-342, eng) 47-2562

Concurrent freezing and sublimation of a liquid-saturated porous slab. Vaidyanathan, N., et al. (1991, p.251-259, eng) 47-2565

Comments on "Analysis of close-contact melting for octadecane and ice inside isothermally heated horizontal rectangular capsule". Bejan, A., (1993, p.832, eng) 47-2655

Structural study of water confined in porous glass by neutron scattering. Bellissent-Funel, M.C., et al. (1993, p.4246-4252, eng) 47-2675

Transport phenomena in frozen porous media. Perfect, E., et al. (1991, p.243-270, eng) 47-2860

Solidification of a binary mixture saturating a bed of glass spheres. Cao, W.Z., et al. (1991, p.725-737, eng) 47-2861

Some geophysical problems involving convection in porous media. Nield, D.A., (1991, p.985-1006, eng) 47-2862

Very large melting point depression of water in silica. van Miltenburg, J.C., et al. (1993, p.1143-1149, eng) 47-3290

Pressure effects on non-freezing water layer thickness. Bardasov, S.A., et al. (1992, p.160-166, eng) 47-3733

Thermal equilibrium in porous media with concurrent flow and freezing. Tao, Y.X., et al. (1993, p.323-332, eng) 47-4065

Heat transfer from a heated cylinder buried in a frozen porous medium in an enclosure. Oosthuizen, P.H., et al. (1992, p.315-326, eng) 47-4707

Onset and evolution of penetrative convection during the melting process in a porous medium. Nguyen, T.H., et al. (1992, p.381-392, eng) 47-4708

Effects of surfaces on the melting/freezing behavior of fluids in derivatized- and nude-porous silica. Malhotra, V.M., et al. (1993, p.121-126, eng) 47-4709

Thermodynamic properties of ice and of tetrahydrofuran hydrate in confined geometries. Zakrzewski, M., et al. (1993, p.631-637, eng) 47-4738

On the accuracy of cometary nuclei simulation experiments. Klinger, J., et al. (1989, p.493-497, eng) 47-5125

Heat transfer from a cylinder buried in a frozen medium. Oosthuizen, P.H., et al. (1992, p.457-475, eng) 47-5264

Portable equipment

Speedy sledge offers retreat from storms. Anderson, I., (1992, p.20, eng) 47-233

Rapid Deployment Imagery Terminal (RDIT) using DMSP special sensor data. Harris, T.L., et al. (1992, p.202-211, eng) 47-1070

Continuous snow chain. Lew, H.S., (1989, 8 col., eng) 47-3110

Mobile marine operations structure. Bhalaik, A., et al. (1989, 38 col., eng) 47-3323

Automobile windshield cleaning tool. Littledeer, T.F., (1989, 4 col., eng) 47-3326

Adjustable, manual snowplow. Kulat, A.C., (1989, 4 col., eng) 47-3411

Method and apparatus for scraping ice and snow and illuminating a scraping area. Hopkins, E.L., (1988, 6 col., eng) 47-3502

Portable equipment *(cont.)*

Snow chains for vehicles. Artzi, G.B., [1987, 4 col., eng] 47-3847

Snow plow attachment. Steinhoff, K., [1987, 4 col., eng] 47-3848

Evaluation of limits to the performance of the surface roughness meter. Johnson, F., et al, [1993, p.140-145, eng] 47-4591

Vehicles and transports during the Swedish Antarctic Research Programme 1991/92. Berg, A., [1993, p.258-266, eng] 47-5114

Transport concept at the antarctic stations and for field operations of the Alfred Wegener Institute. Kohnen, H., et al, [1993, p.267-273, eng] 47-5115

Portable shelters

Speedy sledge offers retreat from storms. Anderson, I., [1992, p.20, eng] 47-233

Buildings for harsh environments. Wallhead, M., [1989, 8 col., eng] 47-3107

Ports

Field survey of freezing in ports. Yamamoto, Y., et al, [1992, p.81-85, jpn] 47-120

Designing for ice conditions in marinas. Wortley, C.A., [1992, p.48-50, eng] 47-1921

Power line icing

Ice accretion on energized line insulators. Farzaneh, M., et al, [1992, p.618-624, eng] 47-1849

Effect of voltage polarity on icicles grown on line insulators. Farzaneh, M., et al, [1992, p.625-631, eng] 47-1850

Numerical simulation model of cable icing using an elliptical ice shape. McComber, P., et al, [1992, p.632-640, eng] 47-1851

DC flashover performance of iced insulators under pressure and pollution conditions. Zhang, J.H., et al, [1991, p.957-960, eng] 47-2177

Rime-ice accretion on fixed stranded conductors. Skelton, P.L.I., et al, [1993, p.45-52, eng] 47-3529

Ice detector estimation of atmospheric icing on a cable. McComber, P., et al, [1993, p.305-316, eng] 47-3933

Spacing of icicles. Makkonen, L., et al, [1993, p.317-322, eng] 47-3934

Glaze ice measurement with microprocessor. Provencal, G., et al, [1988, 8 col., eng] 47-4008

Numerical simulation model of cable icing in freezing rain conditions. McComber, P., et al, [1992, p.71-80, eng] 47-4035

Overhead line ice accretion due to freezing rain. Poots, G., et al, [1992, p.390-398, eng] 47-4069

Computer model of glaze accretion on wires. Draganoiu, G., et al, [1993, p.89-95, eng] 47-4235

Effect of voltage polarity on icicles grown on line insulators. Farzaneh, M., et al, [1992, p.297-302, eng] 47-4303

Ice accretion on energized line insulators. Farzaneh, M., et al, [1992, p.228-233, eng] 47-4307

Simulation of ice-shedding on electrical transmission lines using ADINA. Jamaleddine, A., et al, [1993, p.523-536, eng] 47-4857

Pneumatically de-iced ice detector. Franklin, C.H., et al, [1985, 32p., eng] 47-4896

Reliability-based design of transmission towers under wind and ice loadings. Cho, H.N., et al, [1993, p.1125-1130, eng] 47-5263

Power lines

See also: Transmission lines

Power supply

See also: Electric power; Nuclear power; Wind power *generation*

Precipitation gages

Propylene glycol ethanol antifreeze for precipitation gages. McGurk, B.J., [1992, p.56-65, eng] 47-494

Preliminary assessments of accuracy characteristics of the *double-fenced precipitation gauge.* Golubev, V.S., [1991, p.101-106, eng] 47-797

Norwegian Meteorological Institute. Førland, E.J., [1988, 4p., eng] 47-1687

Report on improving the accuracy of radar precipitation gages (3rd report). Konishi, S., et al, [1992, p.165-170, jpn] 47-2492

Radar precipitation gages for runoff forecasting. Shinme, R., et al, [1991, p.109-114, jpn] 47-2520

Radar precipitation gages for blowing snow. Isobe, K., et al, [1991, p.121-124, jpn] 47-2521

Preprints. [1993, 501p. + joint papers, eng] 47-3059

New airborne precipitation spectrometer for atmospheric research. Lawson, R.P., et al, [1993, p.30-35, eng] 47-3062

Automated snow depth measurement. Bradley, J.T., et al, [1993, p.74-79, eng] 47-3065

Correction of precipitation point measurements. Golubev, V.S., [1993, p.325-328, eng] 47-3070

Biases in precipitation measurements: an American experience. Peck, E.L., [1993, p.329-334, eng] 47-3071

Correction of Canadian winter precipitation data. Metcalfe, J.R., et al, [1993, p.338-343, eng] 47-3072

Experiences in correcting point precipitation measurement in Finland. Elomaa, E.J., [1993, p.346-350, eng] 47-3073

Estimation of biases in precipitation gage measurements Legates, D.R., et al, [1993, p.J48-J51, eng] 47-3083

Homogeneity of precipitation time series in Finland. Heino, R., [1993, p.J52-J55, eng] 47-3084

Continuous measurement of snowfall intensity per short time interval. Tamura, M., [1992, p.33-43, eng] 47-3186

Working wih ultrasonic snow depth sensors. Judd, D., [1993, p.6-7, eng] 47-3262

Depth sensors, part 2. Judd, D., [1993, p.6-7, eng] 47-3263

Precipitation (meteorology)

Calculation of hydrometeor growth via water vapor diffusion. Srivastava, R.C., et al, [1992, p.1643-1651, eng] 47-7

Supercooled liquid water and precipitation-enhancement opportunities. Long, A.B., et al, [1992, p.1041-1055, eng] 47-9

Scattering by rain and melting snow. Kharadly, M.M.Z., [1989, p.406-410, eng] 47-19

Anticipated human modifications of global climate. Budyko, M.I., et al, [1990, p.11-23, eng] 47-171

Characterizing the distribution of observed precipitation and runoff over the continental United States. Dolph, J., et al, [1992, p.99-119, eng] 47-228

Brightness temperature properties of a cloud radiation model. Smith, E.A., et al, [1992, p.506-531, eng] 47-354

Rainfall estimation over oceans from SMMR and SSM/I microwave data. Prabhakara, C., et al, [1992, p.532-552, eng] 47-355

Severe winters and droughts. Sazonov, B.I., [1991, 239p., rus] 47-363

Estimation of 30 year average annual precipitation for SNOTEL sites in Idaho. Morrisey, P.S., [1992, p.133-136, eng] 47-504

Underwater sounds of precipitation. Crum, L.A., et al, [1992, p.2-12, eng] 47-513

Snow cover effect on monsoon fluctuations over India. Sikka, D.R., [1985, p.47-60, eng] 47-524

On some meteorological aspects of snowfall over the Himalayas as observed by satellite. Kalsi, S.R., et al, [1985, p.125-132, eng] 47-531

Winter and spring precipitation over the northwestern Himalayas—a brief appraisal. Rakhecha, P.R., et al, [1985, p.175-185, eng] 47-537

Forecasting snow versus rain in Kulu Valley. Rangachary, N., et al, [1985, p.304-309, eng] 47-547

Seasonal river runoff calculated from a global atmospheric model. Kuhl, S.C., et al, [1992, p.2029-2039, eng] 47-776

Slope runoff in the Transural steppe region of Bashkiria. Mosienko, N.A., et al, [1991, p.77-80, eng] 47-796

Preliminary assessments of accuracy characteristics of the double-fenced precipitation gauge. Golubev, V.S., [1991, p.101-106, eng] 47-797

Elements of the material balance under conditions of an alpine lichen heath of the North Caucasus. Makarov, M.I., [1983, p.58-61, eng] 47-799

Simulation of oxygen isotope variations in atmospheric flow. Fisher, D.A., [1992, p.61-77, eng] 47-804

Observing precipitation through dual-polarization radar *measurements.* Herzegh, P.H., et al, [1992, p.1365-1374, eng] 47-822

Cool rain in a three-dimensional shallow-cloud model. Takahashi, T., et al, [1992, p.739-748, eng] 47-826

Effect of arctic ice cover on the monthly temperature and *precipitation in China.* Chen, Y.S., et al, [1992, p.275-286, eng] 47-1124

Temperature-precipitation relationships for Canadian stations. Isaac, G.A., et al, [1992, p.822-830, eng] 47-1268

Recent advances and future implications of remote sensing for hydrologic modeling. Engman, E.T., et al, [1991, p.471-495, eng] 47-1381

Classification of snow cover and precipitation using SSM/I measurements: case studies. Fiore, J.V., Jr., et al, [1992, p.3349-3361, eng] 47-1442

Soluble species in the arctic summer troposphere: acidic gases, aerosols, and precipitation. Talbot, R.W., et al, [1992, p.16,531-16,543, eng] 47-1453

Asian snow cover-monsoon-ENSO connection. Barnett, T.P., et al, [1991, p.191-225, eng] 47-1503

Distribution of precipitation in the Qilian Mountains. Yang, Z.N., et al, [1992, p.121-132, chi] 47-1546

Orographic enhancement of snowfall. Dore, A.J., et al, [1992, p.175-179, eng] 47-1553

Scattering from melting ice spheres at microwave and millimeter-wave frequencies. Fletcher, P.N., et al, [1992, p.545-548, eng] 47-1561

Radar sensing of precipitation: circular polarization effects. Antar, Y.M.M., et al, [1992, p.7-16, eng] 47-1562

Precipitation conditions for the development of the present glaciers on the northern slope of Karakorum. Ding, Y.J., [1991, p.243-248, eng] 47-1610

Characteristics of precipitation in the source area of the Urumqi River Basin. Yang, D.Q., et al, [1992, p.258-266, chi] 47-1666

How has the problem been solved over many centuries. Background to and description of recent nordic activities in the correction of precipitation measurement. Madsen, H., et al, [1988, p.3-11, swe] 47-1689

Interactions and relations between mountain permafrost, glaciers, snow and water. Harris, S.A., et al, [1992, p.103-110, eng] 47-1749

Measurement and modelling of cloudwater deposition to a snow-covered forest canopy. Gallagher, M.W., et al, [1992, p.2893-2903, eng] 47-1947

Thermodynamics of pollutant removal as an indicator of possible source areas for arctic haze. Bowling, S.A., et al, [1992, p.2953-2961, eng] 47-1949

Precipitation retrieval from a cloud radiation model. Mugnai, A., et al, [1993, p.17-39, eng] 47-1995

Computationally efficient approximations to stratiform cloud microphysics parameterization. Ghan, S.J., et al, [1992, p.1572-1582, eng] 47-1998

Operational use of an orographic precipitation model. Hayes, P.S., [1992, 14p., eng] 47-2135

Development of ice and precipitation in New Mexican summertime cumulus clouds. Blyth, A.M., et al, [1993, p.91-120, eng] 47-2146

Investigations of the relationship between cloudwater and precipitation chemistry using Doppler radar. Collett, J.L., Jr., et al, [1991, p.381-392, eng] 47-2213

Scavenging ratios in precipitation studies. Barrie, L.A., [1991, p.403-419, eng] 47-2214

Numerical model of aerosol scavenging, part 1: *microphysics parameterization.* Molenkamp, C.R., et al, [1991, p.575-590, eng] 47-2216

Numerical model of aerosol scavenging, part 2: simulation of a large city fire. Bradley, M.M., et al, [1991, p.591-601, eng] 47-2217

Polar precipitation chemistry. Delmas, R.J., [1991, p.1669-1691, eng] 47-2218

Wet deposition influence on ice sheet chemistry. Borys, R.D., et al, [1991, p.1705-1718, eng] 47-2220

Comparison of cloud microphysics parameterizations for simulation of mesoscale clouds and precipitation. Lee, I.Y., [1992, p.2699-2712, eng] 47-2251

Freezing nucleus spectra in the rain samples and their possible application on cloud conditions. Dubrovsky, M., [1992, p.321-324, eng] 47-2277

Precipitation variations over the Greenland ice sheet during the last three decades. Bromwich, D.H., et al, [1992, p.125-128, eng] 47-2398

Multiyear surface climatology of a regional atmospheric model over the western United States. Giorgi, F., et al, [1993, p.75-95, eng] 47-2460

Structural stability in cloud physics using parameterized *microphysics.* Wacker, U., [1992, p.231-242, eng] 47-2656

Dependence of cloud chemistry on drop size. Collett, J.L., Jr., et al, [1993, p.33-42, eng] 47-2705

Hail occurrences in India. Nizamuddin, S., [1993, p.90-92, eng] 47-2709

Atmospheric water-vapour transport to Antarctica inferred from radiosonde data. Connolley, W.M., et al, [1993, p.325-342, eng] 47-2712

Precipitation model for the Gunnison River basin. Hay, L.E., et al, [1992, p.651-660, eng] 47-2741

Model for simulation of winter precipitation. Medina, J.G., [1992, p.661-670, eng] 47-2742

Use of nested models to simulate regional orographic precipitation. Matthews, D.A., et al, [1992, p.671-680, eng] 47-2743

Climate-change scenarios for the Sierra Nevada. Dettinger, M.D., et al, [1992, p.681-690, eng] 47-2744

Hydrologic effects of climate change in mountainous regions. Leavesley, G.H., et al, [1992, p.691-700, eng] 47-2745

Atmospheric circulation and precipitation in the Sierra Nevada. Cayan, D.R., et al, [1992, p.711-720, eng] 47-2747

Climate change and seasonal streamflow in the Sierra Nevada. Duell, L.F.W., Jr., [1992, p.731-740, eng] 47-2748

Application of watershed models to the Gunnison River basin. Kuhn, G., et al, [1992, p.741-750, eng] 47-2749

Snow versus rain: looking beyond the "magic" numbers. Heppner, P.O.G., [1992, p.683-691, eng] 47-2764

Isotopic pleiad of oxygen in atmospheric precipitation in the polar regions. Nikolaev, V.I., et al, [1991, p.109-112, rus] 47-2796

Aircraft observations of the origin and growth of very large snowflakes. Lawson, R.P., et al, [1993, p.53-56, eng] 47-2846

Moisture budget in the antarctic atmosphere. Yamazaki, K., [1992, p.36-45, eng] 47-3003

Simulation of the regional climate and hydrology of the *Great Lakes basin.* Bates, G.T., et al, [1993, p.32-33, eng] 47-3043

Estimation of arctic precipitation from water vapor flux convergence. Walsh, J.E., et al, [1993, p.324-328, eng] 47-3048

Preprints. [1993, 501p. + joint papers, eng] 47-3059

Capabilities of the Automated Surface Observing System (ASOS). Burch, L.E., [1993, p.363-367, eng] 47-3075

Weather characterization by the mean of a vertically pointing CW radar. Duvernoy, J., et al, [1993, p.379-381, eng] 47-3076

Towards unbiased estimates of North American precipitation. Groisman, P.IA., [1993, p.J43-J47, eng] 47-3082

Estimation of biases in precipitation gage measurements. Legates, D.R., et al, [1993, p.J48-J51, eng] 47-3083

Homogeneity of precipitation time series in Finland. Heino, R., [1993, p.J52-J55, eng] 47-3084

Long precipitation series in Norway—analysis of homogeneity and regionalization. Hanssen-Bauer, I., et al, [1993, p.J56-J61, eng] 47-3085

Vertical radar precipitation study at Showa Station. Wada, M., et al, [1992, p.341-349, eng] 47-3362

Hydrometeorological and ice conditions in the arctic seas of the USSR during 1990-1991. Siniurin, IU.N., [1992, p.93-96, eng] 47-3459

Growth rate of polyhedral ice crystals growing from the vapor phase and their habit change. Sei, T., et al, [1989, p.495-502, eng] 47-3465

Doppler radar analysis of mesoscale snow bands. Ishihara, M., et al, [1989, p.503-520, eng] 47-3466

Review of thunderstorm electrification processes. Saunders, C.P.R., [1993, p.642-655, eng] 47-3507

Polarimetric signatures in the stratiform region of a mesoscale convective system. Zrnic, D.S., et al, [1993, p.678-693, eng] 47-3508

Storm simulation with and without ice microphysics. Johnson, D.E., et al, [1993, p.745-759, eng] 47-3510

Magnitude of error factors in estimates of snow-particle masses from images. Detwiler, A.G., et al, [1993, p.804-809, eng] 47-3512

Model and real climate compared in the NW European winter. Beersma, J.J., [1992, 32p., eng] 47-3522

Calculation of microwave brightness temperatures over a thunderstorm. Muller, B.M., et al, [1993, p.1006-1013, eng] 47-3567

Precipitation detection with a scintillation device. Wang, T.I., [1988, 14 col., eng] 47-3637

Some climatic characteristics of precipitation in the Asian Arctic for medium-range weather forecasting. Kuchin, V.A., [1989, p.138-147, rus] 47-3666

Front Range blizzard of 1990. Part 1: synoptic and mesoscale structure. Marwitz, J.D., et al, [1993, p.402-415, eng] 47-3676

Field performance of a spinning-reflector microwave radiometer. Demoz, B.B., et al, [1993, p.420-427, eng] 47-3775

Sensitivity of streamflow simulation to changes in climatic inputs. Ng, H.Y.F., et al, [1992, p.257-272, eng] 47-3802

Hail: the white plague. Hughes, P., et al, [1993, p.16-21, eng] 47-3924

Size distribution of particles in precipitation and river waters in the Baikal Lake region. Anokhin, IU.A., et al, [1992, p.19-26, eng] 47-3989

Collision between graupel particles: a field observation and theory. Mizuno, H., et al, [1992, p.1037-1043, eng] 47-4019

Coastal influences on winter precipitation events in southeast Labrador. Newell, J.P., [1992, p.107-114, eng] 47-4039

Depolarization of radio waves by ice crystals. Maekawa, Y., et al, [1993, p.249-259, eng] 47-4062

Chemical composition of precipitation in Uzbekistan. Kulmatov, R.A., et al, [1993, p.413-419, eng] 47-4068

Wind-profile estimation by conventional radars. Fabry, F., [1993, p.40-49, eng] 47-4165

Dynamic modeling of the spatial distribution of precipitation in remote mountainous areas. Barros, A.P., et al, [1993, p.1195-1214, eng] 47-4254

Case study of heavy snowfall in Oklahoma. Marwitz, J.D., et al, [1993, p.648-660, eng] 47-4256

Below-cloud scavenging of aerosol particles: particle-bound radionuclides—experimental. Sparmacher, H., et al, [1993, p.605-618, eng] 47-4349

Form of cyclonic precipitation and its thermal impact. Gedzelman, S.D., et al, [1993, p.1957-1978, eng] 47-4355

Revised snowstorm maximization method for Canadian boreal regions. Chow, K.C.A., et al, [1993, p.449-454, eng] 47-4401

Destructive hailstorms in Essex on 26 May 1985. Elsom, D.M., et al, [1993, p.166-173, eng] 47-4405

GIS modelling of winter orographic precipitation. Hay, L.E., et al, [1993, p.491-499, eng] 47-4460

Scattering indices for water drops and ice particles in clouds. Ajvazyan, H.M., [1993, p.1137-1154, eng] 47-4509

Hail detection using active and passive radars. Ajvazyan, H.M., et al, [1993, p.1155-1174, eng] 47-4510

Numerical investigation of wind speed effects on lake-effect storms. Sousounis, P.J., [1993, p.261-290, eng] 47-4511

Acid snow over coastal Japan, pt.1. Kitada, T., et al, [1993, p.1061-1076, eng] 47-4581

Acid snow over coastal Japan, pt.2. Kitada, T., et al, [1993, p.1077-1090, eng] 47-4582

Seed bank composition in a subarctic forest. Vieno, M., et al, [1993, p.379-384, eng] 47-4583

Lessons learned from an ice storm emergency. Low, T.A., [1993, p.38-49, eng] 47-4624

Polarimetric measurements in a severe hailstorm. Zrnić, D.S., et al, [1993, p.2223-2238, eng] 47-4706

Exceptional rain-snow event of February 1990 in the Northern Alps. Blanchet, G., [1993, p.68-77, fre] 47-4761

Estimation of cloud liquid water in winter storms on the Mongollon Rim: report on task 1. Medina, J.G., [1993, 19p., eng] 47-4913

Rate of vapor condensation in a cloud layer at a slow updraft. Smirnov, V.I., et al, [1991, p.78-82, eng] 47-4925

Temporal characteristics of USA snowfall 1945-1946 through to 1984-1985. Leathers, D.J., et al, [1993, p.65-76, eng] 47-4981

Aluminium solubility in rainwater and molten snow. Losno, R., et al, [1993, p.29-43, eng] 47-5145

Dynamics of tritium deposition from precipitation over the USSR and its removal into seas. Katrich, I.IU., [1991, p.90-93, eng] 47-5198

Modeled variations of precipitation over the Greenland ice sheet. Bromwich, D.H., et al, [1993, p.1253-1268, eng] 47-5210

Recent snowfall variations in North America. Karl, T.R., et al, [1993, p.1327-1344, eng] 47-5211

Heavy snowfall during an arctic outbreak along the Colorado Front Range. Wesley, D.A., et al, [1990, p.2-19, eng] 47-5257

See also: Hail; Rain; Snowfall

Prefabricated buildings

See also: Prefabrication

Prefabrication

Panelised forms of building construction for antarctic regions. Incoll, P., [1992, p.564-570, eng] 47-1842

Prefabricated engineering services for use in antarctic regions: pipe lines in harsh environments. Archibald, J., [1992, p.577-586, eng] 47-1844

Preserving

Effects of freezing on the measurement of solids in wastewater sludges. Roy, N.A., et al, [1990, p.191-197, fre] 47-1784

Tyrol's ice-man. Ambach, W., et al, [1992, p.1471, eng] 47-1902

Corpses released from glacier ice: glaciological and forensic aspects. Ambach, W., et al, [1992, p.372-376, eng] 47-1906

Homo tirolensis, a mummy frozen in time. Ambach, E., et al, [1992, p.296, eng] 47-1907

Is mummification possible in snow. Ambach, E., et al, [1992, p.191-192, eng] 47-1909

Guide to proper salt storage. [1992, p.55-56,82-83, eng] 47-1923

Critical cooling rates for aqueous cryoprotectants. Sutton, R.L., [1992, p.585-598, eng] 47-2875

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Pressure

See also: Atmospheric pressure; Ice pressure; Soil pressure; Vapor pressure; Water pressure; Wind pressure

Pressure ridges

Relation between SAR imagery and regional sea ice ridging characteristics from BEPERS-88. Similä, M., et al, [1992, p.2415-2432, eng] 47-256

Effects of ice ridge properties on calculated surface backscattering in BEPERS-88. Manninen, A.T., [1992, p.2469-2487, eng] 47-259

Measurement of pressure ridges in SAR images of sea ice. Vesecky, J.F., et al, [1992, p.955-957, eng] 47-663

Passive microwave signatures of simulated pancake ice and young pressure ridges. Grenfell, T.C., et al, [1992, p.1253-1255, eng] 47-673

Mathematical model to describe hinge crack failure of a sheet ice reinforced ridge beam. Lau, M., [1991, 16p. + appends., eng] 47-1354

Level and ridge ice forces on downward breaking structures. Lau, M., [1991, 2 vols., eng] 47-1355

First year ice ridge characteristics and loads on offshore structures. Eranti, E., et al, [1992, p.681-687, eng] 47-1860

Strength parameters of hummocks. Truskov, P.A., et al, [1992, p.783-789, eng] 47-1875

Probability estimation of moving pressure ridge contacts with pipelines. Surkov, G.A., et al, [1992, p.797-800, eng] 47-1878

Selection of the subsea pipeline route for the offshore Chaivo field. Skurikhin, V.A., et al, [1992, p.801-806, eng] 47-1879

Relationship between sea ice freeboard and draft in the Arctic Basin, and implications for ice thickness monitoring. Wadhams, P., et al, [1992, p.20,325-20,334, eng] 47-2344

Field measurements of northern Baltic pressure ridges. Reynolds, E., et al, [1992, 21p. + appends., eng] 47-2587

Numerical simulation of systems of multitudinous polygonal blocks. Hopkins, M.A., [1992, 69p., eng] 47-2923

Acoustic scattering from elemental arctic ice features: numerical modeling results. Fricke, J.R., [1993, p.1784-1796, eng] 47-3231

Very-low-frequency under-ice reflectivity. Wolf, J.W., et al, [1993, p.1329-1334, eng] 47-3432

Sea ice flexure noise attenuation during seismic surveys. Ostrander, W.J., [1986, 14 col., eng] 47-4260

Stresses and forces under ice compacting. Nikitin, V.A., et al, [1993, p.139-142, eng] 47-4299

Radiometric sea ice features from aircraft images. Farmer, L.D., et al, [1993, p.4645-4665, eng] 47-4387

Topography of the upper and lower surfaces of 10 hectares of deformed sea ice. Melling, H., et al, [1993, p.349-369, eng] 47-5206

Prestressed concretes

Extreme values of thermal loading parameters in concrete bridges. Maes, M.A., et al, [1992, p.935-946, eng] 47-3341

Concrete durability related to curing rate. Johnston, C.D., [1993, p.1167-1187, eng] 47-3613

Prevention

See also: Countermeasures

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Probes

Methodology of airborne tests of anti-hail products in stratiform clouds. Berezinskii, N.A., et al, [1991, p.68-74, rus] 47-754

(Mu)SR studies of ice, illustrating the positive muon as a magnetic resonance probe of structure and dynamics. Cox, S.F.J., [1992, p.292-296, eng] 47-981

Determination of soil moisture distribution from impedance and gravimetric measurements. Ungar, S.G., et al, [1992, p.18,969-18,977, eng] 47-1624

Solvent/water partitioning of dimethylmethylphosphonate (DMMP) as a probe of solvent acidity. Leggett, D.C., [1993, p.289-296, eng] 47-2624

Comparison of in-cloud measurements obtained with six PMS 2D-C probes. Gayet, J.F., et al, [1993, p.180-194, eng] 47-2768

Aircraft observations of the origin and growth of very large snowflakes. Lawson, R.P., et al, [1993, p.53-56, eng] 47-2846

Fiber optic probe system. Brossia, C.E., et al, [1989, 20 col., eng] 47-3108

Magnitude of error factors in estimates of snow-particle masses from images. Detwiler, A.G., et al, [1993, p.804-809, eng] 47-3512

Process and measuring probe for the determination of ice or snow formation. Meyer, F., [1988, 6 col., eng] 47-3762

Observations of cirrus cloud microphysical properties. Noone, K.B., et al, [1993, p.294-303, eng] 47-3773

Thin profile snow, sleet and moisture sensing detector. Murphy, J.P., [1987, 10 col., eng] 47-4102

Microbubble mediated surface probe and the ice-antifreeze glycoprotein solution system. Vesenka, J.P., et al, [1993, p.67-74, eng] 47-4757

Ice detectors for aircraft. Horne, T.A., [1993, p.T-11,T-14, eng] 47-5002

Production

See also: Manufacturing

Profiles

Seismic profiles of alpine glacial basins. Pugin, A., et al, [1992, p.491-502, eng] 47-1912

Southern Lake Michigan coastal ice and sediment sample data: shoreface and ice profiles (winter 1990/91). McCormick, M., et al, [1991, 32p., eng] 47-1916

Icing on a small horizontal-axis wind turbine—part 1: glaze ice profiles. Bose, N., [1992, p.75-85, eng] 47-3921

Wind-profile estimation by conventional radars. Fabry, F., [1993, p.40-49, eng] 47-4165

Atmospheric NO3. 4. Vertical profiles at middle and polar latitudes at sunrise. Smith, J.P., et al, [1993, p.8983-8989, eng] 47-4383

Roughness of Weddell Sea ice and estimates of the air-ice drag coefficient. Andreas, E.L., et al, [1993, p.12,439-12,452, eng] 47-4521

See also: Soil profiles; Stratigraphy

Projectile penetration

Deep ice penetrator/instrumented test results. Rychnovsky, R.E., [1988, 25p., eng] 47-4641

Ice penetration tests of a water/ice penetrator. Rychnovsky, R.E., [1987, 50p., eng] 47-4642

Projects

See also: Research projects

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Propellers

Full-scale trial propulsion system. Cowper, D.N.B., [1992, 156p. + appends. bound separately (2 vols.), eng] 47-599

Constricted flow due to ice blockage over a blade. Shih, L.Y., et al, [1992, 6p., eng] 47-1350

Research on "Ice/Propeller Interaction": JRPA No.6 subtasks 5.1.1 and 5.1.2. Cowper, D.N.B., [1992, 87p., eng] 47-1351

JRPA No.6 propeller/ice interaction: development of model test program. [1992, 17p. + appends., eng] 47-1352

Ice crystals produced by expansion: experiments and application to aircraft-produced ice. Foster, T.C., et al, [1993, p.716-728, eng] 47-3509

Stern apron for ice breakers. Varges, G., [1988, 4 col., eng] 47-3768

Icing on a small horizontal-axis wind turbine—part 1: glaze ice profiles. Bose, N., [1992, p.75-85, eng] 47-3921

Icing on a small horizontal-axis wind turbine—part 2: three dimensional ice and wet snow formations. Bose, N., [1992, p.87-96, eng] 47-3922

Propellers *(cont.)*
Variable pitch propellers for ice navigating ships. Ivanov, S., [1990, p.38-40, rus] 47-4091
Air containing propeller stream and its application in ice clearance. Wang, S.L., et al, [1993, p.53-58, eng] 47-4230
Investigation of air containing propeller stream. Wang, S.L., et al, [1993, 4p., eng] 47-4863
Hydrodynamic pressure during propeller/ice interaction. Newbury, S., et al, [1993, 10p., eng] 47-4864
Flow over a propeller with ice blockage. Shih, L.Y., et al, [1993, 12p., eng] 47-4865
Prospecting
See also: Electromagnetic prospecting; Exploration; Geothermal prospecting; Gravimetric prospecting; Seismic surveys; Surveys
Protection
Avalanche control in formation zone—a case study. Rajaram, T., [1985, p.354-368, eng] 47-553
Protection of membrane integrity in *Medicago sativa* L. by glycinebetaine against the effects of freezing. Zhao, Y., et al, [1992, p.541-543, eng] 47-1264
Keeping mortar materials warm in winter. Camillo, J., [1992, p.463-465, eng] 47-1510
Use of geotextiles in earth structures for oil—gas pipelines under West Siberia conditions. Kushnir, S.IA., et al, [1992, p.81-84, eng] 47-1579
Designing for ice conditions in marinas. Wortley, C.A., [1992, p.48-50, eng] 47-1921
Guard against freezing in water lines. Kenny, T.M., [1991, p.44-47, eng] 47-1996
Protection of pyramidal piles and driven blocks from frost heaving. Zhukov, N.V., et al, [1993, p.104-109, eng] 47-2060
Cryoprotective properties of water in the earth cryolithosphere and its role in exobiology. *Gilichinskii*, D.A., et al, [1993, p.65-75, eng] 47-2658
Enclosures keep workers warm and more productive in cold weather. Smith, A., [1990, p.857-862, eng] 47-2716
Electrochemical characteristics of aluminum galvanic anodes in an arctic seawater. Tamada, A., et al, [1993, p.261-277, eng] 47-3176
Mobile marine operations structure. Bhalaik, A., et al, [1989, 38 col., eng] 47-3323
Arctic offshore structure and installation method therefor. Turner, J.W., [1988, 8 col., eng] 47-3418
Icebreaking defense buoy. *Coleman, R.K., [1988, 4 col., eng]* 47-3639
Stern apron for ice breakers. Varges, G., [1988, 4 col., eng] 47-3768
Floating drilling platform. Mäkinen, E., et al, [1988, 4 col., eng] 47-3846
Trustworthy simplified vacuum systems. Henry, R.D., [1987, 6 col., eng] 47-3850
Snowplow resistant road markers. Eigenmann, L., [1987, 6 col., eng] 47-4000
Ice deflector. Marthinsen, A., [1988, 4 col., eng] 47-4101
Composite platform for petroleum workings in polar seas. Michel, D., et al, [1986, 6 col., eng] 47-4259
Mobile marine operations structure. Bhalaik, A., et al, [1988, 30 col., eng] 47-4261
Snow loads on road-side structures during plowing. Rudelstorfer, K., et al, [1987, 88p., ger] 47-4989
See also: Bank protection (waterways); Countermeasures; Environmental protection; Frost protection; Slope protection; Soil stabilization
Protective coatings
Effect of sealers on the freeze-thaw resistance of mortar. Litvan, G.G., [1992, p.1141-1147, eng] 47-791
Kinetic coefficient of friction measurements of EG/AD/S ice on filled Imron paint. Bell, J., et al, [1991, 33p. + appends., eng] 47-1340
Adhesion of ice to coatings and the performance of ice release coatings. Croutch, V.K., et al, [1992, p.41-53, eng] 47-2201
Use of silicone masses to prevent the formation of ice on substrates. Achtenberg, T., et al, [1988, 8 col., eng] 47-3494
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Protective vegetation
Rehabilitation of avalanche protection forests. Konetschny, H., et al, [1989, p.482-486, ger] 47-1198
Ecology of cryogenic anthropogenically disturbed soils of the Yamal and peculiarities of their recultivation. Firsova, V.P., et al, [1992, p.108-111, eng] 47-1713
Selection of tree species and patterns of planting for snowy regions. Oie, T., [1985, p.75-81, jpn] 47-5158
See also: Forest strips; Snow hedges
Proton transport
Study of proton transfer in ice. Isaev, A.N., et al, [1992, p.19-25, eng] 47-204
Effect of static electric fields on protonic conductivity of ice single crystals. Petrenko, V.F., et al, [1992, p.341-353, eng] 47-243
Properties of a statistical model of ice at low temperatures. Barkema, G.T., et al, [1993, p.2059-2067, eng] 47-4463
Proton transfer in ice. Lee, C., et al, [1993, p.279-284, eng] 47-4856
Protons
"Electric current" states of the proton in water. Bingi, V.N., [1991, p.1068-1071, eng] 47-230
Decrease in total ozone concentration in the polar cap following solar proton flares. Shumilov, O.I., et al, [1991, p.17-21, eng] 47-4251
Pumps
Compact, disengaging pump drive aids cold weather starts. [1992, p.56-57, eng] 47-594
Quaternary deposits
Multiple glaciations and sea level changes, northern Ellesmere Island, high arctic Canada. Lemmen, D.S., et al, [1992, p.137-152, eng] 47-225
Geology of Quaternary deposits and recent tectonics in glacial regions of eastern Europe. Evzerov, V.IA., ed, [1992, 55p., rus] 47-241
Late Quaternary glaciation and climatic change in the northern Peruvian Andes. Rodbell, D.T., [1992, 233p., eng] 47-282
Quaternary geology of southwestern Alaska. Waythomas, C.F., [1991, 305p., eng] 47-290
Dating of Quaternary glaciation in the Sierra Nevada. Berry, M.E., [1991, 376p., eng] 47-293
Role of quasi-syngenesis in the formation of the cryogenic structure of quaternary deposits. Kanevskii, M.Z., [1991, p.47-63, rus] 47-398
Periglacial and eolian processes in southern France. Ambert, P., et al, [1992, p.55-71, fre] 47-778
Advance and retreat of Cordilleran ice sheets in Washington, U.S.A. Easterbrook, D.J., [1992, p.51-68, eng] 47-828
Paleoecology of an interglacial peat deposit, Nuyakuk, southwestern Alaska, U.S.A. Elias, S.A., et al, [1992, p.85-96, eng] 47-830
Stratigraphy of Quaternary sediments in the Arctic Ocean. Nowaczyk, N.R., et al, [1992, p.S567-S601, eng] 47-1279
Late Quaternary sedimentation at the continental margin of the southeastern Weddell Sea. *Antarctica.* Weber, M., [1992, 165p., ger] 47-1436
Ground moraines in European northeastern Russia and their lithostratigraphic significance. Andreicheva, L.N., [1992, 124p., rus] 47-1499
Sedimentology of glaciolacustrine deposits from an ice-dammed tributary. Fitzsimons, S.J., [1992, p.393-410, eng] 47-1551
Quaternary glaciation of the north slope of Karakorum Mountains. Xu, D.M., [1991, p.233-242, eng] 47-1609
Deglacial chronology for Baffin I. and Hudson Strait. Stravers, J.A., et al, [1992, p.1000-1017, eng] 47-1797
Applications of ground-penetrating radar in Quaternary geology. Grasmück, M.P., [1992, p.471-490, ger] 47-1993
Weichselian stratigraphy and palaeoenvironments at Bellsund, western Svalbard. Landvik, J.Y., et al, [1992, p.335-358, eng] 47-2044
Morphology of Quaternary deposits in the southern Netherlands. Kasse, K., et al, [1992, p.327-342, eng] 47-2240
Cryoturbations: a sediment structural analysis. Vandenberghe, J., [1992, p.343-352, eng] 47-2241
Sandstones and conglomerates formed by precipitation of CaCO3 under stagnant ice sheet. Drozdowski, E., [1991, p.253-266, eng] 47-2570
Quaternary sediments east of the Rocky Mountains. Soller, D.R., [1992, 54p., eng] 47-2593
Holocene mire development at a Japanese alpine site. Takahashi, N., [1990, p.93-156, eng] 47-2603
Last interglacial-glacial transition in North America. Clark, P.U., ed, [1992, 317p., eng] 47-2678
Historical overview of early Wisconsin glaciation. Goldthwait, R.P., [1992, p.13-18, eng] 47-2680
Last interglacial-glacial transition in Illinois: 123-25 ka. Curry, B.B., et al, [1992, p.71-88, eng] 47-2684
Ages of the Whitewater and Fairhaven tills in southwestern Ohio and southeastern Indiana. Miller, B.B., et al, [1992, p.89-98, eng] 47-2685
Reevaluation of early Wisconsinan stratigraphy of northern Ohio. Szabo, J.P., [1992, p.99-107, eng] 47-2686
Early Wisconsinan in the north-central part of the Lake Erie basin: a new interpretation. Dreimanis, A., [1992, p.109-118, eng] 47-2687
Sedimentary and biological record of the last interglacial-glacial transition at Toronto, Canada. Eyles, N., et al, [1992, p.119-137, eng] 47-2688
Sunnybrook drift in the Toronto area, Canada: reinvestigation and reinterpretation. Hicock, S.R., et al, [1992, p.139-161, eng] 47-2689
On the age of the penultimate full glaciation of New England. Oldale, R.N., et al, [1992, p.163-170, eng] 47-2690
Early Wisconsinan events in southern Quebec. Lamothe, M., et al, [1992, p.171-184, eng] 47-2691
Pre-late Wisconsinan chronology of Nova Scotia, Canada. Stea, R.R., et al, [1992, p.185-206, eng] 47-2692
Hudson Bay lowland Quaternary stratigraphy. Thorleifson, L.H., et al, [1992, p.207-221, eng] 47-2693
Last interglacial-glacial transition in Baffin Bay. Miller, G.H., et al, [1992, p.223-231, eng] 47-2694
Sangamonian and early Wisconsinan glacial record in the western Canadian Arctic. Vincent, J.S., [1992, p.233-252, eng] 47-2695
Sangamonian and early Wisconsinan stages in western Canada and northwestern United States. Clague, J.J., et al, [1992, p.253-268, eng] 47-2696
Early Wisconsinan alpine glaciation in the western United States. Colman, S.M., et al, [1992, p.269-278, eng] 47-2697
Early Wisconsin lakes and glaciers in the Great Basin, U.S.A. Oviatt, C.G., et al, [1992, p.279-287, eng] 47-2698
Pre-late Wisconsin paleolimnologic record from the Estancia Valley, central New Mexico. Bachhuber, F.W., [1992, p.289-307, eng] 47-2699
Outline of stratigraphy of the Pleistocene and the Holocene in south and central Spitsbergen. Lindner, L., et al, [1991, p.165-172, eng] 47-2769
Fossil evidence of ice-free conditions in Arctic Ocean sediment. Gard, G., [1993, p.227-230, eng] 47-2848
Determination of pollen accumulation rates in frozen sediments. Wang, X.C., et al, [1993, p.87-93, eng] 47-3120
Pleistocene glaciation in Iceland. Eiríksson, J., et al, [1992, p.733-757, eng] 47-3473
Last interglacial evidence in Northern Hemisphere high latitudes. Anderson, P., et al, [1991, p.9-28, eng] 47-3478
Land-ocean-atmosphere relationships during last interglacial. Anderson, P., et al, [1991, p.29-48, eng] 47-3479
Last interglaciation in Alaska: stratigraphy and paleoecology of potential sites. Hamilton, T.D., et al, [1991, p.49-71, eng] 47-3480
Interglaciation palynology in the Yukon. Schweger, C.E., et al, [1991, p.85-94, eng] 47-3482
Paleoenvironments in the northwest North Atlantic. De Vernal, A., et al, [1991, p.95-106, eng] 47-3483
Isotope stage 5 (130-74 ka) in Greenland—a review. Funder, S., et al, [1991, p.107-122, eng] 47-3484
Review of the Late Pleistocene stratigraphy of Reykjavik, Iceland. Eiríksson, J., et al, [1991, p.143-150, eng] 47-3486
Late *Quaternary land-sea interactions: Fennoscandia and* Svalbard—the Nordic seas. Larsen, E., et al, [1991, p.151-159, eng] 47-3487
Eemian-Early Weichselian N-S temperature gradients: North Atlantic-NW Europe. Sejrup, H.P., et al, [1991, p.161-166, eng] 47-3488
Last interglacial in northernmost Sweden. Robertsson, A.M., [1991, p.173-181, eng] 47-3489
Climatic rhythm of the last interglacial in northern Eurasia. Velichko, A.A., et al, [1991, p.191-213, eng] 47-3490
Problems of the last interglacial in arctic Siberia. Sher, A.V., [1991, p.215-222, eng] 47-3491
Glacial stratigraphy, engineering geology and earth construction. Kauranne, K., ed, [1992, 167p., eng] 47-3543
Th/U dating of calcareous concretions. Causse, C., [1992, p.33-39, eng] 47-3545
Glacial stratigraphy in Lapland. Hirvas, H., [1992, p.41-42, eng] 47-3546
Glacial stratigraphy in Sweden. Lundqvist, J., [1992, p.43-59, eng] 47-3547
Glacial stratigraphy in Norway. Andersen, B.G., [1992, p.61-71, eng] 47-3548
Economic Quaternary geology in Sweden—some comments on the contemporary situation. Königsson, L.K., [1992, p.75-87, eng] 47-3549
Applied quaternary geology in Estonia. Raukas, A., [1992, p.89-96, eng] 47-3550
Geology and foundation works in Estonia. Vilo, A., [1992, p.109-117, eng] 47-3551
Quaternary deposit chronology derived from varve dating. Björck, S., et al, [1992, p.25-44, eng] 47-3556
Astronomical theory of glaciation cycles. Grieger, B., [1990, p.81-96, eng] 47-3575
Quaternary geology and prospecting in Manitoba. Henderson, P.J., [1993, p.63-69, eng] 47-3706
Sedimentary record and Neoglacial history of Tide Lake, northwestern British Columbia. Clague, J.J., et al, [1992, p.2383-2396, eng] 47-3715
Late Quaternary glacial marine sediment record. Praeg, D., et al, [1992, p.133-150, eng] 47-3787
Quaternary engineering geology. Forster, A., ed, [1991, 724p., eng] 47-3867
Engineering geology of Quaternary soils: I. Processes and properties. Culshaw, M.G., et al, [1991, p.3-38, eng] 47-3868
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Quaternary engineering geology. Fookes, P.G., [1991, p.73-98, eng] 47-3870
Quaternary stratigraphy of offshore Scotland. Bone, B.D., et al, [1991, p.119-126, eng] 47-3871
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Report on Session 1b. [Engineering implications of glacially derived deposits]. Little, J.A., [1991, p.183-193, eng] 47-3875

Multidisciplinary offshore site investigations. Butenko, G., et al. (1991, p.195-202, eng) 47-3876
Waste disposal site selection techniques in Quaternary terraine Ontario, Canada. Cooper, A.J., (1991, p.211-217, eng) 47-3878
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Pleistocene deposits of the South Wales coalfield and their engineering significance. Wright, M.D., (1991, p.441-448, eng) 47-3895
Grain-size distribution of the Edoma deposits on Cape Bykovskiy. Nagaoka, D., (1993, p.104-109, eng) 47-3981
Radiocarbon dating of west Spitsbergen Quaternary deposits. Forman, S.L., et al. (1993, p.1-6, eng) 47-4015
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Swedish varve chronology—a review. Boygle, J., (1993, p.1-19, eng) 47-4073
Quaternary stratigraphy, paleoecology, and glacial geology, Iles de la Madeleine, Quebec. Dredge, L.A., et al. (1992, p.1981-1996, eng) 47-4157
On the extent and thickness of the Innuitian Ice Sheet: a postglacial-adjustment approach. Tushingham, A.M., (1991, p.231-239, eng) 47-4160
Glacial ice-flows on the islands of Bornholm and Christiansö, Denmark. Lindström, E., (1991, p.17-35, eng) 47-4317
Last glacial maximum on Spitsbergen, Svalbard. Mangerud, J., et al. (1992, p.1-31, eng) 47-4406
Paleoecology of peats from the Chukchi Sea shelf region. Elias, S.A., et al. (1992, p.371-378, eng) 47-4408
Modeling the *delta*O-18-derived record of Quaternary climatic change with low dynamical systems. Saltzman, B., (1987, p.355-380, eng) 47-4453
Glacial geology in Peruvian mountains. Rodbell, D.T., (1993, p.923-934, eng) 47-4580
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Stratigraphy and origin of an area of hummocky glacial topography, northern Wisconsin, U.S.A. Attig, J.W., et al. (1993, p.61-67, eng) 47-4752
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Radar

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(PIX radar: a tool for ocean surveillance and meteorological research. Currie, B.W., et al. (1991, p.25-36, eng) 47-3373
Comparison of altimetry profiles over East Antarctica from Seasat and Geosat: an interim report. Bentley, C.R., et al. (1990, p.1-9, eng) 47-3570
Snow conditions during MLRS-TGW BBS European Captive Flight Program, Hessen, Germany, February 1992. Fisk, D.J., (1993, 37p., eng) 47-3796
Arctic bases to get cleanup. Carr, F.H., (1993, p.20, eng) 47-4079
Historical overview of the DEW system in Alaska, and documentation of facilities at POW-3, Bullen Point, Alaska. (1993, 96p., eng) 47-4209
Automated dual polarization complex for studying the characteristics of cumulonimbus. Dinevich, L.A., et al. (1992, p.79-95, rus) 47-4659
Development of a portable ice-thickness measuring instrument. Adler, D., et al. (1992, 28p., eng) 47-4883

See also: Airborne radar; Side looking radar; Synthetic aperture radar

Radar echoes

Polarimetric radar remote sensing of hailstorms. Zhao, Y., (1990, 256p., eng) 47-85
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Ice thickness and subglacial topography of the Fridtjof Glacier based on data from ground-based radar sounding. Glazovskii, A.F., et al. (1991, p.161-166, rus) 47-336
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Kinetic energy of hailfalls. Part 4: patterns of hailpad and radar data. Schmid, W., et al. (1992, p.1165-1178, eng) 47-460
Evidence of ascent in a sloped barrier jet and an associated heavy-snow band. Dunn, L.B., (1992, p.914-924, eng) 47-590
Neural network-based adaptive radar detection scheme for small ice targets in sea clutter. Bhattacharya, T.K., et al. (1992, p.1528-1529, eng) 47-741
Observing precipitation through dual-polarization radar measurements. Herzegh, P.H., et al. (1992, p.1365-1374, eng) 47-822
Doppler radar wind and reflectivity signatures with overrunning and freezing-rain episodes: preliminary results. Prater, E.T., et al. (1992, p.1350-1358, eng) 47-1123
HF bi-phase shift keying radar: application to ice sounding in western Alps and Spitsbergen glaciers. Nicollin, F., et al. (1992, p.1025-1033, eng) 47-1260
Thickness profiling of freshwater ice using a millimeter-wave FM-CW radar. Yankielun, N.E., et al. (1992, p.1094-1100, eng) 47-1262
Short-pulse radar detection of groundwater in the Sagavanirktok River floodplain in early spring. Arcone, S.A., et al. (1992, p.2925-2936, eng) 47-1475
Europa, Ganymede, and Callisto: new radar results from Arecibo and Goldstone. Ostro, S.J., et al. (1992, p.18,227-18,244, eng) 47-1556
Scattering from melting ice spheres at microwave and millimeter-wave frequencies. Fletcher, P.N., et al. (1992, p.545-548, eng) 47-1561
Radar sensing of precipitation: circular polarization effects. Antar, Y.M.M., et al. (1992, p.7-16, eng) 47-1562
Applications of ground-penetrating radar in Quaternary geology. Grasmück, M.P., (1992, p.471-490, ger) 47-1993
Investigations of the relationship between cloudwater and precipitation chemistry using Doppler radar. Collett, J.L., Jr., et al. (1991, p.381-392, eng) 47-2213
Ice-producing processes in North Dakota clouds. Detwiler, A.G., et al. (1992, p.305-308, eng) 47-2273
Use of radar measurements to investigate hail formation in clouds. Alvazian, G.M., (1991, p.208-217, eng) 47-2543
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Polarimetric observations and theory of millimeter- wave backscatter from snow cover. Mead, J.B., et al. (1993, p.38-46, eng) 47-3172
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Combined infrared emission spectra and radar reflectivity studies of cirrus clouds. Palmer, A.J., et al. (1993, p.64-69, eng) 47-3356
Helicopter-borne scatterometer for remote sensing pt. 1. Hallikainen, M., et al. (1993, p.161-169, eng) 47-3358
Change detection on Alaska's North Slope using repeat-pass ERS-1 SAR images. Villasenor, J.D., et al. (1993, p.227-236, eng) 47-3360
Doppler radar analysis of mesoscale snow bands Ishihara, M., et al. (1989, p.503-520, eng) 47-3466
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Wind-profile estimation by conventional radars. Fabry, F., (1993, p.40-49, eng) 47-4165
Case study of heavy snowfall in Oklahoma. Marwitz, J.D., et al. (1993, p.648-660, eng) 47-4256
Radar analysis of hail clouds during seeding. Fedchenko, L.M., et al. (1992, p.87-92, eng) 47-4346
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Validating the UK-PAF land ice product surface elevation. Mantripp, D.R., et al. (1993, p.483-488, eng) 47-4444
Scattering indices for water drops and ice particles in clouds. Ajvazyan, H.M., (1993, p.1137-1154, eng) 47-4509
Hail detection using active and passive radars. Ajvazyan, H.M., et al. (1993, p.1155-1174, eng) 47-4510
Radar absorption due to impurities in antarctic ice. Corr, H., et al. (1993, p.1071-1074, eng) 47-4562
Review of GEOSAT data over Canadian east coast waters. Topliss, B.J., et al. (1993, p.117-130, eng) 47-4590
Airborne measurement of absolute sea-surface heights. Brozena, J.M., et al. (1993, p.875-878, eng) 47-4632
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Glacier study using wavenumber domain synthetic aperture radar. Hamran, S.E., et al. (1993, p.559-570, eng) 47-5120
Snow surface scattering theory and particle size distribution. West, R., et al. (1993, p.426-437, eng) 47-5268

Radar photography

Relation between SAR imagery and regional sea ice ridging characteristics from BEPERS-88. Similä, M., et al. (1992, p.2415-2432, eng) 47-256
SAR image classification of ice in the Gulf of Bothnia. Sun, Y., et al. (1992, p.2489-2514, eng) 47-260
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GPR and dielectric classification of glacial materials. Sutinen, R., et al. (1992, p.133-138, eng) 47-633
Sub-bottom profiling: a comparison of short-pulse radar and acoustic data. Delaney, A.J., et al. (1992, p.149-157, eng) 47-634
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First ERS-1 SAR image acquired at Kiruna Salmijarvi, Spitsbergen (Norway). (1992, p.2515-2516, eng) 47-865
River and lake ice conditions as interpreted from microwave imagery. Melloh, R.A., et al. (1992, p.381-395, eng) 47-1914
Test of airborne, side-looking synthetic aperture radar. Graham, D.F., et al. (1991, p.257-265, eng) 47-4161

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Sea ice deformation observed with ERS-1 SAR. Rothrock, D.A., et al. (1993, p.301-306, eng) 47-4429
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Cloud property inference from satellite-observed radiance. pt.2. Minnis, P., et al. [1993, p.1305-1322, eng] **47-3732**
Influence of sea ice particulate matter on ocean irradiance. Fritsen, C.H., et al. [1992, p.527-541, eng] **47-3736**
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Vertical retrieval of solar and infrared irradiances in the stratiform regions of EMEX cloud clusters. Churchill, D.D., [1992, p.1229-1247, eng] **47-1119**
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Ice dam preventer. Daniel, G.S., [1988, 4 col., eng] **47-3497**
Measurement of heat losses from a conduit-type heat distribution system. Lunardini, V.J., [1990, p.435-449, eng] **47-4862**
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See also: Gamma irradiation; Infrared radiation; Light (visible radiation); Microwaves; Neutron irradiation; Radio waves; Solar radiation; Thermal radiation; Ultraviolet radiation

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Effects of small ice crystals on cirrus infrared radiative properties. Takano, Y., et al. [1992, p.1487-1493, eng] **47-411**
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Accelerated snow melting by artificial means. Bhattacharya, U., et al. [1985, p.248-263, eng] **47-576**
Snowmelt and heat balance in snow-covered forested areas. Yamazaki, T., et al. [1992, p.1322-1327, eng] **47-1122**
Radiation balance of ridge-tillage with modeling strategies for slope and aspect in the subarctic. Sharratt, B.S., et al. [1992, p.1379-1384, eng] **47-1182**
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Cloud clearing with a CO2 laser in a cirrus cloud simulation facility. Waggoner, A.P., et al. [1992, p.5871-5877, eng] **47-2664**
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Sensitivity of a thermodynamic model of sea ice to parametrization of short-wave and long-wave radiation. Makshtas, A.P., et al. [1992, p.116-137, rus] **47-3811**
Snow ablation in small forest openings in southwest Alberta. Berry, G.J., et al. [1992, p.1326-1331, eng] **47-3842**
Scattering of light by polyhedral ice crystals. Macke, A., [1993, p.2780-2788, eng] **47-4348**
Parameterization of the radiative properties of cirrus clouds. Fu, Q., et al. [1993, p.2008-2025, eng] **47-4459**

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Radiation measuring instruments
Vertical profiles of long wave radiation at Showa Station. Miyauchi, M., et al. [1992, p.53-70, eng] **47-3005**
Fiber optic probe system. Brossia, C.E., et al. [1989, 20 col., eng] **47-3108**
Photoelectric ice accumulation monitor using dual detectors. Rein, R.G., Jr., [1989, 16 col., eng] **47-3328**

Radio beacons
Passive transponder for locating avalanche victims. Leuenberger, C.E., [1987, 8 col., eng] **47-4006**

Radio communication
Attenuation due to snow fall on an earth-space path. Dong, Q.S., [1989, p.407-410, eng] **47-2072**
Electromagnetic communications through the seawater-ice-air interface. Steeves, G., et al. [1991, p.638-644, eng] **47-2182**

Radio echo soundings
Ice thickness and subglacial topography of the Fridtjof Glacier based on data from ground-based radar sounding. Glazovskiĭ, A.F., et al. [1991, p.161-166, rus] **47-336**
Coherent Antarctic Radar Depth Sounder (CARDS) design, development and results. Garudachar, R., [1989, 169p., eng] **47-349**
Refraction correction for radio-echo sounding of large ice masses. Rees, W.G., et al. [1992, p.302-308, eng] **47-471**
Characteristics of the structure and dynamics of the development of hail clouds. Safarov, S.G., [1991, p.74-93, rus] **47-755**
Climatology of surface-based inversion in the North American Arctic. Bradley, R.S., et al. [1992, p.15,699-15,712, eng] **47-997**
Radio echo sounding on Browning Pass. Sievers, J., et al. [1992, p.135-137, eng] **47-2185**
Thermal regime of a valley glacier, Erikbreen, northern Spitsbergen. Ödegard, R.S., et al. [1992, p.69-79, eng] **47-2352**
Volumetric hydrothermal state and regime of Spitsbergen glaciers. Macheret, IU.IA., et al. [1991, p.40-53, rus] **47-2787**

Radio towers
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Radio waves
Scattering by rain and melting snow. Kharadly, M.M.Z., [1989, p.406-410, eng] **47-19**
Mean wave propagation in a slab of one-dimensional discrete random medium. Saatchi, S.S., et al. [1992, p.301-314, eng] **47-441**
Remote sensing of snow using radar methods. Kulemin, G.P., et al. [1992, 36p., rus] **47-2910**
Positioning of satellite navigation system during snowfall. Tranquilla, J.M., et al. [1993, p.295-299, eng] **47-3361**
Depolarization of radio waves by ice crystals. Maekawa, Y., et al. [1993, p.249-259, eng] **47-4062**
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Radioactive age determination
Lichenometric and radiocarbon dating of Holocene glaciation, Cordillera Blanca, Peru. Rodbell, D.T., [1992, p.19-29, eng] **47-52**
Halocarbon ratio and tritium/He-3 dating of water masses in the Nansen Basin, Arctic Ocean. Wallace, D.W.R., et al. [1992, p.S435-S458, eng] **47-1273**
Cosmogenic nuclides in ice sheets. Lal, D., et al. [1992, p.227-233, eng] **47-1478**
Anomalous 11-year *delta*C-14 cycle at high latitudes?. Damon, P.E., et al. [1992, p.235-238, eng] **47-1479**
Supernova shock ensemble model using Vostok Be-10 radioactivity. Sonett, C.P., [1992, p.239-245, eng] **47-1480**
Deglacial chronology for Baffin I. and Hudson Strait. Stravers, J.A., et al. [1992, p.1000-1017, eng] **47-1797**
Mid-Holocene glacial activity in the Pyrenees. Gellatly, A.F., et al. [1992, p.266-270, eng] **47-2000**
Radiocarbon dates from McMurdo Ice Shelf. Kellogg, T.B., et al. [1991, p.77-79, eng] **47-2471**
Pb-210 in an ice core from Spitsbergen. Suzuki, T., et al. [1992, p.84-87, eng] **47-3008**
Th/U dating of calcareous concretions. Causse, C., [1992, p.33-39, eng] **47-3545**
Proceedings. [1992, 344p., eng] **47-3555**
Quaternary deposit chronology derived from varve dating. Björck, S., et al. [1992, p.25-44, eng] **47-3556**
Palynological correlation of paleoclimatic changes. Peteet, D.M., [1992, p.327-344, eng] **47-3561**
Sedimentary record and Neoglacial history of Tide Lake, northwestern British Columbia. Clague, J.J., et al. [1992, p.2383-2396, eng] **47-3715**
Radiocarbon dating of west Spitsbergen Quaternary deposits. Forman, S.L., et al. [1993, p.1-6, eng] **47-4015**
Holocene water-level fluctuations of a subarctic lake at the tree line in northern Quebec. Payette, S., et al. [1993, p.7-14, eng] **47-4072**
Geomorphological effects of glaciation in arctic Canada. Blake, W., Jr., [1992, p.1958-1980, eng] **47-4156**
Deglaciation and shoreline displacement on Alexandra Land, Franz Josef Land. Glazovskiĭ, A.F., et al. [1992, p.283-293, eng] **47-4340**
Glacial landforms and the age of deglaciation in the Tiksi area, East Siberia. Grosval'd, M.G., et al. [1992, p.295-304, eng] **47-4341**
Reconstructing Holocene glacier variations from glacial lake sediments. Karlén, W., et al. [1992, p.327-348, eng] **47-4343**

Last glacial maximum on Spitsbergen, Svalbard. Mangerud, J., et al. [1992, p.1-31, eng] 47-4406
Paleoecology of peats from the Chukchi Sea shelf region. Elias, S.A., et al. [1992, p.371-378, eng] 47-4408
Glacial geology in Peruvian mountains. Rodbell, D.T., [1993, p.923-934, eng] 47-4580
Late-Quaternary glaciation as a proxy for climate change in the central Andes. Seltzer, G.O., [1993, p.129-138, eng] 47-4711
Till stratigraphy and glacial history of the Vestfold Hills area, East Antarctica. Hirvas, H., et al. [1993, p.81-95, eng] 47-4753
Pre-Holocene marine limit on Hopen, Svalbard. Zale, R., et al. [1993, p.159-164, eng] 47-4853
Palaeo-environmental studies on the Greenland ice sheet *margin*. Reeh, N., et al. [1993, p.66-68, eng] 47-4919
Dating of weathered Peruvian Pleistocene mountain moraines. Rodbell, D.T., [1993, p.133-143, eng] 47-5121
Neoglacial glacier fluctuations in the Canadian Rockies. Luckman, B.H., et al. [1993, p.144-153, eng] 47-5122
Glacial and climatic history of the central Peruvian Andes. Wright, H.E., Jr., et al. [1989, p.439-445, eng] 47-5256
Global beryllium 10 cycle. McHargue, L.R., et al. [1991, p.141-158, eng] 47-5261

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Radioactive isotopes

Sampling of radioactive isotopes in the arctic atmosphere. Dibb, J.E., et al. [1992, p.16,709-16,715, eng] 47-1465
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Proceedings. [1993, 647p., eng] 47-5013
Estimated inventory of radionuclides in former Soviet Union naval reactors dumped in the Kara Sea. Mount, M.E., et al. [1993, p.105-118, eng] 47-5024
Cs-137 contamination of sea water surrounding the "Komsomoletz" nuclear submarine. Neidanov, G., [1993, p.119-133, eng] 47-5025
I-129 as a tracer of European reprocessing emissions in the North Atlantic and Arctic oceans. Zhou, Z.Q., et al. [1993, p.145-156, eng] 47-5027
Radioactive contamination of the Barents and Kara seas. Vakulovskii, S.M., et al. [1993, p.157-168, eng] 47-5028
Arctic radioactive contamination: past legacy and future. IAkimets, V., [1993, p.169-190, eng] 47-5029
Behavior of artificial radionuclides in seawater. Khodakovskii, I.L., et al. [1993, p.213-223, eng] 47-5032
Temporal evolution of artificial radioactivity in the North and Baltic Sea . Nies, H., et al. [1993, p.225-236, eng] 47-5033
Potential transport of radionuclides and other pollutants by arctic sea ice. Pfirman, S.L., et al. [1993, p.267-284, eng] 47-5036
Large-scale circulation of the Arctic Ocean: implications for pollutant transport. Schlosser, P., et al. [1993, p.285-309, eng] 47-5037
Mobility of radioisotopes in marine surface sediments. Buchholtz ten Brink, M.R., et al. [1993, p.311-323, eng] 47-5038
Non-local radiological consequences of nuclear waste dumping in the Arctic seas: a preliminary assessment. Baxter, M.S., et al. [1993, p.329-341, eng] 47-5040
U.S. interagency coastal and marine monitoring programs for determining levels of Arctic radioactivity. Curtis, W.R., et al. [1993, p.343-357, eng] 47-5041
Application of offshore drilling technology to the entombment of artificial sources of radioactivity on the sea floor. Francis, T.J.G., [1993, p.367-377, eng] 47-5043
Radioactive contamination of the northern seas: approaches to the assessment of the impact on the marine environment and man. Kuznetsov, IU.V., et al. [1993, p.379-394, eng] 47-5044
Radioecological risk assessment for solid radioactive waste (SRW) dumped into the Kara Sea by the former USSR. Lystsov, V.N., [1993, p.395-414, eng] 47-5045
Assessment of deep-sea nekton and their role in radionuclide transfer. Stein, D.L., [1993, p.449-461, eng] 47-5049
Global beryllium 10 cycle. McHargue, L.R., et al. [1991, p.141-158, eng] 47-5261

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Radioactive wastes

Expedition to Novaja Zemlja and Franz Josef Land with RV "Dalnie Zelentsy". Nürnberg, D., et al. [1993, p.49-74, eng] 47-4221
Ecological situation and protection of flora and fauna of the Barents Sea. Matishov, G.G., ed. [1991, 211p., rus] 47-4660
Proceedings. [1993, 647p., eng] 47-5013
Report of Inventories/Sources Group. Smith, J.N., ed. [1993, p.5-7, eng] 47-5014
Report of the Working Group on Routes, Rates, Reactions and Fates. [1993, p.9-11, eng] 47-5015
Assessment and Remediation [Working Group report]. [1993, p.13-15, eng] 47-5016
Summary report of the Working Group on Legal, Economic and Policy Priorities. Lamb, J.M., [1993, p.17-26, eng] 47-5017
Novaya Zemlya test site and the problem of the radioactive pollution of the polar ocean. Adushkin, V., et al. [1993, p.27-36, eng] 47-5018
Sediment inventory of Cs-137 in the Eastern Chukchi Sea, Northwest Alaskan Arctic. Baskaran, M., et al. [1993, p.37-47, eng] 47-5019
Anthropogenic radioactivity in the arctic seas: time trends and present levels. Dahlgaard, H., [1993, p.49-63, eng] 47-5020
Radioactivity and environmental problems for the seas and oceans. Israel, IU.A., et al. [1993, p.65-78, eng] 47-5021
Radioecology of the Barents and Kara Sea: level of apprehension and research strategy. Ivanov, G.I., et al. [1993, p.79-89, eng] 47-5022
Sellafield as a source of radioactivity to the Barents Sea. Kershaw, P., et al. [1993, p.91-104, eng] 47-5023
Estimated inventory of radionuclides in former Soviet Union naval reactors dumped in the Kara Sea. Mount, M.E., et al. [1993, p.105-118, eng] 47-5024
Cs-137 contamination of sea water surrounding the "Komsomoletz" nuclear submarine. Neidanov, G., [1993, p.119-133, eng] 47-5025
I-129 as a tracer of European reprocessing emissions in the North Atlantic and Arctic oceans. Zhou, Z.Q., et al. [1993, p.145-156, eng] 47-5027
Radioactive contamination of the Barents and Kara seas. Vakulovskii, S.M., et al. [1993, p.157-168, eng] 47-5028
Arctic radioactive contamination: past legacy and future. IAkimets, V., [1993, p.169-190, eng] 47-5029
Artificial radioactivity, and mixing in the Arctic. Denner, W.W., *et al.* [1993, p.191-200, *eng*] 47-5030
Radioactivity in the Barents Sea, past and present status, and its *impact on fisheries*. Føyn, L., [1993, p.201-211, eng] 47-5031
Behavior of artificial radionuclides in seawater. Khodakovskii, I.L., et al. [1993, p.213-223, eng] 47-5032
Temporal evolution of artificial radioactivity in the North and *Baltic Sea* . *Nies, H., et al. [1993, p.225-236.* eng] 47-5033
Organization and technical facilities of the *radiation* monitoring of sunken objects with radioactive components. Nosov, N.A., [1993, p.237-249, *eng*] 47-5034
Formation features of the *structure and variability of the* hydrological processes of the Kara Sea area. Pavlov, V.K., [1993, p.251-265, *eng*] 47-5035
Mobility of radioisotopes in marine surface sediments. Buchholtz ten Brink, M.R., et al. [1993, p.311-323, eng] 47-5038
Non-local radiological consequences of *nuclear waste* dumping in the Arctic seas: a preliminary assessment. Baxter, M.S., et al. [1993, p.329-341, *eng*] 47-5040
U.S. interagency coastal and marine monitoring programs for determining *levels of Arctic radioactivity*. *Curtis*, W.R., et al. [1993, p.343-357, eng] 47-5041
Treatment of data on sea pollutions and dumping sites with radioecological indices method. Georgievskii, V., et al. [1993, p.359-365, eng] . 47-5042
Radioactive contamination of the northern seas: approaches to the assessment of the *impact on the* marine environment and man. Kuznetsov, IU.V., et al. [1993, p.379-394, eng] 47-5044
Radioecological risk assessment for solid radioactive waste (SRW) dumped into the Kara Sea by *the former* USSR. Lystsov, V.N., [1993, p.395-414, eng] 47-5045
Problems of evaluation and management of risk of radioactive contamination of oceans. Protsenko, A.N., et al. [1993, p.425-438, eng] 47-5046
Expedition to the nuclear submarine *Komsomolets* site. Samoilov, V., [1993, p.439-442, eng] 47-5047
International Arctic Seas Assessment Project IASAP (1993-1996). Sjoeblom, K.-L., et al. [1993, p.443-447, eng] 47-5048
Assessment of deep-sea nekton and their role in radionuclide transfer. Stein, D.L., [1993, p.449-461, eng] 47-5049
Radiological assessment for the dumping of radioactive wastes in the oceans. Templeton, W.L., [1993, p.480-496, eng] 47-5050
Certain legal issues concerning prevention of radioactive pollution of the arctic marine environment from land-based sources. Barsegov, IU., [1993, p.523-534, eng] 47-5051
London Convention and radioactive waste dumping at sea: a global treaty regime in transition. Curtis, C., [1993, p.541-555, eng] 47-5053
Radioactive pollution from accidents involving nuclear-powered vessels: problems and solutions. Handler, J., [1993, p.557-572, eng] 47-5054
Use of ALARA in decision making on costly international cleanup effort of radioactive contamination. Kuz'min, I.I., et al. [1993, p.573-584, eng] 47-5055
Some aspects of *radioactive wastes dumping*: international regulation. Menshikov, V.F., et al. [1993, p.585-594, *eng*] 47-5056
Environmental security and governance issues in the *Arctic Ocean*. Perelet, R., [1993, p.595-601, eng] 47-5057
Legal regulation of environmental improvement of the Russian Federation nuclear complex activities. Veksler, M., [1993, p.609-614, *eng*] 47-5058

Radioactivity

Pb-210 in an ice core *from Spitsbergen*. *Suzuki, T., et al.* [1992, p.84-87, eng] 47-3008
Atmospheric physics and chemistry of *Adelie Coast*. Pohan, G., [1990, p.50-59, fre] 47-3162
Ground-water-quality data collected during 1991, west Nikiski, Alaska. Maurer, M.A., [1993, 64p., eng] 47-4762

Radiocarbon dating

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Brightness temperature properties of a cloud radiation model. Smith, E.A., et al. [1992, p.506-531, eng] 47-354
Rainfall estimation over oceans from SMMR and SSM/I microwave data. Prabhakara, C., et al. [1992, p.532-552, eng] 47-355
On the estimation of snow depth from microwave radiometric measurements. Wang, J.R., et al. [1992, p.785-792, eng] 47-357
Date of snow disappearance from tundra determined by radiometric and meteorological observations. Foster, J.L., et al. [1992, p.793-798, eng] 47-358
Sea ice advection derived from buoy and satellite data. Massom, R.A., [1992, p.15,559-15,572, eng] 47-515
On some meteorological aspects of snowfall over the Himalayas as observed by satellite. Kalsi, S.R., et al. [1985, p.125-132, eng] 47-531
Major cloud plumes in the Arctic and their relation to fronts and ice movement. Fett, R.W., [1992, p.925-945, eng] 47-591
Expert systems to classify sea ice from microwave data. Haverkamp, D., et al. [1992, p.1625-1627, eng] 47-685
Finite-difference Lyapunov functions used in creating an algorithm for calculating radar and radiometer equations. Karmov, L.N., et al. [1991, p.32-39, rus] 47-750
Angular variation of the infrared emissivity of ice and water surfaces. Rees, W.G., et al. [1992, p.2873-2886, eng] 47-821
Satellite observation of katabatic-wind propagation for great distances across the Ross Ice Shelf. Bromwich, D.H., et al. [1992, p.1940-1949, eng] 47-876
MOS-1 data received at Showa Station. Yamanouchi, T., et al. [1990, p.175-188, jpn] 47-884
Polynomial trend surface analysis applied to AVHRR *images* to *improve* definition of arctic leads. Eppler, D.T., et al. [1992, p.197-218, eng] 47-982
Use *of microwave* radiometer data for characterizing snow storage in western China. Chang, A.T.C., et al. [1992, p.215-219, eng] 47-1115
Neural network inversion of radiometry of snow surface *parameters*. Tsang, L., et al. [1992, p.1015-1024, eng] 47-1259
Classification of snow cover and precipitation using SSM/I measurements: case studies. Fiore, J.V., Jr., et al. [1992, p.3349-3361, eng] 47-1442
Errors in net radiometry: comparison and evaluation of six radiometer designs. Halldin, S., et al. [1992, p.762-783, eng] 47-1471
Polarization characteristics of natural thermal emission from antarctic sea ice. Darovskikh, A.N., et al. [1991, p.32-35, rus] 47-1576
Retrieval of total precipitable water over high-latitude regions using radiometric measurements near 90 and 183 GHz. Wang, J.R., et al. [1992, p.1368-1378, eng] 47-1581
Sublimational drainage of frozen soils in Zabaikalye. Zhelezniak, I.I., et al. [1992, p.122-126, eng] 47-1716
Passive microwave remote sensing applied for snow monitoring in a Norwegian test site. Rognes, A., [1992, 60p., eng] 47-1811
River and lake ice conditions as interpreted from microwave imagery. Melloh, R.A., et al. [1992, p.381-395, eng] 47-1914
Precipitation retrieval from a cloud radiation model. Mugnai, A., et al. [1993, p.17-39, eng] 47-1995
Using nondestructive diagnostic methods to evaluate the condition of the material in foundations on permafrost. Izotov, V.N., ed. [1989, 44p., rus] 47-2316
Reflectance of antarctic surfaces from multispectral radiometers: the correction of atmospheric effects. Zibordi, G., et al. [1993, p.11-21, eng] 47-2553
Clues to causes of deformation features in coastal sea ice. Kozo, T.L., et al. [1992, p.385.388-389, eng] 47-2597
Satellite radiometric mapping of glacier surfaces. Parrot, J.F., et al. [1992, p.425-440, eng] 47-2661
Satellite radiometric data related to land surface features. Rao, K.S., et al. [1993, p.451-465, eng] 47-2662
Using satellite data to determine glacier radiation field. Gratton, D.J., et al. [1993, p.315-331, eng] 47-2886

Radiometry *(cont.)*
Proceedings of the NIPR Symposium on Polar Meteorology and Glaciology, No.6. Kawaguchi, S., ed. [1992, 167p., eng] 47-3000
Surface albedo distribution in Lützow-Holm Bay. Nakagawa, K., [1992, p.1-15, eng] 47-3001
Microwave signature of firn and sea ice from airborne observations. Yamanouchi, T., et al. [1992, p.16-35, eng] 47-3002
Vertical profiles of long wave radiation at Showa Station. Miyauchi, M., et al. [1992, p.53-70, eng] 47-3005
Cirrus identification from multichannel satellite data. Sterliadkina, E.A., et al. [1992, p.729-733, eng] 47-3158
Satellite imagery in Canadian regional sea ice monitoring. Nazarenko, D.M., et al. [1991, p.47-52, eng] 47-3397
Remote sensing of sea-ice thickness in the Weddell Sea. Swift, C.T., et al. [1991, p.92-93, eng] 47-3515
Calculation of microwave brightness temperatures over a thunderstorm. Muller, B.M., et al. [1993, p.1006-1013, eng] 47-3567
Study of the North Water polynya using passive microwave and infrared imagery. Press, M.J., et al. [1993, p.92-101, eng] 47-3726
Cloud property inference from satellite-observed radiance, pt.1. Minnis, P., et al. [1993, p.1279-1304, eng] 47-3731
Cloud property inference from satellite-observed radiance, pt.2. Minnis, P., et al. [1993, p.1305-1322, eng] 47-3732
Field performance of a spinning-reflector microwave radiometer. Demoz, B.B., et al. [1993, p.420-427, eng] 47-3775
Intercomparison of artificial intelligence approaches for polar scene identification. Tovinkere, V.R., et al. [1993, p.5001-5016, eng] 47-3781
Stratospheric cooling over Scandinavia. Claud, C., et al. [1993, p.7229-7243, eng] 47-3829
Enhancement of microwave images of sea ice. Full, W.E., et al. [1993, p.1-23, eng] 47-3917
Classification of permafrost active layer depth from remotely sensed and topographic evidence. Peddle, D.R., et al. [1993, p.67-80, eng] 47-3918
Observations and theoretical studies of microwave emission from thin saline ice. Wensnahan, M.R., et al. [1993, p.8531-8545, eng] 47-3983
Infrared emissivities of arctic land cover types. Rees, W.G., [1993, p.1013-1017, eng] 47-4070
Synoptic ice melt from Nimbus-7 SMMR. Crane, R.G., et al. [1988, p.36-39, eng] 47-4180
High latitude wind velocities derived from polar orbiting satellite imagery. Warren, D., et al. [1988, p.119-121, eng] 47-4197
Satellite observations over the Greenland and Barents seas. Claud, C., et al. [1988, p.122-125, eng] 47-4198
Structure of sub-synoptic-scale vortices in polar airstreams from AVHRR and TOVS data. Turner, J., et al. [1988, p.126-128, eng] 47-4199
Passive microwave data for snow and ice research: planned products from the DMSP SSM/I system. Weaver, R.L.S., [1988, p.129-132, eng] 47-4200
Satellite observation of high latitude surface and cloud types using pattern recognition. Ebert, E.E., [1988, p.133-136, eng] 47-4201
Clouds over both polar regions from the ISCCP pilot data sets. Raschke, E., et al. [1988, p.137-140, eng] 47-4202
Ice detection during cloudy conditions over the Arctic region using NOAA AVHRR satellite imagery. Alm, G., [1991, p.155-166, eng] 47-4338
Arctic sea ice signatures for passive microwave algorithms. Thomas, D.R., [1993, p.10,037-10,052, eng] 47-4375
Arctic Ocean ice balance: a Kalman smoother estimate. Thomas, D.R., et al. [1993, p.10,053-10,067, eng] 47-4376
Radiometric sea ice features from aircraft images. Farmer, L.D., et al. [1993, p.4645-4665, eng] 47-4387
Brightness temperature of snow-covered saline ice. Lohanick, A.W., [1993, p.4667-4674, eng] 47-4388
Determination of dielectric constant of young sea ice using microwave spectral radiometry. St. Germain, K.M., et al. [1993, p.4675-4679, eng] 47-4389
Reflectance characteristics of arctic tundra vegetation from airborne radiometry. Stow, D.A., et al. [1993, p.1239-1244, eng] 47-4403
Proceedings. [1993, 2 vol., eng] 47-4415
Signatures of antarctic firn by means of ERS-1 AMI and by field measurements. Rott, H., et al. [1993, p.227-233, eng] 47-4417
Analysis of ERS-1 altimeter data over polar ice sheets. Rapley, C.G., et al. [1993, p.235-240, eng] 47-4418
Preliminary evaluation of ERS-1 altimetry over Filchner-Ronne Ice Shelf, Antarctica. Doake, C., et al. [1993, p.259-261, eng] 47-4422
Validation of ERS-1 SAR measurements of sea ice during ARCTIC-91. Askne, J., et al. [1993, p.289-294, eng] 47-4427
Arctic coastal polynya observations with ERS-1 SAR and DMSP SSM/I. Cavalieri, D.J., et al. [1993, p.295-299, eng] 47-4428
Experiences from the Swedish sea ice programme during BEERS-92. Thompson, T., et al. [1993, p.313-318, eng] 47-4431
Air-sea-ice interactions in the Weddell Sea. Viehoff, T., et al. [1993, p.325-327, eng] 47-4433
Sea ice feature and type identification in merged ERS-1 SAR and Landsat Thematic Mapper imagery. Steffen, K., et al. [1993, p.361-365, eng] 47-4440
Summer arctic ice concentrations and characteristics from SAR and SSM/I data. Comiso, J.C., et al. [1993, p.367-372, eng] 47-4441
Application of ERS-1 SAR data to snow mapping. Hallikainen, M., et al. [1993, p.589-594, eng] 47-4447
Hail detection using active and passive radars. Ayvazyan, H.M., et al. [1993, p.1155-1174, eng] 47-4510
Passive microwave remote sensing of thin sea ice using principal component analysis. Wensnahan, M.R., et al. [1993, p.12,453-12,468, eng] 47-4522
Detectability of arctic leads using thermal imagery under varying atmospheric conditions. Stone, R.S., et al. [1993, p.12,469-12,482, eng] 47-4523
Model for the anisotropic reflectance of pure snow. Li, S.S., [1982, 60p., eng] 47-4644
Comparison of conventional and passive microwave sea ice data sets for Hudson Bay. Etkin, D.A., [1991, 132p., eng] 47-4668
Feature maps of ice streams C, D, and E, West Antarctica. Scambos, T.A., et al. [1991, p.312-314, eng] 47-4674
High-resolution radiometry of cirrus clouds. Ou, S.C., et al. [1993, p.2171-2180, eng] 47-4713
Satellite remote sensing of subalpine forest types. Franklin, S.E., [1992, p.25-35, eng] 47-4827
Theoretical and experimental studies of snow covers' microwave emissivity. Boyarskii, D.A., et al. [1993, p.959-970, eng] 47-4828
Observation of flooded ice in arctic regions. Goroch, A.K., et al. [1993, p.1305-1324, eng] 47-4905
Estimation of cloud liquid water in winter storms on the *Mongollon Rim--report on task 1.* Medina, J.G., [1993, 19p., eng] 47-4913
Antarctic sea ice mapping using the AVHRR. Zibordi, G., et al. [1993, p.155-163, eng] 47-5060
Identification of clear and cloudy pixels at high latitudes from AVHRR radiances. Sakellariou, N.K., et al. [1993, p.2005-2024, eng] 47-5106
Antarctic ice sheet topography mapped with the ERS-1 radar altimeter. Ridley, J.K., et al. [1993, p.1649-1650, eng] 47-5119
Satellite retrieval of lower-tropospheric ice crystal clouds in the polar regions. Wilson, L.D., et al. [1993, p.1467-1472, eng] 47-5214
Advances in sea-ice research based on remotely sensed passive microwave data. Barry, R.G., et al. [1993, p.4-12, eng] 47-5271

Rafting
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Apparatus for deicing exterior parts of a railway vehicle. Björklund, B., [1987, 6 col., eng] 47-4002

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Sprinkler snow melting on railway tracks. Sawase, K., et al. [1992, p.727-738, eng] 47-4364
Cold Weather Transit Technology Program. Volume 1: Executive summary. Final report. Kleinman, R.L., et al. [1992, 34p., eng] 47-4612

Railroads
Safeguarding deep excavations from snowdrifts in high-altitude sections of railroads. Lomidze, I.N., et al. [1992, p.17, rus] 47-370
Protecting railroads on Sakhalin from avalanches. [Adroshnikov, V.I., [1992, p.2-11, rus] 47-371
Engineering geology of the USSR: platform regions in European USSR. Komarov, I.S., ed. [1992, 2 vols., rus] 47-3858
See also: Baykal Amur railroad; Cable railways

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Rain
Laboratory investigation of the leaching of solute from snowpack by rainfall. Tranter, M., et al. [1992, p.169-178, eng] 47-376
Cool rain in a three-dimensional shallow-cloud model. Takahashi, T., et al. [1992, p.739-748, eng] 47-826
Doppler radar wind and reflectivity signatures with overrunning and freezing-rain episodes: preliminary results. Prater, E.T., et al. [1992, p.1350-1358, eng] 47-1123
Measurements of snow temperature during rain. Conway, H., et al. [1993, p.6-7, eng] 47-1888
Snow versus rain: looking beyond the "magic" numbers. Heppner, P.O.G., [1992, p.683-691, eng] 47-2764

Raindrops
Possibility of using the third central moment of doppler spectra to indicate ice particles. Marchenko, P.E., et al. [1991, p.14-18, rus] 47-748
Heat and mass transfer processes during the nucleation, growth and melting of hailstones. Filatkin, V.N., et al. [1991, p.50-68, rus] 47-753
Overhead line ice accretion due to freezing rain. Poots, G., et al. [1992, p.390-398, eng] 47-4069

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Recording
Avalanche videos. Dennis, A., [1992, p.53-54, eng] 47-1086
Borehole logging in alpine permafrost, Upper Engadin, Swiss Alps. Vonder Muhll, D.S., et al. [1992, p.125-132, eng] 47-1751
Bore-hole survey at dome GRIP 1991. Gundestrup, N.S., et al. [1993, p.399-402, eng] 47-5209

Recording instruments
Developing a device to record snowplow operation. Matsuzaki, K., et al. [1985, p.43-52, jpn] 47-4950

Records (extremes)
Severe winters and droughts. Sazonov, B.I., [1991, 239p., rus] 47-363
Regions of catastrophic avalanches in Georgian territory. Salukvadze, M.E., [1990, p.100-109, rus] 47-419
Low temperature records and snow cover effect in the Colorado desert. Doesken, N.J., [1992, p.19-22, eng] 47-1174
Temperature extremes. Hickcox, D.H., [1993, p.42-46, eng] 47-2766
Impacts of severe weather during December 1989 in the Lake Erie snowbelt. Schmidlin, T.W., [1993, p.759-767, eng] 47-3476
Correlation between continental snow cover and air temperature. Leathers, D.J., et al. [1993, p.1345-1355, eng] 47-5212

Recrystallization
Flow-law hypotheses for ice-sheet modeling. Alley, R.B., [1992, p.245-256, eng] 47-465
Formation of ice-stream rafts by recrystallization. Alley, R.B., [1991, p.66-67, eng] 47-2466
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Recessed deflecting road reflector. Sheldon, S.A., [1989, 6 col., eng] 47-3104
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Ice detection during cloudy conditions over the Arctic region using NOAA AVHRR satellite imagery. Alm, G., [1991, p.155-166, eng] 47-4338
Radar analysis of hail clouds during seeding. Fedchenko, L.M., et al. [1992, p.87-92, eng] 47-4346
Automated dual polarization complex for studying the characteristics of cumulonimbus. Dinevich, L.A., et al. [1992, p.79-95, rus] 47-4659
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See also: Seismic refraction

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Refraction correction for radio-echo sounding of large ice masses. Rees, W.G., et al. [1992, p.302-308, eng] 47-471
Melting transition at ice crystal glass substrate interface. Furukawa, Y., et al. [1993, p.1137-1142, eng] 47-3289
Optical study of surface melting on ice. Elbaum, M., et al. [1993, p.491-505, eng] 47-3648

Temperature dependence of crystalline methane refractive indices. Ngoh, M.A., et al. [1993, p.5511-5515, eng] 47-3651

Mid- and far-infrared spectroscopy of ices: optical constants and integrated absorbances. Hudgins, D.M., et al. [1993, p.713-870, eng] 47-4736

Refractive indices of water and ice in the 0.65- to 2.5-micron spectral range. Kou, L.H., et al. [1993, p.3531-3540, eng] 47-5147

Refrigeration

Ice cold storage using direct contact phase change. Utaka, Y., et al. [1989, p.469-475, eng] 47-914

Ground freezing to provide support for tunneling using vertical refrigeration pipes. Sopko, J.A., Jr., et al. [1991, p.267-272, eng] 47-992

Foundation improvement by artificial freezing. Spalding, A.V., et al. [1988, 6 col., eng] 47-3769

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Regelation

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Study of the friction of ice -phase II. Molgaard, J., [1990, 4p. + append., eng] 47-1356

Regelation of ice through debris at glacier beds: implications for sediment transport. Iverson, N.R., [1993, p.559-562, eng] 47-3997

Firn density of the Greenland ice sheet. Braithwaite, R.J., et al. [1993, p.62-65, eng] 47-4918

Ice sheet firn temperature and meltwater refreezing in Greenland. Braithwaite, R.J., [1993, p.109-114, eng] 47-4920

Regional planning

Goals and priorities to guide United States arctic research. Biennial statement. [1993, 35p., eng] 47-2128

Report of the U.S. Arctic Research Commission, 1991-1992. [1993, 39p., eng] 47-2129

Solving sanitation problems in the Alaskan bush. Olofsson, J.A., et al. [1993, p.347-355, eng] 47-4476

Biosphere reserves—a challenge and an opportunity. [1993, 31p., eng] 47-4602

Arctic Centre news. Lange, M.A., ed. [1993, 12p., eng] 47-4613

Outline of the Civil Engineering Research Institute, 1992. [1992, 37p., jpn] 47-4689

Roads in Hokkaido. [1992, 27p., eng] 47-4690

Summary of water-use data in Alaska, 1991. Petrik, W.A., et al. [1992, 5p. + appends., eng] 47-4764

Study on regional activities and roads in winter. [1993, p.5-8, jpn] 47-4784

Current status and future trends for road snow and ice countermeasures in North America. Special lecture. Minsk, L.D., [1993, 4p., jpn] 47-4795

Winter road maintenance by the Hokkaido Development Bureau. [1992, 39p., eng] 47-4799

Arctic and the rest. Jörgensen-Dahl, A., [1991, p.55-61, eng] 47-4859

Petroleum policy in the north. Moe, A., [1991, p.211-231, eng] 47-4860

Arctic environmental cooperation after Rovaniemi—what now. Stokke, O.S., [1992, p.221-234, eng] 47-4901

Annual northern expenditure plan 1990-1991. [1993, 30p., eng] 47-5243

Regolith

Brine volcanism and the interior structures of asteroids and icy satellites. Kargel, J.S., [1991, p.368-390, eng] 47-991

Angular width of the coherent back-scatter opposition effect: an application to icy outer planet satellites. Mishchenko, M.I., [1992, p.327-333, eng] 47-1191

Coupled subsurface-boundary layer model of water on Mars. Zent, A.P., et al. [1993, p.3319-3337, eng] 47-2670

Geographic variations in the thermal and diffusive stability of ground ice on Mars. Mellon, M.T., et al. [1993, p.3345-3364, eng] 47-2672

Central pit and dome craters: exposing the interiors of Ganymede and Callisto. Schenk, P.M., [1993, p.7475-7498, eng] 47-3839

Model for the hydrologic and climatic behavior of water on Mars. Clifford, S.M., [1993, p.10,973-11,016, eng] 47-4409

Coastal geomorphology of the Martian northern plains. Parker, T.J., et al. [1993, p.11,061-11,078, eng] 47-4410

Ice in the northern lowlands and southern highlands of Mars and its enrichment beneath the Elysium lavas. Cave, J.A., [1993, p.11,079-11,097, eng] 47-4411

Diapirism on Triton: a record of crustal layering and instability. Schenk, P.M., et al. [1993, p.299-302, eng] 47-4593

Optics on a fractal surface and the photometry of the regoliths. Drossart, P., [1993, p.381-393, eng] 47-4994

Reinforced concretes

Finite element analysis of cold embedments in fresh concrete. Swift, D.P., et al. [1992, p.41-57, eng] 47-1

Resistance of microsilica concrete to steel corrosion, erosion, and chemical attack. Berke, N.S., [1989, p.861-886, eng] 47-58

Use of concrete admixtures to provide long-term durability from steel corrosion. Berke, N.S., et al. [1989, p.383-403, eng] 47-65

Effects of freeze-thaw cycles on reinforced concrete fatigue behavior. Radian, T.A., [1990, 220p., eng] 47-84

Assuring durability of reinforced concrete structures during construction under winter conditions. Cherniavskii, V.L., [1990, p.19, rus] 47-1254

Protective wall for an offshore platform in the North Sea. Volkov, Iu.S., [1990, p.30-31, rus] 47-2162

Tests on arch-shaped ice-resisting walls for offshore structures. Ellis, R.M., et al. [1993, p.42-51, eng] 47-2547

Analysis of stress losses in reinforcement depending on temperature drop. Artym, I.T., [1990, p.115-117, rus] 47-2762

High strength concrete resistance to cold weather. Ernzen, J.J., et al. [1993, 304p., eng] 47-5061

Toughness indices of steel fiber reinforced concrete at subzero temperatures. Banthia, N., et al. [1993, p.863-873, eng] 47-5107

Relaxation (mechanics)

Interfacial separator for concrete structures. Dahowski, D.E., [1988, 8 col., eng] 47-3640

Calorimetric investigation of solution glass transition. Mehl, P.M., [1993, p.177-197, eng] 47-3779

Determination of creep properties of frozen soils by means of the borehole stress relaxation test. Ladanyi, B., et al. [1993, p.170-186, eng] 47-4164

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Polarimetric radar remote sensing of hailstorms. Zhao, Y., [1990, 256p., eng] 47-85

How to measure a glacier. [1991, p.6-7, eng] 47-179

Bothnian Experiment in Preparation for ERS-1, 1988 (BEPERS-88)—an overview. Askne, J., et al. [1992, p.2377-2398, eng] 47-254

Observations of the snowcover on sea ice in the Gulf of Bothnia. Crocker, G.B., [1992, p.2433-2445, eng] 47-257

Microwave remote sensing of random media using multiple scattering theory. Mudaliar, S., [1991, 244p., eng] 47-285

Brightness temperature properties of a cloud radiation model. Smith, E.A., et al. [1992, p.506-531, eng] 47-354

On the estimation of snow depth from microwave radiometric measurements. Wang, J.R., et al. [1992, p.785-792, eng] 47-357

Date of snow disappearance from tundra determined by radiometric and meteorological observations. Foster, J.L., et al. [1992, p.793-798, eng] 47-358

Scattering model for snow-covered sea ice. Tjuatja, S., et al. [1992, p.804-810, eng] 47-360

Effects of material mixing on planetary gamma ray spectroscopy. Squyres, S.W., et al. [1992, p.14,701-14,715, eng] 47-377

Dual-wavelength radar method for ice-water characterization in mixed-phase clouds. Gosset, M., et al. [1992, p.538-547, eng] 47-412

Mean wave propagation in a slab of one-dimensional discrete random medium. Saatchi, S.S., et al. [1992, p.301-314, eng] 47-441

IGARSS '92. International space year: space remote sensing. [1992, 1776p. (2 vols.), eng] 47-637

Neural network-based adaptive radar detection scheme for small ice targets in sea clutter. Bhattacharya, T.K., et al. [1992, p.1528-1529, eng] 47-741

Investigation of a mushroom-like flow in the shelf edge area of northern seas. Voloshina, I.P., et al. [1992, p.317-322, eng] 47-782

Angular variation of the infrared emissivity of ice and water surfaces. Rees, W.G., et al. [1992, p.2873-2886, eng] 47-821

Observing precipitation through dual-polarization radar measurements. Herzegh, P.H., et al. [1992, p.1365-1374, eng] 47-822

First ERS-1 SAR image acquired at Kiruna Salmijarvi, Spitsbergen (Norway). [1992, p.2515-2516, eng] 47-865

Polynomial trend surface analysis applied to AVHRR images to improve definition of arctic leads. Eppler, D.T., et al. [1992, p.197-218, eng] 47-982

Airborne video as satellite imagery ground truthing. Johannessen, B.O., et al. [1992, p.337-349, eng] 47-1040

Rapid Deployment Imagery Terminal (RDIT) using DMSP special sensor data. Harris, T.L., et al. [1992, p.202-211, eng] 47-1070

Use of microwave radiometer data for characterizing snow storage in western China. Chang, A.T.C., et al. [1992, p.215-219, eng] 47-1115

Neural network inversion of radiometry of snow surface parameters. Tsang, L., et al. [1992, p.1015-1024, eng] 47-1259

HF bi-phase shift keying radar application to ice sounding in western Alps and Spitsbergen glaciers. Nicollin, F., et al. [1992, p.1025-1033, eng] 47-1260

Ranging performance of satellite laser altimeters. Gardner, C.S., [1992, p.1061-1072, eng] 47-1261

Recent advances and future implications of remote sensing for hydrologic modeling. Engman, E.T., et al. [1991, p.471-495, eng] 47-1381

Classification of snow cover and precipitation using SSM/I measurements: case studies. Fiore, J.V., Jr., et al. [1992, p.3349-3361, eng] 47-1442

Multisource evidential classification of surface cover and frozen ground. Peddle, D.R., et al. [1992, p.3375-3380, eng] 47-1443

CO2 exchange in tundra ecosystems. Whiting, G.J., et al. [1992, p.16,671-16,680, eng] 47-1461

Errors in net radiometry: comparison and evaluation of six radiometer designs. Halldin, S., et al. [1992, p.762-783, eng] 47-1471

Emissivity of terrestrial materials in the 8-14 micron atmospheric window. Salisbury, J.W., et al. [1992, p.83-106, eng] 47-1555

Europa, Ganymede, and Callisto: new radar results from Arecibo and Goldstone. Ostro, S.J., et al. [1992, p.18,227-18,244, eng] 47-1556

Radar sensing of precipitation: circular polarization effects. Antar, Y.M.M., et al. [1992, p.7-16, eng] 47-1562

Ice threshold in molecular clouds: a diagnostic of the infrared radiation field. Williams, D.A., et al. [1992, p.599-601, eng] 47-1787

Overview of sea ice physical properties and their variability. Richter-Menge, J.A., et al. [1992, p.486-497, eng] 47-1808

Light reflection from a sea ice cover during the onset of summer melt. Perovich, D.K., et al. [1992, p.508-516, eng] 47-1809

Passive microwave remote sensing applied for snow monitoring in a Norwegian test site. Rognes, A., [1992, 60p., eng] 47-1811

Ice-cloud depolarization of backscatter for CO2 and other infrared lidars. Eberhard, W.L., [1992, p.6485-6490, eng] 47-2043

SAR: a new ice analysis tool. Kniskern, F.E., [1993, p.22-23, eng] 47-2143

Correlation of arctic cloud climatologies. Schweiger, A.J., et al. [1992, p.1514-1527, eng] 47-2179

Autonomous Conductivity Temperature Vehicle: recent developments. Morison, J.H., et al. [1991, p.633-637, eng] 47-2181

Remote sensing and polar climate. Crane, R.G., [1986, p.38-41, eng] 47-2195

Pluto's moon is a giant snowball. Croswell, K., [1992, p.16, eng] 47-2290

Laboratory observational and theoretical studies of interstellar ices. Tielens, A.G.G.M., et al. [1991, p.29-58, eng] 47-2311

Reflectance of antarctic surfaces from multispectral radiometers: the correction of atmospheric effects. Zibordi, G., et al. [1993, p.11-21, eng] 47-2553

Clues to causes of deformation features in coastal sea ice. Kozo, T.L., et al. [1992, p.385,388-389, eng] 47-2597

Southern ocean phytoplankton pigment concentrations. Comiso, J.C., et al. [1993, p.2419-2451, eng] 47-2625

Satellite radiometric data related to land surface features. Rao, K.S., et al. [1993, p.451-465, eng] 47-2662

Quantitative analysis of sea ice remote sensing imagery. Korsnes, R., [1993, p.295-311, eng] 47-2752

Characterization of spatial statistics of distributed targets in SAR data. Rignot, E.J., et al. [1993, p.345-363, eng] 47-2754

Development of an airborne MMW FM-CW radar for mapping river ice. Yankielun, N.E., et al. [1993, 10p., eng] 47-2757

Remote sensing of snow using radar methods. Kulemin, G.P., et al. [1992, 36p., rus] 47-2910

Microwave remote sensing of sea ice. Carsey, F.D., ed. [1992, 462p., eng] 47-3014

Multiple-scattering lidar experiments. Werner, C., et al. [1992, p.1731-1745, eng] 47-3160

Polarimetric observations and theory of millimeter-wave backscatter from snow cover. Mead, J.B., et al. [1993, p.38-46, eng] 47-3172

Remote sensing of sea ice geophysical variations. Barber, D.G., et al. [1992, p.233-251, eng] 47-3320

Water resource modelling using remote sensing and object-oriented simulation. McKim, H.L., et al. [1993, p.153-165, eng] 47-3346

Combined infrared emission spectra and radar reflectivity studies of cirrus clouds. Palmer, A.J., et al. [1993, p.64-69, eng] 47-3356

Helicopter-borne scatterometer for remote sensing pt. 1. Hallikainen, M., et al. [1993, p.161-169, eng] 47-3358

Repeat-pass interferometry with airborne synthetic aperture radar. Gray, A.L., et al. [1993, p.180-191, eng] 47-3359

Remote sensing of sea-ice thickness in the Weddell Sea. Swift, C.T., et al. [1991, p.92-93, eng] 47-3515

Precipitation detection with a scintillation device. Wang, T.I., [1988, 14 col., eng] 47-3637

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Brightness temperature of snow-covered saline ice. Lohanick, A.W., [1993, p.4667-4674, eng] **47-4388**
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Proceedings, [1993, 2 vol., eng] **47-4415**
Sea ice—a climate component. Gudmandsen, P., [1993, p.9-13, eng] **47-4416**
Signatures of antarctic firn by means of ERS-1 AMI and by field measurements. Rott, H., et al, [1993, p.227-233, eng] **47-4417**
Analysis of ERS-1 altimeter data over polar ice sheets. *Rapley, C.G., et al, [1993, p.235-240, eng]* **47-4418**
Some results of the derivation of ice sheet elevations in Antarctica from ERS-1 altimeter data. Ihde, J., et al, [1993, p.241-245, eng] **47-4419**
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Review of GEOSAT data over Canadian east coast waters. Topliss, B.J., et al, [1993, p.117-130, eng] **47-4590**
Evaluation of limits to the performance of the surface roughness meter. Johnson, F., et al, [1993, p.140-145, eng] **47-4591**
Model for the anisotropic reflectance of pure snow. Li, S.S., [1982, 60p., eng] **47-4644**
Polarimetric measurements in a severe hailstorm. Zrnić, D.S., et al, [1993, p.2223-2238, eng] **47-4706**
Ice sheets growing or shrinking. Van der Veen, C.J., [1993, p.5-9, eng] **47-4740**
Theoretical and experimental studies of snow covers' microwave emissivity. Boyarskii, D.A., et al, [1993, p.959-970, eng] **47-4828**
Tidal motions derived from ice buoy data. Turet, P., et al, [1993, 63p., eng] **47-4908**
Predicting wilderness snow water equivalent with nonwilderness snow sensors. *McGurk, B.J., et al,* [1993, p.85-94, eng] **47-4993**
Optics on a fractal surface and the photometry of the regoliths. Drossart, P., [1993, p.381-393, eng] **47-4994**
Glacier study using wavenumber domain synthetic aperture radar. Hamran, S.E., et al, [1993, p.559-570, eng] **47-5120**
Ices on the surface of Triton. Cruikshank, D.P., et al, [1993, p.742-745, eng] **47-5128**
Surface ices and the atmospheric composition of Pluto. Owen, T.C., et al, [1993, p.745-748, eng] **47-5129**
Satellite retrieval of lower-tropospheric ice crystal clouds *in the polar regions.* Wilson, L.D., et al, [1993, p.1467-1472, eng] **47-5214**
Snow surface scattering theory and particle size distribution. West, R., et al, [1993, p.426-437, eng] **47-5268**
Advances in sea-ice research based on remotely sensed passive microwave data. Barry, R.G., et al, [1993, p.4-12, eng] **47-5271**
Replicas
See also: Ice crystal replicas
Reporting
See also: Ice reporting
Rescue equipment
ARVA 90. Comparison of different avalanche victim locators. Schild, D., [1991, p.524-526, ger] **47-1489**
Lifesaving craft. Kraft, U., [1988, 4 col., eng] **47-3845**
Passive transponder for locating avalanche victims. Leuenberger, C.E., [1987, 8 col., eng] **47-4006**
Rescue operations
I kill avalanches. Atwater, M.M., [1992, p.4-5, eng] **47-1213**
ANARE first aid manual (5th ed.). Gormly, P., [1992, 82p., eng] **47-1215**
Mountain rescue by the Customs Service. Moretti, B., [1992, p.16-23, eng] **47-1318**
New perspectives on the survival chances of a person buried in an avalanche. Brugger, H., et al, [1992, p.24-31, eng] **47-1319**
Snow is their profession : the French "Pisteurs-Secouristes". Escudero, H., et al, [1992, p.32-39, eng] **47-1320**
Current status and countermeasures in isolated communities, [1984, p.69-74, jpn] **47-5070**
Research institutions
See also: Laboratories
Research projects
Final report of Operation Deep Freeze '92 (1991-1992), [1992, var. p., eng] **47-74**
Scientific Workshop on Glaciology in the Institute of Geography, USSR Academy of Sciences: June 1990-March 1991. Shishorina, Zh.G., [1991, p.160, rus] **47-335**
Sixtieth birthday of Vladimir Mikhailovich Kotlıakov. Grosval'd, M.G., et al, [1991, p.201-227, rus] **47-344**
Soviet glaciological studies in 1990. Glazovskii, A.F., [1991, p.229-240, rus] **47-346**
Tenth anniversary of research by the Glaciological Laboratory of the Institute of Geography. Alekseev, V.R., [1991, p.240-244, rus] **47-347**
U.S. Palmer Station in Antarctica. Kaminuma, K., [1991, p.3-6, jpn] **47-404**
Sketch on West Germany antarctic station. Nishio, F., [1991, p.14-21, jpn] **47-405**
Programs of JARE-32 in 1990-1992. Kokubun, S., [1991, p.28-34, jpn] **47-406**
New directions in arctic research. Urponen, K., [1989, 4p., eng] **47-428**
Report and recommendations, [1991, 34p. + appends., eng] **47-432**
In the Inari Arctic at the edge of Europe. Heininen, L., ed, [1991, 99p., fin] **47-433**
Some aspects of snow hydrology. Kango, G.H., [1985, p.6-10, eng] **47-557**
Canada's northern stations: a directory of Canadian northern field research stations 1991. Adams, P., [1992, 52p., eng] **47-602**
Current North American trends in river ice research. Beltaos, S., [1988, p.3-29, eng] **47-717**
Spanish Antarctic Expedition 1988-1989, [1989, 101p., spa] **47-807**
Arctic marine R&D program. Peirce, T.H., [1992, p.119-133, eng] **47-1023**
Weddell Sea drift station. Holden, C., ed, [1992, p.26, eng] **47-1073**
Progress and prospect for research on mountain glaciers in China. Xie, Z.C., [1992, p.207-211, eng] **47-1113**
Stratospheric ozone depletion 1990 status report. Kurylo, M.J., [1992, p.221-226, eng] **47-1204**
Winter Icing and Storms Project (WISP). Rasmussen, R., et al, [1992, p.951-974, eng] **47-1263**
Quo vadimus re the springtime antarctic ozone depletion?. Rycroft, M.J., [1990, p.(10)275-(10)277, eng] **47-1284**
Report of Operation Deep Freeze 85, 1984-1985, [1985, Var. p., eng] **47-1285**
Avalanche studies in Italy. Peretti, G., [1992, p.40-47, eng] **47-1321**
Activities of the Alaska District, Water Resources Division, U.S. Geological Survey, 1992. Snyder, E.F., ed, [1992, 21p., eng] **47-1325**
Contribution of SCAR to antarctic research. Walton, D.W.H., [1992, p.217-228, eng] **47-1405**
I suppose you haven't got this, but —some thoughts on building up a glaciological collection. Macqueen, A.D., [1992, p.307-316, eng] **47-1408**
No great change: a commentary on 50 years of watching arctic science. Hare, F.K., [1992, p.7-16, eng] **47-1422**
Arctic Boundary Layer Expedition (ABLE 3A): July-August 1988. Harriss, R.C., et al, [1992, p.16,383-16,394, eng] **47-1444**
Annual report 1992, [1992, 45p., eng] **47-1494**
Work of the wintering personnel of the 32nd Soviet *Antarctic Expedition.* Vovk, V.IA., [1991, p.5-9, rus] **47-1572**
In situ meteorological sounding archives for arctic studies. Kahl, J.D., et al, [1992, p.1824-1830, eng] **47-1625**
International Conference on Antarctic Science, Bremen, Sep. 1991. Qin, D.H., [1992, p.178-183, chi] **47-1656**
Norwegian Meteorological Institute. Forland, E.J., [1988, 4p., eng] **47-1687**
Goal-oriented design of an improved displacement snowplow. Crane, R.L., et al, [1991, p.188-192, eng] **47-1802**
Arctic Research Commission's role in fostering engineering research. Gerwick, B.C., Jr., [1992, p.548-552, eng] **47-1839**
Nansen Arctic Ocean Drilling Program. Johnson, L., et al, [1992, p.553-556, eng] **47-1840**
Polar hydrology. Svalbard, [1992, 49p., eng] **47-1889**
Bibliography of ice and snow research at Trent University, up to December 1991. Adams, P., [1992, 16p., eng] **47-1910**
'Flickering switch' of Late Pleistocene climate change. Taylor, K.C., et al, [1993, p.432-436, eng] **47-1938**
Polar hydrology: Norwegian hydrological research activities in Svalbard. Sand, K., et al, [1992, p.693-702, nor] **47-1981**
Goals and priorities to guide United States arctic research. Biennial statement, [1993, 35p., eng] **47-2128**
Report of the U.S. Arctic Research Commission, 1991-1992, [1993, 39p., eng] **47-2129**
AMOP : the Arctic and Marine Oilspill Program. *Thornton, D.E., et al, [1992, 9p., eng]* **47-2330**
Development of a national directory of Canadian marine oilspill specialists. Harper, J.R., et al, [1991, 62p., eng] **47-2334**
Directory of Norwegian polar scientists, [1991, 154p., eng] **47-2337**
Acronyms and abbreviations for the polar science community, [1992, 42p., eng] **47-2338**
British Antarctic Survey report for 1991-1992, [1992, 111p., eng] **47-2567**
Frozen ground, [1992, 24p., eng] **47-2589**
Using a nuclear submarine for arctic research. Keigwin, L.D., et al, [1992, p.209,220-221, eng] **47-2600**
Working session and seminar of the Glaciology Section, autumn 1990. Ushakov, A.I., [1991, p.223-230, rus] **47-2815**
Frozen ground, [1992, 23p., eng] **47-3264**
JARE-32 wintering party activities at Showa Station, 1991. *Fujii, Y., [1992, p.441-472, jpn]* **47-3368**
Overview of the National Institute of Polar Research '92, [1992, 32p., jpn] **47-3520**
Witness the Arctic, [1993, 15p. + insert, eng] **47-3521**
Arctic information and data: a guide to selected resources, [1992, 50p., eng] **47-3523**
Oceanographic observation of Lützow-Holm Bay, Antarctica in 1990. Takizawa, T., [1992, p.22-30, jpn] **47-3621**
33rd Japanese Antarctic Research Expedition in 1991-93. Fukuchi, M., [1992, p.31-37, jpn] **47-3622**
Antarctic science conference, Germany, 1991. Kanda, H., [1992, p.57-60, jpn] **47-3624**
Summer activity of JARE-32. Kokubun, S., [1991, p.38-42, jpn] **47-3626**
Report on the 31st JARE wintering party at Syowa Station. Naito, Y., [1991, p.43-46, jpn] **47-3627**
Workshop on Antarctic Studies, May 3-5, 1988, National Physical Laboratory: seven years of antarctic research, [1988, 54p., eng] **47-3630**
Opportunities to improve hydrologic data. Dozier, J., [1992, p.315-331, eng] **47-3645**
Chronology of the International Northern Sea Route *Project.* Simonsen, H., [1992, p.26-33, eng] **47-4211**
Greenland Ice Core Project. Stauffer, B., [1993, p.1766-1767, eng] **47-4503**
Roles of monitoring and research in polar environments: a perspective. Champ, M.A., et al, [1992, p.220-226, eng] **47-4504**
Biosphere reserves—a challenge and an opportunity, [1993, 31p., eng] **47-4602**
Frozen ground, [1993, 24p., eng] **47-4611**
Arctic Centre news. Lange, M.A., ed, [1993, 12p., eng] **47-4613**
International and American efforts to coordinate glaciological programs. Field, W.O., [1991, 17p., eng] **47-4643**
Research summaries, [1990, 78p., jpn] **47-4688**
Outline of the Civil Engineering Research Institute, 1992, [1992, 37p., jpn] **47-4689**
New South African research programme in the southern ocean. Lucas, M.I., et al, [1993, p.61-67, eng] **47-4723**
Greenland: a temptation and a challenge. Dansgaard, W., et al, [1993, p.12-16, eng] **47-4728**
Greenhouse effect and global warming: a Canadian *perspective.* Kemp, D., [1991, p.121-130, eng] **47-4729**
Research summaries, [1993, 107p., jpn] **47-4794**
Effects of global changes on social life in the Arctic and possible response strategies. Lange, M.A., ed, [1993, 64p., eng] **47-4877**
Biennial report, 1991-1992, [1993, 52p., eng] **47-4899**

Environmental and climatic links between Antarctica and South Africa. Lucas, M.I., et al. [1991, p.193-219, eng] 47-4978

Maintenance techniques for road surfacings investigations, route decisions, planning, implementation. [1978, 221p., ger] 47-4986

Problems of evaluation and management of risk of radioactive contamination of oceans. Protsenko, A.N., et al. [1993, p.425-438, eng] 47-5046

International Arctic Seas Assessment Project IASAP (1993-1996). Sjoeblom, K.-L., et al. [1993, p.443-447, eng] 47-5048

Environmental security and governance issues in the Arctic Ocean. Perelet, R., [1993, p.595-601, eng] 47-5057

Shinjo Branch of the National Research Center for Disaster Prevention Science and Technology. Nakamura, T., [1985, p.53-60, jpn] 47-5100

Symposium on Antarctic Logistics and Operations, 5th. Proceedings. Melander, O., ed. [1993, 365p., eng] 47-5111

Annual northern expenditure plan 1990-1991. [1993, 30p., eng] 47-5243

Annual report 1992. [1993, 39p., eng] 47-5247

See also: Low temperature research; Military research

Research vessels

See also: Oceanographic ships

Reservoirs

Thermal regime of filtrating taliks in the foundation of a hydraulic power system and reservoir banks. Sobol', S.V., et al. [1992, p.106-110, rus] 47-366

Calculating the maximum water levels in areas of backwater curves in designing a reservoir. Bolotnikov, G.I., [1991, p.12-16, rus] 47-1043

Effects of impulse waves on storage reservoirs. Müller, D., et al. [1992, p.96-100, ger] 47-1214

Freeze-up and break-up of ice cover on the Shengli Reservoir, Heilongjiang Province. Xie, Y.G., [1992, p.168-173, chi] 47-1654

Sulfate-reducing bacteria in constant-frozen soils. Vainshtein, M.B., et al. [1992, p.243-247, eng] 47-1738

Evaluating the possible application of pneumohydraulic equipment to lower water temperature. Nazarov, I.I., [1991, p.77-80, rus] 47-2029

New technology for insulating the bottom of an alluvial reservoir on a frozen base. Kuznetsov, G.I., et al. [1992, p.84-91, rus] 47-2033

Mathematical modeling of ice and thermal regime of water bodies under heavy thermal load. Aleksandrov, I.IA., et al. [1992, p.55-61, eng] 47-2713

Cryogenic phenomena on the banks of the Angara water reservoirs. Shul'gin, M.V., et al. [1992, p.99-102, rus] 47-3270

Effect of the water-exchange index on the temperature regime of hydrostation pools. Gotlib, IA.L., et al. [1993, p.462-468, eng] 47-4014

Effect of selective withdrawal on the annual thermal regime of a deep water body. Bocharov, O.B., et al. [1993, p.384-390, eng] 47-4066

Residential buildings

Air leakage control in residential buildings in cold climates. Parekh, A., [1992, p.632-642, eng] 47-1164

Resolution

Image contrast in high-resolution electron microscopy of biological macromolecules: TMV in ice. Henderson, R., [1992, p.1-18, eng] 47-1676

Quantitative energy-filtered electron microscopy of biological molecules in ice. Langmore, J.P., et al. [1992, p.349-373, eng] 47-1677

Enhancement of microwave images of sea ice. Full, W.E., et al. [1993, p.1-23, eng] 47-3917

Proceedings [1993, 2 vol., eng] 47-4415

Greenland Sea observations. Gudmandsen, P., et al. [1993, p.319-323, eng] 47-4432

Sea ice feature and type identification in merged ERS-1 SAR and Landsat Thematic Mapper imagery. Steffen, K., et al. [1993, p.361-365, eng] 47-4440

Antarctic sea ice mapping using the AVHRR. Zibordi, G., et al. [1993, p.155-163, eng] 47-5060

Identification of clear and cloudy pixels at high latitudes from AVHRR radiances. Sakellariou, N.K., et al. [1993, p.2005-2024, eng] 47-5106

Glacier study using wavenumber domain synthetic aperture radar. Hamran, S.E., et al. [1993, p.559-570, eng] 47-5120

Resonance

Passive transponder for locating avalanche victims. Leuenberger, C.E., [1987, 8 col., eng] 47-4006

Model study of cable-moored conical platform. Nixon, W.A., et al. [1993, p.12-31, eng] 47-4284

Instrument for measuring ice depth in aircraft fuel tanks. [1991, 36p., eng] 47-4404

O2 electron attachment resonances on amorphous ice surfaces. Huels, M.A., et al. [1993, p.340-346, eng] 47-5191

Resources

See also: Natural resources

Retention

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Revegetation

Improving the effectiveness of methods of bio-recultivating disturbed soil. Masalkin, S.D., et al. [1992, p.22-26, rus] 47-368

Natural revegetation of coal mine spoils in an alpine landscape. Baig, M.N., [1992, p.285-300, eng] 47-422

Afforestation for avalanche prevention and control. Tiwari, K.M., et al. [1985, p.392-395, eng] 47-556

Seed entrapment in alpine ecosystems: effects of soil particle size and diaspore morphology. Chambers, J.C., et al. [1991, p.1668-1677, eng] 47-767

Postfire shift from lichen-spruce to lichen-tundra vegetation at tree line. Arseneault, D., et al. [1992, p.1067-1081, eng] 47-773

Recent dynamics of jack pine at its northern distribution limit in northern Quebec. Desponts, M., et al. [1992, p.1157-1167, eng] 47-1482

Ecology of cryogenic anthropogenically disturbed soils of the Yamal and peculiarities of their recultivation. Firsova, V.P., et al. [1992, p.108-111, eng] 47-1713

Mountain conifers reduce snow avalanche hazard in French Alps. Jenkins, M.J., [1993, p.4-5, eng] 47-1887

Restoring disturbed soils under conditions in the Far North: basis for design solutions. Bobrova, T.N., et al. [1991, p.10-11, rus] 47-2482

Recultivation in arctic regions. Masalkin, S.D., [1991, p.11, rus] 47-2483

Ecological genetic variation in seed banks. McGraw, J.B., [1993, p.45-49, eng] 47-3427

Small-scale wetland restoration in the high Arctic: a long-term perspective. Forbes, B.C., [1993, p.59-68, eng] 47-3900

Anthropogenic tundra disturbance and patterns of response in the eastern Canadian Arctic. Forbes, B.C., [1993, 333p. + appends., eng] 47-3914

Recultivation of disturbed land in permafrost regions. Younkin, W.E., [1991, p.42-45, rus] 47-4082

U.S. rangeland technology: rehabilitating Russia's oil, gas production sites. McKendrick, J.D., et al. [1993, p.4-7, eng] 47-4096

Forest development in cold climates. Alden, J., ed. [1993, 566p., eng] 47-4525

Socioeconomic importance of forests in Iceland. Blöndal, S., [1993, p.1-13, eng] 47-4526

Mountain birch and afforestation in Sweden and Iceland. Sveinbjörnsson, B., et al. [1993, p.79-88, eng] 47-4531

Predicting afforestation success during climatic warming at the northern limit of forests. Solomon, A.M., et al. [1993, p.167-188, eng] 47-4536

Climate change as seen by trees and by climate modelers. Bowling, S.A., [1993, p.189-202, eng] 47-4537

Effects of wind on boreal forests. Robertson, A., [1993, p.203-225, eng] 47-4538

Biometeorological monitoring at forest sites. Thorgeirsson, H. et al. [1993, p.227-239, eng] 47-4539

Genetic diversity of tree populations at their arctic limits. Tigerstedt, P.M.A., [1993, p.241-250, eng] 47-4540

Potential species and provenances for forest development in cold climates. Hagman, M., [1993, p.251-263, eng] 47-4541

Species and provenance choice at northern tree limits in maritime climates. Lines, R., [1993, p.265-276, eng] 47-4542

Seed collections from North American trees for marginal sites in the Nordic countries. Skaret, G., et al. [1993, p.277-291, eng] 47-4543

Accelerating adaptation of trees at tree limits by selective breeding. Lindgren, D., [1993, p.299-320, eng] 47-4545

Selection and breeding of Scots pine for northern Sweden. Nilsson, J.E., [1993, p.321-332, eng] 47-4546

Provenance and individual variation in climatic hardiness of Scots pine in northern Finland. Mikola, J., [1993, p.333-342, eng] 47-4547

Hybridization among provenances of lodgepole pine. Fries, A., [1993, p.343-356, eng] 47-4548

Icelandic birch genetics and reforestation. Anamthawat-Jónsson, K., et al. [1993, p.357-368, eng] 47-4549

Chloroplast DNA diversity, phylogenetics, and hybridization in *Picea*. Sigurgeirsson, A., et al. [1993, p.369-382, eng] 47-4550

Genetic variation in early frost tolerance of spruce from northwestern North America. Dietrichson, J., [1993, p.383-391, eng] 47-4551

History of tree planting on the Aleutian Islands. Bruce, D., [1993, p.393-426, eng] 47-4552

Afforestation of spruce in the Vesteraalen Islands, Norway. Kaasen, N.O., et al. [1993, p.427-436, eng] 47-4553

Forest and arboretum development in Norway. Slettjord, S., [1993, p.437-451, eng] 47-4554

Forest development in Iceland. Loftsson, J., [1993, p.453-461, eng] 47-4555

Potential tree line in the Faroe Islands. Leivsson, T.G., [1993, p.463-474, eng] 47-4556

Forest trials at high elevations in Britain. Nixon, C.J., et al. [1993, p.475-489, eng] 47-4557

Wind and wave forests: a case study and implications for silviculture. Robertson, A., [1993, p.491-510, eng] 47-4558

Alpine timberline of Tibet. Li, B.S., [1993, p.511-527, eng] 47-4559

Forestry in New Zealand's southern high country. Ledgard, N.J., [1993, p.529-548, eng] 47-4560

Seed and vegetation dynamics in an alpine herb field: effects of disturbance type. Chambers, J.C., [1993, p.471-485, eng] 47-4584

Geocecology of the North (an introduction to geocryocecology). Solomatin, V.I., ed. [1992, 270p., rus] 47-4653

Debris flow in Canadian continuous permafrost area. Harris, S.A., et al. [1993, p.41-56, eng] 47-4984

See also: Introduced plants

Rheology

Changes of crystal c-axis orientation fabric in uniaxial extension tests. Li, J., et al. [1992, p.29-35, chi] 47-72

Rock glaciers II: models and mechanisms. Whalley, W.B., et al. [1992, p.127-186, eng] 47-423

Flow-law hypotheses for ice-sheet modeling. Alley, R.B., [1992, p.245-256, eng] 47-465

Two-dimensional extrusion of crushed ice. Part 1. experimental. Sayed, M., et al. [1992, p.25-36, eng] 47-801

Two-dimensional extrusion of crushed ice. Part 2. analysis. Savage, S.B., et al. [1992, p.37-47, eng] 47-802

Three-dimensional viscoplastic flow model of polycrystalline ice. Fish, A.M., [1992, p.193-207, eng] 47-1029

Sharp cone testing of creep properties of frozen sand. Ladanyi, B., et al. [1992, p.757-764, eng] 47-1440

Effects of dispersed particulates on the rheology of water ice at planetary conditions. Durham, W.B., et al. [1992, p.20,883-20,897, eng] 47-2293

On the propagation of discontinuities in a drifting ice cover. Marchenko, A.V., [1992, p.346-358, eng] 47-3230

Sensitivity analysis of ice motion near Adams Island. Sykes, J.F., et al. [1992, p.890-901, eng] 47-3354

Laws of the kinetic theory of strength of frozen soils. Konovalov, A.A., [1993, p.892-897, eng] 47-3506

Observations of postglacial uplift at Churchill, Manitoba. Tushingham, A.M., [1992, p.2418-2425, eng] 47-3716

Creep closure of channels in deforming subglacial till. Fowler, A., et al. [1993, p.17-31, eng] 47-3778

Central pit and dome craters: exposing the interiors of Ganymede and Callisto. Schenk, P.M., [1993, p.7475-7498, eng] 47-3839

Steady flow of a viscous ice stream across a no-slip/free-slip transition at the bed. Barcilon, V., et al. [1993, p.167-185, eng] 47-3950

Determination of creep properties of frozen soils by means of the borehole stress relaxation test. Ladanyi, B., et al. [1993, p.170-186, eng] 47-4164

Arctic pack ice thermal stress related to under-ice noise. Lewis, J.K., et al. [1993, p.573-590, eng] 47-4838

Ice sheet dynamics. Lliboutry, L.A., [1993, p.399-416, eng] 47-4846

Model for thermally-induced stresses in multi-year sea ice. Lewis, J.K., [1993, p.337-348, eng] 47-5205

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River banks

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River basins

Regions of catastrophic avalanches in Georgian territory. Salukvadze, M.E., [1990, p.100-109, rus] 47-419

Snowmelt runoff using Landsat imageries. Jeyaram, A., et al. [1985, p.11-21, eng] 47-558

Modelling of daily snowmelt runoff during pre-monsoon months for Beas basin up to Manali. Seth, S.M., [1985, p.104-115, eng] 47-564

Seasonal river runoff calculated from a global atmospheric model. Kuhl, S.C., et al. [1992, p.2029-2039, eng] 47-776

Calculating winter runoff from rivers in a cryolithozone. Kravchenko, V.V., et al. [1991, p.41-60, rus] 47-894

Accumulation of water in freezing river beds. Markov, M.L., [1991, p.77-84, rus] 47-897

Satellite monitoring of snowmelt runoff. Zeng, Q.Z., et al. [1992, p.193-197, eng] 47-1111

Hydrochemical characteristics in Binggou basin of Heihe River in Qilian Mountain. Sheng, W.K., et al. [1992, p.111-120, chi] 47-1545

Characteristics of glacier outburst flood in the Yarkant River, Karakorum Mountains. Feng, Q.H., [1991, p.255-263, eng] 47-1612

Characteristics of precipitation in the source area of the Urumqi River Basin. Yang, D.Q., et al. [1992, p.258-266, chi] 47-1666

Forecasting meltwater runoff from snow-covered areas and from glacier basins. Lang, H., [1986, p.99-127, eng] 47-2312

Naled systems in river basins as a result of the interaction of surface and ground waters. Kravchenko, V.V., et al. [1991, p.66-76, rus] 47-2430

Runoff and sediment transport in an Iceland periglacial region. Kiel, A., [1989, 128p., ger] 47-2706

River basins *(cont.)*
Characteristics of the formation of spring runoff from rivers in the cryolithozone. Kravchenko, V.V., et al. [1991, p.53-64, rus] 47-3275
On spatial irregularities in the frost penetration of soils in river basins. Manukalo, V.A., et al. [1991, p.119-123, rus] 47-3282
Relative rates of glacial and nonglacial erosion in alpine environments. Harbor, J.M., et al. [1993, p.1-7, eng] 47-3422
Hydroclimatological variations in an alpine glacier basin. Gurnell, A.M., et al. [1992, p.821-839, eng] 47-3679
Sensitivity of streamflow simulation to changes in climatic inputs. Ng, H.Y.F., et al. [1992, p.257-272, eng] 47-3802
Once more on calculations of maximum spring flood runoff. Vodogretskii, V.E., [1992, p.74-78, eng] 47-3994
GIS modelling of winter orographic precipitation. Hay, L.E., et al. [1993, p.491-499, eng] 47-4460
Glacial icemelt in the Wind River Range, Wyoming. Pochop, L.O., et al. [1990, p.118-124, eng] 47-5216
See also: Watersheds
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Stochastic model of flow duration curves for rivers in British Columbia, Canada. Leboutillier, D.W., [1991, 148p., eng] 47-302
Relationship between snow fall and lean season-discharge of river Sainj at Larji, Himachal Pradesh. Krishnan, V., [1985, p.163-173, eng] 47-569
Measuring water level and discharge—practical experiences *in Greenland.* Kern-Hansen, C., [1988, p.67-84, eng] 47-720
Real time system for flood forecasting of an ice dam outburst. Fernández, P., et al. [1990, p.85-91, eng] 47-1169
Hydrological principles of the Bavarian Alps. Pfündl, D., [1989, p.450-453, ger] 47-1196
Ice impacts on flow along the Missouri River. Wuebben, J.L., et al. [1992, 10p., eng] 47-1237
Ice transport and jamming in river bends. Bjedov, G., [1992, 94p., eng] 47-1313
Study of ice-covered bend flow. Tsai, W.F., [1991, 207p., eng] 47-1314
Analysis and simulation of annual runoff processes for some rivers in Hexi region. Hu, X.G., [1992, p.71-83, chi] 47-1541
Analysis of temperature-runoff relationship in the eastern section of Qilian Mountain. Lai, Z.M., [1992, p.84-90, chi] 47-1542
Runoff and its generation model of cold region in Binggou basin of Qilian Mountain. Yang, Z.N., et al, [1992, p.91-100, chi] 47-1543
Runoff and meteorological factors in the Qilian Mountains. Cao, Z.T., et al, [1992, p.101-110, chi] 47-1544
Runoff analysis and estimation of the Binggou Basin in the Qilian Mountain. Yang, Z.H., et al, [1992, p.251-257, chi] 47-1665
Monitoring grain size of suspended sediments in rivers. Bogen, J., [1992, p.183-190, eng] 47-1813
Temporal variability of suspended sediment flux from a subarctic glacial river, southern Iceland. Lawler, D.M., et al, [1992, p.233-243, eng] 47-1815
Geomorphological changes in a river after its regulation. Fergus, T., [1992, p.506-514, eng] 47-1975
Using naleds for regulating the flow of mountain rivers in Siberia. Busygin, V.V., et al, [1991, p.236-238, rus] 47-2454
Hydrologic analysis of the Gulkana National Wild River, Alaska. Ellerbroek, D.A., et al, [1989, p.331-340, eng] 47-2579
Causes of variability of ice appearance dates in the lower reaches of the Volga. Soldatova, I.I., [1992, p.62-66, eng] 47-2714
Hydrological yearbook 1989. Leppäjärvi, R., ed, [1992, 174p., eng] 47-3154
Bend ice jams: laboratory observations. Urroz, G.E., et al, [1992, p.855-864, eng] 47-3305
Probability analysis of historical ice jam flood data for a complex reach: a case study. Stanley, S.J., et al, [1992, p.875-885, eng] 47-3306
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Numerical computation of river ice jams. Beltaos, S., [1993, p.88-99, eng] 47-3720
Free meandering in the conditions of a cryolithic zone of the Yamal Peninsula. Savitskii, V.A., [1992, p.27-33, eng] 47-3990
Analysis of conditions and long-term forecast of ice-dam levels on the Lena. Kilmianinov, V.V., [1992, p.64-69, eng] 47-3993
Probablistic computation of maximum ice-dam water levels. Buzin, V.A., [1992, p.56-62, eng] 47-4025
Effects of temperature and snowfall on winter low flows in New England. Hartley, S., [1992, p.255-261, eng] 47-4056
Early winter flooding along a subalpine river. Butler, D.R., et al, [1993, p.145-155, eng] 47-4369
Semi-discrete element approach to the river ice breakup and jamming process. Guo, Q.Z., et al, [1993, p.65-69, eng] 47-4450
Flow regulation for controlled river-ice formation Jain, S.C., et al, [1993, 50p., eng] 47-4662
Kinematic model of river ice motion during dynamic breakup. Ferrick, M.G., et al, [1993, p.111-134, eng] 47-4907
Observations of large-size river water temperature and accuracy of hydrothermal calculations. Korenkov, V.A., et al, [1991, p.95-98, eng] 47-4924
See also: Runoff; Stream flow
River ice
Using ice and ice phenomena in the national economy: geophysical aspect. Faiko, L.I., [1986, 155p., rus] 47-94
Ice jam flood forecasting: Hay River, N.W.T. Stanley, S.J., et al, [1992, p.212-223, eng] 47-200
Hydrometeorological analysis of ice breakup on the Nashwaak River, New Brunswick. Hebabi, S., et al, [1992, p.349-354, fre] 47-201
Frazil jam evolution and transport of low density granules. Wang, D.S., [1992, 103p., eng] 47-456
Proceedings. [1988, 243p., eng] 47-716
Current North American trends in river ice research. Beltaos, S., [1988, p.3-29, eng] 47-717
Discharge and runoff in rivers influenced by ice. Thomsen, T., [1988, p.33-51, eng] 47-718
Adjustments for backwater effects due to ice cover – the SMHI method. Westman, S.E., [1988, p.53-66, eng] 47-719
Some new technics in river ice measuring. Maunula, M., [1988, p.87-93, eng] 47-721
Ice thickness and water temperature near a power plant. Hari, J., [1988, p.99-103, eng] 47-723
River ice forecasting. Bengtsson, L., [1988, p.113-137, eng] 47-725
Frazil ice in rivers near power stations. Andersson, A., et al, [1988, p.141-146, eng] 47-727
Numerical model for ice cover formation in rivers. Huokuna, M., [1988, p.147-164, eng] 47-728
Mathematical model of border ice formation in rivers. Hammar, L., [1988, p.165-179, eng] 47-729
On the crystal structure and growth of river ice. Leppäranta, M., et al, [1988, p.181-190, eng] 47-730
Statistical model for prediction of ice breakup in river Torneälven. Forsius, J., et al, [1988, p.195-204, eng] 47-732
Technical measures for reduction of ice damage. Carstens, T., et al, [1988, p.207-216, eng] 47-733
Reduction of damages from ice jam flooding in river Torneälven. Zachrisson, G., [1988, p.217-225, eng] 47-734
Ice problems in the Arendal River system, Norway. Björkenes, A., [1988, p.227-234, nor] 47-735
Ice problems in power plants and rivers in Norway. *Results from an inquiry.* Fossdal, M.L., et al, [1988, p.235-236, nor] 47-736
Glacier, river and sea ice blister observations. Kovacs, A., [1992, 14p., eng] 47-785
Lagrangian discrete parcel simulation of two dimensional river ice dynamics. Chen, Y.C., [1992, 147p., eng] 47-838
Calculating winter runoff from rivers in a cryolithozone. Kravchenko, V.V., et al, [1991, p.41-60, rus] 47-894
Accumulation of water in freezing river beds. Markov, M.L., [1991, p.77-84, rus] 47-897
Calculating time characteristics of the period of winter runoff from rivers in the BAM zone. Liubimov, G.A., [1991, p.85-93, rus] 47-898
On computer simulation of motion of broken ice. Vinogradov, O., [1992, p.15-24, eng] 47-1015
Numerical simulation of river ice dynamics. Wasantha Lal, A.M., et al, [1992, p.25-36, eng] 47-1016
Parameters for theoretical models of ice jams according to data on hydrometric changes. Buzin, V.A., [1991, p.3-11, rus] 47-1042
Calculating the maximum water levels in areas of backwater curves in designing a reservoir. Bolotnikov, G.I., [1991, p.12-16, rus] 47-1043
Space-time variability in ice jams on the Amur and Lena rivers. *Shanochkin, S.V., et al, [1991, p.17-23, rus]* 47-1044
Determining parameters of ice jams and accumulation of bottom ice based on field studies of the Amgun' River. Kiselev, A.A., et al, [1991, p.24-29, rus] 47-1045
Laboratory studies of hydraulic resistance to ice jams. Kiselev, A.A., [1991, p.30-37, rus] 47-1046
Field studies of the freezing processes of the Amgun' River. Bolotnikov, G.I., et al, [1991, p.38-46, rus] 47-1047
Problem of variations in the amount of slush ice in river beds during an icebound period. Alekseenko, R.IA., [1991, p.47-53, rus] 47-1048
Controlling river runoff with artificial glaciers. Faiko, L.I., et al, [1991, p.54-59, rus] 47-1049
Effect of an aerodynamic impact load on ice cover. Filippov, A.M., [1991, p.60-68, rus] 47-1050
Estimating changes in dates for the initial phases of icing in relation to climatic changes. Shanochkin, S.V., [1991, p.69-74, rus] 47-1051
Ice impacts on flow along the Missouri River. Wuebben, J.L., et al, [1992, 10p., eng] 47-1237
Israel River ice control structure. Axelson, K.D., [1991, p.349-352, eng] 47-1238
Ice jam flood frequency analysis techniques. Zufelt, J.E., et al, [1991, p.353-356, eng] 47-1239
River ice and sediment transport during opening of navigation. Zabilansky, L.J., et al, [1992, 76p., eng] 47-1240
Ice jam flood assessment—Yukon River at Dawson Gerard, R., et al, [1992, 145p., eng] 47-1244
Thickness profiling of freshwater ice using a millimeter-wave FM-CW radar Yankielun, N.E., et al, [1992, p.1094-1100, eng] 47-1262
Discussion of "Minimization of frazil-ice production by river flow regulation". Ferrick, M.G., [1991, p.1406-1409, eng] 47-1286
Discussion of "Minimization of frazil-ice production by river flow regulation". Calkins, D.J., [1991, p.1402-1405, eng] 47-1287
Ice transport and jamming in river bends. Bjedov, G., [1992, 94p., eng] 47-1313
Basic characteristics of river ice in the Urumqi River Basin. Zhang, Z.Z., [1992, p.267-270, chi] 47-1667
Airborne millimeter-wave FM-CW radar for thickness profiling of freshwater ice. Yankielun, N.E., [1992, 77p., eng] 47-1893
River and lake ice conditions as interpreted from microwave imagery. Melloh, R.A., et al, [1992, p.381-395, eng] 47-1914
Effects of Alta's development on ice conditions. Asvall, R.P., [1992, p.469-478, nor] 47-1973
Ice reduction of winter discharges. Leppäjärvi, R., [1992, p.563-567, eng] 47-1976
Geochemical processes during naled formation. Ivanov, A.V., [1991, p.45-54, rus] 47-2428
Causes of variability of ice appearance dates in the lower reaches of the Volga. Soldatova, I.I., [1992, p.62-66, eng] 47-2714
Development of an airborne MMW FM-CW radar for mapping river ice. Yankielun, N.E., et al, [1993, 10p., eng] 47-2757
Current tendencies of anthropogenic changes in physical-mechanical properties of natural ice. Paniushkin, A.V., et al, [1991, p.126-129, rus] 47-2801
Influence of natural conditions on the development of transportation in the Far East. Vakhnenko, R.V., [1991, p.103-106, rus] 47-3281
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Proceedings of the 49th annual Eastern Snow Conference, Oswego, NY, June 3-4, 1992. [1992, 273p., eng] 47-4026
Stream cooling by heat transfer to partially-submerged rocks. Davis, R.E., [1992, p.193-201, eng] 47-4048
Development of a field technique for measuring fresh water ice density. Mulherin, N.D., et al, [1992, p.203-212, eng] 47-4049
Borehole jack indentor test: recent advances at NHRI. Demuth, M.N., et al, [1992, p.247-253, eng] 47-4055
Suspended sediment concentration during river ice break-up. Prowse, T.D., [1992, p.263-267, eng] 47-4057
Effect of power plant construction on river hydrological regime. Filippov, A.M., [1992, p.61-64, eng] 47-4345
Applications of ERS-1 SAR data for analyzing riverine and coastal processes and geomorphology. Gatto, L.W., et al, [1993, p.873-878, eng] 47-4449
Semi-discrete element approach to the river ice breakup and jamming process. Guo, Q.Z., et al, [1993, p.65-69, eng] 47-4450
Icing problems at Corps projects. Haynes, F.D., et al, [1993, 18p. + figs., eng] 47-4608
Snow and floating ice. Gray, D.M., et al, [1993, p.7/1-7/58, eng] 47-4637
Flow regulation for controlled river-ice formation. Jain, S.C., et al, [1993, 50p., eng] 47-4662
On the 1990-1991 operation of the Lake Erie-Niagara River ice boom. [1991, 32p. + figs., eng] 47-4667
Mathematical model for river ice processes. Lal, A.M.W., et al, [1993, 80p., eng] 47-4871

Numerical and experimental investigation of river ice cover cracking. Abdel-Zaher, A.K., [1992, 201p., eng] 47-4887

Kinematic model of river ice motion during dynamic breakup. Ferrick, M.G., et al. [1993, p.111-134, eng] 47-4907

Potential transport of radionuclides and other pollutants by arctic sea ice. Pfirman, S.L., et al. [1993, p.267-284, eng] 47-5036

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Model evaluations of the Aksay and At-Bashi river runoff with regard to the role of snow cover and glaciers. Shentsis, I.D., [1991, p.136-142, rus] 47-331

Formation of the structure and properties of flood-plain deposits by major rivers. Zaikanov, V.G., [1991, p.31-47, rus] 47-397

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Errors in measuring water discharge during hydrometric surveys of small and medium rivers in permafrost regions. Kolotaev, V.N., et al. [1991, p.147-158, rus] 47-899

River naleds in Kazakhstan. Beilinson, M.M., [1991, p.176-181, rus] 47-2445

Creating naleds for water supply and irrigation in valleys of freezing rivers. Vdovin, IU.I., [1991, p.225-233, rus] 47-2452

Geochemistry of salmon rivers during snowmelt. Campbell, P.G.C., et al. [1992, p.1938-1952, eng] 47-2659

Characteristics of the formation of spring runoff from rivers in the *cryolithozone.* Kravchenko, V.V., et al. [1991, p.53-64, rus] 47-3275

Dissipative structures of rivers in the cryolithozone. Markov, M.L., [1991, p.11-20, rus] 47-3283

Fluctuations in the water level of the *Yenisey* estuary during the summer-fall navigation period. Ivanova, A.A., [1991, p.122-127, rus] 47-3699

Size distribution of particles in precipitation and river waters in the Baikal Lake region. Anokhin, IU.A., et al. [1992, p.19-26, eng] 47-3989

Effect of power plant construction on river hydrological regime. Filippov, A.M., [1992, p.61-64, eng] 47-4345

Three-dimensional model of an Alaskan river polar fan-delta. Lindsay, J.F., [1992, p.183-201, eng] 47-4366

Effects of lime-sludge discharge on an arctic river. Tumeo, M.A., [1992, p.1083-1094, eng] 47-4626

Application of data of short-term hydrometeorological studies to computations of river runoff. Rozhdestvenskii, A.V., et al. [1991, p.70-76, eng] 47-5196

State of pollution of terrestrial surface waters on the USSR *territory in 1990.* Shekhovtsov, A.A., et al. [1991, p.101-106, eng] 47-5199

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Road icing

Deicing of roads. Ghosh, S., [1985, p.264-278, eng] 47-577

Snow effects on roads. Dhir, M.P., [1985, p.287-292, eng] 47-579

Study in skid resistance on compacted snow and ice covered road surfaces. Kaku, T., [1984, p.600-606, jpn] 47-860

Ice-pavement bond prevention: fundamental study. Penn, L.S., et al. [1992, 102p., eng] 47-881

Preprints. [1992, Var. p. (2 vols.), eng] 47-925

Highway winter maintenance and cost efficiency. Teppo, M.P.K., [1992, 8p., eng] 47-926

Goals and methods of winter maintenance in Finland. Katko, K., [1992, 7p., eng] 47-928

Braking traction on sanded ice at low slip rates. Blaisdell, G.L., et al. [1992, 28p., eng] 47-939

Cost effective snow and ice control for the nineties. Thornes, J.E., [1992, 16p., eng] 47-945

Application of SHRP's snow removal and ice control research. Minsk, L.D., [1992, 6p., eng] 47-946

Conclusions of the European project COST 309, road weather conditions. Nysten, E., [1992, 4p., eng] 47-947

Abrasive air blast system for disbonding ice and snow from pavement. Osborne, M.D., [1992, 12p., eng] 47-948

Detection of weather induced road condition. Fröhling, P.W., et al. [1992, 10p., eng] 47-955

Pavement temperature sensor. Katz, D.I., [1992, 7p., eng] 47-956

Dielectric pavement freezing detector. Ninomiya, H., et al. [1992, 9p., eng] 47-957

Weather forecasters and winter road maintenance. Boselly, S.E., III, et al. [1992, 3p., eng] 47-958

Traffic volume reductions due to winter storm conditions. Hanbali, R.M., et al. [1992, 11p., eng] 47-959

Accident analysis of ice control operations. Kuemmel, D.A., et al. [1992, 14p., eng] 47-961

Studded tires, chemical deicers, and road heating in Japan. Konagai, N., et al. [1992, 12p., eng] 47-962

Road weather information systems: what are they and what can they do for you. Boselly, S.E., III, [1992, 8p., eng] 47-964

Open systems for ice prediction systems. Lister, P.J., et al. [1992, 7p., eng] 47-965

Road weather service system in Finland and savings in driving costs. Pilli-Sihvola, Y., et al. [1992, 12p., eng] 47-966

Results of a field test of six different commercial ice *warning systems.* Scharsching, H., [1992, 16p., eng] 47-967

Coastal influence on winter road surface temperatures. McLean, P.J., et al. [1992, 24p., eng] 47-968

Description of a local climatological model for improvement of winter road surveys. Bogren, J., et al. [1992, 10p., eng] 47-969

Statistical error correction in ice prediction models. Astbury, A., [1992, 6p., eng] 47-970

Description and verification of a road ice prediction model. Shao, J.M., et al. [1992, 11p., eng] 47-971

Detailed weather prediction system for snow and ice control. Reiter, E.R., et al. [1992, 12p., eng] 47-972

Prediction of road conditions by combined road layer/atmospheric model in winter. Voldborg, H., [1992, 9p., eng] 47-973

MINSALT. An experiment with unsalted road in *Västerbottens county.* Öberg, G., et al. [1991, 69p. + appends., swe] 47-1216

Effects of studded tyres: consequences of amended regulations. Carlsson, A., et al. [1992, 53p. + appends., swe] 47-1217

Fight winter and win; a survival guide for public officials. [1992, 9p., eng] 47-1493

Numerical model for prediction of road temperature and ice. Sass, B.H., [1992, p.1499-1506, eng] 47-1582

Intelligent and localized weather prediction. Reiter, E.R., et al. [1992, 144p., eng] 47-1619

Winter behavioural patterns of self draining roadways. Livet, J., et al. [1992, 23p., eng] 47-1621

Handbook of test methods for evaluating chemical deicers. Chappelow, C.C., et al. [1992, 283p., eng] 47-1682

Chemical undercutting of ice on highway pavement materials. Blackburn, R.R., et al. [1991, p.230-242, eng] 47-1807

Snow and ice control. [1991, p.B/88-B/*103*, eng] 47-2108

Tests of grooving on the taxiways of the New Chitose Airport. Sato, H., et al. [1991, p.235-240, jpn] 47-2497

Study on road heating systems in Hokkaido. Miyamoto, S., et al. [1992, p.143-148, jpn] 47-2514

Application of chemicals for snowy and icy road surfaces in Hokkaido. Miyamoto, S., et al. [1991, p.131-136, jpn] 47-2540

Winter road management, testing and research trends in Europe and the United States. Kajiya, Y., [1991, p.137-140, jpn] 47-2541

Frensor—a new smart pavement sensor. Katz, D.I., [1993, p.19-22, eng] 47-3060

Influence of winter road maintenance on traffic accident *rates.* Hanbali, R.M., [1992, 305p., eng] 47-3130

Simple differentiation of snow road formation for snow removal road. Abe, O., [1992, p.137-143, jpn] 47-3298

Observation car to detect snow and ice on roads. Abe, O., [1992, p.145-167, jpn] 47-3299

Studies of icing on road surface in snowy region. Nakawo, M., et al. [1992, p.169-191, jpn] 47-3300

Development of a method for predicting road surface temperature and icing on roads. Funada, H., et al. [1992, p.193-231, jpn] 47-3301

Network information systems on snow in Japan. Nakamura, T., [1992, p.233-250, jpn] 47-3302

Motorist information needs and changeable sign messages for adverse winter travel. Wilson, E.M., et al. [1992, 100p., eng] 47-3524

Study finds 88.3% crash reduction after deicing. [1993, p.22, eng] 47-3682

Frost in geotechnical engineering. Phukan, A., ed. [1993, 191p., eng] 47-4114

Use of steel meshes against longitudinal frost cracks in flexible pavements. Salmenkaita, S., [1993, p.79-82, eng] 47-4124

Use of frost insulation in the repair of frost heave damages. Saarelainen, S.M.I., [1993, p.113-116, eng] 47-4129

Frost penetration beneath cleared pavements. McCormick, G., [1993, p.117-126, eng] 47-4130

Tire chips as insulation beneath gravel surfaced roads. Humphrey, D.N., et al. [1993, p.137-149, eng] 47-4132

Environmental impacts of three runway de-icers. John, R.D., et al. [1993, p.323-330, eng] 47-4473

Cold Weather Transit Technology Program. *Volume 1:* Executive summary. Final report. Kleinman, R.L., et al. [1992, 34p., eng] 47-4612

Evaluation of concrete and aggregate durability test. [1993, 64p., eng] 47-4615

Detection of frost-prone highway beds from response-type *surface roughness measurements.* Scully, J., [1992, 15p. + appends., eng] 47-4616

Emissions from antiskid materials applied to icy roadways. Kinsey, J.S., [1993, Var. p., eng] 47-4617

Published research papers. [1990, 37p + panel discussion, jpn] 47-4678

Study on the characteristics of icy road surfaces. Suzuki, S., et al. [1990, p.34-37, jpn] 47-4687

Research summaries. [1990, 78p., jpn] 47-4688

Modelling of local climate with applications to winter road conditions. Gustavsson, T., [1990, 13p. + reprints, eng] 47-4691

Infrared thermography in applied road climatological studies. Gustavsson, T., et al. [1990, 22p., eng] 47-4692

Risk of road slipperiness during warm-air advections. Gustavsson, T., [1990, 23p., eng] 47-4693

Variation in road surface *temperature due to topography* and wind. Gustavsson, T., [1990, p.227-236, eng] 47-4694

Nocturnal air and road surface temperature variations in complex terrain. Bogren, J., et al. [1990, 17p., eng] 47-4695

Prediction of air and road surface temperatures. Gustavsson, T., et al. [1990, 45p., eng] 47-4696

Application of a local climatological model for prediction of air and road surface temperatures. Bogren, J., [1990, 12p. + reprints, eng] 47-4697

Screening effects on road surface temperature and road slipperiness. Bogren, J., [1990, 17p., eng] 47-4698

Road surface temperature and risk of slipperiness. Bogren, J., [1990, 17p., eng] 47-4699

New snow protection engineering handbook. [1988, 527p., jpn] 47-4724

Harmony between road management and environment in winter. [1992, 44p., eng] 47-4780

Road heating in Sapporo. [1990, 18p., eng] 47-4781

Published research papers. [1993, 54p., jpn] 47-4782

Winter road traffic sensors. Nagata, N., et al. [1993, p.9-12, jpn] 47-4785

Study on methods for predicting road surface freezing. *Suzuki, T., et al.* [1993, p.38-42, *jpn*] 47-4791

Development of a system for forecasting road surface freezing. Ishizaka, T., [1993, p.51-54, jpn] 47-4793

Research summaries. [1993, 107p., jpn] 47-4794

Current status and future trends for road snow and ice countermeasures in North America. Special lecture. Minsk, L.D., [1993, 4p., jpn] 47-4795

Winter road maintenance by the Hokkaido Development Bureau. [1992, 39p., eng] 47-4799

Investigations of active infrared detection of pavement icing. Rosen, D.I., et al. [1989, 30p., eng] 47-4902

Tests on developing an ice groove cutting device. Horibe, K., *et al.* [1982, *p.37-46, jpn*] 47-4938

Determination of salting frequency through examination of salt residue amounts. Dirnböck, G., [1990, 38p., ger] 47-4985

Evaluation of ice prevention properties of road surface with calcium chloride admixture. *Augustin, H., et al.* [1986, 60p., ger] 47-4988

Using physical methods to predict slippery road conditions. Hertl, S., et al. [1988, 72p., ger] 47-4990

Manual for planning and implementing road surface condition studies in wintertime—vol.1 and 2. Gabestad, K.O., [1988, 2 vols., nor] 47-4991

Development of a new de-icing agent. Washüttl, J., et al. [1985, 34p., ger] 47-5009

Science of snow and ice (1). Inoue, M., [1984, p.15-18, jpn] 47-5062

Safeguarding of high speed highways. Hirai, M., [1984, *p.40-44, jpn*] 47-5065

Study on winter traffic volume. Seki, N., et al. [1984, p.101-106, jpn] 47-5076

Current status and countermeasures in the problem of studded tires. Fujishiro, Y., [1985, p.29-34, jpn] 47-5080

Skid resistance of studded tires. Shibata, M., et al. [1985, p.35-41, jpn] 47-5081

Actual conditions and countermeasures for pavement abrasion. Iijima, H., [1985, p.42-51, jpn] 47-5082

Summary and improvement trends for studded tires. Hayashi, H., [1985, p. 52-62, jpn] 47-5083

Countermeasures to the problem of studded tires in Hokkaido. Ito, K., [1985, p.63-68, jpn] 47-5084

Countermeasures to studded tires in Miyagi Prefecture. Onodera, O., [1985, p.69-72, jpn] 47-5085

Frost heave damage to roads from abnormally low temperatures. Ito, N., [1985, p.73-76, jpn] 47-5086

Wrestling with the problem of studded tires. [1985, p.77-82, jpn] 47-5087

Study on the performance of various anti-skid devices. Inagaki, M., [1985, p.90-95, jpn] 47-5089

Traffic flow on local two lane roads in Hokkaido. Ogino, H., et al. [1985, p.49-52, jpn] 47-5099

Shinjo Branch of the National Research Center for Disaster Prevention Science and Technology. Nakamura, T., [1985, p.53-60, jpn] 47-5100

Tests on the basic characteristics of road surface freezing deicers. Murakuni, M., [1985, p.69-74, jpn] 47-5157

Road icing *(cont.)*

Characteristics and problems of snow and ice countermeasures on the Meishin Expressway. Kawashima, T., [1985, p.82-92, jpn] **47-5159**

Current status and problems of road heating facilities for expressways. Murakuni, M., [1985, p.27-33, jpn] **47-5164**

Study on skid resistance of winter tires. Kadoyama, Y., et al, [1985, p.50-53, jpn] **47-5168**

New standards for studded tires. Yamanaka, Y., [1985, p.87-89, jpn] **47-5175**

Measures against coagulation of sodium chloride deicers for roads. Suzuki, M., [1986, p.70-74, jpn] **47-5183**

Snow and ice operations in the mountains and highways of Chugoku. Nagata, Y., et al, [1986, p.85-92, jpn] **47-5185**

Road maintenance

Salt-scaling resistance of concrete with air-entraining and superplasticizing admixtures. Ranisch, E.H., et al, [1989, p.170-178, eng] **47-16**

Relating bearing capacity to pavement condition. Lenngren, C.A., [1990, 189p., eng] **47-436**

Proceedings. [1985, 2 vols., eng] **47-523**

Problems of snow on road and airfields. Ghosal, D.N., [1985, p.212-221, eng] **47-573**

Use of radiation absorbing for clearing snow in mountainous regions. Vombatkere, S.G., [1985, p.222-239, eng] **47-574**

Use of radiation absorbing materials for clearing snow in mountainous areas. Sharma, H.D., [1985, p.240-247, eng] **47-575**

Preprints. [1992, Var. p. (2 vols.), eng] **47-925**

Highway winter maintenance and cost efficiency. Teppo, M.P.K., [1992, 8p., eng] **47-926**

Snow removal and ice control technology on Swiss highways. Schlup, U., [1992, 8p., eng] **47-927**

Goals and methods of winter maintenance in Finland. Katko, K., [1992, 7p., eng] **47-928**

Proposal for new winter road maintenance strategy—MINSALT Project. Axelson, L., [1992, 6p., eng] **47-929**

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SHRP H-208: development of anti-icing technology. Blackburn, R.R., et al, [1992, 23p., eng] ***47-932***

West Virginia oil and gas well brines for highway deicing. Eck, R.W., et al, [1992, 16p., eng] **47-933**

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Experiments with corrosion inhibited deicers in Washington State. Conrad, J.F., et al, [1992, 11p., eng] **47-935**

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Application of SHRP's snow removal and ice control research. Minsk, L.D., [1992, 6p., eng] **47-946**

Conclusions of the European project COST 309, road weather conditions. Nysten, E., [1992, 4p., eng] **47-947**

Abrasive air blast system for disbonding ice and snow from pavement. Osborne, M.D., [1992, 12p., eng] **47-948**

New ideas and equipment for winter maintenance in Finland. Kuusela, R., et al, [1992, 8p., eng] **47-949**

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Spreader equipment for anti-icing. Fleege, E.J., et al, [1992, 14p., eng] **47-952**

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Development of pneumatic snow conveyance equipment. Sumita, N., et al, [1992, 10p., eng] **47-954**

Extension of the regions in Sweden where salt is not used—MINSALT Project. Öberg, G., [1992, 7p., eng] **47-960**

Accident analysis of ice control operations. Kuemmel, D.A., et al, [1992, 14p., eng] **47-961**

Studded tires, chemical deicers, and road heating in Japan. Konagai, N., et al, [1992, 12p., eng] **47-962**

MINSALT. An experiment with unsalted road in Västerbottens county. Öberg, G., et al, [1991, 69p. + appends., swe] **47-1216**

Effects of studded tyres: consequences of amended regulations. Carlsson, A., et al, [1992, 53p. + appends., swe] **47-1217**

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Winter behavioural patterns of self draining roadways. Livet, J., et al, [1992, 23p., eng] **47-1621**

Handbook of test methods for evaluating chemical deicers. Chappelow, C.C., et al, [1992, 283p., eng] **47-1682**

Analysis of energy dissipation caused by snow compaction *during displacement plowing.* Hansen, A.C., [1991, p.177-181, eng] **47-1800**

Goal-oriented design of an improved displacement snowplow. Crane, R.L., et al, [1991, p.188-192, eng] **47-1802**

PASCON: an expert system for passive snow control on highways. Kaminski, D.F., et al, [1991, p.193-201, eng] **47-1803**

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Negatively buoyant jet (or plume) with applications to snowplow exit flow behavior. Lindberg, W.R., et al, [1991, p.219-229, eng] **47-1806**

Unsurfaced road management rating system. Eaton, R.A., et al, [1993, p.25, eng] **47-1911**

Village uses a multiple defense strategy for snow removal. Miller, R.H., [1992, p.42-44, eng] **47-1919**

Improved ice and snow control with pavement-specific forecasting. Kelley, J.R., [1992, p.46-47,83, eng] **47-1920**

One city's guide to snow and ice operations and planning. Usher, B., [1992, p.36-37, eng] **47-1925**

Effects of banning salt for roadway de-icing. Strizek, P., [1992, p.54,82, eng] **47-1927**

Salt and sand compared for winter road treatment. Jones, R.H., [1992, p.58-59, eng] **47-1928**

Snow removal from roads. [1992, p.62-63,91, eng] **47-1929**

Snow removing equipment for a multipurpose motor vehicle chassis. Nishnevich, E.L., et al, [1991, p.14-15, rus] **47-2062**

Bulldozer equipment with a controlled blade for maintaining mountain roads. Turgumbaev, D.D., et al, [1992, p.17-18, rus] **47-2063**

Snow and ice control. [1991, p.B/88-B/103, eng] **47-2108**

Minsalt Gotland. The road users' attitude to road salt. Gregersen, N.P., [1991, 39p. + appends., swe] **47-2205**

How Massachusetts cut salt use and costs. Carr, F.H., Jr., [1992, p.17-18, eng] **47-2322**

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Washington State OKs six anti-corrosion deicers. [1992, p.24-25, eng] **47-2326**

How to evaluate deicers. [1992, p.23,25-26, eng] **47-2327**

Measuring the benefits of RWIS. Boselly, S.E., III, [1992, p.18,20, eng] **47-2328**

How Vancouver uses thermal mapping. [1992, p.23,25-27, eng] **47-2329**

Snow drainage ditch project using sea water. Mizuno, E., et al, [1992, p.23-28, jpn] **47-2490**

Tests on road snow removal (conclusion)—tests on snow *removal in urban areas.* [1992, p.247-262, jpn] **47-2493**

Improving the efficiency of snowplows. Kubota, S., et al, [1992, p.287-292, jpn] **47-2495**

Tests on preventing pavement cracks in agricultural roads. Tagaino, S., et al, [1991, p.107-112, jpn] **47-2496**

Study on the effects of the popularization of studless tires—2nd report. Horita, N., et al, [1992, p.65-72, jpn] **47-2508**

Results of installing traffic advisory signs with automatic display for winter. Saito, H., et al, [1992, p.79-84, jpn] **47-2509**

Snowbreak forests along a highway in Hokkaido. Ishidoya, S., et al, [1992, p.91-96, jpn] **47-2510**

Cultivation of snowbreak forests. Notake, T., et al, [1992, p.97-102, jpn] **47-2511**

Wind tunnel tests on *snow fences in Hokkaido.* Sasaki, M., et al, [1992, p.109-114, jpn] **47-2513**

Study on road heating systems in Hokkaido. Miyamoto, S., et al, [1992, p.143-148, jpn] **47-2514**

Tests on road snow removal (continuation)—tests on snow removal in urban areas. [1991, p.159-178, jpn] **47-2522**

Performance tests on a rotary snowplow (with a single loading operation). Sawaguchi, S., et al, [1991, p.199-204, jpn] **47-2523**

Tests on improving the efficiency of snow removal equipment on snow removal trucks. Nakajima, J., et al, [1991, p.205-210, jpn] **47-2524**

Wind tunnel tests on forest strip windbreaks. Takabe, N., et al, [1991, p.211-214, jpn] **47-2525**

Study on the effects of the popularization of studless tires—1st report. Koizumi, S., et al, [1991, p.33-38, jpn] **47-2531**

Traffic in mountainous areas of snowy and cold regions. Hirasawa, M., et al, [1991, p.39-44, jpn] **47-2532**

Recycling of scrap wood for *cold region asphalt* pavements. Takami, K., et al, [1991, p.51-56, jpn] **47-2533**

Practical examples with a personal computer for road management data. Chiba, T., [1991, p.121-124, jpn] **47-2538**

Numerical simulation to estimate the wind- and snowbreak efficiency of snowbreak forests. Yano, S., et al, [1991, p.125-130, jpn] **47-2539**

Application of chemicals for snowy and icy road surfaces in Hokkaido. Miyamoto, S., et al, [1991, p.131-136, jpn] **47-2540**

Winter road management, testing and research trends in Europe and the United States. Kajiya, Y., [1991, p.137-140, jpn] **47-2541**

Environmental and health effects of the use of studded tires. Literature review. Folkeson, L., [1992, 36p., swe] **47-2617**

Freeze-thaw effects on pavements with antistripping agents. Ping, W.V., et al, [1992, p.512-520, eng] **47-2629**

Unsurfaced road maintenance management. Eaton, R.A., et al, [1992, Var. p., eng] **47-2756**

Frensor—a new smart pavement sensor. Katz, D.I., [1993, p.19-22, eng] **47-3060**

Recessed deflecting road reflector. Sheldon, S.A., [1989, 6 col., eng] **47-3104**

Plastic moldboards for snow plows and the like. Ciula, J.C., [1989, 14 col., eng] **47-3111**

Influence of winter road maintenance on traffic accident rates. Hanbali, R.M., [1992, 305p., eng] **47-3130**

Engineering studies on pneumatic conveying systems of snow. Kobayashi, T., et al, [1992, p.275-286, eng] **47-3206**

Numerical simulation of snowdrift on a road. Sato, A., et al, [1992, p.123-135, jpn] **47-3297**

Simple differentiation of snow road formation for snow *removal road.* Abe, O., [1992, p.137-143, jpn] **47-3298**

Observation car to detect snow and ice on roads. Abe, O., [1992, p.145-167, jpn] **47-3299**

Studies of icing on road surface in snowy region. Nakawo, M., et al, [1992, p.169-191, jpn] **47-3300**

Development of a method for predicting road surface temperature and icing on roads. Funada, H., et al, [1992, p.193-231, jpn] **47-3301**

Network information systems on snow in Japan. Nakamura, T., [1992, p.233-250, jpn] **47-3302**

Motorist information needs and changeable sign messages for adverse winter travel. Wilson, E.M., et al, [1992, 100p., eng] **47-3524**

Ground-penetrating radar applications in road design and construction in Finnish Lapland. Saarenketo, T., [1992, p.161-167, eng] **47-3554**

How to design snow fences. Shelquist, K., [1993, p.22, eng] **47-3681**

How Arizona handles winter roads. [1993, p.19, eng] **47-3683**

Winter maintenance (1991-1993). [1993, 33p., eng] **47-3902**

Clive's recipe for successful snow and ice control. Wray, W.J., Jr., [1993, p.17, eng] **47-3907**

Effects of deicing salt on roadside Scots pine foliage. Hautala, E.L., et al, [1992, p.179-185, eng] **47-3995**

Snow-removing machine. Gisler, H., et al, [1987, 8 col., eng] ***47-4003***

Frost in geotechnical engineering. Phukan, A., ed, [1993, 191p., eng] **47-4114**

Dielectric properties of road aggregates and *their effect on* GPR surveys. Ravaska, O., et al, [1993, p.17-22, eng] **47-4116**

Thermal behavior of rip rap in a cross-drainage structure. Lozano, N., [1993, p.35-43, eng] **47-4118**

Where does the water go during ice lense thaw. Dysli, M., [1993, p.45-50, eng] **47-4119**

Use of steel meshes against longitudinal frost cracks in flexible pavements. Salmenkaita, S., [1993, p.79-82, eng] **47-4124**

Use of frost insulation in the repair of frost heave damages. Saarelainen, S.M.I., [1993, p.113-116, eng] **47-4129**

Frost penetration beneath cleared pavements. McCormick, G., [1993, p.117-126, eng] **47-4130**

Tire chips as insulation beneath gravel surfaced roads. Humphrey, D.N., et al, [1993, p.137-149, eng] **47-4132**

Highway construction and management in cold regions. MacLeod, D.R., [1993, p.137-161, eng] **47-4278**

Winter storm mapping: a Geographic Information Systems Transportation application. Swift, L.B., et al, [1992, p.60-71, eng] **47-4359**

Cold Weather Transit Technology Program. Volume I. Executive summary. Final report. Kleinman, R.L., et al. [1992. 34p., eng] 47-4612

Avalanche shed on a Colorado highway. Mears, A., [1992. 113p., eng] 47-4614

Evaluation of concrete and aggregate durability test. [1993. 64p., eng] 47-4615

Detection of frost-prone highway beds from response-type surface roughness measurements. Scully, J., [1992. 15p. + appends., eng] 47-4616

Emissions from antiskid materials applied to icy roadways. Kinsey, J.S., [1993. Var. p., eng] 47-4617

Snow-belt county's approach to snow and ice control. Bakken, R.C., [1993. p.40-42, eng] 47-4625

Flow along developable surface snowplow moldboards. Crane, R.L., [1992. 293p., eng] 47-4677

Published research papers. [1990. 37p. + panel discussion, jpn] 47-4678

Basic experiments on snow avalanche abatement. Shimomura, C., et al. [1990, p.5-8, jpn] 47-4680

Development of snow removal information systems. Kato, T., et al. [1990, p.9-11, jpn] 47-4681

Simulation for planning road snow melting. Miyamoto, S., [1990, p.13-16, jpn] 47-4682

Development of methods to evaluate mechanical snow removal. Endo, T., et al. [1990, p.17-19, jpn] 47-4683

Automation of snow removal graders. Kamimura, H., [1990, p.20-23, jpn] 47-4684

Basic plan for a snowdrift information system. [1990, p.26-29, jpn] 47-4685

Using blowing snow observations in traffic management. Fukuzawa, Y., et al. [1990, p.30-33, jpn] 47-4686

Study on the characteristics of icy road surfaces. Suzuki, S., et al. [1990, p.34-37, jpn] 47-4687

Research summaries. [1990. 78p., jpn] 47-4688

Roads in Hokkaido. [1992. 27p., eng] 47-4690

Modelling of local climate with applications to winter road conditions. Gustavsson, T., [1990. 13p. + reprints, eng] 47-4691

Infrared thermography in applied road climatological studies. Gustavsson, T., et al. [1990. 22p., eng] 47-4692

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Prediction of air and road surface temperatures. Gustavsson, T., et al. [1990. 45p., eng] 47-4696

Application of a local climatological model for prediction of air and road surface temperatures. Bogren, J., [1990. 12p. + reprints, eng] 47-4697

Screening effects on road surface temperature and road slipperiness. Bogren, J., [1990. 17p., eng] 47-4698

Road surface temperature and risk of slipperiness. Bogren, J., [1990. 17p., eng] 47-4699

New snow protection engineering handbook. [1988. 527p., jpn] 47-4724

Snow clearing removal technique of Sapporo. Hirata, M., [1991. 7p., eng] 47-4779

Harmony between road management and environment in winter. [1992. 44p., eng] 47-4780

Road heating in Sapporo. [1990. 18p., eng] 47-4781

Published research papers. [1993. 54p., jpn] 47-4782

Study on blowing snow and snowdrift countermeasures. Tsunaki, R., et al. [1993, p.1-4, jpn] 47-4783

Study on regional activities and roads in winter. [1993, p.5-8, jpn] 47-4784

Winter road traffic sensors. Nagata, N., et al. [1993, p.9-12, jpn] 47-4785

Comfortable towns with enhanced safety in snow. Sakamoto, Y., [1991, p.13-21, eng] 47-4786

Tests on snow removal equipment. Sawaguchi, S., [1993, p.22-25, jpn] 47-4787

Development of simple-operation sidewalk snow removal equipment. Fukuta, N., et al. [1993, p.26-29, jpn] 47-4788

Development of shock absorbers for snow removal graders. Kumamoto, Y., et al. [1993, p.30-33, jpn] 47-4789

Study on winter road maintenance with a snow melting system. Miyamoto, S., et al. [1993, p.34-37, jpn] 47-4790

Study on methods for predicting road surface freezing. Suzuki, T., et al. [1993, p.38-42, jpn] 47-4791

Road heating control using snowfall forecast data. Takahashi, T., et al. [1993, p.43-50, jpn] 47-4792

Development of a system for forecasting road surface freezing. Ishizaka, T., [1993, p.51-54, jpn] 47-4793

Research summaries. [1993. 107p., jpn] 47-4794

Current status and future trends for road snow and ice countermeasures in North America. Special lecture. Minsk, L.D., [1993, 4p., jpn] 47-4795

Data on Hokkaido roads and snow. [1993. 26p., jpn] 47-4796

New Kotoni snow removal channel. [1992. n.p. (brochure), jpn] 47-4797

Current status of road snow melting in Jozankei, Sapporo City. Sato, M., et al. [1986, p.330-339, jpn] 47-4798

Winter road maintenance by the Hokkaido Development Bureau. [1992. 39p., eng] 47-4799

Snow-Sapporo-21 Project. [1991. 50p., eng] 47-4800

Investigations of active infrared detection of pavement icing. Rosen, D.I., et al. [1989. 30p., eng] 47-4902

Shock absorption for the KBR-80 compact snowplow. Yamada, Y., et al. [1980. p.23-30, jpn] 47-4929

Determining the operational visibility of snowplows (part 2). Yanagisawa, Y., [1980. p.31-36, jpn] 47-4930

Trends in snow removal machinery at the Hokkaido Development Bureau. Katada, Y., [1980. p.37-45, jpn] 47-4931

Experiments on snowdrift prevention in the Okushunbetsu district of Teshikaga. Anno, Y., [1980. p.46-50, jpn] 47-4932

Tests on safety of snow removal trucks (part 1). Matsusaka, H., [1980. p.72-79, jpn] 47-4933

Tests on improving the efficiency of rotary snowplows. Motoya, H., [1980. p.80-85, jpn] 47-4934

Tests on improving the efficiency of rotary snowplows. Motoya, H., et al. [1981. p.27-34, jpn] 47-4935

Tests on safety of snow removal trucks. Takeda, Y., et al. [1981, p.35-44, jpn] 47-4936

Review of a wind tunnel experimental facility. Kokubun, M., et al. [1981. p.45-62, jpn] 47-4937

Tests on developing an ice groove cutting device. Horibe, K., et al. [1982. p.37-46, jpn] 47-4938

Mechanism for changing the edge of a snow removal grader. Horibe, K., et al. [1982. p.47-50, jpn] 47-4939

Tests on improving a (shear pin) safety mechanism for snow removal graders. Horibe, K., et al. [1982. p.51-56, jpn] 47-4940

Tests on sideways skidding of compact snowplows. Sakai, M., et al. [1982. p.57-66, jpn] 47-4941

Wind tunnel experiments on the snow shelter facility on National Highway 231. Ishizuka, Y., [1982. p.67-72, jpn] 47-4942

Wind tunnel experiments on snowbreak forest planting. Ishizuka, Y., [1983. p.17-32, jpn] 47-4943

Performance tests on the KBR-81 compact snowplow. Sakai, M., [1983, p.33-48, jpn] 47-4944

Tests on snow removal machinery. Yanagisawa, Y., [1983, p.49-66, jpn] 47-4945

Tests on improving the efficiency of road surface maintenance. Itabashi, N., [1983, p.67-88, jpn] 47-4946

Tests on snow removal machinery. Yanagisawa, Y., et al. [1984. p.15-42, jpn] 47-4947

Tests on improving the efficiency of road surface maintenance. Shoji, K., et al. [1984, p.43-68, jpn] 47-4948

Performance tests on a 400 PS-class rotary snowplow with an automatic control device. Yanagisawa, Y., et al. [1985, p.21-26, jpn] 47-4949

Developing a device to record snowplow operation. Matsuzaki, K., et al. [1985, p.43-52, jpn] 47-4950

Wind tunnel experiments on the snow shelter at Nita. Ishizuka, Y., et al. [1985. p.53-62, jpn] 47-4951

Wind tunnel experiments on highway snow countermeasures. Ishizuka, Y., et al. [1986, p.55-64, jpn] 47-4952

Tests on the surface layout of snow removal drains. Shimaguchi, Y., et al. [1986, p.65-82, jpn] 47-4953

Tests on the surface layout of snow removal drains. Shimaguchi, Y., et al. [1987, p.1-16, jpn] 47-4954

Wind tunnel experiments on highway snow countermeasures. Nakano, T., et al. [1987, p.17-28, jpn] 47-4955

Wind tunnel experiments on construction of a highway interchange. Takabe, N., et al. [1987. p.29-34, jpn] 47-4956

Tests on snow removal trucks. Itabashi, N., et al. [1987, p.35-56, jpn] 47-4957

Tests on developing studless snowplows. Kawakami, S., et al. [1987, p.57-66, jpn] 47-4958

Tests on the surface layout of snow removal drains. Shimaguchi, Y., et al. [1988. p.1-55, jpn] 47-4959

Wind tunnel experiments on highway snow countermeasures. Nakano, T., et al. [1988. p.56-71, jpn] 47-4960

Wind tunnel experiments on snow fences. Takabe, N., et al. [1988. p.72-81, jpn] 47-4961

Tests on rotary snow removal machinery. Yamagami, M., et al. [1988. p.82-119, jpn] 47-4962

Performance tests on rotary snow plows in single file. Sasaki, T., et al. [1990. p.1-9, jpn] 47-4963

Tests on the surface layout of snow removal drains. Maeda, T., [1990. p.23-30, jpn] 47-4964

Wind tunnel experiments on highway snow countermeasures. Takabe, N., [1990. p.31-35, jpn] 47-4965

Tests on snow removal trucks. Nakajima, J., et al. [1990. p.36-67, jpn] 47-4966

Tests on urban snow removal. Sumita, N., et al. [1991. p.1-24, jpn] 47-4967

Tests on developing snowplows with a variable curved surface. Nagahora, K., et al. [1991. p.25-50, jpn] 47-4968

Tests on developing a device to modify the blade cutting edge of road maintenance equipment. Nagahora, K., et al. [1991. p.51-56, jpn] 47-4969

Wind tunnel experiments on road improvement at Mineoka on National Highway 238. Takabe, N., et al. [1991. p.57-68, jpn] 47-4970

Wind tunnel experiments on highway snow countermeasures. Takabe, N., et al. [1991. p.69-73, jpn] 47-4971

Performance tests on the 10t class B-B-D snow removal truck. Nakajima, J., et al. [1991. p.74-91, jpn] 47-4972

Development of a reverse blade type, shear-pinless device for a snow removal grader. Nagahora, K., et al. [1992. p.1-21, jpn] 47-4973

Development of a guidance system for a snow dump truck. Kubota, S., et al. [1992. p.55-69, jpn] 47-4974

Wind tunnel experiments on innovations at the Toyono bypass on National Highway 40. Takabe, N., et al. [1992. p.70-91, jpn] 47-4975

Wind tunnel experiments on highway snow countermeasures. Sasaki, T., et al. [1992. p.92-101, jpn] 47-4976

Maintenance techniques for road surfacings – investigations, route decisions, planning, implementation [1978. 221p., ger] 47-4986

Test methods for the renovation of road coverings. Wicke, M., et al. [1985. 48p., ger] 47-4987

Snow loads on road-side structures during plowing. Rudelstorfer, K., et al. [1987. 88p., ger] 47-4989

Manual for planning and implementing road surface condition studies in wintertime—vol.1 and 2. Gabestad, K.O., [1988. 2 vols., nor] 47-4991

Effects of thawing salts on biological sewage treatment plants. Washüttl, J., [1983, p.1-19, ger] 47-5000

Effects of road salt reduction on salting efficiency. Augustin, H., et al. [1983, p.21-78, ger] 47-5001

Status of road snow removal in the snowstorms of 1984. Iina, I., [1984, p.35-39, jpn] 47-5064

Safeguarding of high speed highways. Hirai, M., [1984, p.40-44, jpn] 47-5065

Safeguarding traffic on the snowy stretches of National Highway 17 during the 1984 snowstorms. Aoki, S., [1984, p.45-50, jpn] 47-5066

Snowdrifts on National Highway 7. Kuroki, M., [1984, p.51-57, jpn] 47-5067

Safeguarding the main roads in Hokkaido. Bando, T., [1984, p.58-63, jpn] 47-5068

Looking back at the snowstorms of 1984. Iwatani, T., [1984, p.64-68, jpn] 47-5069

Looking back at the snowstorms of 1984. Ima, M., [1984, p.75-79, jpn] 47-5071

Snow removal in Sapporo City. Segawa, T., [1984, p.80-84, jpn] 47-5072

Developing comprehensive technology to make cities snowproof. Shibata, M., et al. [1984, p.85-89, jpn] 47-5073

On-site tests for dealing with roadside snowbanks by water sprinkling. Murakuni, M., [1984, p.90-95, jpn] 47-5074

Study on snow fences. Takeuchi, M., et al. [1984, p.96-100, jpn] 47-5075

Study on winter traffic volume. Seki, N., et al. [1984, p.101-106, jpn] 47-5076

Sapporo Road Office. Oyama, S., [1984, p.107-110, jpn] 47-5077

Estimated budget requirements for snow and cold weather operations for 1985. Iina, I., [1984, p.111-112, jpn] 47-5078

Current status and countermeasures in the problem of studded tires. Fujishiro, Y., [1985, p.29-34, jpn] 47-5080

Actual conditions and countermeasures for pavement abrasion. Iijima, H., [1985, p.42-51, jpn] 47-5082

Summary and improvement trends for studded tires. Hayashi, H., [1985, p. 52-62, jpn] 47-5083

Countermeasures to the problem of studded tires in Hokkaido. Ito, K., [1985, p.63-68, jpn] 47-5084

Countermeasures to studded tires in Miyagi Prefecture. Onodera, O., [1985, p.69-72, jpn] 47-5085

Wrestling with the problem of studded tires. [1985, p.77-82, jpn] 47-5087

Pipe transport system for snow. Isobe, K., [1985, p.83-89, jpn] 47-5088

Study and design of countermeasures for blowing snow. Katayama, O., et al. [1985, p.96-101, jpn] 47-5090

Winter in Yuzawa. Kawakami, A., [1985, p.106-111, jpn] 47-5091

Improvement and development of snow removal equipment at the Hokuriku Regional Construction Bureau. Sugiyama, A., et al. [1985, p.112-119, jpn] 47-5092

Bulletin on the budget for snow and cold weather operations for 1985. Iina, I., [1985, p.123, jpn] 47-5093

Snow countermeasure operations at the Hokkaido Development Bureau. Bando, T., [1985, p.21-28, jpn] 47-5095

Road snow removal in Nagaoka in the snow belt. Nishikata, M., [1985, p.29-32, jpn] 47-5096

Snow removal in Yamagata Prefecture. [1985, p.33-41, jpn] 47-5097

Road maintenance (cont.)

Road snow removal in Hokuriku regional construction. Yasui, K., et al. [1985, p.42-48, jpn] 47-5098

Traffic flow on local two lane roads in Hokkaido. Ogino, H., et al. [1985, p.49-52, jpn] 47-5099

Roads of Hida in snow. Sone, I., et al. [1985, p.72-76, jpn] 47-5102

Improvement and development of sidewalk snow removal equipment at the Tohoku Regional Construction Bureau. Takahashi, K., et al. [1985, p.77-81, jpn] 47-5103

Bulletin on road snow removal in the 1985 snowstorms. Iina, I., [1985, p.82-83, jpn] 47-5104

Avalanche countermeasures in Hokkaido. Takeuchi, M., [1985, p.22-26, jpn] 47-5149

Avalanche countermeasures in the Tsuchidaru stretch of the Kanetsu Highway. Tsukada, C., et al. [1985, p.32-36, jpn] 47-5151

Avalanche countermeasures in Fukushima Prefecture. Hamazu, F., [1985, p.37-44, jpn] 47-5152

Summary of avalanche countermeasure operations in Fukushima Prefecture. [1985, p.45-52, jpn] 47-5153

Tests on the basic characteristics of road surface freezing deicers. Murakuni, M., [1985, p.69-74, jpn] 47-5157

Characteristics and problems of snow and ice countermeasures on the Meishin Expressway. Kawashima, T., [1985, p.82-92, jpn] 47-5159

Development and improvement of snow removal equipment at the Hokkaido Development Bureau. Yamada, S., et al. [1985, p.93-97, jpn] 47-5160

Final breakdown of budget items for snow and cold weather operations in 1983 and 1984. Iina, I., [1985, p.98-99, jpn] 47-5161

Current status and problems of road heating facilities for expressways. Murakuni, M., [1985, p.27-33, jpn] 47-5164

Model operations for towns of the north—surface layout of snow removal drains. Honda, M., [1985, p.34-39, jpn] 47-5165

Non-sprinkler snow melting by water pipe heating. [1985, p.40-44, jpn] 47-5166

Snow countermeasures in Joetsu City. [1985, p.45-49, jpn] 47-5167

Development of equipment for dealing with high snowbanks. Iwamoto, T., et al. [1985, p.54-61, jpn] 47-5169

Avalanche countermeasures (2). Kuriyama, H., [1985, p.62-66, jpn] 47-5170

Mechanical snow removal operations on temporary two-lane sections. Tono, A., et al. [1985, p.67-71, jpn] 47-5171

Snow removal in Fukui. Horikawa, I., [1985, p.72-76, jpn] 47-5172

Development of removal methods and equipment for dealing with snowbanks in the median strip. Abe, T., [1985, p.77-84, jpn] 47-5173

Estimated budget requirements for snow and cold weather operations for 1986. Iina, I., [1985, p.85-86, jpn] 47-5174

Current status and development of snow removal equipment. Kawabata, T., et al. [1986, p.27-32, jpn] 47-5177

Maintenance and inspection of snow removal equipment. Sugiyama, A., et al. [1986, p.33-38, jpn] 47-5178

Reliability of snow removal equipment. Nakamura, O. et al. [1986, p.39-45, jpn] 47-5179

Snowproofing measures in Tonami City. Fukuda, M., [1986, p.46-53, jpn] 47-5180

Development of technology for continuous transport of snow. Hishita, T., et al. [1986, p.59-63, jpn] 47-5181

Texture and hardness of compacted snow. Kobayashi, T., [1986, p.64-69, jpn] 47-5182

Measures against coagulation of sodium chloride deicers for roads. Suzuki, M., [1986, p.70-74, jpn] 47-5183

Snow removal in Hakkodata. Kudo, N., [1986, p.75-84, jpn] 47-5184

Snow and ice operations in the mountains and highways of Chugoku. Nagata, Y., et al. [1986, p.85-92, jpn] 47-5185

Bulletin on the budget for snow and cold weather operations for 1986. Fujieda, H., [1986, p.99, jpn] 47-5189

Groundwater contamination due to road de-icing chemicals—salt balance implications. Howard, K.W.F., et al. [1993, p.1-8, eng] 47-5190

Roadbeds

Structural design for permafrost on a railroad line. Kondrat'ev, V.G., et al. [1993, p.11-13, rus] 47-4085

Improving the technology for building a roadbed in Southern Yakutia. Maksimov, A.V., et al. [1992, p.3-5, rus] 47-4086

Detection of frost-prone highway beds from response-type surface roughness measurements. Scully, J., [1992, 15p. + appends., eng] 47-4616

Roads

Traffic safety of porous asphalt surface layers during winter—results of a study on highways. Ferrero, T., et al. [1992, p.359-362, ger] 47-50

Construction and maintenance of roads and runways in snowbound region. Shukla, R.S., et al. [1985, p.345-365, eng] 47-582

Systems approach to management of roads and airfields in snowbound areas. Bose, S., et al. [1985, p.366-380, eng] 47-583

Distribution and forms of lead compounds in the environment near southern Finland highways. Vuorinen, A., [1986, p.30-33, eng] 47-595

Evaluation of frost action mitigation procedures for highly frost-susceptible soils. MacKay, M.H., et al. [1992, p.91-109, eng] 47-1134

Evaluation of polymer-modified asphalts in Ontario. Joseph, P., et al. [1992, p.243-269, eng] 47-1137

Effectiveness of anti-naled measures during road building. Nevskii, S.D., [1991, p.214-218, rus] 47-2450

Naleds and forecasting them on mountain highways in Kirgizia. Turgunbaev, A.T., [1991, p.219-225, rus] 47-2451

Elastic shield to protect road culverts from naleds. Dement'eva, O.V., [1992, p.13, rus] 47-2902

Subsurface drainage of pavement structures: current Corps of Engineers and industry practice. Allen, W.L., [1991, 31p., eng] 47-3339

Engineering geology of the USSR: platform regions in European USSR. Komarov, I.S., ed. [1992, 2 vols., rus] 47-3858

Snowplow resistant road markers. Eigenmann, L., [1987, 6 col., eng] 47-4000

Highway construction and management in cold regions. MacLeod, D.R., [1993, p.137-161, eng] 47-4278

Influence of studded tires on roadway surfaces. Bereza-Kudrycki, W., [1985, 55p., eng] 47-5008

See also: Ice roads; Snow roads; Streets

Rock creep

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Rock drilling

Development of a thermal mechanical drill for sampling ice and rock from great depths. Das, D.K., et al. [1992, p.377-382, eng] 47-913

Thermal maturity and source-rock potential in northwestern Melville Island, arctic Canada. Gentzis, T., et al. [1992, p.423-442, eng] 47-983

Ground freezing to provide support for tunneling using vertical refrigeration pipes. Sopko, J.A., Jr., et al. [1991, p.267-272, eng] 47-992

Effect of low temperature on dynamic tensile strength of rocks. Dutta, P.K., et al. [1992, p.61-69, eng] 47-1233

Equipment for drilling boreholes in rocky and coarse-grained ground. Gotkhman, I.A.A., et al. [1990, p.3-5, rus] 47-1412

Penetration of rocks by continuous water jets. Harris, H.D., et al. [1974, p.H1/1-H1/15, eng] 47-2200

Hard rock tunneling machine characteristics. Mellor, M., et al. [1972, p.1149-1158, eng] 47-2614

Drilling boreholes in glacial and subglacial rocks, with core selection by an electromechanical drill on a load- bearing cable. Kudriashov, B.B., et al. [1991, p.163-170, rus] 47-2808

Nonstationary heat and mass transfer in disturbed rock massifs. Cherniak, V.P., et al. [1992, 224p., rus] 47-3863

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See also: Earth fills; Hydraulic fills

Rock glaciers

Rock glaciers and the Holocene paleoclimatic record of the La Sal Mountains, Utah. Nicholas, J.W., [1992, 208p., eng] 47-278

Rock glaciers II: models and mechanisms. Whalley, W.B., et al. [1992, p.127-186, eng] 47-423

Model of water movement in rock glaciers and associated water characteristics. Giardino, J.R., et al. [1992, p.159-184, eng] 47-851

Interactions and relations between mountain permafrost, glaciers, snow and water. Harris, S.A., et al. [1992, p.103-110, eng] 47-1749

Monitoring of periglacial phenomena in the Furggentälti Swiss Alps. Krummenacher, B., et al. [1992, p.149-155, eng] 47-1755

Creep of alpine permafrost, investigated on the Murtel rock glacier. Wagner, S., [1992, p.157-162, eng] 47-1756

Observations on the rock glaciers of Monte Emilius (Valle d'Aosta, Italy). Smiraglia, C., [1992, p.163-168, eng] 47-1757

Evidence of intrapermafrost groundwater flow beneath an active rock glacier in the Swiss Alps. Vonder Mühll, D.S., [1992, p.169-173, eng] 47-1758

Permafrost creep and rockglaciers. Barsch, D., [1992, p.175-188, eng] 47-1769

Permafrost research sites in the Alps. Haeberli, W., et al. [1992, p.189-202, eng] 47-1770

10 year surficial velocities on a rock glacier (Laurichard, French Alps). Francou, B., et al. [1992, p.209-213, eng] 47-1772

Rock glaciers in Svalbard and Norway. Sollid, J.L., et al. [1992, p.215-220, eng] 47-1773

Climatic factors related to mountain periglacial processes. Ahumada, A.L., [1992, p.221-224, eng] 47-1774

Perennial névés and the hydrology of rock glaciers. Tenthorey, G., [1992, p.247-252, eng] 47-1779

Active rock glaciers and the lower limit of discontinuous alpine permafrost, Khumbu Himalaya, Nepal. Jakob, M., [1992, p.253-256, eng] 47-1780

Southern limit of relict rock glaciers, Central Apennines, Italy. Dramis, F., et al. [1992, p.257-260, eng] 47-1781

Statistical analysis of the spatial distribution of rock glaciers, Spanish Central Pyrenees. Chueca, J., [1992, p.261-265, eng] 47-1782

Rock glaciers and periglacial phenomena in the Southern Carpathians. Urdea, P., [1992, p.267-273, eng] 47-1783

Active rock glaciers in central northern Tian Shan. Schroder, H., [1992, p.109-119, ger] 47-2666

Drilling boreholes in glacial and subglacial rocks, with core selection by an electromechanical drill on a load- bearing cable. Kudriashov, B.B., et al. [1991, p.165-170, rus] 47-2808

Rock glacier geomorphology in the Canadian Arctic. Evans, D.J.A., [1993, p.17-35, eng] 47-3115

Rock glacier dynamics in Kazakhstan. Gorbunov, A.P., et al. [1992, p.29-39, eng] 47-3124

Micro-relief on a rock glacier, Dalton Range, Yukon, Canada. Johnson, P.G., [1992, p.41-47, eng] 47-3125

Plant colonization in a polar oceanic environment. André, M.F., [1992, p.329-347, eng] 47-4077

Mountain permafrost and climatic change. Haeberli, W., et al. [1993, p.165-174, eng] 47-4151

Origin of rock glaciers: stagnant ice or ice segregation? Tricart, J., [1992, p.96-98, eng] 47-4168

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Rock mechanics

Quantitative evaluation of deterioration in cryogenic erosion. Vasil'ev, A.A., et al. [1991, p.14-20, rus] 47-395

Mathematic modeling of conductive and convective heat transfer in the taliks of a cryolite zone. Buldovich, S.N., et al. [1991, p.55-64, eng] 47-420

Rock glaciers II: models and mechanisms. Whalley, W.B., et al. [1992, p.127-186, eng] 47-423

Rockslide and debris flow from Mount Cayley, B.C., in June 1984. Cruden, D.M., et al. [1992, p.614-626, eng] 47-1185

Effect of low temperature on dynamic tensile strength of rocks. Dutta, P.K., et al. [1992, p.61-69, eng] 47-1233

Vertical movements of boulders in a subnival boulder pavement at 2800 m a.s.l. in the Alps (France). Pissart, A., et al. [1992, p.203-208, eng] 47-1771

Fundamentals of amplitude-phase measurements using induced polarization. Mel'nikov, V.P., et al. [1974, 222p., rus] 47-2911

Dilatometric variations of calcareous rock cylinders during freeze thaw cycles. Prick, A., et al. [1993, p.1-15, fre] 47-3114

Investigations of cryogenic weathering in Europe and northern Asia. Konishchev, V.N., et al. [1993, p.49-64, eng] 47-3117

Modelling of rock mass responses to glaciation at Finnsjön, central Sweden. Rosengren, L., et al. [1993, p.75-82, eng] 47-3920

Observations on rock moisture variability in gneiss and basalt under natural, arctic conditions. Humlum, O., [1992, p.197-205, eng] 47-4328

Mechanism of freeze-thaw deterioration of rock in the Great Lakes region. Lienhart, D.A., [1993, p.77-87, eng] 47-4888

Mechanics of bedrock frost heaving in permafrost regions. Michaud, Y., [1991, 128p., eng] 47-4900

Rock properties

Purple non-sulphur bacterium from ancient cryogenic rocks of the Kolyma Lowland. Burashnikova, E.N., et al. [1992, p.232-240, eng] 47-1736

Recent microweathering phenomena in southern and central Sweden. Swantesson, J.O.H., [1992, p.275-292, eng] 47-2237

Fundamentals of amplitude-phase measurements using induced polarization. Mel'nikov, V.P., et al. [1974, 222p., rus] 47-2911

Submarine rock diagenesis as exposed on Ellesmere I. Davies, G.R., et al. [1990, 77p., eng] 47-4365

Mechanism of freeze-thaw deterioration of rock in the Great Lakes region. Lienhart, D.A., [1993, p.77-87, eng] 47-4888

Bedrock weathering associated with antarctic snowpatches. Hall, K., [1993, p.121-129, eng] 47-5270

Rock streams

Evidence of periglacial processes in Virginia mountains. Whittecar, G.R., et al. [1992, p.487-494, eng] 47-2704

Distribution of block fields in Scandinavia. Malmström, B., [1991, p.110-113, swe] 47-2852

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See also: Frozen rock temperature

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Boulder beach formed by waves from a calving glacier, Eqip Sermia, West Greenland. Nielsen, N., [1992, p.159-168, eng] 47-226

Glacial flow reorientation in the SW Fosdick Mountains. Richard, S. M., et al. [1991, p.67-69, eng] 47-2467

Large sorted stone polygons, and ventifact distribution, in the Syrkadal area, Scania, S. Sweden. Schlyter, P., [1992, p.219-226, eng] 47-4330

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Performance of an attic radiant barrier for a simulated Minnesota winter. Chen, H., et al. [1992, p.114-122, eng] 47-1150
Moisture control in a ventilated attic. Samuelson, I., [1992, p.512-516, eng] 47-1163
Finite area element snow loading prediction—applications and advancements. Gamble, S.L., et al. [1992, p.1537-1548, eng] 47-1583
Formation of snow cover on roofs of industrial buildings in Yakutia. Filippov, V.V., et al. [1992, p.136-138, rus] 47-2781
Bitumen-vermiculite as thermal insulation beneath a roll roof. Antsiferov, IU.M., et al. [1991, p.82-85, rus] 47-2936
Proceedings. [1992, 485p., eng] 47-3182
Effects of roof size and heat transfer on snow loads on flat roofs. Irwin, P.A., et al. [1992, p.59-68, eng] 47-3188
Field measurement and characteristic analyses of snow load on flat roofs. Mihashi, H., et al. [1992, p.69-80, eng] 47-3189
Roof snow observation and application to house construction. Nakamura, T., et al. [1992, p.81-92, eng] 47-3190
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Estimation of daily snow mass on the ground using air temperature and precipitation data. Kamimura, S., et al. [1992, p.157-167, eng] 47-3196
Wind tunnel modeling of snow accumulations on large-area roofs. Isyumov, N., et al. [1992, p.181-193, eng] 47-3198
Laboratory studies of snow drifts on multilevel roofs. O'Rourke, M.J., et al. [1992, p.195-206, eng] 47-3199
Excess snow loads on flat roofs. Wianecki, J., et al. [1992, p.215-228, *eng*] 47-3201
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Snow removal from a pantiled roof using electrically heated roof tiles. Higashiyama, Y., et al. [1992, p.253-262, eng] 47-3204
Removal of snow from membrane structures. Otsuka, K., et al. [1992, p.263-274, eng] 47-3205
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Roof snow/ice loads compared to ground snow load. Mackinlay, I., et al. [1992, p.353-363, eng] 47-3213
Design review for snow country. Paine, J.C., [1992, p.373-379, eng] 47-3215
ASCE Standard 7 snow loads. Sack, R.L., et al. [1992, p.381-391, eng] 47-3216
Overview of snow loads for Fairbanks, Alaska. Tobiasson, W., et al. [1992, p.393-404, eng] 47-3217
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Codification of European snow loading. Tory, J.R., [1992, p.453-464, eng] 47-3221
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Perspective: Analytical modeling. Irwin, P.A., [1992, p.471-472, eng] 47-3224
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Ice dam preventer. Daniel, G.S., [1988, 4 col., eng] 47-3497
Standing seam metal roofing systems in cold regions. Tobiasson, W., et al. [1993, p.34-44, eng] 47-3542
Analysis of snow loads due to drifting on multilevel roofs. Speck, R.S., Jr., [1984, 92p., eng] 47-3700
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Effects of drifting on snow loads on large roofs. Irwin, P.A., et al. [1993, p.508-513, eng] 47-5262

Roots
Root cold hardiness and native distribution of subalpine *conifers.* Coleman, M.D., et al. [1992, p.932-938, eng] 47-1187
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Roughness coefficient
See also: Surface roughness

Route surveys
Detection of sub-sea permafrost by electromagnetic *sounding.* Palacky, G.J., et al. [1992, p.1419-1427, eng] 47-1509
Application of routing technologies to rural snow and ice control. Haslam, E., et al. [1991, p.202-211, eng] 47-1804
Integrating GIS and CAD for transportation data base development. Wang, J.Y., et al. [1991, p.212-218, eng] 47-1805
Across northern Tien Shan; mountain tourist routes across Zailiyskiy Alatau and Kungey Alatau. Vukolov, V.N., [1991, 207p. + 1 fold. map, rus] 47-2244
Study of naleds by skiers with a high level of athletic skill while traversing courses. Deikin, B.N., et al. [1991, p.137-145, rus] 47-2439

Rubber
Engineering properties of rubberized concrete. Eldin, N.N., et al. [1992, p.912-923, eng] 47-3307
Anomalous freezing point depression of solvents in a swollen homogeneous rubber network. Grobler, J.H.A., et al. [1993, p.575-577, eng] 47-3562

Rubber ice friction
Preliminary study of the effect of fines on sanded-ice friction. Blaisdell, G.L., et al. [1992, p.79-90, eng] 47-805
Braking traction on sanded ice at low slip rates. Blaisdell, G.L., et al. [1992, 28p., eng] 47-939
Influence of wind, temperature, and deicing chemicals on snow accretion. Adams, E.E., et al. [1991, p.182-187, eng] 47-1801
Newly developed snow vehicle (SM100S) for Antarctica. 4. Maekawa, E., et al. [1992, p.398-409, jpn] 47-3366

Rubber snow friction
Study in skid resistance on compacted snow and ice covered road surfaces. Kaku, T., [1984, p.600-606, jpn] 47-860
Continuous snow chain. Lew, H.S., [1989, 8 col., eng] 47-3110
Discussion of deep snow mobility models. Richmond, P.W., [1993, 10p., *eng*] 47-3901
Bibliography on snow and ice friction. Colbeck, S.C., [1993, 17p., eng] 47-4869

Runoff
Mass balance, terminus behavior and runoff of North Cascade, Washington glaciers. Pelto, M.S., [1990, 135p., eng] 47-83
Influence of avalanche snow transport on snowmelt runoff. De Scally, F.A., [1992, p.73-97, eng] 47-173
Glacier system of Afghanistan: morphology, climate, mass exchange, and runoff. Lebedeva, I.M., et al. [1991, *p.76-87, rus*] 47-324
Model evaluations of the Aksay and At-Bashi river runoff with regard to the role of snow cover and glaciers. Shentsis, I.D., [1991, p.136-142, *rus*] 47-331
Mineralization of natural waters on Spitsbergen. Gokhman, V.V., [1991, p.147-155, rus] 47-333
Impact of summer snowfalls on glacier regimes in the Akshiyrak Massif. Ushnurtsev, S.N., et al. [1991, p.176-181, rus] 47-339
Slope runoff in the Transural steppe region of Bashkiria. Mosienko, N.A., et al. [1991, p.77-80, eng] 47-796
Calculating winter runoff from rivers in a cryolithozone. Kravchenko, V.V., et al. [1991, p.41-60, rus] 47-894
Problems in calculating the minimal runoff from periodically freezing on drying-up rivers. *Liubimov,* G.A., et al. [1991, p.61-71, rus] 47-895
Mixed Markov model for multi-year fluctuations in minimal runoff from periodically freezing on drying-up rivers. Serkov, N.K., [1991, p.72-76, rus] 47-896
Calculating time characteristics of the period of winter runoff from rivers in the BAM zone. Liubimov, G.A., [1991, p.85-93, rus] 47-898
Controlling river runoff with artificial glaciers. Falko, L.I., et al. [1991, p.54-59, rus] 47-1049
Factors delaying spring runoff in the upper Ürümqi River basin, China. *Kattelmann,* R., et al. [1992, p.225-230, eng] 47-1117
Global climatic changes in water and heat transfer—*accumulation processes. Dobrovol'skii,* S.G., [1992, 265p., eng] 47-1512
Variations of runoff supply and discharge of rivers with elevation in Qilian Mountains. Lai, Z.M., [1985, p.124-130, chi] 47-1527
Features of interior rivers and feeding of glacial meltwater in the Hexi region, Gansu Province. Gao, Q.Z., et al. [1985, p.131-141, chi] 47-1528
Analysis and reasonable utilization of runoff in the Shiyang River. Zhou, B.C., [1985, p.142-149, chi] 47-1529
Establishment of gauging stations under arctic conditions the Svalbard experience. Skretteberg, R., [1992, p.711-717, eng] 47-1983
Recent trends in glaciers and glacier runoff, Wind River Range, Wyoming. Marston, R.A., et al. [1989, p.159-169, eng] 47-2578
Hydrologic analysis of the Gulkana National Wild River, Alaska. Ellerbrock, D.A., et al. [1989, p.331-340, eng] 47-2579
Carbonate chemistry of the wintertime Bering Sea marginal ice zone. Chen, C.T.A., [1993, p.67-87, eng] 47-2632
Role of permafrost and seasonal frost in the hydrology of northern wetlands in North America. Woo, M.K., et al. [1993, p.5-31, eng] 47-2634
Runoff and sediment transport in an Iceland periglacial region. Kiel, A., [1989, 128p., ger] 47-2706
Water resources data for Alaska, water year 1991. Lamke, R.D., et al. [1992, 415p., eng] 47-2776
Interrelation between the altitude of the equilibrium line, air temperature, and runoff in the Sary-Tor Glacier. Diurgerov, M.B., et al. [1991, p.136-139, rus] 47-2803
Hydrological yearbook 1989. Leppäjarvi, R., ed. [1992, 174p., eng] 47-3154
Characteristics of the formation of spring runoff from rivers in the cryolithozone. Kravchenko, V.V., et al. [1991, p.53-64, rus] 47-3275
Urban snow dump quality and pollutant reduction in snowmelt by sedimentation. Droste, R.L., et al. [1993, p.9-21, eng] 47-3719
Acidification potential of snowpack in Sierra Nevada—discussion. Bales, R.C., et al. [1993, p.399-403, eng] 47-4010
Proceedings of the 49th annual Eastern Snow Conference, Oswego, NY, June 3-4, 1992. [1992, 273p., eng] 47-4026
Environmental isotope hydrograph separation during snowmelt in a suburban catchment. Buttle, J.M., et al. [1992, p.1-12, eng] 47-4027
Nitrogen dynamics and sub-ice meltwater patterns in a small boreal lake during snowmelt. Jones, H.G., et al. [1992, p.169-180, eng] 47-4046
Storm water regulations—aircraft deicer/anti-icers operations. Espey, W.H., Jr., et al. [1993, p.2333-2338, *eng*] 47-4452
Changes of alpine climate and glacier water resources. Chen, J.Y., [1991, 196p., eng] 47-4462
Snow and floating ice. Gray, D.M., et al. [1993, p.7/1-7/58, eng] 47-4637
Industrial potential of hydropower in West Greenland. Thomsen, H.H., et al. [1993, p.59-62, eng] 47-4917
Effects of thawing salts on biological sewage treatment plants. Washüttl, J., [1983, p.1-19, ger] 47-5000
Formation features of the structure and variability of the hydrological processes of the Kara Sea area. Pavlov, V.K., [1993, p.251-265, eng] 47-5035
Large-scale circulation of the Arctic Ocean: implications for pollutant transport. Schlosser, P., et al. [1993, p.285-309, *eng*] 47-5037
Groundwater contamination due to road de-icing chemicals—salt balance implications. Howard, K.W.F., et al. [1993, *p.1-8, eng*] 47-5190
Bog fertilizer removal through surface runoff. Telitsyn, V.L., [1993, p.72-78, eng] 47-5192
Chaotic characteristics of snowmelt runoff: a preliminary study. Wilcox, B.P., et al. [1990, p.125-134, eng] 47-5217
Computerized simulation of watershed streamflow. Ffolliott, P.F., et al. [1990, p.285-292, eng] 47-5220
See also: Stream flow

Runoff forecasting
Hydrological modelling of a medium-size mountainous *catchment from incomplete meteorological data.* Panagoulia, D., [1992, p.279-310, eng] 47-176
Characterizing the distribution of observed precipitation *and runoff over the continental United States.* Dolph, J., et al. [1992, p.99-119, eng] 47-228
Stochastic approaches for forecasting monthly streamflows. Wang, D.C., [1991, 278p., eng] 47-299
Stochastic model of flow duration curves for rivers in British Columbia, Canada. Leboutillier, D.W., [1991, 148p., eng] 47-302
Climate processes of lake evaporation and snowmelt runoff. Tsuang, B.J., [1991, 380p., eng] 47-311
Model evaluations of the Aksay and At-Bashi river runoff with regard to the role of snow cover and glaciers. Shentsis, I.D., [1991, p.136-142, rus] 47-331
Data base for runoff forecasting from Himalayan snow cover. Ramamoorthi, A.S., et al. [1991, p.347-355, eng] 47-431
Proceedings of the 60th annual meeting, Jackson, WY, Apr. 14-16, 1992. [1992, 153p. + appends., eng] 47-487
Snow surveying comes of age in the west. Helms, J.D., [1992, p.10-17, eng] 47-489
Snow cover measurements in France. Duband, D., et al. [1992, p.18-27, eng] 47-490
Expanding SCS's remote sensing program. Werner, J.G., et al. [1992, p.28-35, eng] 47-491
Where has all the snow gone? Snowpack sublimation in northern Arizona. Avery, C.C., et al. [1992, p.84-94, eng] 47-497

Runoff forecasting *(cont.)*

Prediction of snowmelt rates at a forested alpine site in northern Utah. Sauter, K.A., et al. (1992. p.95-102. *eng*) **47-498**

Hydrologic flowpaths of snowpack runoff in a high-elevation catchment. Williams, M.W., (1992. p.103-112. eng) **47-499**

Water input from rain-on-snow storms in clearcut forests. Brunengo, M.J., et al. (1992. p.125-128. eng) **47-502**

Simulation of snowmelt in a small rangeland watershed. Flerchinger, G.N., et al. (1992. p.129-132. *eng*) **47-503**

Estimation of 30 year average annual precipitation for SNOTEL sites in Idaho. Morrisey, P.S., (1992. p.133-136. eng) **47-504**

Predicting snow melt and streamflow volumes in the Arkansas River basin of Colorado. Nickless, R.C., (1992. p.137-140. *eng*) **47-505**

Snowpack loss in the water budget of the San Juan aquifer. Waltemeyer, S.D., et al. (1992. p.141-145. eng) **47-506**

Necessity for creating network for the gauging of snow in the Himalayas. Gupta, M.P., (1985. p.79-83. eng) **47-526**

Initiation of first snow surveys in the Himalayas—a brief appraisal. Dhar, O.N., et al. (1985. p.164-174. eng) **47-536**

Winter and spring precipitation over the northwestern Himalayas—a brief appraisal. Rakhecha, P.R., et al. (1985. p.175-185. eng) **47-537**

Snowmelt runoff using Landsat imageries. Jeyaram, A., et al. (1985. p.11-21. *eng*) **47-558**

Estimation of flow yield in a snow-bound catchment. Abbi, S.D.S., et al. (1985. p.32-42. eng) **47-560**

Snow melt runoff for a sub-catchment of Beas basin. Agrawal, K.C., et al. (1985. p.43-63. eng) **47-561**

Empirical model for prediction of snowmelt runoff in Sutlej. Upadhyay, D.S., et al. (1985. p.76-103. eng) **47-563**

Modelling of daily snowmelt runoff during pre-monsoon months for Beas basin up to Manali. Seth, S.M., (1985. p.104-115. eng) **47-564**

Relationship between snow fall and lean season-discharge of river Sainj at Larji, Himachal Pradesh. Krishnan, V., (1985. p.163-173. eng) **47-569**

Use of satellite data for short term streamflow forecasting with the HYDROTEL model. Fortin, J.P., et al. (1992. p.51-53. eng) **47-638**

Proceedings. (1988. 243p., eng) **47-716**

Discharge and runoff in rivers influenced by ice. Thomsen, T., (1988. p.33-51. eng) **47-718**

Adjustments for backwater effects due to ice cover— the *SMHI method*. Westman, S.E., (1988. p.53-66. eng) **47-719**

Measuring water level and discharge—practical experiences in Greenland. Kern-Hansen, C., (1988. p.67-84. eng) **47-720**

Some new technics in river ice measuring. Maunula, M., (1988. p.87-93. eng) **47-721**

Seasonal river runoff calculated from a global atmospheric model. Kuhl, S.C., et al. (1992. p.2029-2039. eng) **47-776**

Yukon Territory snow survey bulletin and water supply forecast, March 1, 1992. (1992. 27p., eng) **47-859**

Satellite monitoring of snowmelt runoff. Zeng, Q.Z., et al. (1992. p.193-197. eng) **47-1111**

Snow, hydrology and forests in high alpine areas. Bergman, H., ed. (1991. 250p., eng) **47-1288**

Modelling of the snow-water equivalent in the mountain environment. Braun, L.N., (1991. p.3-17. eng) **47-1289**

Spatially distributed snowmelt model for application in alpine terrain. Blöschl, G., et al. (1991. p.51-60. eng) **47-1292**

Use of microwave radiometry for characterizing snow storage in large river basins. Chang, A.T.C., et al. (1991. p.73-80. eng) **47-1294**

Satellite snow cover mapping and snowmelt runoff *modelling in Beas basin*. Kumar, V.S., et al. (1991. p.101-109. eng) **47-1297**

Indirect evaluation of snow reserves in mountain basins. Martinec, J., et al. (1991. p.111-119. eng) **47-1298**

Areal modelling of snow water equivalent based on remote sensing techniques. Martinec, J., et al. (1991. p.121-129. eng) **47-1299**

Physically based approach to modelling distributed snowmelt in a small alpine catchment. Ranzi, R., et al. (1991. p.141-150. eng) **47-1301**

Mountain snowpack observations by microwave satellite. Wankiewicz, A., (1991. p.151-160. eng) **47-1302**

Satellite snow cover monitoring and snowmelt runoff prediction. Chen, X.Z., et al. (1991. p.161-168. eng) **47-1303**

Physical properties of snow cover and estimation of snowmelt. Yang, D.Q., et al. (1991. p.169-177. eng) **47-1304**

Estimation of streamflow change by global warming. Fukushima, Y., et al. (1991. p.181-188. eng) **47-1305**

Relationship between runoff and meteorological factors. Kang, E.S., (1991. p.189-202. eng) **47-1306**

Peak flows from snowmelt runoff in the Sierra Nevada, USA. Kattelmann, R., (1991. p.203-211. eng) **47-1307**

Snowmelt runoff forecasting: case study of Karadj *reservoir, Iran*. Mashayekhi, T., et al. (1991. p.213-220. eng) **47-1308**

Degree-day estimate of snow accumulation to a watershed Sommerfeld, R.A., et al. (1991. p.221-228. eng) **47-1309**

Characteristics of hydrological processes in a small high mountain basin. Yang, Z.N., et al. (1991. p.229-236. *eng*) **47-1310**

Hydrological interactions in the Mistaya basin, Alberta, Canada. Young, G.J., (1991. p.237-244. eng) **47-1311**

Analysis of the relationship between lakes' melting regimes and stream runoff. Zhang, S.Y., et al. (1991. p.245-250. eng) **47-1312**

Problems of runoff modeling which are particular to the area or climate being modeled. Dawdy, D.R., (1991. p.541-547. eng) **47-1382**

Glacier water resources and effect of glacier water in stream runoff in Qilian Mountain. Yang, Z.N., (1992. p.10-20. chi) **47-1534**

Runoff variation of the inland rivers in Gansu Province and its climate dependence. Lai, Z.M., (1992. p.64-70. chi) **47-1540**

Analysis and simulation of annual runoff processes for some rivers in Hexi region. Hu, X.G., (1992. p.71-83. chi) **47-1541**

Analysis of temperature-runoff relationship in the eastern section of Qilian Mountain. Lai, Z.M., (1992. p.84-90. chi) **47-1542**

Runoff and its generation model of cold region in Binggou basin of Qilian Mountain. Yang, Z.N., et al. (1992. p.91-100. chi) **47-1543**

Runoff and meteorological factors in the Qilian Mountains. Cao, Z.T., et al. (1992. *p.101-110. chi*) **47-1544**

Distribution of precipitation in the Qilian Mountains. Yang, Z.N., et al. (1992. p.121-132. chi) **47-1546**

Water balance and water resources of Heihe Basin in Qilian Mountain. Yang, Z.N., (1992. p.133-147. chi) **47-1547**

Runoff analysis and estimation of the Binggou Basin in the *Qilian Mountain*. Yang, Z.H., et al. (1992. p.251-257. chi) **47-1665**

Comparison of snowmelt intensities in urban and rural areas of Norway. Sand, K., (1990. 13p., eng) **47-1684**

Urban snowmelt research in Norway: measurements and modelling approach. Thorolfsson, S.T., et al. (1991. *8p., eng*) **47-1685**

Snowmelt runoff modelling with short time steps. Sand, K., (1990. 15p., eng) **47-1686**

Simulation of time variation in seasonal snowcover based on routinely available data. Ujihashi, Y., et al. (1991. p.57-68. eng) **47-1934**

Nordic Hydrological Conference 1992. (1992. 757p., *nor*) **47-1954**

Climate change and energy production: status and plans. Saelthun, N.R., (1992. p.37-46. nor) **47-1955**

Hydrological modeling of extreme floods in Sweden. Harlin, J., (1992. p.107-117. swe) **47-1958**

Runoff from rain and snowmelt in Norway. Thorolfsson, S.T., et al. (1992. p.127-135. nor) **47-1959**

Design events in urban and suburban *areas in coastal* Norway. Basis for model modification. Thorolfsson, S.T., (1992. p.154-161. nor) **47-1960**

Use of a digital terrain model in snowmelt modeling. Kolberg, S., (1992. p.196-203. nor) **47-1961**

Monitoring and modelling snow storage in Swedish mountain basins. Brandt, M., (1992. p.204-210. eng) **47-1962**

Snowmelt degree-day values for HBV-model in Finland. Vehviläinen, B., (1992. p.211-220. eng) **47-1963**

Geomorphological changes in a river after its regulation. Fergus, T., (1992. p.506-514. eng) **47-1975**

Ice reduction of winter discharges. Leppäjärvi, R., (1992. p.563-567. eng) **47-1976**

KOFOT—a practical tool for comparative analysis and extension of runoff series. Hisdal, H., et al. (1992. p.622-631. eng) **47-1978**

Reflectance from a mountainous watershed during snow melt. Winther, J.G., (1992. p.632-642. eng) **47-1979**

Climate change and evapotranspiration modelling. (1992. 160p., eng) **47-2122**

Modelling hydrological effects of climate change. Saelthun, N.R., (1992. p.73-80. eng) **47-2123**

Forecasting meltwater runoff from snow-covered areas and from glacier basins. Lang, H., (1986. p.99-127. eng) **47-2312**

Report on improving the accuracy of radar precipitation gages (3rd report). Konishi, S., et al. (1992. p.165-170. *jpn*) **47-2492**

Radar precipitation gages for runoff forecasting. Shinmc, R., et al. (1991. p.109-114. jpn) **47-2520**

Managing water resources during global change. Herrmann, R., ed. (1992. 860p., eng) **47-2721**

Experience with probabilistic forecasts for cumulative stochastic optimization. Howard, C.D.D., (1992. *p.119-128. eng*) **47-2722**

Hydrometeorologic forecasting at Salt River Project. Reigle, D., et al. (1992. p.137-142. eng) **47-2723**

Operational runoff forecasting and scheduling Pacific Gas and Electric's hydro electric system. Freeman, G.J., (1992. p.143-152. eng) **47-2724**

Verification of the National Weather Service extended streamflow prediction procedure. Day, G.N., et al. (1992. p.163-172. eng) **47-2725**

Effects of climate change on monthly river runoff Miller, J.R., et al. (1992. p.175-178. eng) **47-2726**

Effects of climate changes on water supplies. Cooley, K.R., et al. (1992. p.185-194. *eng*) **47-2727**

Modeling watershed management for water augmentation Combs, S.T., et al. (1992. p.221-229. eng) **47-2729**

Climate change impacts on Great Lakes water supplies. Croley, T.E., II. (1992. p.241-250. eng) **47-2730**

Changes in glacier runoff due to climate change in the North Cascades, Washington. Pelto, M.S., (1992. p.489-496. eng) **47-2734**

Influence of recent climate patterns on runoff in the Missinaibi River. Camacho, F., et al. (1992. p.567-577. *eng*) **47-2738**

Snowmelt in Sierra Nevada and Coast Range streamflows. Riddle, L., et al. (1992. p.641-650. eng) **47-2740**

Precipitation model for the Gunnison River basin. Hay, L.E., et al. (1992. p.651-660. *eng*) **47-2741**

Model for simulation of winter precipitation. Medina, J.G., (1992. p.661-670. eng) **47-2742**

Use of nested models to simulate regional orographic precipitation. Matthews, D.A., et al. (1992. p.671-680. eng) **47-2743**

Hydrologic effects of climate change in mountainous regions. Leavesley, G.H., et al. (1992. p.691-700. eng) **47-2745**

Evaluation of trends in runoff in the western United States. Wahl, K.L., (1992. p.701-710. eng) **47-2746**

Atmospheric circulation and precipitation in the Sierra Nevada. Cayan, D.R., et al. (1992. p.711-720. eng) **47-2747**

Climate change and seasonal streamflow in the Sierra Nevada. Duell, L.F.W., Jr., (1992. p.731-740. eng) **47-2748**

Application of watershed models to the Gunnison River basin. Kuhn, G., et al. (1992. p.741-750. eng) **47-2749**

Estimating glacier-derived runoff from mountain rivers in model predictions. Shentsis, I.D., (1991. *p.32-40. rus*) **47-2786**

Yukon Territory snow survey bulletin and water supply forecast, March 1, 1993. (1993. 27p., eng) **47-2818**

Water resource modelling using remote sensing and object-oriented simulation. McKim, H.L., et al. (1993. p.153-165. eng) **47-3346**

Hydroclimatological variations in an alpine glacier basin. Gurnell, A.M., et al. (1992. p.821-839. eng) **47-3679**

Yukon Territory snow survey bulletin and water supply forecast, May 15, 1993. (1993. 27p., eng) **47-3711**

Sensitivity of streamflow simulation to changes in climatic inputs. Ng, H.Y.F., et al. (1992. p.257-272. eng) **47-3802**

Once more on calculations of maximum spring *flood* runoff. Vodogretskii, V.E., (1992. p.74-78. eng) **47-3994**

Preliminary analysis of historical snow data using a geographic information system. Loiselle, M.C., et al. (1992. p.81-88. eng) **47-4036**

Snow cover distribution and watershed management. Schroeter, H.O., *et al.* (1992. *p.181-192. eng*) **47-4047**

Effects of temperature and snowfall on winter low flows in New England. Hartley, S., (1992. p.255-261. eng) **47-4056**

Snow estimation—a GIS application for water resources forecasting. McManamon, A., et al. (1993. p.856-861. *eng*) **47-4402**

Hydrologic forecasting. Lettenmaier, D.P., et al. (1993. p.26/1-26/30. eng) **47-4638**

Firn density of the Greenland ice sheet. Braithwaite, R.J., et al. (1993. p.62-65. eng) **47-4918**

Predicting wilderness snow water equivalent with nonwilderness snow sensors. McGurk, B.J., et al. (1993. *p.85-94. eng*) **47-4993**

Application of data of short-term hydrometeorological studies to computations of river runoff. Rozhdestvenskii, A.V., et al. (1991. p.70-76. eng) **47-5196**

Possible climate change and its impact on snowmelt and water supply in California. Roos, M., (1990. p.135-144. eng) **47-5218**

Effects of forest cover on a snowpack in the Sierra Nevada. Kattelmann, R., (1990. p.276-284. eng) **47-5219**

Runways

Study on the improvement of the airport functions in cold regions (Part 1). Hirasawa, M., et al. (1992. p.145-149. *jpn*) **47-132**

Construction and maintenance of roads and runways in snowbound region. Shukla, R.S., et al. (1985. p.345-365. eng) **47-582**

Systems approach to management of roads and airfields in snowbound areas. Bose, S., et al. (1985. p.366-380. eng) **47-583**

Preliminary study of the effect of fines on sanded-ice friction. Blaisdell, G.L., et al. (1992. p.79-90. eng) **47-805**

Tests of grooving on the taxiways of the New Chitose Airport. Sato, H., et al. (1991. p.235-240. jpn) **47-2497**

Frost penetration beneath cleared pavements. McCormick, G., [1993, p.117-126, eng] 47-4130
Environmental impacts of three runway de-icers. John, R.D., et al, [1993, p.323-330, eng] 47-4473
See also: Aircraft landing areas; Ice runways

Safety
Traffic safety of porous asphalt surface layers during winter—results of a study on highways. Ferrero, T., et al, [1992, p.359-362, ger] 47-50
Safety and service life of equipment designed for cold climate operation. Larionov, V.P., [1992, p.111-123, eng] 47-586
Avalanche control. [1985, 231p., eng] 47-987
Avalanche videos. Dennis, A., [1992, p.53-54, eng] 47-1086
Annual report—1991-92. [1992, 54p. + append., eng] 47-1745
Construction, environmental problems and natural hazards in periglacial mountain belts. Haeberli, W., [1992, p.111-124, eng] 47-1750
Snow removal from roads. [1992, p.62-63.91, eng] 47-1929
Appraisal of snow damage in an urban area. Umemura, T., et al, [1991, p.1-11, eng] 47-1935
Results of installing traffic advisory signs with automatic display for winter. Saito, H., et al, [1992, p.79-84, jpn] 47-2509
Traffic in mountainous areas of snowy and cold regions. Hirasawa, M., et al, [1991, p.39-44, jpn] 47-2532
Practical examples with a personal computer for road management data. Chiba, T., [1991, p.121-124, jpn] 47-2538
2.5-kVA arctic ground fault detector, final report. Fries, L.M., et al, [1993, 18p. + appends., eng] 47-2610
Using heaters safely during cold weather concreting. Owens, F., [1990, p.878-881, eng] 47-2717
Influence of winter road maintenance on traffic accident rates. Hanbali, R.M., [1992, 305p., eng] 47-3130
Development of an international standard for safe winter operation. Hornig, R., [1993, p.14-18, eng] 47-3312
Aircraft ground deicing, a flight crew perspective. Haase, D.J., [1993, p.19-23, eng] 47-3313
Motorist information needs and changeable sign messages for adverse winter travel. Wilson, E.M., et al, [1992, 100p., eng] 47-3524
Study finds 88.3% crash reduction after deicing. [1993, p.22, eng] 47-3682
Winter storms test new anti-ice tactics. McKenna, J.T., [1993, p.38-40, eng] 47-4607
Snow surveys for ski-lift managers in avalanche hazard areas. Bariffi, A., [1993, p.26-37, ita] 47-4702
Comfortable towns with enhanced safety in snow. Sakamoto, Y., [1991, p.13-21, eng] 47-4786
Cryogenic ambient air vaporizers: frost growth, wind and seismic design for safety. Bernert, R.E., Jr., et al, [1993, p.789-793, eng] 47-4876
Tests on safety of snow removal trucks (part 1). Matsusaka, H., [1980, p.72-79, jpn] 47-4933
Tests on safety of snow removal trucks. Takeda, Y., et al, [1981, p.35-44, jpn] 47-4936
Tests on improving a (shear pin) safety mechanism for snow removal graders. Horibe, K., et al, [1982, p.51-56, jpn] 47-4940
Manual for planning and implementing road surface condition studies in wintertime—vol.1 and 2. Gabestad, K.O., [1988, 2 vols., nor] 47-4991
Driver behavior during winter conditions. Gabestad, K.O., et al, [1988, 54p. + appends., nor] 47-4992
Effects of road salt reduction on salting efficiency. Augustin, H., et al, [1983, p.21-78, ger] 47-5001
Ice detectors for aircraft. Horne, T.A., [1993, p.T-11,T-14, eng] 47-5002
Influence of studded tires on roadway surfaces. Bereza-Kudrycki, W., [1985, 55p., eng] 47-5008
Determination of road wear from studded tires. Knoflacher, H., et al, [1974, 90p., ger] 47-5010
Safeguarding of high speed highways. Hirai, M., [1984, p.40-44, jpn] 47-5065
Characteristics and problems of snow and ice countermeasures on the Meishin Expressway. Kawashima, T., [1985, p.82-92, jpn] 47-5159
Avalanche prediction in Scotland: 2. Development of a predictive model. Ward, R.G.W., [1984, p.109-133, eng] 47-5255
Effects of drifting on snow loads on large roofs. Irwin, P.A., et al, [1993, p.508-513, eng] 47-5262
See also: Accidents

Saline ice
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Saline soils
Mechanism of mass transfer and chemogenic deformation of frozen ground. Lebedenko, IU.P., [1990, p.55-66, rus] 47-1255
Soil-forming rates and processes in cold desert soils of Antarctica. Bockheim, J.G., et al, [1992, p.42-56, eng] 47-1703
Mass transfer in freezing saline soils. Ershov, E.D., et al, [1992, p.115-122, eng] 47-1715
Strength and creep behaviour of frozen saline fine sand. Jessberger, H.L., [1992, p.3033, eng] 47-1817
Field investigation of water and salt movement in permafrost and the active layer. Final report Osterkamp, T.E., [1993, Var. p., eng] 47-2619
Long-term deformation of freeze saline soils. Alifanova, A.A., [1992, p.74-79, eng] 47-3834
Field pile load tests in saline permafrost. 1. Test procedures and results. Biggar, K.W., et al, [1993, p.34-45, eng] 47-4162
Field pile load tests in saline permafrost. 2. Analysis of results. Biggar, K.W., et al, [1993, p.46-59, eng] 47-4163
Pile behavior in saline frozen soils. Biggar, K.W., et al, [1993, p.319-337, eng] 47-4514
Temperature determination of saline permafrost. Gokhman, M.R., [1993, p.23-26, eng] 47-4730
Dynamics of seasonal heat, moisture, and salt transfer in frozen ground. Permiakov, P.P., et al, [1991, p.47-51, rus] 47-4808

Salinity
Active layers of Fildes Peninsula. Zhu, C., et al, [1991, p.24-37, eng] 47-38
Predicting ice formation parameters in closed systems. Dubina, M.M., et al, [1992, p.91-97, rus] 47-68
Distinguishing feature of frost and salt penetration corrosion. Koreniuk, A.G., et al, [1992, p.57-60, rus] 47-185
Salinity profiles of antarctic sea ice: field data and model results. Eicken, H., [1992, p.15,545-15,557, eng] 47-514
Aerosol and general atmospheric circulation models. Genthon, C., [1992, p.371-389, eng] 47-836
Sea ice algae growth related to a salinity gradient in Hudson Bay. Legendre, L., et al, [1992, p.445-453, eng] 47-1469
Frost-and-salt resistant concretes. Gurskis, V.V., [1992, p.18-20, rus] 47-2151
Superplasticizer based on poly-electrolytic compounds. Simonenko, L.I., et al, [1991, p.18-20, rus] 47-2159
Alkali-silicate concrete for salt-and-frost resistant structures. Guzeev, E.A., et al, [1990, p.4-6, rus] 47-2161
Salinity, temperature, and photophysiology of antarctic sea ice microalgae. Arrigo, K.R., et al, [1992, p.746-756, eng] 47-2594
Melting of ice in pure and saline water inside a square cavity. Schütz, W., et al, [1992, p.311-319, eng] 47-2638
Sea-ice interaction with the thermohaline circulation. Yang, J.Y., et al, [1993, p.217-220, eng] 47-2859
Effect of cabbeling in the mixing of sea water and its seasonal manifestation on the Pacific Ocean Subarctic Front. Kil'matov, T.R., et al, [1991, p.628-631, eng] 47-2898
Okhotsk Sea water anomaly: implications for ventilation in the North Pacific. Talley, L.D., [1991, p.S171-S190, eng] 47-2909
Revised freezing point equation and table for H2O-NaCl solutions. Bodnar, R.J., [1993, p.683-684, eng] 47-2928
Reconstruction of paleoclimatic sea surface salinity. Duplessy, J.-C., et al, [1992, p.201-217, eng] 47-3559
Atlantic circulation simulation with sea ice interface model, pt.I. Oberhuber, J.M., [1993, p.809-829, eng] 47-3568
JARE-31 oceanographic survey in Lützow-Holm Bay, 1990-1991. Ushio, S., et al, [1993, 34p., eng] 47-3619
Predictability of large-scale thermohaline anomalies in surface waters of the arctic basin. Artem'ev, A.O., [1991, p.65-75, rus] 47-3692
Evaluating the role of the West Spitsbergen current in the formation of a sea ice boundary. Makshtas, A.P., et al, [1992, p.157-164, rus] 47-3814
Structure and circulation of waters in the area of the anticyclonic gyre in the northeastern Norwegian Sea. Alekseev, G.V., et al, [1991, p.14-23, rus] 47-3955
Deep and bottom waters of the Greenland Sea—formation and transformation processes. Popov, A.V., [1991, p.44-55, rus] 47-3957
Position, structure and characteristics of the dynamics of the polar frontal zone. Romantsov, V.A., [1991, p.157-181, rus] 47-3967
Hydrography and vertical fluxes of heat and salt northeast of Svalbard in autumn. Steele, M., et al, [1993, p.10,013-10,024, eng] 47-4373
Numerical study of haline convection beneath leads in sea ice. Smith, D.C., IV, et al, [1993, p.10,069-10,083, eng] 47-4377
Atmospheric circulation anomalies in the arctic basin. Serreze, M.C., et al, [1991, p.350-353, eng] 47-4488
Ice formation in sea water through turbulent exchange. Zatsepin, A.G., et al, [1992, p.38-42, eng] 47-4563
Dynamics of seasonal heat, moisture, and salt transfer in frozen ground. Permiakov, P.P., et al, [1991, p.47-51, rus] 47-4808
Salinization mechanism of the deposits of an ice complex in Yakutia. Konishchev, V.N., et al, [1991, p.74-80, rus] 47-4813
Thermal effects of marine water mixing with different temperatures and salinities. Zatsepin, A.G., et al, [1991, p.72-76, eng] 47-4927
Frontal zones of the Barents Sea. Chvilev, S.V., [1991, p.89-95, eng] 47-4928
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Salt ice
Effective permittivity of saline ice under thermal variation. Nghiem, S.V., et al, [1992, p.1256-1258, eng] 47-674
Analysis of scattering from a thin saline ice layer. Fung, A.K., et al, [1992, p.1262-1264, eng] 47-676
Application of theoretical models to active and passive remote sensing of saline ice. Han, H.C., et al, [1992, p.1265-1267, eng] 47-677
Sea salt dependent electrical conduction in polar ice. Moore, J.C., et al, [1992, p.19,803-19,812, eng] 47-2187
Crack growth stability in saline ice. DeFranco, S.J., et al, [1991, p.25-36, eng] 47-2307
Observations and theoretical studies of microwave emission from thin saline ice. Wensnahan, M.R., et al, [1993, p.8531-8545, eng] 47-3983

Salt spray
See also: Sea spray

Salt water
Concrete freeze/thaw resistance in the presence of deicer solutions. Bordeleau, D., et al, [1992, p.547-553, eng] 47-2546
Experimental study of freezing of binary solutions. Zampino, M.A., et al, [1993, p.133-138, eng] 47-2550
Solvent/water partitioning of dimethylmethylphosphonate (DMMP) as a probe of solvent acidity. Leggett, D.C., [1993, p.289-296, eng] 47-2624
Solidification in saline solutions. Rubinsky, B., et al, [1993, p.157-167, eng] 47-3288
Freeze-thaw durability and scaling resistance of concrete paving blocks. Boisvert, J., et al, [1992, p.1017-1024, fre] 47-3343
Scaling resistance of concrete fly ash aggregates. Bilodeau, A., et al, [1993, p.319-349, eng] 47-3608
Performance of portland and blast furnace slag cement concretes in marine environments. Osborne, G.J., [1993, p.1303-1323, eng] 47-3616
Freeze thaw resistance of underwater concrete aggregates. Fukudome, K., et al, [1993, p.1565-1582, eng] 47-3618
Problem of water circulation in the Kara Sea. Doronin, N.IU., et al, [1991, p.34-41, rus] 47-3688
Thermohaline water circulation in the Norwegian energy-active zone during spring 1987. Proshutinskii, A.IU., et al, [1991, p.42-49, rus] 47-3689
Predictability of large-scale thermohaline anomalies in surface waters of the arctic basin. Artem'ev, A.O., [1991, p.65-75, rus] 47-3692
Evaluating the role of the West Spitsbergen current in the formation of a sea ice boundary. Makshtas, A.P., et al, [1992, p.157-164, rus] 47-3814
Aqueous salt solution solidification. Heschel, I., et al, [1993, p.63-66, ger] 47-4063
Solidification of a binary mixture in a rectangular cavity. Zampino, M.A., et al, [1992, p.629-639, eng] 47-4361
Structural and ice effects on salt water marsh hydrology. Ballestero, T.P., et al, [1993, p.150-155, eng] 47-4451
Thermal effects of marine water mixing with different temperatures and salinities. Zatsepin, A.G., et al, [1991, p.72-76, eng] 47-4927
See also: Sea water

Salting
Chemical resistance of alkali-activated concrete. Talling, B., [1989, p.252-257, eng] 47-18
Effect of road salting on plants. Lauten, G.N., et al, [1992, p.236-238, eng] 47-644
Preprints. [1992, Var. p. (2 vols.), eng] 47-925
Proposal for new winter road maintenance strategy—MINSALT Project. Axelson, L., [1992, 6p., eng] 47-929
Deicing of roads in Norway with brine. Stotterud, R., et al, [1992, 9p., eng] 47-931
SHRP H-208: development of anti-icing technology. Blackburn, R.R., et al, [1992, 23p., eng] 47-932
West Virginia oil and gas well brines for highway deicing. Eck, R.W., et al, [1992, 16p., eng] 47-933
Anti-icing activities in Finland: field tests with liquid and prewetted chemicals. Raukola, T.J., et al, [1992, 11p., eng] 47-934
Experiments with corrosion inhibited deicers in Washington State. Conrad, J.F., et al, [1992, 11p., eng] 47-935
Non-environmental effects of alternative deicers in Illinois. Gingrich, C.D., et al, [1992, 12p., eng] 47-936
Calcium magnesium acetate deicer on highways in Ontario. Manning, D.G., et al, [1992, 18p., eng] 47-937
Thermally modified sand: an alternative for the treatment of icy roadways. Gilfilian, R.E., [1992, 4p., eng] 47-938
Methods and reasons for cutting usage of salt in Finland. Kuusela, R., et al, [1992, 7p., eng] 47-940

Salting *(cont.)*
Effects of CMA deicers on biochemical oxygen demand in streams. Eheart, J.W., et al. [1992, 12p., eng] **47-941**
Extension of the regions in Sweden where salt is not used --MINSALT Project. Öberg, G., [1992, 7p., eng] **47-960**
MINSALT. An experiment with unsalted road in Västerbottens county. Öberg, G., et al. [1991, 69p. + appends., swe] **47-1216**
Chemical undercutting of ice on highway pavement materials. Blackburn, R.R., et al. [1991, p.230-242, eng] **47-1807**
Guide to proper salt storage. [1992, p.55-56,82-83, eng] **47-1923**
Effects of banning salt for roadway de-icing. Strizek, P., [1992, p.54,82, eng] **47-1927**
Salt and sand compared for winter road treatment. Jones, R.H., [1992, p.58-59, eng] **47-1928**
Minsalt Gotland. The road users' attitude to road salt. Gregersen, N.P., [1991, 39p. + appends., swe] **47-2205**
How Massachusetts cut salt use and costs. Carr, F.H., Jr., [1992, p.17-18, eng] **47-2322**
Influence of winter road maintenance on traffic accident rates. Hanbali, R.M., [1992, 305p., eng] **47-3130**
Ways to help bridges and deicers coexist. Miller, W.L., [1993, p.18-19, eng] **47-3680**
Study finds 88.3% crash reduction after deicing. [1993, p.22, eng] **47-3682**
How Arizona handles winter roads. [1993, p.19, eng] **47-3683**
Effects of deicing salt on roadside Scots pine foliage. Hautala, E.L., et al. [1992, p.179-185, eng] **47-3995**
Anticorrosive deicer used on bridges. [1993, p.36, eng] **47-4623**
Snow-belt county's approach to snow and ice control. Bakken, R.C., [1993, p.40-42, eng] **47-4625**
Determination of salting frequency through examination of salt residue amounts. Dirnböck, G., [1990, 38p., ger] **47-4985**
Evaluation of ice prevention properties of road surface with calcium chloride admixture. Augustin, H., et al. [1986, 60p., ger] **47-4988**
Effects of thawing salts on biological sewage treatment plants. Washüttl, J., [1983, p.1-19, ger] **47-5000**
Effects of road salt reduction on salting efficiency. Augustin, H., et al. [1983, p.21-78, ger] **47-5001**
Development of a new de-icing agent. Washüttl, J., et al. [1985, 34p., ger] **47-5009**
Tests on the basic characteristics of road surface freezing deicers. Murakuni, M., [1985, p.69-74, jpn] **47-5157**
Measures against coagulation of sodium chloride deicers for roads. Suzuki, M., [1986, p.70-74, jpn] **47-5183**
Groundwater contamination due to road de-icing chemicals --salt balance implications. Howard, K.W.F., et al. [1993, p.1-8, eng] **47-5190**

Samplers
Access pipes for sampling through thick ice. Kipphut, G.W., et al. [1992, p.267-269, eng] **47-1607**
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Sampling
Observations of the snowcover on sea ice in the Gulf of Bothnia. Crocker, G.B., [1992, p.2433-2445, eng] **47-257**
Big savings at the ice margin. Knight, P., et al. [1992, p.22-26, eng] **47-445**
Chemical constituents of two snow falls around Manali District, Kulu, Himachal Pradesh. Krishnan, V., et al. [1985, p.151-156, eng] **47-534**
Distribution and forms of lead compounds in the environment near southern Finland highways. Vuorinen, A., [1986, p.30-33, eng] **47-595**
Development of a thermal mechanical drill for sampling ice and rock from great depths. Das, D.K., et al. [1992, p.377-382, eng] **47-913**
Sources and spatial variation of the chemical composition of snow in the Tien Shan, China. Williams, M.W., et al. [1992, p.25-32, eng] **47-1082**
Anthropogenic sulfate and Asian dust signals in snow from Tien Shan, northwest China. Wake, C.P., et al. [1992, p.45-52, eng] **47-1085**
Mass-balance calculation differences due to glacier sampling technique variations. Elder, K., et al. [1992, p.198-206, eng] **47-1112**
Measurement of organic nitrates in high latitude atmospheres. Singh, H.B., et al. [1992, p.16,511-16,522, eng] **47-1451**
Nitrate proportions in northern high latitude atmospheres. Singh, H.B., et al. [1992, p.16,523-16,530, eng] **47-1452**
Soluble species in the arctic summer troposphere: acidic gases, aerosols, and precipitation. Talbot, R.W., et al. [1992, p.16,531-16,543, eng] **47-1453**
Nonmethane hydrocarbons in the arctic boundary layer. Blake, D.R., et al. [1992, p.16,559-16,588, eng] **47-1455**
Micrometeorological measurements of CH4 and CO2 exchange between the atmosphere and subarctic tundra. Fan, S.M., et al. [1992, p.16,627-16,643, eng] **47-1458**
Sampling of radioactive isotopes in the arctic atmosphere. Dibb, J.E., et al. [1992, p.16,709-16,715, eng] **47-1465**
Biogeochemistry and zoogeography of lakes and rivers in arctic Alaska. Kling, G.W., et al. [1992, p.1-14, eng] **47-1599**
Effects of freezing on the measurement of solids in wastewater sludges. Roy, N.A., et al. [1990, p.191-197, fre] **47-1784**
Monitoring grain size of suspended sediments in rivers. Bogen, J., [1992, p.183-190, eng] **47-1813**
Reliability of a proglacial river monitoring program. Gurnell, A.M., et al. [1992, p.191-200, eng] **47-1814**
Temporal variability of suspended sediment flux from a subarctic glacial river, southern Iceland. Lawler, D.M., et al. [1992, p.233-243, eng] **47-1815**
Review of current and potential future sampling practices for volatile organic compounds in soil. Hewitt, A.D., [1992, p.75-82, eng] **47-1820**
Review of recent findings in well-casing studies. Parker, L.V., [1992, p.83-91, eng] **47-1892**
Radioactive fallout on Tyrolean glaciers. Ambach, W., et al. [1991, p.7-17, ger] **47-1901**
Occurrence of heavy metals in antarctic and Greenland ancient ice and recent snow. Boutron, C.F., et al. [1990, p.137-151, eng] **47-2071**
Measurements of airborne carbonaceous aerosols in the eastern Arctic. Hansen, A.D.A., et al. [1992, p.429-433, eng] **47-2544**
Geochemistry of salmon rivers during snowmelt. Campbell, P.G.C., et al. [1992, p.1938-1952, eng] **47-2659**
Comparison of in-cloud measurements obtained with six PMS 2D-C probes. Gayet, J.F., et al. [1993, p.180-194, eng] **47-2768**
Surface ozone concentrations in Antarctica. Gruzdev, A.N., et al. [1992, p.41-47, eng] **47-2847**
Organic contaminants in Canadian lake sediments. Mudroch, A., et al. [1992, p.10-19, eng] **47-3349**
Arctic haze: patterns and relationships to regional signatures of trace gases. Khalil, M.A.K., et al. [1993, p.27-36, eng] **47-3461**
Atmospheric scavenging during surface frost formation. Georgiadis, T., et al. [1993, p.267-276, eng] **47-3474**
Characteristics of two landslide-dammed lakes in a glaciated alpine environment. Butler, D.R., et al. [1993, p.441-445, eng] **47-3563**
Groundwater discharge in Boggy Creek catchment, Manitoba. Stephenson, M., et al. [1992, p.2640-2652, eng] **47-3714**
Particulate matter in pack ice of the Beaufort Gyre. Reimnitz, E., et al. [1993, p.186-198, eng] **47-3951**
Size distribution of particles in precipitation and river waters in the Baikal Lake region. Anokhin, IU.A., et al. [1992, p.19-26, eng] **47-3989**
Chemical composition of precipitation in Uzbekistan. Kulmatov, R.A., et al. [1993, p.413-419, eng] **47-4068**
Effects of lime-sludge discharge on an arctic river. Tumeo, M.A., [1992, p.1083-1094, eng] **47-4626**
Ship of opportunity section to the North Pole: upper ocean temperature observations. Quadfasel, D., et al. [1993, p.777-789, eng] **47-4854**
Palaeo-environmental studies on the Greenland ice sheet margin. Reeh, N., et al. [1993, p.66-68, eng] **47-4919**
Use of meltwater stream material loads in the estimation of glacial erosion rates. Warburton, J., et al. [1993, p.19-28, eng] **47-4983**
Assessment of deep-sea nekton and their role in radionuclide transfer. Stein, D.L., [1993, p.449-461, eng] **47-5049**
Pleistocene vertebrates and other fossils from Epiguruk, northwestern Alaska. Hamilton, T.D., et al. [1993, p.381-389, eng] **47-5143**
Partitioning of nitrogen oxides in the lower arctic troposphere during spring 1988. Bottenheim, J.W., et al. [1993, p.15-27, eng] **47-5144**
Hydrocarbon gas traces in snow cover. Vyshemirskii, V.S., et al. [1993, p.1-4, eng] **47-5194**
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Sanding
Thermally modified sand: an alternative for the treatment of icy roadways. Gilfilian, R.E., [1992, 4p., eng] **47-938**
Braking traction on sanded ice at low slip rates. Blaisdell, G.L., et al. [1992, 28p., eng] **47-939**
Salt and sand compared for winter road treatment. Jones, R.H., [1992, p.58-59, eng] **47-1928**

Sands
Preliminary study of the effect of fines on sanded-ice friction. Blaisdell, G.L., et al. [1992, p.79-90, eng] **47-805**
Erratum: sharp cone testing of creep properties of frozen sand. Ladanyi, B., et al. [1992, p.1008, eng] **47-3355**
Stress history and vertical displacement matching for the pipeline at Caen, France subjected to frost heave. Rajani, B., et al. [1993, p.34-47, eng] **47-4271**
Stress-strain behaviour of frozen soil in tension. Sayles, F.H., [1993, p.61-72, eng] **47-4273**
Subarctic dune dynamics determined by tree ring analysis. Marin, P., et al. [1992, p.316-330, eng] **47-4407**

Sanitary engineering
Solving sanitation problems in the Alaskan bush. Olofsson, J.A., et al. [1993, p.347-355, eng] **47-4476**

Sapropel
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Sastrugi
Katabatic wind intensity and direction measurements. Remy, F., et al. [1992, p.1021-1024, eng] **47-2907**
Optical properties of snow. Brandt, R.E., et al. [1991, p.272-275, eng] **47-3056**
Measuring blowing snow in Adelie Land, eastern Antarctica. Wendler, G., [1988, p.93-96, eng] **47-4191**

Satellites
Depolarization of radio waves by ice crystals. Maekawa, Y., et al. [1993, p.249-259, eng] **47-4062**
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Satellites (natural)
Coldest places in the solar system. Dyer, A., [1992, p.30-33, eng] **47-197**
Balmy past of icy Triton. Croswell, K., [1992, p.13, eng] **47-232**
Brine volcanism and the interior structures of asteroids and icy satellites. Kargel, J.S., [1991, p.368-390, eng] **47-991**
Angular width of the coherent back-scatter opposition effect: an application to icy outer planet satellites. Mishchenko, M.I., [1992, p.327-333, eng] **47-1191**
Europa, Ganymede, and Callisto: new radar results from Arecibo and Goldstone. Ostro, S.J., et al. [1992, p.18,227-18,244, eng] **47-1556**
Small and planetary bodies of the solar system: the critical mass of icy bodies. Sliuta, E.N., et al. [1992, p.692-696, rus] **47-2040**
Pluto's moon is a giant snowball. Croswell, K., [1992, p.16, eng] **47-2290**
Effects of dispersed particulates on the rheology of water ice at planetary conditions. Durham, W.B., et al. [1992, p.20,883-20,897, eng] **47-2293**
Central pit and dome craters: exposing the interiors of Ganymede and Callisto. Schenk, P.M., [1993, p.7475-7498, eng] **47-3839**
Simulation of extraterrestrial ammonia-water ice system. Yarger, J. et al. [1993, p.13,109-13,117, eng] **47-4412**
Diapirism on Triton: a record of crustal layering and instability. Schenk, P.M., et al. [1993, p.299-302, eng] **47-4593**
Optics on a fractal surface and [illegible]otometry of the regoliths. Drossart, P., [19[illegible]393, eng] **47-4994**
Ices on the surface of Triton. [illegible]k, D.P., et al. [1993, p.742-745, eng] **47-5128**
Surface ices and the atmospheric composition of Pluto. Owen, T.C., et al. [1993, p.745-748, eng] **47-5129**
Phase composition of Triton's polar caps. Duxbury, N.S., et al. [1993, p.748-751, eng] **47-5130**
Phase composition and temperature of nitrogen ice on Triton. Tryka, K.A., et al. [1993, p.751-754, eng] **47-5131**

Saturation
Cryogenic frost resistance of lightweight concrete containing silica fume. Khayat, K.H., et al. [1989, p.915-928, eng] **47-59**
Comparison of four aggregates using the Washington hydraulic fracture test. Janssen, D.J., et al. [1991, p.57-67, eng] **47-1131**
Concurrent freezing and sublimation of a liquid-saturated porous slab. Vaidyanathan, N., et al. [1991, p.251-259, eng] **47-2565**
New method for assessing frost damage in non-air entrained hydraulic structures. Hooton, R.D., et al. [1992, p.339-355, eng] **47-2575**
Evaporation of snow under isothermal conditions. Golubev, V.N., et al. [1991, p.27-32, rus] **47-2785**
Mechanism of freeze-thaw deterioration of rock in the Great Lakes region. Lienhart, D.A., [1993, p.77-87, eng] **47-4888**
Seasonal variability of hydraulic conductivity. Asare, S.N., et al. [1993, p.451-457, eng] **47-5146**
See also: Supersaturation

Scandinavia
Ozone 'minihole' over northern Scandinavia. Rabbe, A., et al. [1992, p.1447-1451, eng] **47-739**

Scanning electron microscopy
Cell shape and localisation of ice in leaves of overwintering wheat during frost stress in the field. Pearce, R.S., et al. [1992, p.324-331, eng] **47-795**
Scanning electron microscopy of ice cream. 1. Caldwell, K.B., et al. [1992, p.1-9, eng] **47-2014**
Scanning electron microscopy of ice cream. 2. Caldwell, K.B., et al. [1992, p.11-23, eng] **47-2015**
See also: Electron microscopy

Scattering
Scattering by rain and melting snow. Kharadly, M.M.Z., [1989, p.406-410, eng] **47-19**

Polarimetric radar remote sensing of hailstorms. Zhao, Y., (1990, 256p., eng) 47-85

Microwave remote sensing of random media using multiple scattering theory. Mudaliar, S., (1991, 244p., eng) 47-285

Rainfall estimation over oceans from SMMR and SSM/I microwave data. Prabhakara, C., et al. (1992, p.532-552, eng) 47-355

Dual polarization radar observations of anomalous wintertime thunderclouds in Japan. Mackawa, Y., et al. (1992, p.838-844, eng) 47-361

Infrared emittance of water clouds. Chylek, P., et al. (1992, p.1459-1472, eng) 47-410

Mean wave propagation in a slab of one-dimensional discrete random medium. Saatchi, S.S., et al. (1992, p.301-314, eng) 47-441

Study on dynamical structure in water and heavy water by low-frequency Raman spectroscopy. Mizoguchi, K., et al. (1992, p.1961-1968, eng) 47-1056

Treatments of incoherent scattering for the parabolic equation and astral propagation models. Dozier, L.B., et al. (1991, p.265-281, eng) 47-1075

Use of microwave radiometer data for characterizing snow storage in western China. Chang, A.T.C., et al. (1992, p.215-219, eng) 47-1115

Subvisual-thin cirrus lidar dataset for satellite verification and climatological research. Sassen, K., et al. (1992, p.1275-1285, eng) 47-1120

Acoustic probing of the bottom surface of sea ice. Williams, K.L., et al. (1992, p.2075-2092, eng) 47-1125

Neural network inversion of radiometry of snow surface parameters. Tsang, L., et al. (1992, p.1015-1024, eng) 47-1259

Scattering from melting ice spheres at microwave and millimeter-wave frequencies. Fletcher, P.N., et al. (1992, p.545-548, eng) 47-1561

Precipitation retrieval from a cloud radiation model. Mugnai, A., et al. (1993, p.17-39, eng) 47-1995

Scattering effects of ice needles in satellite communications. Howard, J., (1989, p.411-415, eng) 47-2073

Remote sensing of snow using radar methods. Kulemin, G.P., et al. (1992, 36p., rus) 47-2910

Multiple-scattering lidar experiments. Werner, C., et al. (1992, p.1731-1745, eng) 47-3160

Acoustic scattering from elemental arctic ice features: numerical modeling results. Fricke, J.R., (1993, p.1784-1796, eng) 47-3231

Scattering from boundary protuberances and reverberation imaging. Yang, T.C., (1993, p.231-242, eng) 47-3233

Remote sensing of sea ice geophysical variations. Barber, D.G., et al. (1992, p.233-251, eng) 47-3320

Positioning of satellite navigation system during snowfall. Tranquilla, J.M., et al. (1993, p.295-299, eng) 47-3361

Very-low-frequency under-ice reflectivity. Wolf, J.W., et al. (1993, p.1329-1334, eng) 47-3432

Measuring the point spread function of sea ice in situ. Voss, J.M., et al. (1992, p.517-526, eng) 47-3735

Parameterization of the radiative properties of cirrus clouds. Fu, Q., et al. (1993, p.2008-2025, eng) 47-4459

Scattering indices for water drops and ice particles in clouds. Ajvazyan, H.M., (1993, p.1137-1154, eng) 47-4509

Ocean-acoustic propagation in an arctic profile. Buckingham, M.J., (1993, p.93-104, eng) 47-4633

Scattering of low frequency sound waves under sea ice. LePage, K., et al. (1992, p.3-16, eng) 47-4714

Matched field tomography results in the Arctic. Diachok, O.I., et al. (1992, p.24-27, eng) 47-4716

Polarized infrared radiation in ice crystals. Takano, Y., et al. (1993, p.1243-1256, eng) 47-4737

Snow surface scattering theory and particle size distribution. West, R., et al. (1993, p.426-437, eng) 47-5268

See also: Backscattering; Light scattering; Neutron scattering

Scavenging

Obscuration in snow and smoke. Hutt, D.L., (1990, p.101-110, eng) 47-910

Interaction of HCl vapor with water-ice: implications for the stratosphere. Abbatt, J.P.D., et al. (1992, p.15,819-15,826, eng) 47-999

Sticking of HCl and ClOH to ice: a computational study. Kroes, G.J., et al. (1992, p.7079-7088, eng) 47-1265

Orographic enhancement of snowfall. Dore, A.J., et al. (1992, p.175-179, eng) 47-1553

Thermodynamics of pollutant removal as an indicator of possible source areas for arctic haze. Bowling, S.A., et al. (1992, p.2953-2961, eng) 47-1949

Removal of atmospheric aerosols in the sub-arctic region. Selin, E., et al. (1992, p.S965-S968, eng) 47-2074

Aerosol scavenging by ice in supercooled clouds. Song, N.H., et al. (1991, p.63-74, eng) 47-2208

Scavenging of aerosols by ice crystals. Prodi, F., et al. (1991, p.75-86, eng) 47-2209

Comparison between the collection efficiency of aerosol particles by water drops and ice crystals. Wang, P.K., (1991, p.87-96, eng) 47-2210

Effect of internal charge distribution in ice crystals on scavenging of aerosol particles. Zhang, R.Y., et al. (1991, p.97-108, eng) 47-2211

Field instrument for examining in-cloud scavenging mechanisms by snow. Mitchell, D.L., et al. (1991, p.239-253, eng) 47-2212

Scavenging ratios in precipitation studies. Barrie, L.A., (1991, p.403-419, eng) 47-2214

Scavenging of atmospheric constituents by alpine snow. Baltensperger, U., et al. (1991, p.483-493, eng) 47-2215

Numerical model of aerosol scavenging, part 1: microphysics parameterization. Molenkamp, C.R., et al. (1991, p.575-590, eng) 47-2216

Numerical model of aerosol scavenging, part 2: simulation of a large city fire. Bradley, M.M., et al. (1991, p.591-601, eng) 47-2217

Polar precipitation chemistry. Delmas, R.J., (1991, p.1669-1691, eng) 47-2218

Wet deposition influence on ice sheet chemistry. Borys, R.D., et al. (1991, p.1705-1718, eng) 47-2220

Proceedings, (1992, 523p., eng) 47-2253

Spot tests for the detection of nitrate and sulfate particles in ice crystals. Oraltay, R.G., et al. (1992, p.395-398, eng) 47-2279

Interaction of frazil with suspended particles. Reimnitz, E., et al. (1993, p.117-135, eng) 47-2645

Preprints, (1993, 140p., eng) 47-3098

In-cloud removal of trace chemicals. Chen, J.P., et al. (1993, p.53-56, eng) 47-3100

The sorption and reactions of SO2, H2O2, and O3 on ice. Pellerano, D., et al. (1993, p.131-134, eng) 47-3102

Atmospheric scavenging during surface frost formation. Georgiadis, T., et al. (1993, p.267-276, eng) 47-3474

Stratospheric denitrification indicated by firn core chemistry. Mulvaney, R., et al. (1993, p.5213-5220, eng) 47-3785

Ammonium to sulphate ratio in aerosol and snow of Greenland and antarctic regions. Silvente, E., et al. (1993, p.687-690, eng) 47-4167

Below-cloud scavenging of aerosol particles: particle-bound radionuclides--experimental. Sparmacher, H., et al. (1993, p.605-618, eng) 47-4349

Acid snow over coastal Japan, pt.1. Kitada, T., et al. (1993, p.1061-1076, eng) 47-4581

Acid snow over coastal Japan, pt.2. Kitada, T., et al. (1993, p.1077-1090, eng) 47-4582

Scavenging effect of snow. Kumagai, K., et al. (1985, p.61-64, jpn) 47-5101

Scintillation

Characteristics of radiogeochemical anomalies in landscapes with water-saturated glacial formations. Poleshchuk, A.L., et al. (1991, p.26-34, rus) 47-169

Precipitation detection with a scintillation device. Wang, T.I., (1988, 14 col., eng) 47-3637

Scotia Sea

Organic carbon during ice retreat period in the Scotia and Weddell seas. Cadée, G.C., (1992, p.253-259, eng) 47-1331

Photosynthetic capacity in microalgae associated with antarctic pack ice. Lizotte, M.P., et al. (1992, p.497-502, eng) 47-1337

Hydrology and hydrochemistry of Scotia Sea waters. Tokarczyk, R., et al. (1991, p.495-505, eng) 47-3087

Environment and phytoplankton at the Scotia Sea ice edge. Lipski, M., (1991, p.507-513, eng) 47-3088

Microflagellates and diatoms at the Scotia Sea and Weddell Sea confluence. Kopczyńska, E., (1991, p.515-528, eng) 47-3089

Distribution of phytoplankton at the ice edge in the Scotia/Weddell confluence. Ligowski, R., et al. (1991, p.529-546, eng) 47-3090

Sea ice algae at the ice edge in the Scotia/Weddell confluence. Ligowski, R., (1991, p.547-563, eng) 47-3091

Scotia Sea zooplankton ecology in winter. Hopkins, T.L., et al. (1993, p.81-105, eng) 47-3604

Winter plankton assemblages at the Weddell and Scotia Seas ice edge. Garrison, D.L., et al. (1993, p.311-338, eng) 47-3628

Scotland

Hummocky moraine on the Isle of Skye, Scotland. Benn, D.I., (1992, p.781-799, eng) 47-3442

Sea air interaction

See also: Air water interactions

Sea current gages

See also: Flow measurement

Sea currents

See also: Ocean currents

Sea floor

See also: Ocean bottom

Sea ice

In situ spectroradiometric estimation of microalgal biomass in first-year sea ice. Legendre, L., et al. (1991, p.113-115, eng) 47-5

ARCTIC '91: The Expedition ARK-VIII/3 of RV *Polarstern* in 1991. Futterer, D.K., ed. (1992, 267p., eng) 47-40

Radiation and eddy flux experiment 1991 (REFLEX I). Hartmann, J., et al. (1992, 72p., eng) 47-41

Final report of Operation Deep Freeze '92 (1991-1992) (1992, var. p., eng) 47-74

Differential method of multivariate analysis of ice data. Likhachev, A.V., (1991, p.60-73, rus) 47-91

Using ice and ice phenomena in the national economy: geophysical aspect. Faiko, L.I., (1986, 155p., rus) 47-94

Calculating corrections for low frequency radio-navigation systems for sea routes covered with ice. Pylaev, A.A., et al. (1991, p.106-111, rus) 47-192

Radiolarian fauna at the ice edge in the Greenland Sea during summer, 1988. Swanberg, N.R., et al. (1992, p.297-320, eng) 47-199

Retrospective of platform development in Cook Inlet, Alaska. Visser, R.C., (1992, p.146-150,202-203, eng) 47-224

Bothnian Experiment in Preparation for ERS-1, 1988 (BEPERS-88): an overview. Askne, J., et al. (1992, p.2377-2398, eng) 47-254

Classification of low-salinity sea ice types by ranging scatterometer. Hyyppa, J., et al. (1992, p.2399-2413, eng) 47-255

Relation between SAR imagery and regional sea ice ridging characteristics from BEPERS-88. Similä, M., et al. (1992, p.2415-2432, eng) 47-256

Observations of the snowcover on sea ice in the Gulf of Bothnia. Crocker, G.B., (1992, p.2433-2445, eng) 47-257

C-band radar backscatter of Baltic Sea ice: theoretical predictions compared with calibrated SAR measurements. Ulander, L.M.H., et al. (1992, p.2447-2468, eng) 47-258

Effects of ice ridge properties on calculated surface backscattering in BEPERS-88. Manninen, A.T., (1992, p.2469-2487, eng) 47-259

SAR image classification of ice in the Gulf of Bothnia. Sun, Y., et al. (1992, p.2489-2514, eng) 47-260

Unsupervised segmentation of polarimetric SAR data using the covariance matrix. Rignot, E.J., et al. (1992, p.697-705, eng) 47-356

Scattering model for snow-covered sea ice. Tjuatja, S., et al. (1992, p.804-810, eng) 47-360

Modeling ice dynamics with regard to thermal conditions. Taran, B.M., (1991, p.137-146, rus) 47-365

Suspension freezing of bottom sediment in the Northwest Passage. Reimnitz, E., et al. (1992, p.693-703, eng) 47-379

Sea ice diatoms and ice edge planktonic diatoms in the Weddell Sea. Ligowski, R., et al. (1992, p.9-20, eng) 47-442

Salinity profiles of antarctic sea ice: field data and model results. Eicken, H., (1992, p.15,545-15,557, eng) 47-514

Seasonal changes in the sea ice brine community, McMurdo Sound. Stoecker, D.K., et al. (1992, p.265-278, eng) 47-520

Physical and dynamic properties of sea ice in the polar oceans. Gow, A.J., et al. (1991, 46p., eng) 47-704

Glacier, river and sea ice blister observations. Kovacs, A., (1992, 14p., eng) 47-785

Angular variation of the infrared emissivity of ice and water surfaces. Rees, W.G., et al. (1992, p.2873-2886, eng) 47-821

Aerosol and general atmospheric circulation models. Genthon, C., (1992, p.371-389, eng) 47-836

First ERS-1 SAR image acquired at Kiruna Salmijarvi, Spitsbergen (Norway). (1992, p.2515-2516, eng) 47-865

Suspended mesopelagic barite in the southern ocean. Dehairs, F., et al. (1992, p.1332-1335, eng) 47-873

Mathematical modelling of ice drift in the example of the Caspian Sea. Mikhal'chuk, A.V., (1991, p.94-96, rus) 47-893

Cold air outbreak near Spitsbergen in springtime: boundary-layer modification and cloud development. Brümmer, B., et al. (1992, p.13-46, eng) 47-900

Ice forecasting model helps operators extend arctic exploration periods. (1992, p.34, eng) 47-921

Polynomial trend surface analysis applied to AVHRR images to improve definition of arctic leads. Eppler, D.T., et al. (1992, p.197-218, eng) 47-982

Interpretation of seismic data collected on floating ice. Beaudoin, B.C., et al. (1992, p.1359-1372, eng) 47-984

Advances in ice technology; proceedings of the 3rd international conference. (1992, 365p., eng) 47-1013

Landing and parking a C5 Galaxy on sea ice: McMurdo Station, Antarctica. Barthelemy, J.L., (1992, p.37-49, eng) 47-1017

Estimate of sea ice freezing. Mizuno, Y., et al. (1992, p.147-154, eng) 47-1025

Compressive strength, flexural strength and static elastic modulus of sea ice. Takahashi, Y., et al. (1992, p.155-168, eng) 47-1026

Effect of naturally-occurring ice thickness variations in reducing global loads on offshore structures. Sackinger, W.M., et al. (1992, p.253-265, eng) 47-1033

On ice-coupled waves: a comparison of data and theory. Squire, V.A., et al. (1992, p.269-280, eng) 47-1034

Large amplitude sea/ice coupling. Fox, C., (1992, p.293-304, eng) 47-1036

Forecasting sea ice clearing in the Labrador Sea. Newell, J.P., (1992, p.313-323, eng) 47-1038

Sea ice *(cont.)*

Trend analysis of the Barents Sea ice cover. Vefsnmo, S., et al. (1992, p.325-335, eng) **47-1039**

Contour mapping of Arctic basin ice draft and roughness parameters. Bourke, R.H., et al. (1992, p.17,715-17,728, eng) **47-1061**

Large-scale thermal bending fracture of sea ice plates. Bažant, Z.P., (1992, p.17,739-17,751, eng) **47-1063**

Effect of severe storms on the ice cover of the northern Tatarskiy Strait. Martin, S., et al. (1992, p.17,753-17,764, eng) **47-1064**

Distribution of aluminium in the Greenland Sea and its relationship to ventilation processes. Measures, C.I., et al. (1992, p.17,787-17,800, eng) **47-1065**

Is the antarctic ice sheet growing. Jacobs, S.S., (1992, p.29-33, eng) **47-1072**

Treatments of incoherent scattering for the parabolic equation and astral propagation models. Dozier, L.B., et al. (1991, p.265-281, eng) **47-1075**

Effect of arctic ice cover on the monthly temperature and precipitation in China. Chen, Y.S., et al. (1992, p.275-286, eng) **47-1124**

Acoustic probing of the bottom surface of sea ice. Williams, K.L., et al. (1992, p.2075-2092, eng) **47-1125**

Turbulent structure of wind flow over ice-covered sea surface. Naito, G., et al. (1992, p.283-294, eng) **47-1192**

1991 cruise report of ARKTIS VIII/2. Rachor, E., ed. (1992, 150p., eng) **47-1218**

Postembryonic development of a copepod from Lützow-Holm Bay. Tanimura, A., (1992, p.109-128, eng) **47-1219**

Expedition ARKTIS VIII/1 of RV *Polarstern* in 1991. Kattner, G., ed. (1992, 75p., ger) **47-1221**

Evaluation of ice compression. Kuznetsov, I.M., et al. (1989, p.72-76, eng) **47-1225**

Skeletal modeling of ice leads. Banfield, J., (1992, p.918-923, eng) **47-1258**

Large-scale patterns and variability of snowmelt and parameterized surface albedo in the Arctic Basin. Robinson, D.A., et al. (1992, p.1109-1119, eng) **47-1271**

Diatom assemblages in arctic sea ice—indicator for ice drift pathways. Abelmann, A., (1992, p.S525-S538, eng) **47-1277**

Origin of sediment pellets from the arctic seafloor: sea ice *or icebergs?. Goldschmidt, P.M., et al.* (1992, p.S539-S565, eng) **47-1278**

GLOBEC workshop on southern ocean marine biology. (1991, 150p., eng) **47-1281**

Marine bacterioplankton at the Weddell Sea ice edge. Delille, D., (1992, *p.205-210, eng*) **47-1327**

Nitrogen uptake in the Weddell Sea during late winter and spring. Kristiansen, S., et al. (1992, p.245-251, eng) **47-1330**

Organic carbon during ice retreat period in the Scotia and Weddell seas. Cadée, G.C., (1992, p.253-259, eng) **47-1331**

Experiments on effects of sea ice biota on seeding. Kuosa, H., et al. (1992, p.333-339, eng) **47-1333**

Ecology of sea ice biota. 1. Horner, R., et al. (1992, p.417-427, *eng*) **47-1334**

Ecology of sea ice biota. 2. Legendre, L., et al. (1992, p.429-444, eng) **47-1335**

Photosynthetic capacity in microalgae associated with antarctic pack ice. Lizotte, M.P., et al. (1992, p.497-502, *eng*) **47-1337**

Sea ice algae growth related to a salinity gradient in Hudson Bay. Legendre, L., et al. (1992, p.445-453, eng) **47-1469**

Obtaining smooth hydrographic profiles from a buoy *deployed in sea ice.* Steele, M., et al. (1992, p.812-826, eng) **47-1472**

Emissivity of terrestrial materials in the 8-14 micron atmospheric window. Salisbury, J.W., et al. (1992, p.83-106, eng) **47-1555**

Polarization characteristics of natural thermal emission from antarctic sea ice. Darovskikh, A.N., et al. (1991, p.32-35, rus) **47-1576**

Environment of the antarctic sea ice brine channels. Weissenberger, J., (1992, 159p., ger) **47-1598**

Fragilariopsis cylindrus (Grunow) Krieger. Kang, S.H., et al. (1992, p.609-627, eng) **47-1623**

Brine investigations. Bianchi, F., et al. (1991, p.81-83, eng) **47-1629**

In situ patterns of intracellular photosynthate allocation by sea ice algae in the Canadian High Arctic. Smith, R.E.H., et al. (1992, p.545-551, eng) **47-1789**

Dynamics of ice algae and phytoplankton in Frobisher Bay. Hsiao, S.I.C., (1992, p.645-651, *eng*) **47-1790**

Overview of sea ice physical properties and their variability. Richter-Menge, J.A., et al. (1992, p.486-497, eng) **47-1808**

Light reflection from a sea ice cover during the onset of summer melt. Perovich, D.K., *et al.* (1992, *p.508-516, eng*) **47-1809**

Sea ice and atmospheric forcing interacting models. Stössel, A., (1992, p.395-413, eng) **47-1900**

Responses of antarctic diatoms to a simulated sea-ice formation environment. *Gleitz, M., et al.* (1992, p.271-278, eng) **47-1943**

Sea level variations during ice-covered periods in the Baltic Sea. Omstedt, A., et al. (1991, p.41-61, eng) **47-1992**

Seasonal changes of antarctic marine bacterioplankton. Delille, D., et al. (1991, p.213-218, eng) **47-2070**

SAR: *a new ice analysis tool.* Kriskern, F.E., (1993, p.22-23, eng) **47-2143**

Arctic ice stress measurements. Lau, P.A., et al. (1991, p.645-650, eng) **47-2183**

Ice mechanics in the LeadEx program. Coon, M.D., et al. (1991, p.651-656, eng) **47-2184**

Remote sensing and polar climate. Crane, R.G., (1986, p.38-41, eng) **47-2195**

Structural characteristics and development of sea ice in the western Ross Sea. Jeffries, M.O., et al. (1993, p.63-75, eng) **47-2245**

Frazil ice formation due to difference in heat and salt exchange across a density *interface.* Krylov, A.D., et al. (1992, p.497-506, eng) **47-2250**

Origin of green icebergs in Antarctica. Kipfstuhl, J., et al. (1992, p.20,319-20,324, eng) **47-2343**

Relationship between sea ice freeboard and draft in the *Arctic Basin, and implications for ice thickness* monitoring. Wadhams, P., et al. (1992, p.20,325-20,334, eng) **47-2344**

Wave attenuation in the marginal ice zone during LIMEX. Liu, A.K., et al. (1992, p.192-206, eng) **47-2347**

Evidence for east antarctic continental glaciation. Breza, J.R., et al. (1992, p.161-178, eng) **47-2459**

Salinity, temperature, and photophysiology of antarctic sea ice microalgae. Arrigo, K.R., et al. (1992, p.746-756, eng) **47-2594**

Load-controlled cone penetration tests in permafrost and ice. Ladanyi, B., et al. (1992, p.1-8, eng) **47-2677**

Investigation of antarctic sea ice concentration. Lomax, A.S., (1992, 102p., eng) **47-2763**

Chemical composition of snow cover on drifting ice in the Arctic. Bardin, V.I., et al. (1991, p.129-135, rus) **47-2802**

Statistical properties of sea ice surface topography in the Baltic Sea. Lewis, J.E., et al. (1993, *p.127-142, eng*) **47-2889**

Tropospheric aerosol and climate: results from numerical experiments. Kolomeev, M.P., et al. (1991, p.253-257, eng) **47-2896**

Proceedings of the *NIPR Symposium on Polar* Meteorology and Glaciology, No.6. Kawaguchi, S., ed. (1992, 167p., eng) **47-3000**

Surface albedo distribution in Lützow-Holm Bay. Nakagawa, K., (1992, p.1-15, eng) **47-3001**

Polish expedition to the Weddell Sea sea ice zone. Rakusa-Suszczewski, S., (1991, p.485-494, eng) **47-3086**

Hydrology and hydrochemistry of Scotia Sea waters. Tokarczyk, R., et al. (1991, p.495-505, eng) **47-3087**

Microflagellates and diatoms at the Scotia Sea and Weddell Sea confluence. Kopczyńska, E., (1991, p.515-528, eng) **47-3089**

Distribution of phytoplankton at the ice edge in the Scotia/Weddell confluence. Ligowski, R., et al. (1991, p.529-546, eng) **47-3090**

Sea ice algae at the ice edge in the Scotia/Weddell confluence. Ligowski, R., (1991, p.547-563, eng) **47-3091**

Krill abundance and distribution in the Scotia/Weddell Confluence. Godlewska, M., et al. (1991, p.593-603, eng) **47-3094**

Antarctica and the detection of environmental change. Weller, G., (1992, *p.201-208, eng*) **47-3139**

Sedimentary record of antarctic climate change. Barker, P.F., (1992, p.259-267, eng) **47-3145**

Oscillations of an ice sheet under a periodically varying load. Kozin, V.M., et al. (1993, p.746-750, eng) **47-3169**

On the propagation of discontinuities in a drifting ice cover. Marchenko, A.V., (1992, p.346-358, eng) **47-3230**

Acoustic scattering from elemental arctic ice features: numerical modeling results. Fricke, J.R., (1993, p.1784-1796, eng) **47-3231**

Influence of natural conditions on the development of transportation in the Far East. Vakhnenko, R.V., (1991, p.103-106, rus) **47-3281**

Model tests of dynamic ice loading on the Chinese JZ-20-2 jacket platform. Timco, G.W., et al. (1992, p.819-832, eng) **47-3304**

Landfast ice thickness variations *in the Canadian High* Arctic. Brown, R.D., et al. (1992, p.273-284, eng) **47-3321**

Climatic regime of the Arctic at the transition from the 20th to the 21st century. Krutskikh, B.A., ed. (1991, 200p., rus) **47-3334**

Sensitivity method for ice floe trajectory calculations. Thomson, N.R., et al. (1992, p.573-585, eng) **47-3344**

Adjoint sensitivity theory for a pack ice momentum model. Sykes, J.F., et al. (1992, p.881-889, eng) **47-3353**

Sensitivity analysis of ice motion near Adams Island. Sykes, J.F., et al. (1992, p.890-901, eng) **47-3354**

Determination of sea ice acoustical properties by tomography. Rajan, S.D., et al. (1993, p.721-738, eng) **47-3431**

Very-low-frequency under-ice reflectivity. Wolf, J.W., et al. (1993, p.1329-1334, eng) **47-3432**

Ice algae during EPOS. leg 1. Syvertsen, E.E., et al. (1993, p.61-65, eng) **47-3440**

Supplying the national economy with oceanographic information. Shamraev, IU.I., (1989, 189p., rus) **47-3504**

Remote sensing of sea-ice thickness in the Weddell Sea. Swift, C.T., et al. (1991, p.92-93, eng) **47-3515**

Summer pack-ice properties and structure in the western Ross Sea. Jeffries, M.O., et al. (1991, p.95-97, eng) **47-3517**

Surface-sediment diatom assemblages from the George V Coast. Leventer, A., (1991, p.120-122, eng) **47-3518**

Atlantic circulation simulation with sea ice interface model, pt.1. Oberhuber, J.M., (1993, p.809-829, eng) **47-3568**

Atlantic circulation simulation with sea ice interface model, pt.2. Oberhuber, J.M., (1993, p.830-845, eng) **47-3569**

Homogeneous ice regions in the northeastern Kara Sea. Egorov, A.G., et al. (1990, p.6-14, rus) **47-3584**

Intensity of changes in the areas of ice massifs in the East Siberian Sea during summer. IUlin, A.V., (1990, p.25-34, rus) **47-3586**

Hydrometeorological conditions characteristic of separated and connected Severnaya Zemlya and Kara Sea ice massifs. Egorov, A.G., (1990, p.35-41, rus) **47-3587**

Some characteristics of spatial irregularity in the thickness *of stationary and drifting ice.* Mironov, E.U., et al. (1990, p.42-53, rus) **47-3588**

One method of analyzing the interdependence of short time series. Chepurina, M.A., (1990, p.77-83, rus) **47-3591**

Possibility of short term forecasting of sea ice thickness. Kuznetsov, I.M., (1990, p.94-97, rus) **47-3594**

Experiment in formulating short term numerical ice forecasts for the southwestern Kara Sea. Nikolaev, S.IU., et al. (1990, p.98-104, rus) **47-3595**

Studying the possibility of a long range forecast of summer ice conditions in the southwestern Kara Sea. Tiuriakov, A.B., (1990, p.105-111, rus) **47-3596**

Automated processing and analysis of data on cracks in the sea ice cover, made from visual observations from an aircraft. Brestkin, S.V., et al. (1990, p.133-147, rus) **47-3600**

Numerical calculation of the trajectory of ice drift. Aksenov, E.O., (1990, p.148-154, rus) **47-3601**

Scotia Sea zooplankton ecology in winter. Hopkins, T.L., *et al.* (1993, *p.81-105, eng*) **47-3604**

Distribution of enteric bacteria in antarctic seawater surrounding a sewage outfall. McFeters, G.A., et al. (1993, p.645-650, eng) **47-3678**

Optical techniques for the measurement of frazil ice. Pegau, W.S., et al. (1992, p.498-507, eng) **47-3734**

Measuring the point spread function of sea ice *in situ.* Voss, J.M., et al. (1992, p.517-526, eng) **47-3735**

Influence of sea ice particulate matter on ocean irradiance. Fritsen, C.H., et al. (1992, p.527-541, eng) **47-3736**

Sensitivity of a thermodynamic model of sea ice to parametrization of short-wave and long-wave radiation. Makshtas, A.P., et al. (1992, p.116-137, rus) **47-3811**

Effect of deep Atlantic waters on the ice-hydrological processes in the *northern* Barents Sea. Lebedev, I.A., (1992, p.145-156, rus) **47-3813**

Enhancement of microwave images of sea ice. Full, W.E., et al. (1993, p.1-23, eng) **47-3917**

Breakup of shore fast sea ice. Squire, V.A., (1993, p.211-218, eng) **47-3925**

Comparison of the *mass-loading and elastic plate models* of an ice field. Squire, V.A., (1993, p.219-229, eng) **47-3926**

Floating ice pressures on sloping and vertical structures. Arunachalam, V.M., et al. (1993, p.231-245, eng) **47-3927**

Sea ice flexural rigidity: a comparison of methods. DiMarco, R.L., et al. (1993, p.247-255, eng) **47-3928**

Particulate matter in pack ice of the Beaufort Gyre. Reimnitz, E., et al. (1993, p.186-198, eng) **47-3951**

Observations and theoretical studies of *microwave* emission from thin saline ice. Wensnahan, M.R., et al. (1993, p.8531-8545, eng) **47-3983**

Thickness predictions of rafted ice in the Caspian Sea. Bukharitsin, P.I., (1993, p.390-394, eng) **47-4067**

Effective structural design plan for a *marine steel platform* in sea ice conditions. Berniker, IA.S., et al. (1993, p.12-15, rus) **47-4087**

Green iceberg formation on antarctic ice shelf bases. Warren, S.G., et al. (1993, p.6921-6928, eng) **47-4138**

Simulated antarctic fast ice ecosystem. Arrigo, K.R., et al. (1993, p.6929-6946, eng) **47-4139**

East Siberian Arctic Region Expedition '92: the Laptev Sea—its significance for arctic sea-ice formation and transpolar sediment flux. Dethleff, D., et al. (1993, p.3-44, *eng*) **47-4220**

Effect of boundary conditions on borehole indentor test results. Sinha, N.K., et al. (1993, p.65-72, eng) **47-4232**

Results from indentation tests in sea ice. Kärnä, T., et al. (1993, p.177-185, *eng*) **47-4245**

Bio-optical observations of first-year arctic sea ice. Perovich, D.K., et al. (1993, p.1059-1062, eng) **47-4266**

Variations in snow on sea ice: a mechanism for producing climate variations. Ledley, T.S., [1993, p.10,401-10,410, eng] 47-4291

Stresses and forces under ice compacting. Nikitin, V.A., et al. [1993, p.139-142, eng] 47-4299

Dynamics of ice cover interacting with ocean and atmosphere. Kheisin, D.E., [1993, p.51-55, eng] 47-4300

Ice detection during cloudy conditions over the Arctic region using NOAA AVHRR satellite imagery. Alm, G., [1991, p.155-166, eng] 47-4338

Hydrography and vertical fluxes of heat and salt northeast of Svalbard in autumn. Steele, M., et al. [1993, p.10,013-10,024, eng] 47-4373

Numerical study of haline convection beneath leads in sea ice. Smith, D.C., IV, et al. [1993, p.10,069-10,083, eng] 47-4377

Thermodynamic model of ice-atmosphere interactions. Ebert, E.E., et al. [1993, p.10,085-10,109, eng] 47-4378

Radiometric sea ice features from aircraft images. Farmer, L.D., et al, [1993, p.4645-4665, eng] 47-4387

Brightness temperature of snow-covered saline ice. Lohanick, A.W., [1993, p.4667-4674, eng] 47-4388

Determination of dielectric constant of young sea ice using microwave spectral radiometry. St. Germain, K.M., et al. [1993, p.4675-4679, eng] 47-4389

Sea ice bacteria between Elephant I. and the South Orkneys. Zdanowski, M.K., et al. [1993, p.245-254, eng] 47-4394

Ice studies in the Barents Sea by ERS-1 SAR during SIZEX 92. Johannessen, O.M., et al. [1993, p.277-282, eng] 47-4425

Air-sea-ice interactions in the Weddell Sea. Viehoff, T., et al. [1993, p.325-327, eng] 47-4433

Arctic sea ice microwave signature and geophysical processes study. Onstott, R.G., et al. [1993, p.329-332, eng] 47-4434

Sea ice radar signatures from ERS-1 SAR during late summer and fall in the Beaufort and Chukchi Seas. Holt, B., et al, [1993, p.339-342, eng] 47-4436

Waves and mesoscale features in the marginal ice zone. Liu, A.K., et al, [1993, p.343-348, eng] 47-4437

Ocean circulation revealed by ice floe tracking. Ikeda, M., et al, [1993, p.351-353, eng] 47-4438

ERS-1 SAR use in the Canadian sea ice monitoring program. Shokr, M.E., et al. [1993, p.355-360, eng] 47-4439

Sea ice feature and type identification in merged ERS-1 SAR and Landsat Thematic Mapper imagery. Steffen, K., et al, [1993, p.361-365, eng] 47-4440

Evaluating ERS-1 ice motion and classification products. Fetterer, F.M., et al, [1993, p.373-375, eng] 47-4442

Impact of ERS-1 wind/wave/ice data on operational ocean forecasting. Guddal, J., [1993, p.695-699, eng] 47-4448

Sea ice-ocean interaction. Lemke, P., [1987, p.439-451, eng] 47-4457

Long-term ecological research strategy for polar environmental research. Quetin, L.B., et al, [1992, p.233-238, eng] 47-4506

Drag coefficients for winter antarctic pack ice. Wamser, C., et al, [1993, p.12,431-12,437, eng] 47-4520

Roughness of Weddell Sea ice and estimates of the air-ice drag coefficient. Andreas, E.L., et al, [1993, p.12,439-12,452, eng] 47-4521

Passive microwave remote sensing of thin sea ice using principal component analysis. Wensnahan, M.R., et al, [1993, p.12,453-12,468, eng] 47-4522

Finite-floe wave reflection and transmission coefficients from a semi-infinite model. Meylan, M., et al, [1993, p.12,537-12,542, eng] 47-4524

Ice formation in sea water through turbulent exchange. Zatsepin, A.G., et al, [1992, p.38-42, eng] 47-4563

Silica cycle in the Weddell Sea. Leynaert, A., et al, [1993, p.1-15, eng] 47-4574

Winter ecology of the sea ice biota in Weddell Sea pack ice. Garrison, D.L., et al, [1993, p.17-31, eng] 47-4575

Microorganisms in antarctic sea ice. Palmisano, A.C., et al, [1993, p.167-218, eng] 47-4595

Ocean-acoustic propagation in an arctic profile. Buckingham, M.J., [1993, p.93-104, eng] 47-4633

Ecological environmental features of antarctic sea ice and its role in the marine ecosystems. Wang, Z.P., et al, [1993, p.1-15, chi] 47-4646

Scattering of low frequency sound waves under sea ice. LePage, K., et al, [1992, p.3-16, eng] 47-4714

Doppler acoustic studies of fine scale variability in the Arctic Ocean. Pinkel, R., et al, [1992, p.17-23, eng] 47-4715

Matched field tomography results in the Arctic. Diachok, O.I., et al, [1992, p.24-27, eng] 47-4716

Noise generation in the marginal ice zone. Johannessen, O.M., et al, [1992, p.28-38, eng] 47-4717

Analytical technique for solving an arctic acoustic model. Sheard, J.D., et al, [1992, p.39-42, eng] 47-4718

Ice edge noise observations from the 1988-89 Greenland Sea tomography experiment. Lynch, J.F., et al, [1992, p.611-619, eng] 47-4719

Phytoplankton in the Weddell Sea marginal ice zone. Kang, S.H., et al, [1993, p.335-348, eng] 47-4722

New South African research programme in the southern ocean. Lucas, M.I., et al, [1993, p.61-67, eng] 47-4723

Seasonal changes in the sea ice brine community, McMurdo Sound. 2. Stoecker, D.K., et al. [1993, p.103-113, eng] 47-4725

Discovery of a new sea ice diatom genus. Poulin, M., [1993, p.223-233, eng] 47-4735

Sediment export by ice rafting from a coastal polynya, arctic Alaska, U.S.A. Reimnitz, E., et al, [1993, p.83-98, eng] 47-4741

Geologic use of polar marine diatoms. Leventer, A., et al, [1993, p.134-253, eng] 47-4823

Antarctic glacial-marine sedimentation. Anderson, J.B., [1993, p.1-88, eng] 47-4824

Learning behavior of sea ice. Denner, W.W., [1993, p.527-536, eng] 47-4834

Source mechanisms for arctic ocean ambient noise. Dyer, I., [1993, p.537-551, eng] 47-4835

Vertical directivity measurements of ice cracking. Greening, M.V., et al, [1993, p.553-562, eng] 47-4836

Spatial variation in ambient sound level within ice edge eddies. Johannessen, O.M., et al, [1993, p.563-571, eng] 47-4837

Arctic pack ice thermal stress related to under-ice noise. Lewis, J.K., et al, [1993, p.573-590, eng] 47-4838

Sea ice constitutive behavior and under-ice noise. Pritchard, R.S., [1993, p.591-610, eng] 47-4839

Predictions and measurements of the directivity of a monopole source in a floating ice plate. Stein, P.J., [1993, p.625-639, eng] 47-4841

Acoustic radiation beneath the arctic ice cover. Xie, Y.B., et al, [1993, p.641-647, eng] 47-4842

Notch sensitivity of first-year sea ice. Parsons, B.L., et al, [1993, p.1303-1313, eng] 47-4848

Expedition ANTARKTIS X3 of RV *Polarstern* in 1992. Spindler, M., ed, [1993, p.1-122, eng] 47-4879

When ice melts in sea water: a review. Gade, H.G., [1993, p.139-165, eng] 47-4914

Large-scale statistical structure of antarctic temperature fields. Liubarskii, A.N., [1992, p.18-25, rus] 47-4922

Environmental and climatic links between Antarctica and South Africa. Lucas, M.I., et al, [1991, p.193-219, eng] 47-4978

Formation features of the structure and variability of the hydrological processes of the Kara Sea area. Pavlov, V.K., [1993, p.251-265, eng] 47-5035

Potential transport of radionuclides and other pollutants by arctic sea ice. Pfirman, S.L., et al, [1993, p.267-284, eng] 47-5036

Performance of the *Nathaniel B. Palmer* in ice. Sutherland, A.L., et al, [1993, p.300-309, eng] 47-5117

Platelet ice ecosystem in McMurdo Sound. Arrigo, K.R., et al, [1993, p.173-185, eng] 47-5200

Model for thermally-induced stresses in multi-year sea ice. Lewis, J.K., [1993, p.337-348, eng] 47-5205

Topography of the upper and lower surfaces of 10 hectares of deformed sea ice. Melling, H., et al, [1993, p.349-369, eng] 47-5206

Sea ice distribution

Report of the International Ice Patrol in the North Atlantic, 1991 season. [1991, 51p., eng] 47-44

Report of the International Ice Patrol in the North Atlantic, 1990 season. [1990, 86p., eng] 47-45

Antarctic sea ice problems. Jia, P.Q., et al, [1992, p.51-58, chi] 47-73

Abstracts, [1992, 415p., eng] 47-106

New sea ice normals (1961-90) and the latest sea ice condition in the Sea of Okhotsk. Kamihira, E., et al, [1992, p.27-29, jpn] 47-109

On the interannual variation in sea ice area of the Okhotsk Sea. Sekine, Y., et al, [1992, p.30-33, jpn] 47-110

Effect of global atmospheric circulation on Okhotsk Sea ice. Sekine, Y., et al, [1992, p.34-36, jpn] 47-111

Relation between atmospheric and ice conditions along the Okhotsk Sea coast of Hokkaido. Murai, K., et al, [1992, p.41-46, jpn] 47-113

Multi-sensor data set and sea ice study. Nishio, F., et al, [1992, p.272-276, jpn] 47-148

Satellite observations of the area of sea ice in the Sea of Okhotsk. Enomoto, H., et al, [1992, p.281-284, eng] 47-150

Operational system of numerical sea ice prediction in Bohai Sea. Cheng, B., et al, [1992, p.295-299, eng] 47-153

Air temperature fluctuations in Hokkaido and Okhotsk Sea ice. Honda, A., et al, [1992, p.307-310, jpn] 47-156

Ice features in Liaodong Gulf in the winter of 1988-1989. Li, Z.J., et al, [1992, p.317-320, eng] 47-158

Ice productivity of the northeastern Okhotsk Sea. IAkunin, L.P., et al, [1992, p.348-350, eng] 47-162

Ice forecast in the Japan and Okhotsk Seas. Plotnikov, V.V., [1992, p.351-354, eng] 47-163

Probability forecast of the sea ice cover and sea ice edge position in the Okhotsk Sea. Plotnikov, V.V., [1992, p.355-356, eng] 47-164

Use of numerical methods in ice conditions examination. Pokrashenko, S.A., [1992, p.382-383, eng] 47-168

Variations in the ice edge in the European North Sea, 1966-1991, from satellite data. Eckardt, M., et al, [1992, p.241-242, ger] 47-215

Arctic sea ice cover effect on summer atmospheric circulation. Yang, X.Q., et al, [1992, p.401-411, eng] 47-353

Sea ice advection derived from buoy and satellite data. Massom, R.A., [1992, p.15,559-15,572, eng] 47-515

1985/86 season analysis: Lancaster Sound winter ice regime. Volume II. [1986, 164p. + appends bound separately, eng] 47-522

Major cloud plumes in the Arctic and their relation to fronts and ice movement. Fett, R.W., [1992, p.925-945, eng] 47-591

Polarimetric remote sensing of sea ice in the Beaufort Sea. Nghiem, S.V., et al, [1992, p.972-974, eng] 47-668

Physical and dynamic properties of sea ice in the polar oceans. Gow, A.J., et al, [1991, 46p., eng] 47-704

Investigation of a mushroom-like flow in the shelf edge area of northern seas. Voloshina, I.P., et al, [1992, p.317-322, eng] 47-782

Dynamics of arctic ice shelves and ice islands. Jeffries, M.O., [1992, p.245-267, eng] 47-827

Pattern of ocean-atmosphere exchange in a Weddell Sea ice core. Peel, D.A., et al, [1992, p.430-442, eng] 47-837

Eastern-western arctic sea ice analysis: 1990. [1991, n.p., eng] 47-883

MOS-1 data received at Showa Station. Yamanouchi, T., et al, [1990, p.175-188, jpn] 47-884

Use of Marine Observation Satellite-1 in applied ocean science. Pichel, W.G., et al, [1990, p.231-245, jpn] 47-887

Sea ice melting and floe geometry in a simple ice-ocean model. Steele, M., [1992, p.17,729-17,738, eng] 47-1062

Marginal Ice Zone oceanographic variability and its effects on acoustic propagation. Meredith, R.W., et al, [1991, p.87-101, eng] 47-1074

Variations of sea ice area and thickness in the southern ocean due to climate warming. Balkova, I.M., [1991, p.41-45, eng] 47-1179

Variability of area of ice cover in Far East seas. Petrova, V.A., et al, [1989, p.77-81, eng] 47-1226

Greenhouse gas-induced climate change simulated with the CCC second-generation general circulation model. Boer, G.J., et al, [1992, p.1045-1077, eng] 47-1270

Vertical stability of surface waters and phytoplankton bloom in Weddell Sea marginal ice zone. Veth, C., et al, [1992, p.237-243, eng] 47-1329

Changeability of ice cover and navigation conditions in the Bering Sea. IAkunin, L.P., [1992, p.795-796, eng] 47-1877

Winter ice on the German coast between the Ems and Oder Rivers, 1991/92. Koslowski, G., [1992, p.153-155, ger] 47-2010

Wind forcing and ice motion in the Weddell Sea region. Kottmeier, C., et al, [1992, p.20,373-20,383, eng] 47-2051

Hudson's Bay Company ships' log-books as sources of sea ice data, 1751-1870. Catchpole, A.J.W., [1992, p.17-39, eng] 47-2080

Documentary evidence for changes in the climate of Iceland, A.D. 1500 to 1800. Ogilvie, A.E.J., [1992, p.92-117, eng] 47-2083

Synoptic scale ice-atmosphere interaction off the east coast of Canada. Nazarenko, D.M., [1990, 158p., eng] 47-2105

Modeling the seasonal variability of a coupled arctic ice-ocean system. Häkkinen, S., et al, [1992, p.20,285-20,304, eng] 47-2341

Oceanographic features in the Newfoundland marginal ice zone, March-April 1990. Tang, C.L., [1992, p.151-172, eng] 47-2345

Automated sea-ice tracking for LIMEX '87 and '89. Hirose, T., et al, [1992, p.173-191, eng] 47-2346

Sea-ice properties off Labrador and Newfoundland during LIMEX '89. Prinsenberg, S.J., et al, [1992, p.207-222, eng] 47-2348

Ice-floe collisions interpreted from acceleration data during LIMEX '89. McKenna, R.F., et al, [1992, p.246-269, eng] 47-2350

Simulation of sea-ice motion and distribution off Newfoundland during LIMEX, March 1987. Tang, C.L., et al, [1992, p.270-296, eng] 47-2351

Seasonal and regional variability of sea ice thickness distribution. Moritz, R.E., [1992, p.68-71, eng] 47-2383

Sea ice and salinity variability in the Arctic using a coupled sea ice-ocean model. Weatherly, J.W., et al, [1992, p.83-86, eng] 47-2387

Sensitivity studies of an ice-ocean coupled model for the Northern Hemisphere. Cheng, A., et al, [1992, p.94-97, eng] 47-2390

Improved real-time global sea surface temperature analysis. Reynolds, R.W., et al, [1993, p.114-119, eng] 47-2461

Clues to causes of deformation features in coastal sea ice. Kozo, T.L., et al, [1992, p.385,388-389, eng] 47-2597

Sensitivity study of a dynamic thermodynamic sea ice model. Holland, D.M., et al, [1993, p.2561-2586, eng] 47-2626

Sea ice distribution *(cont.)*

Quantitative analysis of sea ice remote sensing imagery. Korsnes, R., [1993, p.295-311, eng] 47-2752

Mathematical approach to the segmentation of sea-ice SAR images. Korsnes, R., [1993, p.313-332, eng] 47-2753

Characterization of spatial statistics of distributed targets in SAR data. Rignot, E.J., et al, [1993, p.345-363, eng] 47-2754

Relation between arctic sea ice extent and ozone levels. Marko, J.R., et al, [1993, p.37-40, eng] 47-2843

Arctic sea ice albedo: a comparison of two satellite-derived data sets. Schweiger, A.J., et al, [1993, p.41-44, eng] 47-2844

Sea-ice interaction with the thermohaline circulation. Yang, J.Y., et al, [1993, p.217-220, eng] 47-2859

On the interannual variability of arctic sea-level pressure and sea ice. Power, S.B., et al, [1992, p.551-577, eng] 47-2878

Mathematical model of sea ice cover variability. Fleming, G.H., [1992, p.479-499, eng] 47-2881

Microwave signature of firn and sea ice from airborne observations. Yamanouchi, T., et al, [1992, p.16-35, eng] 47-3002

Analysis of sea ice compactness by image processing. Muramoto, K., et al, [1992, p.126-131, eng] 47-3012

Antarctic atmospheric conditions and sea ice interannual variations. Enomoto, H., et al, [1992, p.132-142, eng] 47-3013

Microwave remote sensing of sea ice. Carsey, F.D., ed, [1992, 462p., eng] 47-3014

Introduction to "Microwave Remote Sensing of Sea Ice". Carsey, F.D., et al, [1992, p.1-7, eng] 47-3015

Passive microwave signatures of sea ice. Eppler, D.T., et al, [1992, p.47-71, eng] 47-3018

SAR and scatterometer signatures of sea ice. Onstott, R.G., [1992, p.73-104, eng] 47-3019

Digital SAR image formation. Wackerman, C.C., [1992, p.105-110, eng] 47-3020

Sea ice altimetry. Fetterer, F.M., et al, [1992, p.111-135, eng] 47-3021

Microwave sea ice signature modeling. Winebrenner, D.P., et al, [1992, p.137-175, eng] 47-3022

Estimation of geophysical parameters using passive microwave algorithms. Steffen, K., et al, [1992, p.201-231, eng] 47-3024

Validation of geophysical products using multisensor data. Cavalieri, D.J., [1992, p.233-242, eng] 47-3025

Microwave remote sensing of the southern ocean ice cover. Comiso, J.C., et al, [1992, p.243-259, eng] 47-3026

Air-ice-ocean processes in the seasonal ice zone. Johannessen, O.M., et al, [1992, p.261-289, eng] 47-3027

Considerations for microwave remote sensing of thin sea ice. Grenfell, T.C., et al, [1992, p.291-301, eng] 47-3028

Microwave remote sensing of polynyas. Martin, S., et al, [1992, p.303-311, eng] 47-3029

Determination of sea ice motion from satellite images. Holt, B., et al, [1992, p.343-354, eng] 47-3032

Approach to identification of sea ice types from spaceborne SAR data. Kwok, R., et al, [1992, p.355-360, eng] 47-3033

Microwave remote sensing of low-salinity sea ice. Hallikainen, M., [1992, p.361-373, eng] 47-3034

Ice thickness distribution inferred using remote sensing techniques. Wadhams, P., et al, [1992, p.375-383, eng] 47-3035

Use of satellite observations in ice cover simulations. Preller, R.H., et al, [1992, p.385-404, eng] 47-3036

Ice modeling and data assimilation with the Kalman smoother. Rothrock, D.A., et al, [1992, p.405-418, eng] 47-3037

Potential applications of polarimetry to the classification of sea ice. Drinkwater, M.R., et al, [1992, p.419-430, eng] 47-3038

Information fusion in sea ice remote sensing. Collins, M.J., [1992, p.431-441, eng] 47-3039

Status and future directions for sea ice remote sensing. Carsey, F.D., et al, [1992, p.443-446, eng] 47-3040

Southern ocean sea-ice distributions and extents. Parkinson, C.L., [1992, p.243-250, eng] 47-3144

Report, [1992, 41p. + appends., eng] 47-3235

Sea ice thickness: an overview. Thorndike, A.S., [1992, p.A1-A3, eng] 47-3236

Controls on ice thickness. Rothrock, D.A., [1992, p.A4-A9, eng] 47-3237

Definitions relating to ice thickness. Thorndike, A.S., [1992, p.A10-A13, eng] 47-3238

Sampling requirements. Thorndike, A.S., [1992, p.A14-A16, eng] 47-3239

Ice core studies of sea ice thickness. Eicken, H., et al, [1992, p.B1-B4, eng] 47-3240

Thickness measurements of arctic multiyear ice. Tucker, W.B., [1992, p.B5-B9, eng] 47-3241

Sea ice thickness distributions from aerial photographs. Eppler, D.T., et al, [1992, p.B10-B15, eng] 47-3242

Antarctic ice thickness distributions obtained from aerial photography. Ackley, S.F., et al, [1992, p.B16-B18, eng] 47-3243

Ice thickness observations from British submarines. Wadhams, P., [1992, p.B19-B21, eng] 47-3244

Accuracy of submarine ice draft measurements. Tucker, W.B., et al, [1992, p.B22-B24, eng] 47-3245

Upward looking sonar ice draft series from the Greenland Sea. Kvambekk, A.S., et al, [1992, p.B25-B28, eng] 47-3246

Sampling the temporal variability of sea ice draft distribution. Moritz, R.E., [1992, p.B29-B38, eng] 47-3247

Airborne laser altimetry measurements for sea ice thickness. Krabill, W.B., [1992, p.B39-B42, eng] 47-3248

Inferring ice thickness distribution from airborne laser profiling. Wadhams, P., et al, [1992, p.B43-B51, eng] 47-3249

Remote measurement of sea ice thickness using electromagnetic sounding. Kovacs, A., [1992, p.B52-B54, eng] 47-3250

Operational airborne sea ice thickness measurement system. Holladay, J.S., [1992, p.B55-B59, eng] 47-3251

Ice thickness observations from satellites. Rothrock, D.A., [1992, p.B60-B65, eng] 47-3252

Active and passive microwave signatures and relationship to ice thickness. Comiso, J.C., et al, [1992, p.B66-B75, eng] 47-3253

Passive microwave measurements of sea ice thickness. Gloersen, P., [1992, p.B76-B82, eng] 47-3254

Modeling the thickness distribution of arctic pack ice. Flato, G.M., [1992, p.C1-C3, eng] 47-3255

Model predicted arctic sea ice mass and its sensitivities. Häkkinen, S., [1992, p.C4-C8, eng] 47-3256

Arctic radiation forcing fields for dynamic-thermodynamic sea ice models. Key, J.R., et al, [1992, p.C9-C13, eng] 47-3257

Model simulation of changes in arctic sea ice, 1960-1989. Walsh, J.E., [1992, p.C14-C16, eng] 47-3258

Sea ice observation in the Arctic Ocean (I). Nakamura, H., et al, [1992, p.83-97, jpn] 47-3295

Remote sensing of sea ice geophysical variations. Barber, D.G., et al, [1992, p.233-251, eng] 47-3320

Climatic regime of the Arctic at the transition from the 20th to the 21st century. Krutskikh, B.A., ed 1991. 200p., rus] 47-3334

JARE-32 wintering party activities at Showa Station, 1991. Fujii, Y., [1992, p.441-472, jpn] 47-3368

Abstracts and papers. [1991, 2 vols., eng] 47-3369

Comparison of several sea ice data sets. Etkin, D.A., et al, [1991, p.41-47, eng] 47-3374

Comparison of remote sensing systems for operational ice analysis. Carrieres, T., et al, [1991, p.51-61, eng] 47-3375

Maxim Gorky accident: how good are ice charts. Ramseier, R.O., et al, [1991, p.65-73, eng] 47-3376

Analysis of ice cover in numerical weather prediction. Hallé, J., [1991, p.75-85, eng] 47-3377

SSM/I and other cryospheric products from the snow and ice DAAC. Barry, R.G., et al, [1991, p.87-100, eng] 47-3378

Barents Sea ice conditions as observed by passive microwave and other techniques. Lövas, S.M., et al, [1991, p.101-115, eng] 47-3379

Optimal radar ice surveillance. Bercha, F.G., et al, [1991, p.143-164, eng] 47-3383

Operational airborne sea ice thickness measurement system. Rossiter, J.R., et al, [1991, p.167-177, eng] 47-3384

Spatial and temporal variations of sea ice surface. Flett, D.G., et al, [1991, p.179-186, eng] 47-3385

Beaufort Sea Ice-1: an overview. Livingstone, C.E., et al, [1991, p.189-205, eng] 47-3386

Integration of optical and active microwave data of a snow-covered sea ice surface. Manore, M.J., et al, [1991, p.209-215, eng] 47-3387

Remote sensing and image processing for ice forecasting. Marko, J.R., et al, [1991, p.217-226, eng] 47-3388

Remotely sensed data in the U.S. Navy's sea ice forecast models. Preller, R.H., et al, [1991, p.235-255, eng] 47-3389

Cloud limitations to satellite mapping of sea ice. Nielsen, P., et al, [1991, p.263-276, eng] 47-3390

MOS-1 multi-sensor data set and sea ice study. Nishio, F., et al, [1991, p.277-287, eng] 47-3391

AES Dash-7 ice reconnaissance aircraft. Ramplee-Smith, C., et al, [1991, p.289-293, eng] 47-3392

Real-time ice monitoring using synthetic aperture radar. Ramsay, B.R., [1991, p.295-306, eng] 47-3393

Real-time ice monitoring within the International Space Year. Strübing, K., [1991, p.7-18, eng] 47-3394

Predicting annual variability of sea ice and icebergs. Fissel, D.B., et al, [1991, p.19-32, eng] 47-3395

SICAR: a program for semi-automated digitizing of composite ice charts. Piwowar, J.M., et al, [1991, p.33-41, eng] 47-3396

Satellite imagery in Canadian regional sea ice monitoring. Nazarenko, D.M., et al, [1991, p.47-52, eng] 47-3397

Ice Branch operational use of ice beacons on sea ice. Weir, L., et al, [1991, p.53-59, eng] 47-3398

Statistical analysis of sea ice for the eastern Barents Sea. Vefsnmo, S., et al, [1991, p.61-80, eng] 47-3399

Identification of sea ice using NOAA satellite data. Zhang, L.X., et al, [1991, p.81-86, eng] 47-3400

Discrimination of open water and sea ice from SAR image. Similä, M., [1991, p.89-106, eng] 47-3401

Fourier classification of SAR images of sea ice. Barber, D.G., et al, [1991, p.111-118, eng] 47-3402

Sea ice retrieval from satellite and aerial photography. Steffen, K., et al, [1991, p.121-129, eng] 47-3403

Integration of high and low resolution microwave observations. Rubinstein, I.G., et al, [1991, p.131-142, eng] 47-3404

Digital DMSP OLS fine imagery sea ice applications. Hawkins, J.D., et al, [1991, p.153-155, eng] 47-3405

Polynomial analysis of AVHRR images for arctic leads. Eppler, D.T., et al, [1991, p.161-189, eng] 47-3406

Verification of an operational sea ice forecast model. Yao, T., et al, [1991, p.193-200, eng] 47-3407

Verification of remotely sensed ice thickness data. Prinsenberg, S.J., [1991, p.201-212, eng] 47-3408

Thin-ice statistics for strength calculations without sub-category classification. Soulis, E.D., et al, [1991, p.213-226, eng] 47-3409

Northeast passage: ERS-1 ice routing for the Polar Vessel *L'Astrolabe*. Johannessen, O.M., et al, [1991, p.227-236, eng] 47-3410

Hydrometeorological and ice conditions in the arctic seas of the USSR during 1990-1991. Siniurin, IU.N., [1992, p.93-96, eng] 47-3459

Recent variations of sea ice and air temperature in high latitudes. Chapman, W.L., et al, [1993, p.33-47, eng] 47-3477

Insolation effects on last interglacial climate. Kutzbach, J.E., et al, [1991, p.223-229, eng] 47-3492

Meso-scale characteristics of the distribution of water masses in the Chukchi Sea. Abramov, V.A., et al, [1990, p.126-132, rus] 47-3599

Study of the North Water polynya using passive microwave and infrared imagery. Press, M.J., et al, [1993, p.92-101, eng] 47-3726

Methanesulfonic acid in coastal antarctic snow related to sea-ice extent. Welch, K.A., et al, [1993, p.443-446, eng] 47-3728

Mesoscale simulation of the arctic ice pack. Hopkins, M.A., [1993, p.85-96, eng] 47-3744

Evaluating the role of the West Spitsbergen current in the formation of a sea ice boundary. Makshtas, A.P., et al, [1992, p.157-164, rus] 47-3814

Changes of characteristics of arctic sea ice in case of a doubling of carbon dioxide. Kolomeev, M.P., et al, [1992, p.34-40, eng] 47-3991

Forecasting Caspian Sea ice edge. Bukharitsin, P.I., et al, [1992, p.58-63, eng] 47-3992

Microfaunal evidence for elevated Pliocene temperatures in the Arctic Ocean. Cronin, T.M., et al, [1993, p.161-173, eng] 47-4153

Preprints. [1988, 160p., eng] 47-4173

Arctic sea ice 1973-1986: seasonal and interannual variability. Parkinson, C.L., et al, [1988, p.4-7, eng] 47-4174

Arctic sea ice 1973-1986: interregional comparisons. Cavalieri, D.J., et al, [1988, p.8-10, eng] 47-4175

Ice extent and flux in the Grand Banks-Labrador Sea area. Argus, S.D., et al, [1988, p.11-14, eng] 47-4176

Seasonal variations of atmospheric circulation and sea ice motion in the Arctic. McLaren, A.S., et al, [1988, p.20-23, eng] 47-4177

Short-period changes in sea ice and atmospheric conditions. Maslanik, J.A., et al, [1988, p.28-31, eng] 47-4178

North Atlantic sea ice sensitivities of monthly dynamical forecasts. Walsh, J.E., et al, [1988, p.32-35, eng] 47-4179

Synoptic ice melt from Nimbus-7 SMMR. Crane, R.G., et al, [1988, p.36-39, eng] 47-4180

Lead patterns in arctic sea ice. Barry, R.G., et al, [1988, p.40-43, eng] 47-4181

Summer cryospheric and atmospheric variability in the Arctic Basin. Robinson, D.A., et al, [1988, p.44-47, eng] 47-4182

Long-range forecasts of arctic sea level pressure. Ross, B., et al, [1988, p.48-51, eng] 47-4183

Arctic ice conditions and the 500 mb component. Englebretson, R.E., [1988, p.79-82, eng] 47-4187

Simple coupled steady-state arctic ice-ocean model. Willmott, A.J., et al, [1988, p.87-88, eng] 47-4189

High-latitude processes in a coupled ocean-atmosphere general circulation model. Roberts, D.L., [1988, p.89-91, eng] 47-4190

Satellite observations over the Greenland and Barents seas. Claud, C., et al, [1988, p.122-125, eng] 47-4198

Passive microwave data for snow and ice research: planned products from the DMSP SSM/I system. Weaver, R.L.S., [1988, p.129-132, eng] 47-4200

Climatic changes in the Barents Sea area Borisov, S.B., et al, [1991, p.46-50, eng] 47-4252

Boolean delay equation model of an interdecadal arctic climate cycle. Darby, M.S., et al, [1993, p.241-246, eng] 47-4354

Wave effects on ocean-ice interaction in the marginal ice zone. Liu, A.K., et al, [1993, p.10,025-10,036, eng] 47-4374

Arctic sea ice signatures for passive microwave algorithms. Thomas, D.R., [1993, p.10,037-10,052, eng] 47-4375
Arctic Ocean ice balance: a Kalman smoother estimate. Thomas, D.R., et al, [1993, p.10,053-10,067, eng] 47-4376
Proceedings. [1993, 2 vol., eng] 47-4415
Sea ice—a climate component. Gudmandsen, P., [1993, p.9-13, eng] 47-4416
Use of ERS-1 SAR to measure ice flux in the East Greenland current. Wadhams, P., et al, [1993, p.283-287, eng] 47-4426
Validation of ERS-1 SAR measurements of sea ice during ARCTIC-91. Askne, J., et al, [1993, p.289-294, eng] 47-4427
Arctic coastal polynya observations with ERS-1 SAR and DMSP SSM/I. Cavalieri, D.J., et al, [1993, p.295-299, eng] 47-4428
Sea ice deformation observed with ERS-1 SAR. Rothrock, D.A., et al, [1993, p.301-306, eng] 47-4429
Finnish ERS-1 Baltic Sea ice experiment in winter 1992. Leppäranta, M., et al, [1993, p.307-312, eng] 47-4430
Experiences from the Swedish sea ice programme during BEERS-92. Thompson, T., et al, [1993, p.313-318, eng] 47-4431
Greenland Sea observations. Gudmandsen, P., et al, [1993, p.319-323, eng] 47-4432
Summer arctic ice concentrations and characteristics from SAR and SSM/I data. Comiso, J.C., et al, [1993, p.367-372, eng] 47-4441
Preprints. [1991, 528p. + joint papers, eng] 47-4480
Faint young sun paradox: climate mode' with sea-ice. Molnar, G.I., et al, [1991, p.135-138, eng] 47-4482
Model simulation of changes in arctic sea ice thickness, 1960-1989. Walsh, J.E., et al, [1991, p.346-349, eng] 47-4487
Recent climate variability in the Antarctic Peninsula. King, J.C., [1991, p.354-357, eng] 47-4489
Atmospheric circulation and sea-ice cover off northeast Canada. Wang, J., et al, [1991, p.358-361, eng] 47-4490
Simultaneous winter sea ice and atmospheric circulation anomaly patterns. Agnew, T., [1991, p.362-365, eng] 47-4491
Atmospheric forcings on albedo over arctic sea ice. Serreze, M.C., et al, [1991, p.396-399, eng] 47-4493
Ocean circulation. Niiler, P.P., [1992, p.117-148, eng] 47-4498
Sea ice models. Hibler, W.D., III, et al, [1992, p.413-436, eng] 47-4499
East antarctic sea ice: albedo, thickness distribution, and snow cover. Allison, I., et al, [1993, p.12,417-12,429, eng] 47-4519
Detectability of arctic leads using thermal imagery under varying atmospheric conditions. Stone, R.S., et al, [1993, p.12,469-12,482, eng] 47-4523
Review of GEOSAT data over Canadian east coast waters. Topliss, B.J., et al, [1993, p.117-130, eng] 47-4590
Report of the International Ice Patrol in the North Atlantic, 1992 season. [1992, 45p., eng] 47-4603
Monthly mean sea ice data from ice prediction models. Posey, P.G., et al, [1993, 6p. + append., eng] 47-4620
Radar backscatter measurements from arctic sea ice during the fall freeze-up. Beaven, S.G., et al, [1993, 66p., eng] 47-4621
Comparison of conventional and passive microwave sea ice data sets for Hudson Bay. Etkin, D.A., [1991, 132p., eng] 47-4668
Wave induced noise generation in the marginal ice zone. Rottier, P., [1993, p.611-624, eng] 47-4840
Forecasters handbook for the Bering Sea, Aleutian Islands, and Gulf of Alaska. Fett, R.W., et al, [1993, Var. p., eng] 47-4886
Observation of flooded ice in arctic regions. Goroch, A.K., et al, [1993, p.1305-1324, eng] 47-4905
Tidal motions derived from ice buoy data. Turet, P., et al, [1993, 63p., eng] 47-4908
Sea ice off the Icelandic coasts—October 1990-September 1991. [1992, 39p., ice] 47-4909
Ice conditions offshore West Greenland. Thomsen, H.H., [1993, p.43-47, eng] 47-4916
Classification of the maximum annual Baltic Sea ice cover extent—1720-1992. Seinä, A., et al, [1993, p.5-20, fin] 47-4995
Antarctic sea ice mapping using the AVHRR. Zibordi, G., et al, [1993, p.155-163, eng] 47-5060
Navigation in the Weddell and Bellingshausen seas. Federici, V.M., et al, [1993, p.274-299, eng] 47-5116
Antarctic drifting sea ice atlas for areas restricted from 0 to 90 west longitude. Faccini, E.E., et al, [1993, p.310-317, eng] 47-5118
Sea ice edge forecast verification program for the Bering Sea. Wohl, G.M., [1991, p.6-12, eng] 47-5260
Advances in sea-ice research based on remotely sensed passive microwave data. Barry, R.G., et al, [1993, p.4-12, eng] 47-5271

Sea level

Relation between coastal boundary current and sea level. Part 1. The Soya warm current. Tsurubayashi, T., et al, [1992, p.47-50, jpn] 47-114
Seasonal sea-level variation at Syowa Station. Kawamiya, M., et al, [1992, p.165-169, eng] 47-135
Sea level variations in the southern part of the Okhotsk Sea. Shevchenko, G.V., et al, [1992, p.326-328, eng] 47-159
Extreme sea levels at Sakhalin. Shevchenko, G.V., et al, [1992, p.329-333, eng] 47-160
Multiple glaciations and sea level changes, northern Ellesmere Island, high arctic Canada. Lemmen, D.S., et al, [1992, p.137-152, eng] 47-225
Investigation of evolution of the Arctic shelf cryolithozone by mathematical simulation. Sigunov, I.U.A., et al, [1992, p.13-19, eng] 47-244
Global warming and sea level rise—discussions and report from IPCC workshop. Higashi, A., [1991, p.58-65, jpn] 47-407
Is the antarctic ice sheet growing. Jacobs, S.S., [1992, p.29-33, eng] 47-1072
Melting of ice shelves and the mass balance of Antarctica. Jacobs, S.S., et al, [1992, p.375-387, eng] 47-1389
Influence of glacier hydrology on the dynamics of a large Quaternary ice sheet. Arnold, N., et al, [1992, p.109-124, eng] 47-1559
Postglacial emergence in the Canadian High Arctic: integrating glacioisostasy, eustasy, and late deglaciation. England, J., [1992, p.984-999, eng] 47-1796
Icy prospects for a warmer world. Davidson, G., [1992, p.23-26, eng] 47-1946
Sea level variations during ice-covered periods in the Baltic Sea. Omstedt, A., et al, [1991, p.41-61, eng] 47-1992
Late Neogene glacio-eustatic record. Ishman, S.E., et al, [1992, p.327-347, eng] 47-2047
Ice sheets and climate. Alley, R.B., [1989, p.41-45, eng] 47-2196
Marine transgressions and paleoclimatology in northern Alaska. Brigham-Grette, J., et al, [1992, p.74-89, eng] 47-3352
Proceedings. [1992, 344p., eng] 47-3555
Strength of the Nordic heat pump. Broecker, W.S., [1992, p.173-181, eng] 47-3557
Ice-core evidence for a Holocene meltwater cap. Fisher, D.A., [1992, p.267-293, eng] 47-3560
Probability method of forecasting surge level oscillations in the example of the East Siberian Sea. Andriushchenko, V.I., [1991, p.76-85, rus] 47-3693
Observations of postglacial uplift at Churchill, Manitoba. Tushingham, A.M., [1992, p.2418-2425, eng] 47-3716
Morphosedimentological dynamics and coastal evolution in the Kongsfjorden area, Spitsbergen. Héquette, A., [1992, p.321-328, eng] 47-4076
On the extent and thickness of the Innuitian Ice Sheet: a postglacial-adjustment approach. Tushingham, A.M., [1991, p.231-239, eng] 47-4160
Paleoecology of peats from the Chukchi Sea shelf region. Elias, S.A., et al, [1992, p.371-378, eng] 47-4408
Oceanic boundary layer in the tropics during the last ice age. Betts, A.K., et al, [1991, p.480-483, eng] 47-4494
Comparison of VLBI data with the ICE-3G glacial rebound model. James, T.S., et al, [1993, p.871-874, eng] 47-4631
Airborne measurement of absolute sea-surface heights. Brozena, J.M., et al, [1993, p.875-878, eng] 47-4632
Paleoclimatic implications of Alaskan coastal marine deposits. Kaufman, D.S., et al, [1993, p.21-33, eng] 47-4733
Ice sheets: growing or shrinking. Van der Veen, C.J., [1993, p.5-9, eng] 47-4740
Pre-Holocene marine limit on Hopen, Svalbard. Zale, R., et al, [1993, p.159-164, eng] 47-4853
Neoglacial change of ice cover and the related response of the Earth's crust in West Greenland. Weidick, A., [1993, p.121-126, eng] 47-4921
Modeled variations of precipitation over the Greenland ice sheet. Bromwich, D.H., et al, [1993, p.1253-1268, eng] 47-5210
First annual West Antarctic ice sheet (WAIS) science workshop. Bindschadler, R.A., ed, [1993, 58p., eng] 47-5245

Sea spray

Topside icing probabilities for naval combatants in the Bering Sea. Thomas, W.L., III, [1992, p.51-63, eng] 47-1018
Simulating marine icing conditions in the refrigerated marine icing wind tunnel. Lozowski, E.P., et al, [1991, 85p. + append., eng] 47-1370
Ship superstructure icing: data collection and instrument performance on USCGC *Midgett* research cruise. Ryerson, C.C., et al, [1992, 133p., eng] 47-2924
Icing of turbine intake louvers. Walsh, M.R., et al, [1993, 37p., eng] 47-4095

Sea states

Finite-floe wave reflection and transmission coefficients from a semi-infinite model. Meylan, M., et al, [1993, p.12,537-12,542, eng] 47-4524
Review of GEOSAT data over Canadian east coast waters. Topliss, B.J., et al, [1993, p.117-130, eng] 47-4590

Sea transportation

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Sea water

Microorganism survival in ice-covered marine environment. Stanley, S.J., et al, [1992, p.58-72, eng] 47-2
ARCTIC '91: The Expedition ARK-VIII/3 of RV *Polarstern* in 1991. Futterer, D.K., ed, [1992, 267p., eng] 47-40
Radiation and eddy flux experiment 1991 (REFLEX I). Hartmann, J., et al, [1992, 72p., eng] 47-41
Suspended mesopelagic barite in the southern ocean. Dehairs, F., et al, [1992, p.1332-1335, eng] 47-873
Effect of severe storms on the ice cover of the northern Tatarskiy Strait. Martin, S., et al, [1992, p.17,753-17,764, eng] 47-1064
Distribution of aluminium in the Greenland Sea and its relationship to ventilation processes. Measures, C.I., et al, [1992, p.17,787-17,800, eng] 47-1065
Analysis of the estimates of mean climatological rate of the bottom and deep water renewal. Popov, A.V., [1990, p.94-97, eng] 47-1230
Tracing upper waters of the Nansen Basin in the Arctic Ocean. Anderson, L.G., et al, [1992, p.S425-S433, eng] 47-1272
Halocarbon ratio and tritium/He-3 dating of water masses in the Nansen Basin, Arctic Ocean. Wallace, D.W.R., et al, [1992, p.S435-S458, eng] 47-1273
Marine bacterioplankton at the Weddell Sea ice edge. Delille, D., [1992, p.205-210, eng] 47-1327
Spring phytoplankton in relation to sea ice, hydrography and nutrients in Weddell Sea. Bianchi, F., et al, [1992, p.225-235, eng] 47-1328
Phytoplankton communities. Bianchi, F., et al, [1991, p.84-91, eng] 47-1630
Determinations of methyl iodide in the antarctic atmosphere and the south polar sea. Reifenhäuser, W., et al, [1992, p.2905-2912, eng] 47-1948
Metals in water, ice, and biological material from Spitsbergen. Drbal, K., et al, [1992, p.99-101, eng] 47-2355
Carbonate chemistry of the wintertime Bering Sea marginal ice zone. Chen, C.T.A., [1993, p.67-87, eng] 47-2632
Effect of cabbeling in the mixing of sea water and its seasonal manifestation on the Pacific Ocean Subarctic Front. Kil'matov, T.R., et al, [1991, p.628-631, eng] 47-2898
Okhotsk Sea water anomaly: implications for ventilation in the North Pacific. Talley, L.D., [1991, p.S171-S190, eng] 47-2909
Hydrography under fast ice in Lützow-Holm Bay. Takizawa, T., et al, [1992, p.106-125, eng] 47-3011
Electrochemical characteristics of aluminum galvanic anodes in an arctic seawater. Tamada, A., et al, [1993, p.261-277, eng] 47-3176
Sea surface temperature of the southern ocean in iceberg regions. Popov, I.K., [1992, p.181-183, rus] 47-3337
Bromoalkane production by antarctic ice algae. Sturges, W.T., et al, [1993, p.120-126, eng] 47-3533
Fractionation of sea salt and acids during transport across an antarctic ice shelf. Mulvaney, R., et al, [1993, p.179-187, eng] 47-3535
Rare earth elements in the Arctic Ocean. Westerlund, S., et al, [1992, p.1613-1626, eng] 47-3537
Reconstruction of paleoclimatic sea surface salinity. Duplessy, J.-C., et al, [1992, p.201-217, eng] 47-3559
Space and time regularities in the thermal state of waters in the northern European basin. Romantsov, V.A., et al, [1991, p.24-43, rus] 47-3956
Deep and bottom waters of the Greenland Sea—formation and transformation processes. Popov, A.V., [1991, p.44-55, rus] 47-3957
Large-scale variations in the thermal regime of the Norwegian Sea during 1959-1984. Shevchenko, A.V., [1991, p.56-65, rus] 47-3958
Large-scale changes in the temperature field of the surface layer of water in the North Atlantic and the Norwegian Sea. Seriakov, E.I., [1991, p.98-109, rus] 47-3961
Forecasting the temperature of water in the Norwegian Sea. Zhevnovatyi, V.T., et al, [1991, p.110-120, rus] 47-3962
Sea ice bacteria between Elephant I. and the South Orkneys. Zdanowski, M.K., et al, [1993, p.245-254, eng] 47-4394
Ice formation in sea water through turbulent exchange. Zatsepin, A.G., et al, [1992, p.38-42, eng] 47-4563
Expedition ANTARKTIS X/3 of RV *Polarstern* in 1992. Spindler, M., ed, [1993, p.1-122, eng] 47-4879
When ice melts in sea water: a review. Gade, H.G., [1993, p.139-165, eng] 47-4914
Thermal effects of marine water mixing with different temperatures and salinities. Zatsepin, A.G., et al, [1991, p.72-76, eng] 47-4927
Frontal zones of the Barents Sea. Chvilev, S.V., [1991, p.89-95, eng] 47-4928
Estimated inventory of radionuclides in former Soviet Union naval reactors dumped in the Kara Sea. Mount, M.E., et al, [1993, p.105-118, eng] 47-5024
Cs-137 contamination of sea water surrounding the "Komsomoletz" nuclear submarine. Neidanov, G., [1993, p.119-133, eng] 47-5025
Behavior of artificial radionuclides in seawater. Khodakovskii, I.L., et al, [1993, p.213-223, eng] 47-5032
Marine humic acids in Bering and Chukchi sea ecosystems. Perminova, I.V., et al, [1993, p.43-49, eng] 47-5227

Sea water brines

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Sea water freezing
Field survey of freezing in ports. Yamamoto, Y., et al. [1992, p.81-85, jpn] 47-120
Suspension freezing of bottom sediment in the Northwest Passage. Reimnitz, E., et al. [1992, p.693-703, eng] 47-379
Estimate of sea ice freezing. Mizuno, Y., et al. [1992, p.147-154, eng] 47-1025
Marine ice transfer along the bottom of a small ice shelf. Souchez, R., et al. [1991, p.503-506, eng] 47-1793
Physical properties of sea ice relevant to remote sensing. Tucker, W.B., et al. [1992, p.9-28, eng] 47-3016
Laboratory investigations of the electromagnetic properties of artificial sea ice. Swift, C.T., et al. [1992, p.177-200, eng] 47-3023
Foundation improvement by artificial freezing. Spalding, A.V., et al. [1988, 6 col., eng] 47-3769
Green iceberg formation on antarctic ice shelf bases. Warren, S.G., et al. [1993, p.6921-6928, eng] 47-4138
Sea ice models. Hibler, W.D., III, et al. [1992, p.413-436, eng] 47-4499
High latitude ocean convection. Rudels, B., [1993, p.323-356, eng] 47-4843
Sea waves
See also: Ocean waves
Sealing
State-of-the-art survey of flexible pavement crack sealing procedures in the United States. Eaton, R.A., et al. [1992, 19p., eng] 47-707
Silicone emulsion having improved freeze/thaw resistance. Bakken, K.L., [1987, 8 col., eng] 47-3851
Seasonal ablation
Variation of perennial snow patch "Hamaguri-yuki" from 1967 to 1991. Ohata, T., et al. [1993, 43p., eng] 47-3906
Seasonal freeze thaw
Seasonal soil strength by spectral analysis of surface waves. Alkire, B.D., [1992, p.22-38, eng] 47-517
Monitoring of environmental conditions in the Alaskan forests using ERS-1 SAR data. Rignot, E.J., et al. [1992, p.530-532, eng] 47-649
Seasonal soil loss and erodibility variation on a Miamian silt loam soil. Bajracharya, R.M., et al. [1992, p.1560-1565, eng] 47-1184
Sublimational drainage of frozen soils in Zabaikalye. Zhelezniak, I.I., et al. [1992, p.122-126, eng] 47-1716
Heat circulation in soil under North conditions. Pavlov, A.V., [1992, p.168-173, eng] 47-1723
Heat energetics of cryopedogenesis. Kulikov, A.I., et al. [1992, p.173-177, eng] 47-1724
Gas-geochemical processes as a result of soil seasonal freezing and thawing in the cryolithozone. Glotov, V.E., [1992, p.216-220, eng] 47-1732
Hummocks and hummocky landscapes as indicators of the natural conditions of Tien Shan. Tarakanov, A.G., [1991, p.112-118, rus] 47-2042
Characteristics of the seasonal thawing of permafrost in Mongolia. Babinski, Z., et al. [1991, p.223-229, eng] 47-2569
Role of permafrost and seasonal frost in the hydrology of northern wetlands in North America. Woo, M.K., et al. [1993, p.5-31, eng] 47-2634
Cryogenic phenomena on the banks of the Angara water reservoirs. Shul'gin, M.V., et al. [1992, p.99-102, rus] 47-3270
Episodic fluxes of methane from subarctic fens. Windsor, J., et al. [1992, p.441-452, eng] 47-3717
Rock of ages. Harrison, S., [1992, p.1-4, eng] 47-3861
Effects of a straw mulch on the thermal conditions in soil after snow-cover loss. Gusev, E.M., et al. [1993, p.12-23, eng] 47-4012
Ground temperature variations in a subarctic mountain valley, Abisko, northern Sweden. Josefsson, M., [1990, p.179-190, eng] 47-4312
Regularities in the vertical-zonal distribution of seasonally frozen taiga soils in the Lake Baykal basin. Tsybzhitov, Ts.Kh., et al. [1991, p.109-115, rus] 47-4819
Frost-susceptible soils as foundations of structures. Orlov, V.O., et al. [1992, 166p., rus] 47-4977
See also: Freeze thaw cycles
Seasonal thaw layer
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Seasonal variations
Some observations on the seasonal snow cover. Rao, N.M., [1985, p.65-78, eng] 47-525
Density of snow and its variations in central and western Himalaya. Rangachary, N., et al. [1985, p.84-97, eng] 47-527
Seasonal soil loss and erodibility variation on a Miamian silt loam soil. Bajracharya, R.M., et al. [1992, p.1560-1565, eng] 47-1184
Seasonal variations of ozone trends. Entzian, G., et al. [1990, p.(10)265-(10)268, eng] 47-1283
Winter ice on the German coast between the Ems and Oder Rivers, 1991/92. Koslowski, G., [1992, p.153-155, ger] 47-2010
Seasonal cycle of nitrogen oxides in the arctic troposphere at Barrow, Alaska. Honrath, R.E., Jr., et al. [1992, p.20,615-20,630, eng] 47-2054
1991 ozone hole. Clarkson, T.S., et al. [1992, p.303-309, eng] 47-2165
Interannual variability of wintertime snow cover across the Northern Hemisphere. Gutzler, D.S., et al. [1992, p.1441-1447, eng] 47-2178
Russian iceberg observations in the Barents Sea, 1933-1990. Abramov, V.A., [1992, p.93-97, eng] 47-2354
Present-day antarctic climatology of the NCAR Community Climate Model Version 1. Tzeng, R.Y., et al. [1993, p.205-226, eng] 47-2707
Hail occurrences in India. Nizamuddin, S., [1993, p.90-92, eng] 47-2709
Snow: a skimpy year. Ludlum, D.M., [1993, p.38-41, eng] 47-2765
Temperature extremes. Hickcox, D.H., [1993, p.42-46, eng] 47-2766
Surface ozone concentrations in Antarctica. Gruzdev, A.N., et al. [1992, p.41-47, eng] 47-2847
Effect of cabbeling in the mixing of sea water and its seasonal manifestation on the Pacific Ocean Subarctic Front. Kil'matov, T.R., et al. [1991, p.628-631, eng] 47-2898
Meteorological observations at King Sejong Station. Lee, B.Y., et al. [1992, p.1-16, kor] 47-2926
Moisture budget in the antarctic atmosphere. Yamazaki, K., [1992, p.36-45, eng] 47-3003
Chemical components of snow from Queen Maud Land. Kamiyama, K., et al. [1992, p.88-98, eng] 47-3009
Total organic carbon and polar organic compounds in ice core from Greenland. Kawamura, K., et al. [1992, p.99-105, eng] 47-3010
Analysis of sea ice compactness by image processing. Muramoto, K., et al. [1992, p.126-131, eng] 47-3012
Antarctic atmospheric conditions and sea ice interannual variations. Enomoto, H., et al. [1992, p.132-142, eng] 47-3013
Southern ocean sea-ice distributions and extents. Parkinson, C.L., [1992, p.243-250, eng] 47-3144
Internal drainage system of a valley glacier. Hock, R., et al. [1993, p.537-546, eng] 47-3173
Remote sensing of sea ice geophysical variations. Barber, D.G., et al. [1992, p.233-251, eng] 47-3320
Performance and phenology of alpine herbs along a snow-melting gradient. Kudo, G., [1992, p.297-304, eng] 47-3340
Vertical radar precipitation study at Showa Station. Wada, M., et al. [1992, p.341-349, eng] 47-3362
Seasonal changes in the radiation balance of subarctic forest and tundra. Lafleur, P.M., et al. [1993, p.32-36, eng] 47-3425
Hydrometeorological and ice conditions in the arctic seas of the USSR during 1990-1991. Siniurin, IU.N., [1992, p.93-96, eng] 47-3459
Remote sensing of phytoplankton chlorophyll concentrations. Yoder, J.A., et al. [1993, p.181-193, eng] 47-3462
Insolation effects on last interglacial climate. Kutzbach, J.E., et al. [1991, p.223-229, eng] 47-3492
Intensity of changes in the areas of ice massifs in the East Siberian Sea during summer. IUlin, A.V., [1990, p.25-34, rus] 47-3586
Hydrometeorological conditions characteristic of separated and connected Severnaya Zemlya and Kara Sea ice massifs. Egorov, A.G., [1990, p.35-41, rus] 47-3587
One method of analyzing the interdependence of short time series. Chepurina, M.A., [1990, p.77-83, rus] 47-3591
Seasonal variations in dissolved inorganic nitrogen utilization in a subarctic Alaskan lake. Gu, B.H., et al. [1993, p.273-288, eng] 47-3647
Quantitative characteristics of mid-latitude air exchange during basic types of transformations. Sel'tser, P.A., [1989, p.76-87, rus] 47-3659
Problem of water circulation in the Kara Sea. Doronin, N.IU., et al. [1991, p.34-41, rus] 47-3688
Episodic fluxes of methane from subarctic fens. Windsor, J., et al. [1992, p.441-452, eng] 47-3717
Space and time regularities in the thermal state of waters in the northern European basin. Romantsov, V.A., et al. [1991, p.24-43, rus] 47-3956
Changes of characteristics of arctic sea ice in case of a doubling of carbon dioxide. Kolomeev, M.P., et al. [1992, p.34-40, eng] 47-3991
Simulated antarctic fast ice ecosystem. Arrigo, K.R., et al. [1993, p.6929-6946, eng] 47-4139
Hydrology of a prairie slough. Woo, M.K., et al. [1993, p.175-207, eng] 47-4170
Thermodynamic model of ice-atmosphere interactions. Ebert, E.E., et al. [1993, p.10,085-10,109, eng] 47-4378
Nitrogen uptake and new production in the Greenland Sea: the spring *Phaeocystis* bloom. Smith, W.O., Jr., [1993, p.4681-4688, eng] 47-4390
Physical hydrology of the dry valley lakes. Chinn, T.J., [1993, p.1-51, eng] 47-4395
Perennial ice covers and their influence on antarctic lake ecosystems. Wharton, R.A., Jr., et al. [1993, p.53-70, eng] 47-4396
Monitoring of the Greenland ice sheet using ERS-1 synthetic aperture imagery. Bindschadler, R.A., et al. [1993, p.253-257, eng] 47-4421
Sea ice radar signatures from ERS-1 SAR during late summer and fall in the Beaufort and Chukchi Seas. Holt, B., et al. [1993, p.339-342, eng] 47-4436
Sea ice-ocean interaction. Lemke, P., [1987, p.439-451, eng] 47-4457
PIXE analysis as a tool for dating of ice cores from the Greenland ice sheet. Hansson, H.C., et al. [1993, p.428-434, eng] 47-4592
Effects of lime-sludge discharge on an arctic river. Tumeo, M.A., [1992, p.1083-1094, eng] 47-4626
Statistical analysis of soil temperature on Spitsbergen. Mietus, M., [1992, p.103-112, eng] 47-4650
Theoretical and experimental studies of snow covers' microwave emissivity. Boyarskii, D.A., et al. [1993, p.959-970, eng] 47-4828
Freezing tolerance of an arctic/subarctic cushion plant. Junttila, O., et al. [1993, p.423-426, eng] 47-4911
Large-scale statistical structure of antarctic temperature fields. Liubarskii, A.N., [1992, p.18-25, rus] 47-4922
Seasonal evolution of reactive chlorine in the Northern Hemisphere stratosphere. Toohey, D.W., et al. [1993, p.1134-1136, eng] 47-5134
Ozone and aerosol changes during the 1991-1992 Airborne Arctic Stratospheric Expedition. Browell, E.V., et al. [1993, p.1155-1158, eng] 47-5140
Seasonal variability of hydraulic conductivity. Asare, S.N., et al. [1993, p.451-457, eng] 47-5146
Effects of forest cover on a snowpack in the Sierra Nevada. Kattelmann, R., [1990, p.276-284, eng] 47-5219
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Growth of the Müller Ice Shelf during the Little Ice Age. Stein, A.B., [1992, 56p., eng] 47-71
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High porosity of basal till at Burroughs glacier, southeastern Alaska. Ronnert, L., et al. [1992, p.849-852, eng] 47-246
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Rock glaciers II: models and mechanisms. Whalley, W.B., et al. [1992, p.127-186, eng] 47-423
Periglacial and eolian processes in southern France. Ambert, P., et al. [1992, p.55-71, fre] 47-778
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Flood generation and destruction of "Drift" Glacier by the 1989-90 eruption of Redoubt Volcano, Alaska. Trabant, D.C., et al. [1992, p.33-38, eng] 47-1083
Study of ice-covered bend flow. Tsai, W.F., [1991, 207p., eng] 47-1314
Water and sediment export of the upper Kuparuk River drainage of the North Slope of Alaska. Kriet, K., et al. [1992, p.71-81, eng] 47-1605
Monitoring grain size of suspended sediments in rivers. Bogen, J., [1992, p.183-190, eng] 47-1813
Temporal variability of suspended sediment flux from a subarctic glacial river, southern Iceland. Lawler, D.M., et al. [1992, p.233-243, eng] 47-1815
Unusual case: backpack moves through a glacier. Ambach, W., et al. [1992, p.219-220, eng] 47-1904
Glaciofluvial sediment transfer of a subpolar glacier, Erikbreen, Svalbard. Vatne, G., et al. [1992, p.253-266, eng] 47-2121
Cryoturbations: a sediment structural analysis. Vandenberghe, J., [1992, p.343-352, eng] 47-2241
Beach profile modification and sediment transport by ice: an overlooked process on Lake Michigan. Barnes, P.W., et al. [1993, p.65-86, eng] 47-2633
Interaction of frazil with suspended particles. Reimnitz, E., et al. [1993, p.117-135, eng] 47-2645
Interactions of frazil and anchor ice with sedimentary particles in a flume. Kempema, E.W., et al. [1993, p.137-149, eng] 47-2646
Characteristics of the bed of the lower Columbia Glacier, Alaska. Humphrey, N.F., et al. [1993, p.837-846, eng] 47-2660
Runoff and sediment transport in an Iceland periglacial region. Kiel, A., [1989, 128p., ger] 47-2706
Potential climate-change effects on bed-material entrainment, the Gunnison Gorge, Colorado. Elliot, J.G., et al. [1992, p.751-759, eng] 47-2750
Suspended sediment character and distribution in McBeth Fiord, Baffin Island. Winters, G.V., et al. [1992, p.25-35, eng] 47-3351
Glaciomarine sediment indicators of Weddell Sea depositional processes. Kuhn, G., et al. [1993, p.477-487, eng] 47-3644
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Sediment dynamics in the St. Lawrence estuary. Drapeau, G., [1992, p.233-242, fre] 47-3791

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Late Wisconsin subglacial megaflood paths in Alberta. Rains, B., et al, (1993, p.323-326, eng) 47-4594
Sediment export by ice rafting from a coastal polynya, arctic Alaska, U.S.A. Reimnitz, E., et al, (1993, p.83-98, eng) 47-4741
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Debris flow in Canadian continuous permafrost area. Harris, S.A., et al, (1993, p.41-56, eng) 47-4984
Saltating particles over flat beds. Nalpanis, P., et al, (1993, p.661-685, eng) 47-5195
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Stratigraphy of Quaternary sediments in the Arctic Ocean. Nowaczyk, N.R., et al, (1992, p.S567-S601, eng) 47-1279
Sedimentology of glaciolacustrine deposits *from an ice-dammed tributary.* Fitzsimons, S.J., (1992, p.393-410, eng) 47-1551
Development of an ice-dammed lake: the contemporary and older sedimentary record. Johnson, P.G., et al, (1992, p.304-313, eng) 47-1587
Silicon budget for an Alaskan arctic lake. Cornwell, J.C., et al, (1992, p.37-44, eng) 47-1602
Biogeochemistry of manganese- and iron-rich sediments in Toolik Lake, Alaska. Cornwell, J.C., et al, (1992, p.45-59, eng) 47-1603
Influence of light and nutrient addition upon the sediment *chemistry of iron in an arctic lake.* Sugai, S.F., et al, (1992, p.91-101, eng) 47-1606
Southern Lake Michigan coastal ice and sediment sample data: shoreface and ice profiles (winter 1990/91). McCormick, M., et al, (1991, 32p., eng) 47-1916
Comparison between the collection efficiency of aerosol particles by water drops and ice crystals. Wang, P.K., (1991, p.87-96, eng) 47-2210
Origin of dust in polar regions. Gillette, D.A., (1991, p.1719-1732, eng) 47-2221
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Antarctic glacial-marine sedimentation. Anderson, J.B., (1993, p.1-88, eng) 47-4824

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ARCTIC '91: The Expedition ARK-VIII/3 of RV *Polarstern* in 1991. Fütterer, D.K., ed, (1992, 267p., eng) 47-40
Cryogenic structure and properties of technogenic soils of placer mines in Northern Yakutia. Samylin, I.A., et al, (1991, p.76-87, rus) 47-401
Defining the boundaries of the Late-Glacial isotope episodes. Broecker, W.S., (1992, p.135-138, eng) 47-986
1991 cruise report of ARKTIS VIII/2. Rachor, E., ed, (1992, 150p., eng) 47-1218
Methane in permafrost sediments on the Kolyma-Indigirka lowland. Rivkina, E.M., et al, (1992, p.559-562, rus) 47-1497
Sulfate-reducing bacteria in constant-frozen soils. Vainshtein, M.B., et al, (1992, p.243-247, eng) 47-1738
Hydrocarbon pollution in Arthur Harbor subtidal *sediments.* Kennicutt, M.C., II, et al, (1992, p.499-506, eng) 47-1931
Experimental study of the influence of mixing silt on ice creep. Li, G., et al, (1992, p.1827-1830, eng) 47-1952
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Sedimentary source-rock potential from the Sverdrup basin, arctic Canada. Gentzis, T., et al, (1993, p.33-54, eng) 47-2596
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Sediments from the Kerguelen Plateau and the Norwegian Sea. Pittenger, H.A., (1992, 163p., eng) 47-2893
Glacimarine sediments on Axel Heiberg I. Gilbert, R., et al, (1993, p.257-273, eng) 47-3103
Surface-sediment diatom assemblages from the George V Coast. Leventer, A., (1991, p.120-122, eng) 47-3518
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East Siberian Arctic Region Expedition '92: the Laptev Sea—its significance for arctic sea-ice formation and transpolar sediment flux. Dethleff, D., et al, (1993, p.3-44, eng) 47-4220
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Non-destructive high resolution density measurements of marine sediments. Gerland, S., (1993, 130p., ger) 47-4222
Boulder ring structures produced during jökulhlaup flows. Maizels, J., (1992, p.21-33, eng) 47-4320
Pediments and cold-climate conditions, Barn Mountains, unglaciated northern Yukon, Canada. French, H.M., et al, (1992, p.145-157, eng) 47-4324
Geochemistry of the McMurdo Dry Valleys lakes. Matsumoto, G.I., (1993, p.95-118, eng) 47-4399
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Expedition to Novaja Zemlja and Franz Josef Land with RV *Dalnie Zelentsy.* Nürnberg, D., et al, (1993, p.45-74, eng) 47-4878
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Modulation of the diurnal streamflow response by the seasonal snowcover of an alpine basin. Caine, N., (1992, p.245-260, eng) 47-175
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Characteristics of the operation of seepage tanks during winter. Golovin, V.L., et al, (1988, p.136-143, rus) 47-978
Temperature and suction profiles beneath highway pavements: computed and measured. Pufahl, D.E., et al, (1991, p.268-276, eng) 47-1126
Measurements of snow temperature during rain. Conway, H., et al, (1993, p.6-7, eng) 47-1888
Role of permafrost and seasonal frost in the hydrology of northern wetlands in North America. Woo, M.K., et al, (1993, p.5-31, eng) 47-2634
Subsurface drainage of pavement structures: current Corps of Engineers and industry practice. Allen, W.L., (1991, 31p., eng) 47-3339
Groundwater discharge in Boggy Creek catchment, Manitoba. Stephenson, M., et al, (1992, p.2640-2652, eng) 47-3714
Numerical computation of river ice jams. Beltaos, S., (1993, p.88-99, eng) 47-3720
Induced flow channels in a natural snowpack. Albert, M.R., et al, (1992, p.55-60, eng) 47-4033
Thermal equilibrium in porous media with concurrent flow *and freezing.* Tao, Y.X., et al, (1993, p.323-332, eng) 47-4065
Hydrology of a prairie slough. Woo, M.K., et al, (1993, p.175-207, eng) 47-4170
Hydrologic analysis and prediction in a soil cover. Woyshner, M.R., et al, (1993, p.289-296, eng) 47-4469

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Seismic reflection

Interpretation of seismic data collected on floating ice. Beaudoin, B.C., et al, (1992, p.1359-1372, eng) 47-984
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Seismic refraction

Short-offset seismic refraction results near Rothera Station, Antarctic Peninsula. King, E.C., et al, (1992, p.479-480, eng) 47-905

Seismic surveys

ARCTIC '91: The Expedition ARK-VIII/3 of RV *Polarstern* in 1991. Fütterer, D.K., ed, (1992, 267p., eng) 47-40
Interpretation of seismic data collected on floating ice. Beaudoin, B.C., et al, (1992, p.1359-1372, eng) 47-984
Active rock glaciers and the lower limit of discontinuous alpine permafrost, Khumbu Himalaya, Nepal. Jakob, M., (1992, p.253-256, eng) 47-1780
Seismic profiles of alpine glacial basins. Pugin, A., et al, (1992, p.491-502, eng) 47-1912
Siple Coast seismic and gravity studies. Bentley, C.R., et al, (1991, p.63-65, eng) 47-2465
Seismic characteristics of an airgun fired over snow. King, E.C., et al, (1993, p.201-207, eng) 47-2651
Seismic properties of artificial polar bear dens. Blix, A.S., et al, (1992, p.20-24, eng) 47-3350
Sea ice flexure noise attenuation during seismic surveys. Ostrander, W.J., (1986, 14 col., eng) 47-4260

Seismic velocity

Seasonal soil strength by spectral analysis of surface waves. Alkire, B.D., (1992, p.22-38, eng) 47-517
Short-offset seismic refraction results near Rothera Station, Antarctic Peninsula. King, E.C., et al, (1992, p.479-480, eng) 47-905
Determination of sea ice acoustical properties by tomography. Rajan, S.D., et al, (1993, p.721-738, eng) 47-3431

Seismology

Roof-snow load for seismic-design calculations. *O'Rourke, M.J., et al, (1992, p.2338-2350, eng)* 47-4
Why is Antarctica aseismic. Sadovskii, M.A., et al, (1992, p.54-58, eng) 47-415
Seismicity associated with icebergs calving from glaciers near Mawson, East Antarctica. Gault, B.A., et al, (1992, p.473-480, eng) 47-1883

See also: Earthquakes

Self diffusion

Surface melting of the (0001) face of TIP4P ice. Kroes, G.J., (1992, p.365-382, eng) 47-1189
Supercooled water self-diffusion related to hydrogen bond cooperativity. Lamanna, R., et al, (1992, p.R7367-R7370, eng) 47-1891
Dynamical criterion for freezing of colloidal liquids. Löwen, H., et al, (1993, p.1557-1560, eng) 47-4347
Diffusion of atomic hydrogen in ice-Ih. Bartels, D.M., et al, (1993, p.129-134, eng) 47-4855

Sensor mapping

Ice forecasting model helps operators extend arctic exploration periods. (1992, p.34, eng) 47-921

Sensor mapping *(cont.)*
Passive microwave remote sensing applied for snow monitoring in a Norwegian test site. Rognes, A., [1992, 60p., eng] 47-1811
River and lake ice conditions as interpreted from microwave imagery. Melloh, R.A., et al. [1992, p.381-395, eng] 47-1914
Mapping partial snowcover during the melt season using C-band SAR imagery. Donald, J.R., et al. [1993, p.68-76, eng] 47-3725
Analysis of synthetic aperture radar data collected over the southwestern Greenland ice sheet. Jezek, K.C., et al. [1993, p.119-132, eng] 47-3946
Finnish ERS-1 Baltic Sea ice experiment in winter 1992. Leppäranta, M., et al. [1993, p.307-312, eng] 47-4430
Antarctic sea ice mapping using the AVHRR. Zibordi, G., et al. [1993, p.155-163, eng] 47-5060

Sensors
Rapid Deployment Imagery Terminal (RDIT) using DMSP special sensor data. Harris, T.L., et al. [1992, p.202-211, eng] 47-1070

Sensors
Measuring negative pore water pressures in a freezing environment. Fredlund, D.G., et al. [1991, p.291-299, eng] 47-1127
Arctic ice stress measurements. Lau, P.A., et al. [1991, p.645-650, eng] 47-2183
Integrated semiconductor resistance temperature sensor and resistive heater. Sittler, F.C., et al. [1989, 10 col., eng] 47-3327
Photoelectric ice accumulation monitor using dual detectors. Rein, R.G., Jr., [1989, 16 col., eng] 47-3328
Apparatus for measuring the moisture content of snow particles. Suga, N., [1989, 6 col., eng] 47-3330
Optical techniques for the measurement of frazil ice. Pegau, W.S., et al. [1992, p.498-507, eng] 47-3734
Enhancement of microwave images of sea ice. Full, W.E., et al. [1993, p.1-23, eng] 47-3917
Thin profile snow, sleet and moisture sensing detector. Murphy, J.P., [1987, 10 col., eng] 47-4102
Instrument for measuring ice depth in aircraft fuel tanks. [1991, 36p., eng] 47-4404
Ice detector for protecting boats. Schuellein, G.J., [1991, 4 col., eng] 47-4915
Using physical methods to predict slippery road conditions. Hertl, S., et al. [1988, 72p., ger] 47-4990
Predicting wilderness snow water equivalent with nonwilderness snow sensors. McGurk, B.J., et al. [1993, p.85-94, eng] 47-4993
Ice detectors for aircraft. Horne, T.A., [1993, p.T-11,T-14, eng] 47-5002

Settlement (structural)
Finite element modelling of pressuremeter tests and footings on frozen soils. Puswewala, U.G.A., et al. [1992, p.351-375, eng] 47-196
Multifunctional combined foundations on permafrost soils. Nekliudov, V.S., et al. [1993, p.164-167, eng] 47-3576
Interfacial separator for concrete structures. Dahowski, D.E., [1988, 8 col., eng] 47-3640
See also: Frozen ground settling

Sewage
Distribution of enteric bacteria in antarctic seawater surrounding a sewage outfall. McFeters, G.A., et al. [1993, p.645-650, eng] 47-3678

Sewage disposal
Response of a subarctic lake chain to reduced sewage loading. Choulik, O., et al. [1992, p.1236-1245, eng] 47-1267
Lagoon sludge dewatering by natural freeze-thaw. Martel, C.J., et al. [1993, p.357-364, eng] 47-4477
See also: Waste disposal

Sewage treatment
Wetlands sewage treatment tested in the north. [1991, p.9-10, eng] 47-221
Proceedings. [1993, 2078p. (2 vols.), eng] 47-4465
Low-temperature performance of biological wastewater treatment systems. Viraraghavan, T., et al. [1993, p.297-302, eng] 47-4470
Freezing rate of sludge layers. Parker, P.J., et al. [1993, p.405-412, eng] 47-4478
Effects of thawing salts on biological sewage treatment plants. Washüttl, J., [1983, p.1-19, ger] 47-5000
See also: Aeration; Waste treatment

Shaft sinking
Shaft construction by raise boring through artificially frozen ground. Walsh, A.R., et al. [1991, p.705-719, eng] 47-993

Shafts (excavations)
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Shattering
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Shear flow
Gravity wave dynamics within the polar atmosphere. Wu, Y.F., et al. [1992, p.1781-1789, eng] 47-1474
Advances in micromechanics of granular materials. [1992, 461p., eng] 47-2125
Simulations of rapid bimodal granular flows. Nakagawa, M., et al. [1992, p.131-140, eng] 47-2127
Mean circulations of boundary-layer rolls in lake-effect snow storms. Kristovich, D.A.R., [1993, p.293-315, eng] 47-4350

Shear properties
Theoretical calving rates from glaciers along ice walls grounded in water of variable depths. Hughes, T., [1992, p.282-294, eng] 47-469
Micro-relief on a rock glacier, Dalton Range, Yukon, Canada. Johnson, P.G., [1992, p.41-47, eng] 47-3125

Shear rate
Internal waves and mixing in the Arctic Ocean. D'Asaro, E.A., et al. [1992, p.S459-S484, eng] 47-1274

Shear strain
Changes of crystal c-axis orientation fabric in uniaxial extension tests. Li, J., et al. [1992, p.29-35, chi] 47-72
Basal deformation of Ürümqi Glacier No.1, Tien Shan mountains, China. Jing, X.P., et al. [1992, p.123-126, eng] 47-1096
Combined creep and yield model of ice under multiaxial stress. Fish, A.M., [1993, p.130-138, eng] 47-4298

Shear strength
Comparison of thawing soil strength measurements for predicting vehicle performance. Shoop, S.A., [1992, 11p., eng] 47-1895

Shear stress
Case studies of the atmospheric boundary layer structure over sea ice for weakly unstable conditions. Myrhaug, D., [1992, p.93-99, eng] 47-266
Densification and stability of a seasonal snow pack. Agrawal, K.C., et al. [1985, p.99-111, eng] 47-528
Boundary element analysis of macrocracking of ice in a large test basin. Marcellus, R.W., et al. [1992, p.91-104, eng] 47-1021
Turbulent structure of wind flow over ice-covered sea surface. Naito, G., et al. [1992, p.283-294, eng] 47-1192
Comparison of thawing soil strength measurements for predicting vehicle performance. Shoop, S.A., [1992, 11p., eng] 47-1895
Creep law of rock ice with anisotropic fabric inferred from homogenization. Lliboutry, L.A., [1991, p.242-245, eng] 47-2314

Shelf ice
See also: Ice shelves

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Shelters
Field manual for the U.S. Antarctic Program. [1992, 207p., eng] 47-601
Expedition huts in Antarctica: 1899-1917. Pearson, M., [1992, p.261-276, eng] 47-703
See also: Portable shelters

Ship icing
Enclosed superstructures for light and sound buoys. *Cunningham*, R., [1991, 40p. + appends., eng] 47-438
Topside icing probabilities for naval combatants in the Bering Sea. Thomas, W.L., III, [1992, p.51-63, eng] 47-1018
Simulating marine icing conditions in the refrigerated marine icing wind tunnel. Lozowski, E.P., et al. [1991, 85p. + appends., eng] 47-1370
Estimating icing in the design of seagoing ships. Pavliuchenko, IU.N., [1992, p.9-11, rus] 47-2922
Ship superstructure icing: data collection and instrument *performance on USCGC Midgett research cruise.* Ryerson, C.C., et al. [1992, 133p., eng] 47-2924
Icing of turbine intake louvers. Walsh, M.R., et al. [1993, 37p., eng] 47-4095
Measurement of drop size and liquid water content in clouds. Bachalo, W.D., et al. [1988, 66p., eng] 47-4903

Ships
Igor Ilinskiy—multi-purpose arctic cargo ship. [1990, p.28, eng] 47-104
Full-scale trials on hull resistance and bow ice load in level ice on board the cutter *M.S. Uisko.* Kivimaa, S., [1992, p.169-180, eng] 47-1027
Ship operations in ice: practical speed considerations. Parnell, G.Q., [1992, p.307-312, eng] 47-1037
Extending the shipping season in the Canadian Arctic and prospects for the future. Sneyd, A.R., et al. [1992, p.351-365, eng] 47-1041
Local contact pressures in ship/ice and structure/ice *interactions.* Masterson, D.M., *et al.* [1993, p.169-185, eng] 47-2648
Probabilistic analysis of local ice pressures. Jordaan, I.J., et al. [1993, p.83-89, eng] 47-2668
Arctic supply ship *Ivan Papanin.* Nikonov, V., [1992, p.26-30, rus] 47-2915
Effect of the bow form of ships on ice-navigability. Titov, I.A., et al. [1992, p.6-8, rus] 47-2917
Additional resistance of ice-navigating ships to regular head waves. Savin, S.S., et al. [1992, p.9-12, rus] 47-2918
Analysis of the dynamic characteristics of the shaft line and main thrust bearing of the "Arctic" type icebreaker. Basalygin, G.M., et al. [1992, p.15-19, rus] 47-2919
Statistical studies of wear on the hull plating of ice-navigating ships. Shemendiuk, G.P., et al. [1992, p.28-31, rus] 47-2920
First ice-navigating ships for the Far East. Smirnov, K.D., [1992, p.49-51, rus] 47-2921
Estimating icing in the design of seagoing ships. Pavliuchenko, IU.N., [1992, p.9-11, rus] 47-2922
New Finnish-built icebreaker for the Soviet Union. Maclennan, G., [1988, p.182-183, eng] 47-2932
New class of arctic supply ship for the Soviet Union. [1988, p.141, eng] 47-2933
Nuclear lighter "Sevmorput". Smirnov, V., et al. [1990, p.22-23, rus] 47-4089
Variable pitch propellers for ice navigating ships. Ivanov, S., [1990, p.38-40, rus] 47-4091
Steel selection for arctic ships: effects of elevated loading rate on toughness. Tyson, W.R., et al. [1993, p.261-265, eng] 47-4830
Investigation of air containing propeller stream. Wang, S.L., et al. [1993, 4p., eng] 47-4863
Hydrodynamic pressure during propeller/ice interaction. Newbury, S., et al. [1993, 10p., eng] 47-4864
Flow over a propeller with ice blockage. Shih, L.Y., et al. [1993, 12p., eng] 47-4865
Ice detector for protecting boats. Schuellein, G.J., [1991, 4 col., eng] 47-4915
Performance of the Nathaniel B. Palmer in ice. Sutherland, A.L., et al. [1993, p.300-309, eng] 47-5117
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Shock waves
Evaluating the effect of a shock wave on snow cover. Delarov, D.A., et al. [1991, p.107-122, rus] 47-390
Shock response of snow: analysis of experimental methods and constitutive model development. Johnson, J.B., et al. [1992, 19p., eng] 47-705
Effects of temperature on an ISL-PVDF shock sensor between +20 C and -40 C. Solie, D.J., et al. [1992, p.891-892, eng] 47-1142
Shock wave studies of snow. Johnson, J.B., et al. [1992, p.107-110, et al] 47-1143
Anomalies of the shock compressibility of water. Bogdanov, G.E., et al. [1992, p.162-165, eng] 47-2458
Shock response of snow. Johnson, J.B., et al. [1993, p.4852-4861, eng] 47-3794

Shore erosion
Periglacial shoreline erosion of a rocky coast: George River estuary, northern *Quebec.* Fournier, A., et al. [1992, p.926-942, eng] 47-443
River ice and sediment transport during opening of navigation. Zabilansky, L.J., et al. [1992, 76p., eng] 47-1240
Bank recession of Lake Sakakawea, North Dakota. Reid, J.R., [1992, 67p., eng] 47-1324
Short and long term coastal changes along the U.S. Beaufort Sea. Miller, M.C., et al. [1992, p.600-607, eng] 47-1847
Southern Lake Michigan coastal ice and sediment sample data: shoreface and ice profiles (winter 1990/91). McCormick, M., et al. [1991, 32p., eng] 47-1916
Morphological and human changes of Swiss lakeshores. Huber, A., [1992, p.334-336, ger] 47-2202
Beach profile modification and sediment transport by ice: an overlooked process on Lake Michigan. Barnes, P.W., *et al.* [1993, p.65-86, eng] 47-2633
Edge waves and ice ride-up on shorelines. Murty, T.S., et al. [1988, p.429-434, eng] 47-3819
Early winter flooding along a subalpine river. Butler, D.R., et al. [1993, p.145-155, eng] 47-4369
Permafrost and Holocene shoreline regression in arctic Canada. Adams, J., [1993, 66p., eng] 47-4606

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Shoreline modification
Boulder beach formed by waves from a calving glacier, Eqip Sermia, West Greenland. Nielsen, N., [1992, p.159-168, eng] 47-226
Periglacial shoreline erosion of a rocky coast: George River estuary, northern Quebec. Fournier, A., et al. [1992, p.926-942, eng] 47-443
Short and long term coastal changes along the U.S. Beaufort Sea. Miller, M.C., et al. [1992, p.600-607, eng] 47-1847
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Shoreline shrub development in relation to isostatic rebound. von Mörs, I., et al. [1993, p.15-23, eng] 47-3423
Sediment dynamics in the St. Lawrence estuary. Drapeau, G., [1992, p.233-242, fre] 47-3791
Morphosedimentological dynamics and coastal evolution in the Kongsfjorden area, Spitsbergen. Héquette, A., [1992, p.321-328, eng] 47-4076
Deglaciation and shoreline displacement on Alexandra Land, Franz Josef Land. Glazovskii, A.F., et al. [1992, p.283-293, eng] 47-4340
Permafrost and Holocene shoreline regression in arctic Canada. Adams, J., [1993, 66p., eng] 47-4606

Sediment export by ice rafting from a coastal polynya, arctic Alaska, U.S.A. Reimnitz, E., et al. (1993, p.83-98, eng) 47-4741

Pre-Holocene marine limit on Hopen, Svalbard. Zale, R., et al. (1993, p.159-164, eng) 47-4853

Shores

Evolution of alassy in Central Yakutia. Bosikov, N.P., (1991, 127p., rus) 47-102

Winter ice on the German coast between the Ems and Oder Rivers, 1991/92. Koslowski, G., (1992, p.153-155, ger) 47-2010

Hydrographic characteristics of the Strokdammane Plain, west Spitsbergen, Svalbard. Akerman, H.J., (1992, p.169-182, eng) 47-4326

Paleoclimatic implications of Alaskan coastal marine deposits. Kaufman, D.S., et al. (1993, p.21-33, eng) 47-4733

See also: Banks (waterways); Beaches; Coastal topographic features; Littoral zone

Side looking radar

Test of airborne, side-looking synthetic aperture radar. Graham, D.F., et al. (1991, p.257-265, eng) 47-4161

Sidewalks

Sidewalk snow removal at the foot of the Rockies. Ruiz, J., (1992, p.49-50, eng) 47-1926

Study on sidewalk frost heave countermeasures (second report). Nohara, T., et al. (1992, p.149-154, jpn) 47-2515

Study on sidewalk frost heave countermeasures—studies under different environmental conditions. Nohara, T., et al. (1991, p.79-84, jpn) 47-2534

Development of simple-operation sidewalk snow removal equipment. Fukuta, N., et al. (1993, p.26-29, jpn) 47-4788

Improvement and development of sidewalk snow removal equipment at the Tohoku Regional Construction Bureau. Takahashi, K., et al. (1985, p.77-81, jpn) 47-5103

Study on providing pedestrian space in snowy regions. Nishiue, H., (1985, p.58-62, jpn) 47-5155

Silver iodide

Mechanistic studies of heterogeneous ice nucleation by AgI-AgCl and AgI-AgCl-4NaCl aerosols. DeMott, P.J., et al. (1992, p.263-266, eng) 47-2263

Ice nucleation studies on AgI-NaCl system. Radhakrishnan, T., et al. (1992, p.267-270, eng) 47-2264

Ice nucleation or ice crystal formation? An analysis of mechanisms. Pitter, R.L., et al. (1992, p.271-274, eng) 47-2265

Solubility increase of AgI nuclei intended for hail suppression. Reutova, T.V., et al. (1992, p.317-320, eng) 47-2276

Simulation of water-ice layers on a silver iodide substrate. Taylor, J.H., et al. (1993, p.9732-9741, eng) 47-3984

Silver iodide generators

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Simulation

Model of heterogeneous nucleation on polar stratospheric clouds. Nelson, C.M., et al. (1992, p.6112-6115, eng) 47-248

Stratospheric trace constituents, ozone and nitric acid. Hanson, D.R., (1989, 85p., eng) 47-350

Ice loads on vertical bridge pier at two different model scales. Christensen, F.T., et al. (1992, p.93-110, eng) 47-585

Aerosol and general atmospheric circulation models. Genthon, C., (1992, p.371-389, eng) 47-836

Possibility of an Arctic ozone hole in a doubled-CO2 climate. Austin, J., et al. (1992, p.221-225, eng) 47-907

Experimental study of the sublimation of water ice and the release of trapped gases. Hudson, R.L., et al. (1991, p.326-332, eng) 47-989

Spectroscopic studies of model polar stratospheric cloud films. Tolbert, M.A., et al. (1992, p.1303-1313, eng) 47-1172

Problems of runoff modeling which are particular to the area or climate being modeled. Dawdy, D.R., (1991, p.541-547, eng) 47-1382

Temperature evolution and vapour pressure build-up in porous ices. Kömle, N.I., et al. (1992, p.1311-1323, eng) 47-1468

Erratum: liquid water with an ab initio potential: X-ray and neutron scattering from 238 to 368 K. Corongiu, G., et al. (1992, p.8818, eng) 47-2049

Charge separation by ice and water drops during growth and evaporation. Dong, Y.Y., et al. (1992, p.20,361-20,371, eng) 47-2050

Ultraviolet-induced amorphization of cubic ice and its implications for the evolution of ice grains. Kouchi, A., et al. (1991, p.87-90, eng) 47-2111

Ice particle emission from cometary analogues. Kohl, H., et al. (1991, p.257-260, eng) 47-2112

Comparison of 3 micron features of trapped H2O and H2O frost in SiO condensate with observed dust features. Wada, S., et al. (1991, p.429-432, eng) 47-2114

Simulation of lidar depolarization by polar stratospheric clouds. Flesia, C., et al. (1992, p.359-365, eng) 47-2170

Freezing points of H2SO4 aqueous solutions and formation of polar stratospheric clouds. Ohtake, T., (1992, p.233-236, eng) 47-2256

Ice nucleus concentrations measured in a cloud chamber. Aksenov, M.IA., et al. (1992, p.241-243, eng) 47-2258

Laboratory studies of the ice-forming characteristics of natural aerosol models. Gorbunov, B.Z., et al. (1992, p.245-247, eng) 47-2259

Spot tests for the detection of nitrate and sulfate particles in ice crystals. Oraltay, R.G., et al. (1992, p.395-398, eng) 47-2279

Laboratory observational and theoretical studies of interstellar ices. Tielens, A.G.G.M., et al. (1991, p.29-58, eng) 47-2311

Multiyear surface climatology of a regional atmospheric model over the western United States. Giorgi, F., et al. (1993, p.75-95, eng) 47-2460

Snowdrift around buildings for antarctic environment. Kwok, K.C.S., et al. (1992, p.2797-2808, eng) 47-2643

Three-dimensional atmospheric circulation model with a comprehensive description of physical processes and simplified dynamics. Kislov, A.V., (1991, p.241-246, eng) 47-2895

Simulation of hexagonal ice molecular dynamics. Sciortino, F., et al. (1993, p.5694-5700, eng) 47-3155

Comment on porosities of ice films used to simulate stratospheric cloud surfaces. Keyser, L.F., et al. (1993, p.2800-2803, eng) 47-3178

Model tests of dynamic ice loading on the Chinese JZ-20-2 jacket platform. Timco, G.W., et al. (1992, p.819-832, eng) 47-3304

Bend ice jams: laboratory observations. Urroz, G.E., et al. (1992, p.855-864, eng) 47-3305

Uptake of HNO3 onto ice, NAT, and frozen sulfuric acid. Hanson, D.R., (1992, p.2063-2066, eng) 47-3319

Design of greenhouses for the manipulation of temperature in tundra plant communities. Debevec, E.M., et al. (1993, p.56-62, eng) 47-3429

Framework for interpreting paleoclimatic variations in eastern Beringia. Bartlein, P.J., et al. (1991, p.73-83, eng) 47-3481

General circulation models, palaeoclimatic data and last interglacial climates. Harrison, S.P., et al. (1991, p.231-242, eng) 47-3493

Ice crystals produced by expansion: experiments and application to aircraft-produced ice. Foster, T.C., et al. (1993, p.716-728, eng) 47-3509

Atlantic circulation simulation with sea ice interface model, pt.2. Oberhuber, J.M., (1993, p.830-845, eng) 47-3569

Thermodynamic stability of clathrate, pt.2. Tanaka, H., et al. (1993, p.8110-8118, eng) 47-3582

Identification and yield of carbonic acid and formaldehyde in irradiated ices. DelloRusso, N., et al. (1993, p.5505-5510, eng) 47-3650

Temperature dependence of crystalline methane refractive indices. Ngoh, M.A., et al. (1993, p.5511-5515, eng) 47-3651

Analysis of strong wind events simulated in a GCM near Casey in the Antarctic. Murphy, B.F., et al. (1993, p.522-534, eng) 47-3677

Sensitivity of streamflow simulation to changes in climatic inputs. Ng, H.Y.F., et al. (1992, p.257-272, eng) 47-3802

Modeling of trace species in the arctic stratosphere. Chipperfield, M.P., et al. (1993, p.7199-7218, eng) 47-3828

Glaciation and deglaciation mechanisms in a coupled two-dimensional climate—ice-sheet model. Berger, A., et al. (1993, p.45-49, eng) 47-3939

Regelation of ice through debris at glacier beds: *implications for sediment transport.* Iverson, N.R., (1993, p.559-562, eng) 47-3997

Laboratory simulations of PSC particle formation. Marti, J., et al. (1993, p.359-362, eng) 47-4141

Survey and new measurements of ice vapor pressure at temperatures between 170 and 250K. Marti, J., et al. (1993, p.363-366, eng) 47-4142

Experimental study and numerical solution of frost heaving in specific materials. Padilla, F., (1993, p.116-136, fre) 47-4277

Modelling of snowdrift around prismatic buildings for antarctic environment. Kim, D.H., et al. (1992, p.73-79, eng) 47-4281

Model study of cable-moored conical platform. Nixon, W.A., et al. (1993, p.12-31, eng) 47-4284

Katabatic flow thermodynamics of Adélie Coast. Pettré, P., et al. (1993, p.10,429-10,440, eng) 47-4292

Spectroscopic probe of model polar stratospheric cloud films. Koehler, B.G., et al. (1993, p.10,563-10,571, eng) 47-4294

Snowdrift around antarctic buildings—effects of corner geometry and wind incidence. Kwok, K.C.S., et al. (1993, p.61-65, eng) 47-4302

Ice accretion on energized line insulators. Farzaneh, M., et al. (1992, p.228-233, eng) 47-4307

Below-cloud scavenging of aerosol particles: particle-bound radionuclides—experimental. Sparmacher, H., et al. (1993, p.605-618, eng) 47-4349

Study of snow melting mechanism by solar radiative absorption material. Inaba, H., et al. (1992, p.715-726, eng) 47-4363

Brightness temperature of snow-covered saline ice. Lohanick, A.W., (1993, p.4667-4674, eng) 47-4388

Determination of dielectric constant of young sea ice using microwave spectral radiometry. St Germain, K.M., et al. (1993, p.4675-4679, eng) 47-4389

Simulation of extraterrestrial ammonia-water ice system. Yarger, J., et al. (1993, p.13,109-13,117, eng) 47-4412

GIS modelling of winter orographic precipitation. Hay, L.E., et al. (1993, p.491-499, eng) 47-4460

Evolution of a porous H2O-CO2-ice sample in response to irradiation. Steiner, G., et al. (1993, p.9065-9073, eng) 47-4508

Ice formation in sea water through turbulent exchange. Zatsepin, A.G., et al. (1992, p.38-42, eng) 47-4563

Model comet made from mineral dust and H2O-CO2 ice: sample preparation development. Roessler, K., et al. (1990, p.379-388, eng) 47-4567

Crustal evolution and dust emission of artificial cometary nuclei. Thiel, K., et al. (1990, p.389-399, eng) 47-4568

Particle emission from artificial cometary surfaces: material science aspects. Kochan, H., et al. (1990, p.401-411, eng) 47-4569

Seed bank composition in a subarctic forest. Vieno, M., et al. (1993, p.379-384, eng) 47-4583

New results of the dust investigation in the comet simulation project KOSI. Thiel, K., et al. (1991, p.579-589, eng) 47-4634

Simulation of extraterrestrial ice solution melting curves. Boone, S., et al. (1991, p.603-610, eng) 47-4635

Weathering of basaltic rocks under cold arid conditions: Antarctica and Mars. Allen, C.C., et al. (1991, p.711-717, eng) 47-4636

Flow regulation for controlled river-ice formation. Jain, S.C., et al. (1993, 50p., eng) 47-4662

Mid- and far-infrared spectroscopy of ices: optical constants and integrated absorbances. Hudgins, D.M., et al. (1993, p.713-870, eng) 47-4736

Raman and infrared spectra of hexagonal ice between 0 and 400/cm—a molecular dynamics simulation. Sciortino, F., et al. (1993, p.547-558, eng) 47-4760

Mass transfer measurements of graupel growth. Cober, S.G., et al. (1993, p.1591-1609, eng) 47-4832

Strategies for modelling climate changes. Lliboutry, L.A., (1993, p.385-398, eng) 47-4845

Laboratory simulation of a cometary nucleus: experimental setup and first results. Kochan, H., et al. (1989, p.487-492, eng) 47-5124

On the accuracy of cometary nuclei simulation experiments. Klinger, J., et al. (1989, p.493-497, eng) 47-5125

Saltating particles over flat beds. Nalpanis, P., et al. (1993, p.661-685, eng) 47-5195

Modeled variations of precipitation over the Greenland ice sheet. Bromwich, D.H., et al. (1993, p.1253-1268, eng) 47-5210

Effects of drifting on snow loads on large roofs. Irwin, P.A., et al. (1993, p.508-513, eng) 47-5262

Modelling the last ice-age cycle with 2-D climate models. Herterich, K., et al. (1993, p.107-116, eng) 47-5267

Monomer molecular adsorption on ice Ih. Bell, K.P., et al. (1993, p.4160-4167, eng) 47-5272

See also: Computerized simulation; Environment simulation; Models

Sinks

See also: Heat sinks

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Site surveys

Estimating effects of snow on shrub availability for black-tailed deer in southwestern British Columbia. Hovey, F.W., et al. (1992, p.308-313, eng) 47-1760

Permafrost research sites in the Alps. Haeberli, W., et al. (1992, p.189-202, eng) 47-1770

Bryophytes of the Melville Hills region, Northwest Territories. Scotter, G.W., et al. (1992, p.100-104, eng) 47-1880

Lichens of the Cape Parry and Melville Hills regions, Northwest Territories. Thomson, J.W., et al. (1992, p.105-111, eng) 47-1881

Site survey for heat flow in the Prince Albert Mountains. Delisle, G., et al. (1992, p.138-139, eng) 47-2186

Recent microweathering phenomena in southern and central Sweden. Swantesson, J.O.H., (1992, p.275-292, eng) 47-2237

Freeze-thaw activity in the Abisko Mountains, Sweden. Nyberg, R., (1993, p.37-47, eng) 47-3116

Performance and phenology of alpine herbs along a snow-melting gradient. Kudo, G., (1992, p.297-304, eng) 47-3340

Response of subarctic forest tundra to climatic factors. Timoney, K.P., et al. (1992, p.1-9, eng) 47-3348

Pine tree-limit surveillance in Sweden. Kullman, L., (1993, p.24-31, eng) 47-3424

Seasonal changes in the radiation balance of subarctic forest and tundra. Lafleur, P.M., et al. (1993, p.32-36, eng) 47-3425

Site surveys *(cont.)*

Ecological genetic variation in seed banks. McGraw, J.B., (1993, p.45-49, eng) 47-3427

Modeling of tussock phosphatase activity. Moorhead, D.L., et al. (1993, p.50-55, eng) 47-3428

Significance of stomatal control on methane release from *Carex*-dominated wetlands. Morrissey, L.A., et al. (1993, p.339-355, eng) 47-3435

Last interglaciation in Alaska: stratigraphy and paleoecology of potential sites. Hamilton, T.D., et al. (1991, p.49-71, eng) 47-3480

Last interglacial in northernmost Sweden. Robertsson, A.M., (1991, p.173-181, eng) 47-3489

Vegetation of stressed calcareous screes and slopes on Sverdrup Pass, Ellesmere Island, Canada. Maycock, P.F., et al. (1992, p.2359-2377, eng) 47-3837

Waste disposal site selection techniques in Quaternary *terraine Ontario, Canada.* Cooper, A.J., (1991, p.211-217, eng) 47-3878

Onshore and offshore investigations of relict glaciated areas. Stewart, F.S., (1991, p.573-578, eng) 47-3897

Plant colonization in a polar oceanic environment. André, M.F., (1992, p.329-347, eng) 47-4077

Zonality of macrolichens in British Columbia. Goward, T., et al. (1992, 60p., eng) 47-4516

Seed and vegetation dynamics in an alpine herb field: effects of disturbance type. Chambers, J.C., (1993, p.471-485, eng) 47-4584

Occurrence of algae on tundra soils in Oscar II Land, Spitsbergen. Oleksowicz, A.S., et al. (1992, p.131-147, eng) 47-4652

Spatial heterogeneity of high mountain vegetation in the Andean desert zone of Chile. Squeo, F.A., et al. (1993, p.203-209, eng) 47-4712

Skid resistance

Preliminary study of the effect of fines on sanded-ice friction. Blaisdell, G.L., et al. (1992, p.79-90, eng) 47-805

Study in skid resistance on compacted snow and ice covered road surfaces. Kaku, T., (1984, p.600-606, jpn) 47-860

Tests of grooving on the taxiways of the New Chitose Airport. Sato, H., *et al.* (1991, p.235-240, jpn) 47-2497

Continuous snow chain. Lew, H.S., (1989, 8 col., eng) 47-3110

Study on the characteristics of icy road surfaces. Suzuki, S., et al. (1990, p.34-37, jpn) 47-4687

Risk of road slipperiness during warm-air advections. Gustavsson, T., (1990, 23p., eng) 47-4693

Screening effects on road surface temperature and road slipperiness. Bogren, J., (1990, 17p., eng) 47-4698

Road surface temperature and risk of slipperiness. Bogren, J., (1990, 17p., *eng*) 47-4699

Tests on sideways skidding of compact snowplows. Sakai, M., et al. (1982, p.57-66, jpn) 47-4941

Skid resistance of studded tires. Shibata, M., et al. (1985, p.35-41, jpn) 47-5081

Study on the performance of various anti-skid devices. Inagaki, M., (1985, p.90-95, jpn) 47-5089

Study on skid resistance of winter tires. Kadoyama, Y., et al. (1985, p.50-53, jpn) 47-5168

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Skis

Energy cost of level cross-country skiing and the effect of the friction of the ski. Saibene, F., et al. (1989, p.791-795, eng) 47-2320

Studying the friction and adhesive properties of snow. Ermakov, K.K., et al. (1991, p.191-195, rus) 47-2812

Apparatus for converting a road vehicle into a snowmobile. Shaver, A.L., (1988, 8 col., eng) 47-3771

Bibliography on snow and ice friction. Colbeck, S.C., (1993, 17p., *eng*) 47-4869

Slab avalanches

See also: Snow slides

Sleds

Speedy sledge offers retreat from storms. Anderson, I., (1992, p.20, eng) 47-233

Final test report for a snowmobile and sled. Todd, W.E., (1992, 44p. + appends., eng) 47-604

Studying the friction and adhesive properties of snow. Ermakov, K.K., et al. (1991, p.191-195, rus) 47-2812

Lifesaving craft. Kraft, U., (1988, 4 col., eng) 47-3845

Vehicles and transports during the Swedish Antarctic Research Programme 1991/92. Berg, A., (1993, p.258-266, eng) 47-5114

Transport concept at the antarctic stations and for field operations of the Alfred Wegener Institute. Kohnen, H., et al. (1993, p.267-273, eng) 47-5115

Slide sections

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Sliding

Friction against ice and snow. Balakin, V.A., et al. (1991, p.132-143, eng) 47-1175

Contact melting during sliding on ice. Fowler, A.J., et al. (1993, p.1171-1179, eng) 47-3578

Creep closure of channels in deforming subglacial till. Fowler, A., et al. (1993, p.17-31, eng) 47-3778

Thermal analysis of ice melting from surface friction. Pushkarev, O.E., et al. (1992, p.25-30, eng) 47-5004

See also: Basal sliding

Slope orientation

Slope monitoring in high hills using LANDSAT imageries. Joshi, M.D., et al. (1985, p.196-203, eng) 47-538

Avalanche dating and avalanche accident feed-back. Rao, N.M., (1985, p.212-225, eng) 47-540

Assessment of stresses and strains on an avalanche slope by *indirect evidence.* Sharma, S.S., (1985, p.276-295, eng) 47-546

Influence of local factors on the distribution of snow resources in northern Tien Shan. Severskii, S.I., et al., (1992, p.220-224, eng) 47-1116

Radiation balance of ridge-tillage with modeling strategies for slope and aspect in the subarctic. Sharratt, B.S., et al. (1992, p.1379-1384, eng) 47-1182

Tracked vehicle performance over snow-covered slopes. Muro, T., (1993, p.143-155, eng) 47-4889

Slope processes

Diurnal depletion of mountain snow cover at *different* altitudes. Krishnan, V., et al. (1985, p.157-163, eng) 47-535

Slope runoff in the Transural steppe region of Bashkiria. Mosienko, N.A., et al. (1991, p.77-80, eng) 47-796

Present-day periglacial processes and landforms in mountain areas. Lautridou, J.P., et al. (1992, p.93-101, eng) 47-1748

10 year surficial velocities on a rock glacier (Laurichard, French Alps). Francou, B., et al. (1992, p.209-213, eng) 47-1772

Evidence of periglacial processes in Virginia mountains. Whittecar, G.R., et al. (1992, p.487-494, eng) 47-2704

Periglacial features in the Söderasen canyons, south Sweden. Nyberg, R., (1991, p.145-156, eng) 47-2853

Freeze-thaw activity in the Abisko Mountains, Sweden. Nyberg, R., (1993, p.37-47, eng) 47-3116

Rock glacier dynamics in Kazakhstan. Gorbunov, A.P., et al. (1992, p.29-39, eng) 47-3124

Hydrothermy of slope soils in Transbaikal. Kulikov, A.I., *et al.* (1991, p.69-76, *rus*) 47-3280

Quaternary engineering geology. Forster, A., ed. (1991, 724p., eng) 47-3867

Theme lecture: Periglacial and slope processes. Hutchinson, J.N., (1991, p.283-331, eng) 47-3885

Processes and materials of periglacial and slope processes. Privett, K.D., (1991, p.335-337, eng) 47-3886

Shale from late and post glacial slope development. *Gostelow, T.P., et al. (1991, p.349-359, eng)* 47-3887

Review of the mechanisms of cambering and valley bulging. Parks, C.D., (1991, p.373-380, eng) 47-3889

Processes and materials of periglacial and slope processes. Chandler, R., et al. (1991, p.397-405, eng) 47-3892

Engineering implications of periglacial and slope processes. Petley, D.J., (1991, p.409-414, eng) 47-3893

Discussion of Session 2b. (Periglacial and slope processes: engineering implications). Clayton, C., et al. (1991, p.449-455, eng) 47-3896

Plant colonization in a polar oceanic environment. André, M.F., (1992, p.329-347, eng) 47-4077

Origin of rock glaciers: stagnant ice or ice segregation?. Tricart, J., (1992, p.96-98, eng) 47-4168

Slow soil movement in Tarfala Valley, Kebnekaise Mountains, Swedish Lapland. Jahn, A., (1991, p.93-107, eng) 47-4309

Slope protection

*Construction of a geogrid- and geocomposite-faced soil-*nailed slope reinforcement project in eastern Canada. Alston, C., (1991, p.87-95, eng) 47-1130

Slope stability

Construction, environmental problems and natural hazards in periglacial mountain belts. Haeberli, W., (1992, p.111-124, eng) 47-1750

Experience with rutschblocks. Jamieson, J.B., et al. (1992, p.1.4-5, eng) 47-1886

Mountain conifers reduce snow avalanche hazard in French Alps. Jenkins, M.J., (1993, p.4-5, eng) 47-1887

Pleistocene deposits of the South Wales coalfield and their engineering significance. Wright, M.D., (1991, p.441-448, eng) 47-3895

Discussion of Session 2b. (Periglacial and slope processes: engineering implications). Clayton, C., et al. (1991, p.449-455, eng) 47-3896

Creep movements in soils at shallow depths and their effects on engineering structures. Eigenbrod, K.D., (1993, p.127-136, eng) 47-4131

Slopes

Main factors in the distribution of snow cover on mountain slopes. Kravchenko, G.N., (1991, p.43-48, rus) 47-320

Vegetation of stressed calcareous screes and slopes on Sverdrup Pass, Ellesmere Island, Canada. Maycock, P.F., et al. (1992, p.2359-2377, eng) 47-3837

Sludges

Effects of freezing on the measurement of solids in wastewater sludges. Roy, N.A., et al. (1990, p.191-197, fre) 47-1784

Sludges from cold regions lagoons. Schneiter, R.W., et al. (1993, p.146-155, eng) 47-3675

Proceedings. (1993, 2078p. (2 vols.), eng) 47-4465

Low-temperature performance of biological wastewater treatment systems. Viraraghavan, T., et al. (1993, p.297-302, eng) 47-4470

Lagoon sludge dewatering by natural freeze-thaw. Martel, C.J., et al. (1993, p.357-364, eng) 47-4477

Freezing rate of sludge layers. Parker, P.J., et al. (1993, p.405-412, eng) 47-4478

Effects of lime-sludge discharge on an arctic river. Tumeo, M.A., (1992, p.1083-1094, eng) 47-4626

Slush

Morphological classification of the sites of origin of water-snow streams. Evteev, A.O., (1991, p.155-160, rus) 47-334

Problem of variations in the amount of slush ice in river beds during an icebound period. Alekseenko, R.IA., (1991, p.47-53, rus) 47-1048

Interaction of frazil with suspended particles. Reimnitz, E., et al. (1993, p.117-135, eng) 47-2645

Mechanical properties of high water content snow. Kobayashi, S., et al. (1992, p.313-321, eng) 47-3209

Immersed tube heat transfer in a melting ice bed. Fukusako, S., et al. (1993, p.353-359, eng) 47-4064

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Snow

Environmental information from ice cores. Delmas, R.J., (1992, p.1-21, eng) 47-787

Short-offset seismic refraction results near Rothera Station, Antarctic Peninsula. King, E.C., et al. (1992, p.479-480, *eng*) 47-905

Proceedings of the NIPR Symposium on Polar Meteorology and Glaciology, No.6. Kawaguchi, S., ed. (1992, 167p., eng) 47-3000

See also: Artificial snow; Blowing snow; Colored snow; Falling snow; Slush; Wet snow

Snow accumulation

Macroscale characteristics of snow cover distribution throughout the world. Loktionova, E.M., (1991, p.20-28, rus) 47-316

Studying the stability of a snow catchment on a glacier. *Kunakhovich, M.G.,* (1991, p.102-107, *rus*) 47-327

Formation and calculation of snow reserves on agricultural fields with a snow fence. Kaliuzhnyi, I.L., et al. (1991, p.22-34, rus) 47-381

Effectiveness of snow fences in cultivated fields. Petropavlovskaia, M.S., et al. (1991, p.57-66, rus) 47-384

Some observations on the seasonal snow cover. Rao, N.M., (1985, p.65-78, eng) 47-525

Initiation of first snow surveys in the Himalayas—a brief appraisal. Dhar, O.N., et al. (1985, p.164-174, eng) 47-536

Winter and spring precipitation over the northwestern Himalayas—a brief appraisal. Rakhecha, P.R., et al. (1985, p.175-185, *eng*) 47-537

Relationship between snow fall and lean season-discharge of river Sainj at Larji, Himachal Pradesh. Krishnan, V., (1985, p.163-173, eng) 47-569

Preliminary assessments of accuracy characteristics of the double-fenced precipitation gauge. Golubev, V.S., (1991, p.101-106, eng) 47-797

Great Lakes winter-weather 700-hPa PNA teleconnections. Assel, R.A., (1992, p.2156-2163, eng) 47-877

Physically based snowcover model. Vehviläinen, B., (1991, p.113-135, eng) 47-1380

Study on the meteorological characteristics over King Sejong Station, Antarctica during 1990. Nam, J.C., et al. (1991, p.63-70, kor) 47-1571

Finite area element snow loading prediction—applications and advancements. Gamble, S.L., et al. (1992, p.1537-1548, eng) 47-1583

Precipitation conditions for the development of the present glaciers on the northern slope of Karakorum. Ding, Y.J., (1991, p.243-248, eng) 47-1610

Reflection of twentieth-century climatic warming in glacier cores from Nordaustlandet. Sin'kevich, S.A., (1992, p.114-122, eng) 47-1763

Influence of wind, temperature, and deicing chemicals on snow accretion. Adams, E.E., et al. (1991, p.182-187, eng) 47-1801

PASCON: an expert system for passive snow control on highways. Kaminski, D.F., et al. (1991, p.193-201, eng) 47-1803

Snow and avalanches in the Swiss Alps, winter 1990/91. (1992, 199p., ger) 47-2206

Snowdrift around buildings for antarctic environment. Kwok, K.C.S., et al. (1992, p.2797-2808, eng) 47-2643

Accumulation and *melt characteristics of northeastern* Sierra Nevada snowpacks. Reece, B., et al. (1992, p.631-640, eng) 47-2739

Snow: a skimpy year. Ludlum, D.M., (1993, p.38-41, eng) 47-2765

Abrupt increase in Greenland snow accumulation. Alley, R.B., et al. (1993, p.527-529, eng) 47-2892

Instrumentation to quantitatively measure dynamic snow accumulation processes in *remote regions.* Braaten, D.A., (1993, p.72-73, eng) 47-3064

Automated snow depth measurement. Bradley, J.T., et al. (1993, p.74-79, eng) 47-3065

Estimation of snowfall from measurements of total snow weight. Abe, O., et al. (1992, p.115-122, jpn) 47-3296

Vertical radar precipitation study at Showa Station. Wada, M., et al. (1992, p.341-349, eng) 47-3362

Apparatus for changing artificial snow to wet snow. Suga, N., et al. (1988, 6 col., eng) 47-3634

Prairie Blowing Snow Model: characteristics, validation, operation. Pomeroy, J.W., et al. (1993, p.165-192, eng) 47-3801

Misawa snow accumulation study. Schaub, W.R., Jr., (1991, 20p., eng) 47-3818

Interpretation of short-term ice-sheet elevation changes inferred from satellite altimetry. Van der Veen, C.J., (1993, p.383-405, eng) 47-4137

Snow in north and east Tyrol 1897-1991. Fliri, F., (1992, 2 vols., ger) 47-4208

Dynamic modeling of the spatial distribution of precipitation in remote mountainous areas. Barros, A.P., et al. (1993, p.1195-1214, eng) 47-4254

Case study of heavy snowfall in Oklahoma. Marwitz, J.D., et al. (1993, p.648-660, eng) 47-4256

Modelling of snowdrift around prismatic buildings for antarctic environment. Kim, D.H., et al. (1992, p.73-79, eng) 47-4281

Snowdrift around antarctic buildings—effects of corner geometry and wind incidence. Kwok, K.C.S., et al. (1993, p.61-65, eng) 47-4302

Sediment transfer on the floor of the Martinelli Snowpatch, Colorado Front Range, U.S.A. Caine, N., (1992, p.133-144, eng) 47-4323

Winter storm mapping: a Geographic Information Systems Transportation application. Swift, L.B., et al. (1992, p.60-71, eng) 47-4359

Numerical investigation of wind speed effects on lake-effect storms. Sousounis, P.J., (1993, p.261-290, eng) 47-4511

Exceptional rain-snow event of February 1990 in the Northern Alps. Blanchet, G., (1993, p.68-77, fre) 47-4761

Temporal characteristics of USA snowfall 1945-1946 through to 1984-1985. Leathers, D.J., et al. (1993, p.65-76, eng) 47-4981

Recent snowfall variations in North America. Karl, T.R., et al. (1993, p.1327-1344, eng) 47-5211

Effects of forest cover on a snowpack in the Sierra Nevada. Kattelmann, R., (1990, p.276-284, eng) 47-5219

Avalanche prediction in Scotland: 2. Development of a predictive model. Ward, R.G.W., (1984, p.109-133, eng) 47-5255

Heavy snowfall during an arctic outbreak along the Colorado Front Range. Wesley, D.A., et al. (1990, p.2-19, eng) 47-5257

Comments on paper by Wesley et al and reply. Auer, A.H., Jr., et al. (1991, p.19-21, eng) 47-5259

Snow acoustics

Observations of acoustic surface waves propagating above a snow cover. Albert, D.G., (1992, 7p., eng) 47-450

Avalanche forecasting by acoustic monitoring of snowpacks. Koul, B.B., (1985, p.318-323, eng) 47-549

Preliminary analysis of measured sound propagation over various seasonal snow covers. Albert, D.G., (1990, p.51-57, eng) 47-1761

Seismic properties of artificial polar bear dens. Blix, A.S., et al. (1992, p.20-24, eng) 47-3350

Acoustic pulse propagation over a seasonal snow cover. Albert, D.G., (1992, p.47-53, eng) 47-4032

Snow air interface

Snow cover model for global applicability. Loth, B., (1992, p.268-269, ger) 47-216

Mesoscale interactions in the snow cover-atmosphere system during a period of snow melting. Loktionova, E.M., et al. (1991, p.48-53, rus) 47-321

Observations of acoustic surface waves propagating above a snow cover. Albert, D.G., (1992, 7p., eng) 47-450

Thermal effects due to air flow and vapor transport in dry snow. Albert, M.R., et al. (1992, p.273-281, eng) 47-468

Sublimation of intercepted snow as a global source of water vapor. Schmidt, R.A., et al. (1992, p.1-9, eng) 47-488

Dynamic simulation of phase changes in snowpacks and soils. Grant, R.F., (1992, p.1051-1062, eng) 47-902

Source strength terms for winter dispersion models. Hogan, A.W., et al. (1992, p.149-155, eng) 47-1069

Temperature regime studies and mathematical calculations for dry snow covers in the western Tien Shan mountains, China. Ma, H., et al. (1992, p.185-189, eng) 47-1109

Snowmelt and heat balance in snow-covered forested areas. Yamazaki, T., et al. (1992, p.1322-1327, eng) 47-1122

Revised estimate of pollutant reserve in the snow cover. Fedoseev, N.F., et al. (1989, p.59-63, eng) 47-1224

Transport and sublimation of snow in wind-scoured alpine terrain. Pomeroy, J.W., (1991, p.131-140, eng) 47-1300

Physics-based models of snow. Morris, E.M., (1991, p.85-112, eng) 47-1379

Physically based snowcover model. Vehviläinen, B., (1991, p.113-135, eng) 47-1380

Study of ablation variations on the tongue of Hintereisferner, Austrian Alps. Van de Wal, R.S.W., et al. (1992, p.319-324, eng) 47-1384

Climatic factors and snow surface energy exchange, pt.1. Marks, D., et al. (1992, p.3029-3042, eng) 47-1476

Climatic factors and snow surface energy exchange, pt.2. Marks, D., et al. (1992, p.3043-3054, eng) 47-1477

Snow hydrology. Marshall, S., et al. (1991, p.149-154, eng) 47-1504

Snow sublimation in the Urumqi River Basin. Yang, D.Q., et al. (1992, p.122-128, chi) 47-1648

Large-scale characteristics of the global distribution of snow cover. Loktionova, E.M., (1992, p.148-159, eng) 47-1765

Winds causing deflation and snow drifting in Kilpisjärvi area. Hellemaa, P., (1991, p.309-316, fin) 47-2321

Shifts in ice sheet temperatures. Colbeck, S.C., (1993, p.5115-5120, eng) 47-2855

Some geophysical problems involving convection in porous media. Nield, D.A., (1991, p.985-1006, eng) 47-2862

Recent trends in Northern Hemisphere snow cover. Robinson, D.A., (1993, p.329-334, eng) 47-3049

ENSO-snow-monsoon associations and seasonal prediction. Yang, S., (1993, p.418-422, eng) 47-3051

Growth habits and growth rates of snow crystals. Mason, B.J., (1993, p.3-16, eng) 47-3727

Variation of perennial snow patch "Hamaguri-yuki" from 1967 to 1991. Ohata, T., et al. (1993, 43p., eng) 47-3906

Proceedings of the 49th annual Eastern Snow Conference, Oswego, NY, June 3-4, 1992. (1992, 273p., eng) 47-4026

Modeling the redistribution of snow in alpine areas. Cline, D.W., (1992, p.13-24, eng) 47-4028

Acoustic pulse propagation over a seasonal snow cover. Albert, D.G., (1992, p.47-53, eng) 47-4032

Local influences on winter minimum air temperatures. Hogan, A.W., et al. (1992, p.243-246, eng) 47-4054

Snow surface temperature variation near a snow pit. Gwilliam, B.L., (1992, p.269-272, eng) 47-4058

Ammonium to sulphate ratio in aerosol and snow of Greenland and antarctic regions. Silvente, E., et al, (1993, p.687-690, eng) 47-4167

Measuring blowing snow in Adélie Land, eastern Antarctica. Wendler, G., (1988, p.93-96, eng) 47-4191

Observation of recurrent temperature lapse near the surface at the South Pole. Obremski, J.S., et al. (1988, p.145-147, eng) 47-4204

Energy transfer in ventilated low-temperature snow. Lax, J., (1988, p.153-157, eng) 47-4207

Snow cover model for global climate simulations. Loth, B., et al. (1993, p.10,451-10,464, eng) 47-4293

Snowdrift around antarctic buildings—effects of corner geometry and wind incidence. Kwok, K.C.S., et al, (1993, p.61-65, eng) 47-4302

Spring in the forest terrain at Svartberget, northern Sweden. Odin, H., et al. (1990, p.167-178, eng) 47-4311

Below-cloud scavenging of aerosol particles: particle-bound radionuclides—experimental. Sparmacher, H., et al, (1993, p.605-618, eng) 47-4349

Form of cyclonic precipitation and its thermal impact. Gedzelman, S.D., et al. (1993, p.1957-1978, eng) 47-4355

Study of snow melting mechanism by solar radiative absorption material. Inaba, H., et al. (1992, p.715-726, eng) 47-4363

Modeling study of the role of snow on sea ice in producing interannual climate variations. Ledley, T.S., (1991, p.323-326, eng) 47-4486

Influence of opening size on snow evaporation in the forests of the Alberta Foothills. Bernier, P.Y., et al, (1993, p.239-244, eng) 47-4585

Radiation characteristics at Mizuho Station. Liu, S.H., et al, (1993, p.39-45, chi) 47-4647

Lake effect of the Great Salt Lake: overview and forecast problems. Carpenter, D.M., (1993, p.181-193, eng) 47-4831

Snow impurities as a function of pollutant emission remoteness. Malakhov, S.G., et al. (1993, p.111-115, eng) 47-5003

Correlation between continental snow cover and air temperature. Leathers, D.J., et al. (1993, p.1345-1355, eng) 47-5212

Effects of drifting on snow loads on large roofs. Irwin, P.A., et al. (1993, p.508-513, eng) 47-5262

Snow collapse

See also: Snowquakes

Snow compaction

Influence of avalanche snow transport on snowmelt runoff. De Scally, F.A., (1992, p.73-97, eng) 47-173

Snow-compacting equipment for constructing winter roads and airfields. Rongonen, V.E., (1990, p.22-23, rus) 47-1414

Analysis of energy dissipation caused by snow compaction during displacement plowing. Hansen, A.C., (1991, p.177-181, eng) 47-1800

Shock response of snow. Johnson, J.B., et al. (1993, p.4852-4861, eng) 47-3794

Texture and hardness of compacted snow. Kobayashi, T., (1986, p.64-69, jpn) 47-5182

Snow composition

Study of methanesulfonic acid in ice cores. Whung, P.Y., (1991, 173p., eng) 47-46

Mineralization of natural waters on Spitsbergen. Gokhman, V.V., (1991, p.147-155, rus) 47-333

Chemical constituents of two snow falls around Manali District, Kulu, Himachal Pradesh. Krishnan, V., et al, (1985, p.151-156, eng) 47-534

Elements of the material balance under conditions of an alpine lichen heath of the North Caucasus. Makarov, M.I., (1983, p.58-61, eng) 47-799

Seasonal input of heavy metals to antarctic snow. Suttie, E.D., et al. (1992, p.351-357, eng) 47-835

Aerosol and general atmospheric circulation models. Genthon, C., (1992, p.371-389, eng) 47-836

Sources and spatial variation of the chemical composition of snow in the Tien Shan, China. Williams, M.W., et al, (1992, p.25-32, eng) 47-1082

Revised estimate of pollutant reserve in the snow cover. Fedoseev, N.F., et al. (1989, p.59-63, eng) 47-1224

Orographic enhancement of snowfall. Dore, A.J., et al, (1992, p.175-179, eng) 47-1553

Chemistry of a Wyoming snowpack related to global budgets. Sommerfeld, R.A., et al. (1993, p.140-142, eng) 47-1595

Transfer of ions within the system soil-snow and the role of ice surface in their migration. Ostroumov, V.E., et al. (1992, p.127-135, eng) 47-1717

Chemical analysis of snow cover as an indicator of contamination in the Kola Peninsula. Boltenko, E.L., et al, (1991, p.60-64, rus) 47-1987

Field instrument for examining in-cloud scavenging mechanisms by snow. Mitchell, D.L., et al, (1991, p.239-253, eng) 47-2212

Scavenging of atmospheric constituents by alpine snow. Baltensperger, U., et al. (1991, p.483-493, eng) 47-2215

Polar precipitation chemistry. Delmas, R.J., (1991, p.1669-1691, eng) 47-2218

Sulfate in the air, surface snow and snowpits at Dye 3, Greenland. Jaffrezo, J.L., et al. (1991, p.1693-1704, eng) 47-2219

Wet deposition influence on ice sheet chemistry. Borys, R.D., et al. (1991, p.1705-1718, eng) 47-2220

Oxygen isotope data from McMurdo Ice Shelf. Kellogg, T.B., et al. (1991, p.73-76, eng) 47-2470

Isotopic pleiad of oxygen in atmospheric precipitation in the polar regions. Nikolaev, V.I., et al. (1991, p.109-112, rus) 47-2796

Chemical composition of snow cover on drifting ice in the Arctic. Bardin, V.I., et al. (1991, p.129-135, rus) 47-2802

Chemical components of snow from Queen Maud Land. Kamiyama, K., et al. (1992, p.88-98, eng) 47-3009

Air-snow exchange processes. Harder, S.L., et al. (1991, p.277-278, eng) 47-3057

Soluble ions in a snow pit on Nelson I. Qin, D.H., et al. (1993, p.312-316, eng) 47-3096

Assessment of the technogenic migration of chemical elements through terrain of a large urbanized territory. Sorokina, E.P., et al. (1991, p.42-49, rus) 47-3278

HNO3 variations in volcanic layers of polar ice. Laj, P., et al. (1993, p.219-230, eng) 47-3463

Fractionation of sea salt and acids during transport across an antarctic ice shelf. Mulvaney, R., et al. (1993, p.179-187, eng) 47-3535

Particle transport to the snow surface at the South Pole. Hogan, A.W., et al. (1993, p.188-207, eng) 47-3536

Nitrate signal of solar flares in polar snow and ice. Dreschhoff, G.A.M., et al. (1992, 23p., eng) 47-3631

Methanesulfonic acid in coastal antarctic snow related to sea-ice extent. Welch, K.A., et al. (1993, p.443-446, eng) 47-3728

Stratospheric denitrification indicated by firn core chemistry. Mulvaney, R., et al. (1993, p.5213-5220, eng) 47-3785

Acidification potential of snowpack in Sierra Nevada--discussion. Bales, R.C., et al. (1993, p.399-403, eng) 47-4010

Ammonium to sulphate ratio in aerosol and snow of Greenland and antarctic regions. Silvente, E., et al, (1993, p.687-690, eng) 47-4167

Oxygen isotopic content variation in snow at Mizuho Station. Ageta, Y., (1993, p.24-31, jpn) 47-4357

Distribution of *delta*D in snow on the longest antarctic traverse route. Qin, D.H., et al. (1993, p.375-384, eng) 47-4600

Cadmium concentration changes in antarctic ice and snow. Boutron, C.F., et al. (1993, p.431-441, eng) 47-4833

Hydrology and hydrochemistry of natural waters of East Antarctica. Shmideberg, N.A., (1992, p.65-76, rus) 47-4923

Aluminium solubility in rainwater and molten snow. Losno, R., et al. (1993, p.29-43, eng) 47-5145

Chemical composition of snow near a mining plant. Lazareva, I.P., et al. (1993, p.79-86, eng) 47-5193

Hydrocarbon gas traces in snow cover. Vyshemirskii, V.S., et al. (1993, p.1-4, eng) 47-5194

Snow compression

Single stress time parameter for snow under tension. Kachroo, P.N., (1985, p.244-248, eng) 47-542

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Single pressure-time parameter for snow under compression. Kachroo, P.N., [1985, p.249-256, eng] **47-543**

Shock wave studies of snow. Johnson, J.B., et al, [1992, p.107-110, eng] **47-1143**

Apparatus for production of compression-solidified snow. Tsukada, H., et al, [1988, 6 col., eng] **47-3500**

Snow (construction material)

Construction techniques for expedient air strips in snowbound regions. Natarajan, T.K., et al, [1985, p.293-317, eng] **47-580**

Snow-compacting equipment for constructing winter roads and airfields. Rongonen, V.E., [1990, p.22-23, rus] **47-1414**

Snow cornices

Method for dealing with snow cornices. Aoki, S., [1986, p.94-95, jpn] **47-5187**

Snow courses

Application of ERS-1 SAR data to snow mapping. Hallikainen, M., et al, [1993, p.589-594, eng] **47-4447**

Snow cover

Observations of the snowcover on sea ice in the Gulf of Bothnia. Crocker, G.B., [1992, p.2433-2445, eng] **47-257**

Snow cover of non-Soviet Asia. Kadomtseva, T.G., [1991, p.28-34, rus] **47-317**

Regularities and distribution of snow cover in the high mountain regions of the Greater Caucasus. Menshutin, V.M., [1991, p.39-43, rus] **47-319**

Soviet glaciological studies in 1990. Glazovskii, A.F., [1991, p.229-240, rus] **47-346**

Formation and calculation of snow reserves on agricultural fields with a snow fence. Kaliuzhnyi, I.L., et al, [1991, p.22-34, rus] **47-381**

Calculating the evaporation from snow in fields with snow fences. Shutov, V.A., [1991, p.35-45, rus] **47-382**

Evaluating water vapor diffusion. Delarov, D.A., et al, [1991, p.46-56, rus] **47-383**

Evaluating the effect of snow cover pollution on its melting rate. Shutov, V.A., [1991, p.75-86, rus] **47-386**

Method of determining the heat balance components of snow cover during a melting period. Shutov, V.A., [1991, p.87-96, rus] **47-387**

Deformation of snow cover under static loads. Bolotnikov, G.I., [1991, p.103-106, rus] **47-389**

Evaluating the effect of a shock wave on snow cover. Delarov, D.A., et al, [1991, p.107-122, rus] **47-390**

Net energy budget over a snow surface. Upadhyay, D.S., et al, [1985, p.129-143, eng] **47-566**

Estimation of stored water in the seasonal snow cover by ground surveys in the upper reaches of Beas basin during 1980. Krishnan, V., et al, [1985, p.152-162, eng] **47-568**

Evaluating the effect of dust and gas exhaust on a city and its surrounding terrain. Davydova, N.D., [1990, p.65-74, rus] **47-979**

Temperature regime studies and mathematical calculations for dry snow covers in the western Tien Shan mountains, China. Ma, H., et al, [1992, p.185-189, eng] **47-1109**

Revised estimate of pollutant reserve in the snow cover. Fedoseev, N.F., et al, [1989, p.59-63, eng] **47-1224**

Problems in studying geographical regularities in the characteristics of snow cover hardness. Samoilov, R.S., et al, [1983, p.86-90, rus] **47-1248**

Neural network inversion of radiometry of snow surface parameters. Tsang, L., et al, [1992, p.1015-1024, eng] **47-1259**

Classification of snow cover and precipitation using SSM/I measurements: case studies. Fiore, J.V., Jr., et al, [1992, p.3349-3361, eng] **47-1442**

Bibliography of ice and snow research at Trent University, up to December 1991. Adams, P., [1992, 16p., eng] **47-1910**

Chemical analysis of snow cover as an indicator of contamination in the Kola Peninsula. Boltenko, E.L., et al, [1991, p.60-64, rus] **47-1987**

Determining the mean parameters of heat transfer through snow cover. Zviagin, V.V., et al, [1991, p.1085-1088, rus] **47-2009**

Satellite radiometric data related to land surface features. Rao, K.S., et al, [1993, p.451-465, eng] **47-2662**

Estimating avalanche hazard in the territory of Afghanistan. Kravtsova, V.I., et al, [1991, p.86-93, rus] **47-2793**

Chemical composition of snow cover on drifting ice in the Arctic. Bardin, V.I., et al, [1991, p.129-135, rus] **47-2802**

Assessment of the technogenic migration of chemical elements through terrain of a large urbanized territory. Sorokina, E.P., et al, [1991, p.42-49, rus] **47-3278**

Simple method for specifying snowpack water equivalent in the northeastern United States. Samelson, D., et al, [1993, p.965-974, eng] **47-3565**

Snow and glacier investigations by ERS-1 SAR—first results. Rott, H., et al, [1993, p.577-582, eng] **47-4445**

Monitoring of snowcover in high mountain terrain with ERS-1 SAR. Haefner, H., et al, [1993, p.583-588, eng] **47-4446**

Application of ERS-1 SAR data to snow mapping. Hallikainen, M., et al, [1993, p.589-594, eng] **47-4447**

Geochemical processes at the soil-snow boundary. Fedoseeva, V.I., et al, [1991, p.60-67, rus] **47-4811**

Predicting wilderness snow water equivalent with nonwilderness snow sensors. McGurk, B.J., et al, [1993, p.85-94, eng] **47-4993**

Science of snow and ice (2). Inoue, M., [1985, p.9-13, jpn] **47-5079**

Chemical composition of snow near a mining plant. Lazareva, I.P., et al, [1993, p.79-86, eng] **47-5193**

Hydrocarbon gas traces in snow cover. Vyshemirskii, V.S., et al, [1993, p.1-4, eng] **47-5194**

Snow surface scattering theory and particle size distribution. West, R., et al, [1993, p.426-437, eng] **47-5268**

Snow cover distribution

Snow cover model for global applicability. Loth, B., [1992, p.268-269, ger] **47-216**

Glaciological zonation and seasonal snow resources throughout the world. Kotliakov, V.M., et al, [1991, p.4-19, rus] **47-315**

Macroscale characteristics of snow cover distribution throughout the world. Loktionova, E.M., [1991, p.20-28, rus] **47-316**

Snow cover of non-Soviet Asia. Kadomtseva, T.G., [1991, p.28-34, rus] **47-317**

Snow cover distribution in the upland zones of the Greater Caucasus. Loktionova, E.M., et al, [1991, p.34-39, rus] **47-318**

Regularities and distribution of snow cover in the high mountain regions of the Greater Caucasus. Menshutin, V.M., [1991, p.39-43, rus] **47-319**

Main factors in the distribution of snow cover on mountain slopes. Kravchenko, G.N., [1991, p.43-48, rus] **47-320**

Date of snow disappearance from tundra determined by radiometric and meteorological observations. Foster, J.L., et al, [1992, p.793-798, eng] **47-358**

Significance of global snow and ice cover for global change studies. Barry, R.G., [1992, p.293-297, eng] **47-448**

Snow properties research and data management. Armstrong, R.L., [1992, p.1-9, eng] **47-478**

Remote sensing of alpine snow cover in visible and near-infrared wavelengths. Dozier, J., [1992, p.10-21, eng] **47-479**

Snow cover effect on monsoon fluctuations over India. Sikka, D.R., [1985, p.47-60, eng] **47-524**

Some observations on the seasonal snow cover. Rao, N.M., [1985, p.65-78, eng] **47-525**

Possibilities of snow cover estimation using satellite imageries. Joshi, M.D., et al, [1985, p.120-124, eng] **47-530**

Diurnal depletion of mountain snow cover at different altitudes. Krishnan, V., et al, [1985, p.157-163, eng] **47-535**

Development and intercomparisons of snow mapping algorithms based on SSM/I data. Nagler, T., et al, [1992, p.812-814, eng] **47-657**

Application of ERS-1 SAR data to remote sensing of snow in Finland. Hallikainen, M., et al, [1992, p.1661-1663, eng] **47-688**

Potential of ERS-1 SAR data for snow cover monitoring. Bernier, M., et al, [1992, p.1664-1666, eng] **47-689**

Year-to-year variation of snow cover area in the Northern Hemisphere. Iwasaki, T., [1991, p.209-217, eng] **47-818**

Satellite monitoring of snowmelt runoff. Zeng, Q.Z., et al, [1992, p.193-197, eng] **47-1111**

Use of microwave radiometer data for characterizing snow storage in western China. Chang, A.T.C., et al, [1992, p.215-219, eng] **47-1115**

Influence of local factors on the distribution of snow resources in northern Tien Shan. Severskii, S.I., et al, [1992, p.220-224, eng] **47-1116**

Modeling the spatial distribution of the snow cover based on informative cartographic analysis. Shutov, V.A., [1989, p.88-94, eng] **47-1228**

Large-scale patterns and variability of snowmelt and parameterized surface albedo in the Arctic Basin. Robinson, D.A., et al, [1992, p.1109-1119, eng] **47-1271**

Snow, hydrology and forests in high alpine areas. Bergman, H., ed, [1991, 250p., eng] **47-1288**

Snow cover variation in the Alps using NOAA-AVHRR data. Baumgartner, M.F., et al, [1991, p.41-50, eng] **47-1291**

Spatially distributed snowmelt model for application in alpine terrain. Blöschl, G., et al, [1991, p.51-60, eng] **47-1292**

Use of microwave radiometry for characterizing snow storage in large river basins. Chang, A.T.C., et al, [1991, p.73-80, eng] **47-1294**

Analysis of snow cover patterns as derived from oblique aerial photographs. Kirnbauer, R., et al, [1991, p.91-99, eng] **47-1296**

Satellite snow cover mapping and snowmelt runoff modelling in Beas basin. Kumar, V.S., et al, [1991, p.101-109, eng] **47-1297**

Indirect evaluation of snow reserves in mountain basins. Martinec, J., et al, [1991, p.111-119, eng] **47-1298**

Areal modelling of snow water equivalent based on remote sensing techniques. Martinec, J., et al, [1991, p.121-129, eng] **47-1299**

Transport and sublimation of snow in wind-scoured alpine terrain. Pomeroy, J.W., [1991, p.131-140, eng] **47-1300**

Satellite snow cover monitoring and snowmelt runoff prediction. Chen, X.Z., et al, [1991, p.161-168, eng] **47-1303**

Physical properties of snow cover and estimation of snowmelt. Yang, D.Q., et al, [1991, p.169-177, eng] **47-1304**

Snow hydrology. Marshall, S., et al, [1991, p.149-154, eng] **47-1504**

Observational evidence of changes in global snow and ice cover. Barry, R.G., [1991, p.329-345, eng] **47-1505**

Variation features of large-scale snow cover in Northern Hemisphere. Wang, G.Y., et al, [1992, p.115-121, chi] **47-1647**

Characteristics of seasonal snow cover in Urumqi River Basin. Zhang, Z.Z., et al, [1992, p.129-133, chi] **47-1649**

Snow cover distribution in a burned forest. Liang, L.H., et al, [1992, p.134-140, chi] **47-1650**

Model of potential direct solar radiation for investigating occurrences of mountain permafrost. Funk, M., et al, [1992, p.139-142, eng] **47-1753**

Glaciological mapping and global seasonal snow storage. Kotliakov, V.M., et al, [1992, p.123-147, eng] **47-1764**

Large-scale characteristics of the global distribution of snow cover. Loktionova, E.M., [1992, p.148-159, eng] **47-1765**

Passive microwave remote sensing applied for snow monitoring in a Norwegian test site. Rognes, A., [1992, 60p., eng] **47-1811**

Simulation of time variation in seasonal snowcover based on routinely available data. Ujihashi, Y., et al, [1991, p.57-68, eng] **47-1934**

Flood forecasting and snow mapping by satellite. Lundquist, D., et al, [1992, p.453-459, nor] **47-1972**

Reflectance from a mountainous watershed during snow melt. Winther, J.G., [1992, p.632-642, eng] **47-1979**

Study of the distribution of snow cover in the central forest-steppe. Kitaev, L.M., [1992, p.64-68, rus] **47-1991**

Water balance study in Svalbard—inspection of various forms of snow erosion, June 5-10, 1991. Frisvold, H., et al, [1991, 16p., nor] **47-2013**

Spatial considerations of snow chemistry as a non-point contamination source in alpine watersheds. Elder, K., et al, [1991, p.31-38, eng] **47-2076**

Interannual variability of wintertime snow cover across the Northern Hemisphere. Gutzler, D.S., et al, [1992, p.1441-1447, eng] **47-2178**

Reflectance from a mountain watershed during snow melt. Winther, J.G., [1992, p.273-290, eng] **47-2829**

Recent trends in Northern Hemisphere snow cover. Robinson, D.A., [1993, p.329-334, eng] **47-3049**

ENSO-snow-monsoon associations and seasonal prediction. Yang, S., [1993, p.418-422, eng] **47-3051**

Snow cover and moisture limit in the Tazheran steppe (Priol'khon'e). Gagarin, P.K., [1992, p.62-69, rus] **47-3273**

Mapping partial snowcover during the melt season using C-band SAR imagery. Donald, J.R., et al, [1993, p.68-76, eng] **47-3725**

Variation of perennial snow patch "Hamaguri-yuki" from 1967 to 1991. Ohata, T., et al, [1993, 43p., eng] **47-3906**

Estimating snow grain size using AVIRIS data. Nolin, A.W., et al, [1993, p.231-238, eng] **47-3919**

Long-term studies of snow-vegetation interactions. Walker, D.A., et al, [1993, p.287-301, eng] **47-4024**

Modeling the redistribution of snow in alpine areas. Cline, D.W., [1992, p.13-24, eng] **47-4028**

Aerial infrared mapping of snow cover in the Sierra Nevada. Hall, D.K., et al, [1992, p.39-46, eng] **47-4031**

Snow cover distribution and watershed management. Schroeter, H.O., et al, [1992, p.181-192, eng] **47-4047**

Annual snowpack patterns across the Rockies. Changnon, D., et al, [1993, p.633-647, eng] **47-4255**

Variability of snowfall over the conterminous United States during the period 1940-1990. Zapotocny, J.V., [1991, p.191-192, eng] **47-4483**

Recent snowfall variations in North America. Karl, T.R., et al, [1993, p.1327-1344, eng] **47-5211**

Correlation between continental snow cover and air temperature. Leathers, D.J., et al, [1993, p.1345-1355, eng] **47-5212**

Effects of forest cover on a snowpack in the Sierra Nevada. Kattelmann, R., [1990, p.276-284, eng] **47-5219**

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Roof-snow load for seismic-design calculations. O'Rourke, M.J., et al, [1992, p.2338-2350, eng] **47-4**

Microclimate of an interlobate complex in western Finland. Rajakorpi, A., [1984, p.237-337, eng] **47-10**

Modulation of the diurnal streamflow response by the seasonal snowcover of an alpine basin. Caine, N., [1992, p.245-260, eng] **47-175**

Characterizing the distribution of observed precipitation and runoff over the continental United States. Dolph, J., et al. [1992, p.99-119, eng] 47-228

Groundwater issues relating to an Alaskan methanol spill. Robertson, S.B., [1992, p.936-940, eng] 47-234

Observations of the snowcover on sea ice in the Gulf of Bothnia. Crocker, G.B., [1992, p.2433-2445, eng] 47-257

C-band radar backscatter of Baltic Sea ice: theoretical predictions compared with calibrated SAR measurements. Ulander, L.M.H., et al, [1992, p.2447-2468, eng] 47-258

Model evaluations of the Aksay and At-Bashi river runoff with regard to the role of snow cover and glaciers. Shentsis, I.D., [1991, p.136-142, rus] 47-331

On the estimation of snow depth from microwave radiometric measurements. Wang, J.R., et al, [1992, p.785-792, eng] 47-357

Scattering model for snow-covered sea ice. Tjuatja, S., et al, [1992, p.804-810, eng] 47-360

Boreal forests and climate. Thomas, G., et al, [1992, p.469-497, eng] 47-375

Study of the processes of snow cover formation in an unirrigated agricultural zone. Petropavlovskaia, M.S., [1991, p.3-21, rus] 47-380

Effectiveness of snow fences in cultivated fields. Petropavlovskaia, M.S., et al, [1991, p.57-66, rus] 47-384

Calculating the thermal regime of soils in areas with snow fences. Lavrov, S.A., [1991, p.67-74, rus] 47-385

Enhancement of computer model of tracked vehicle performance on snow-covered terrain. Wong, J.Y., [1992, p.341-357, eng] 47-408

Environmental influences on snow algal microbes. Hoham, R.W., [1992, p.78-83, eng] 47-496

Proceedings. [1985, 2 vols., eng] 47-523

Snow cover effect on monsoon fluctuations over India. Sikka, D.R., [1985, p.47-60, eng] 47-524

Some typical problems encountered in roads and airfield pavements in snowbound areas. Arya, I.R., et al, [1985, p.279-286, eng] 47-578

Snow effects on roads. Dhir, M.P., [1985, p.287-292, eng] 47-579

Construction of concrete pavements in areas of snowfall. Phull, Y.R., et al, [1985, p.318-344, eng] 47-581

Construction and maintenance of roads and runways in snowbound region. Shukla, R.S., et al, [1985, p.345-365, eng] 47-582

Snow conditions during MLRS-TGW BBU1 Captive Flight Program. Fisk, D.J., et al, [1992, 76p., eng] 47-700

Longbow-Apache field experiment: data report. Bates, R.E., et al, [1992, 53p., eng] 47-701

Nutrient cycle in high-meadow alpine soils. Stepanov, A.L., et al, [1989, p.55-57, eng] 47-745

Postfire shift from lichen-spruce to lichen-tundra vegetation at tree line. Arseneault, D., et al, [1992, p.1067-1081, eng] 47-773

Influence of snow viscosity on forced flexural-gravity waves in a basin with a density jump. Bukatov, A.E., et al, [1992, p.259-266, eng] 47-781

Climatic effect of excessive snow mass over Eurasia. Yasunari, T., et al, [1991, p.473-487, eng] 47-819

Paleoclimatic implications of new data on the origin of "greze" layering. Bertran, P., et al, [1992, p.97-112, fre] 47-831

Temperature forecast biases associated with snow cover in the Northeast. Wojcik, G.S., et al, [1992, p.501-506, eng] 47-1059

Proceedings of the 1991 Battlefield Atmospherics Conference. [1992, 646p., eng] 47-1067

Source strength terms for winter dispersion models. Hogan, A.W., et al, [1992, p.149-155, eng] 47-1069

Snowmelt and heat balance in snow-covered forested areas. Yamazaki, T., et al, [1992, p.1322-1327, eng] 47-1122

Low temperature records and snow cover effect in the Colorado desert. Doesken, N.J., [1992, p.19-22, eng] 47-1174

Atmospheric general circulation/mixed layer ocean model for climate studies and long-term weather forecasting. Meleshko, V.P., et al, [1991, p.1-9, eng] 47-1176

Rockslide and debris flow from Mount Cayley, B.C., in June 1984. Cruden, D.M., et al, [1992, p.614-626, eng] 47-1185

Large-scale patterns and variability of snowmelt and parameterized surface albedo in the Arctic Basin. Robinson, D.A., et al, [1992, p.1109-1119, eng] 47-1271

Snow, sea ice and climate: a study of scales. LeDrew, E.F., et al, [1992, p.45-59, eng] 47-1425

Errors in net radiometry: comparison and evaluation of six radiometer designs. Halldin, S., et al, [1992, p.762-783, eng] 47-1471

Asian snow cover-monsoon-ENSO connection. Barnett, T.P., et al, [1991, p.191-225, eng] 47-1503

Retrieval of total precipitable water over high-latitude regions using radiometric measurements near 90 and 183 GHz. Wang, J.R., et al, [1992, p.1368-1378, eng] 47-1581

Permafrost occurrence from BTS measurements and climatic parameters in the eastern Swiss Alps. Hoelzle, M., [1992, p.143-147, eng] 47-1754

Estimating effects of snow on shrub availability for black-tailed deer in southwestern British Columbia. Hovey, F.W., et al, [1992, p.308-313, eng] 47-1760

Preliminary analysis of measured sound propagation over various seasonal snow covers. Albert, D.G., [1990, p.51-57, eng] 47-1761

Vertical movements of boulders in a subnival boulder pavement at 2800 m a.s.l. in the Alps (France). Pissart, A., et al, [1992, p.203-208, eng] 47-1771

Permafrost environment of the Daisetsu Mountains, Hokkaido, Japan. Sone, T., [1992, p.235-240, eng] 47-1777

Overwinter nitrate loss and denitrification potential of cultivated soils in Alberta. Heaney, D.J., et al, [1992, p.877-884, eng] 47-1795

Is mummification possible in snow. Ambach, E., et al, [1992, p.191-192, eng] 47-1909

Appraisal of snow damage in an urban area. Umemura, T., et al, [1991, p.1-11, eng] 47-1935

Measurement and modelling of cloudwater deposition to a snow-covered forest canopy. Gallagher, M.W., et al, [1992, p.2893-2903, eng] 47-1947

Pine response to fertilization through snow cover. Marshall, V.G., et al, [1992, p.225-238, eng] 47-2016

Influence of terrain on bedrock temperatures. Lewis, T.J., et al, [1992, p.87-100, eng] 47-2019

Attenuation due to snow fall on an earth-space path. Dong, Q.S., [1989, p.407-410, eng] 47-2072

Lake ice radiation transmittance related to photosynthesis. Bolsenga, S.J., et al, [1992, p.95-104, eng] 47-2286

Relationship between sea ice freeboard and draft in the Arctic Basin, and implications for ice thickness monitoring. Wadhams, P., et al, [1992, p.20,325-20,334, eng] 47-2344

Sea-ice properties off Labrador and Newfoundland during LIMEX '89. Prinsenberg, S.J., et al, [1992, p.207-222, eng] 47-2348

Geochemical processes during naled formation. Ivanov, A.V., [1991, p.45-54, rus] 47-2428

Seismic characteristics of an airgun fired over snow. King, E.C., et al, [1993, p.201-207, eng] 47-2651

Nitrogen storage in an alpine herb. Jaeger, C.H., et al, [1992, p.578-585, eng] 47-2711

Formation of snow cover on roofs of industrial buildings in Yakutia. Filippov, V.V., et al, [1992, p.136-138, rus] 47-2781

Arctic sea ice albedo: a comparison of two satellite-derived data sets. Schweiger, A.J., et al, [1993, p.41-44, eng] 47-2844

Shifts in ice sheet temperatures. Colbeck, S.C., [1993, p.5115-5120, eng] 47-2855

Tropospheric low-level temperature inversions in the Canadian Arctic. Kahl, J.D., et al, [1992, p.511-529, eng] 47-2876

Equilibrium climate model and high latitude glaciation. Oglesby, R.J., [1990, 243p., eng] 47-2894

Three-dimensional atmospheric circulation model with a comprehensive description of physical processes and simplified dynamics. Kislov, A.V., [1991, p.241-246, eng] 47-2895

Dust-accumulative capacity of pine and birch phytocenosis in forest-steppe regions in Siberia. Skripal'shchikova, L.N., [1992, p.39-43, rus] 47-3272

Snow cover and moisture limit in the Tazheran steppe (Priol'khon'e). Gagarin, P.K., [1992, p.62-69, rus] 47-3273

Exogenous processes of the Altai highlands and their relations. Ivanovskii, L.N., [1991, p.26-33, rus] 47-3276

Remote sensing of sea ice geophysical variations. Barber, D.G., et al, [1992, p.233-251, eng] 47-3320

Landfast ice thickness variations in the Canadian High Arctic. Brown, R.D., et al, [1992, p.273-284, eng] 47-3321

Performance and phenology of alpine herbs along a snow-melting gradient. Kudo, G., [1992, p.297-304, eng] 47-3340

Seasonal changes in the radiation balance of subarctic forest and tundra. Lafleur, P.M., et al, [1993, p.32-36, eng] 47-3425

Effect of site disturbance on the soil thermal regime near Fort Simpson, Northwest Territories, Canada. Hayhoe, H.N., et al, [1993, p.37-44, eng] 47-3426

Impacts of severe weather during December 1989 in the Lake Erie snowbelt. Schmidlin, T.W., [1993, p.759-767, eng] 47-3476

Field performance of a spinning-reflector microwave radiometer. Demoz, B.B., et al, [1993, p.420-427, eng] 47-3775

Intercomparison of artificial intelligence approaches for polar scene identification. Tovinkere, V.R., et al, [1993, p.5001-5016, eng] 47-3781

New parameterizations and sensitivities for simple climate models. Graves, C.E., et al, [1993, p.5025-5036, eng] 47-3783

Snow conditions during MLRS-TGW BBS European Captive Flight Program, Hessen, Germany, February 1992. Fisk, D.J., [1993, 37p., eng] 47-3796

Cryogenic (frost-related) systems of some gold-quartz deposits. Talsaev, T.T., [1991, p.178-182, eng] 47-3799

Effect of snow-free duration on leaf life-span of four alpine plant species. Kudo, G., [1992, p.1684-1688, eng] 47-3826

Estimating snow grain size using AVIRIS data. Nolin, A.W., et al, [1993, p.231-238, eng] 47-3919

Icing on a small horizontal-axis wind turbine: part 2, three dimensional ice and wet snow formations. Bose, N., [1992, p.87-96, eng] 47-3922

Solar-heating rates and temperature profiles in antarctic snow and ice. Brandt, R.E., et al, [1993, p.99-110, eng] 47-3944

Analysis of synthetic aperture radar data collected over the southwestern Greenland ice sheet. Jezek, K.C., et al, [1993, p.119-132, eng] 47-3946

Modeling the temperature regime of an arctic soil. Richeva, T.A., et al, [1993, p.1-11, eng] 47-4011

Constraints on ice-sheet thickness over Tibet during the last 40,000 years. Gupta, S.K., et al, [1992, p.283-290, eng] 47-4022

Long-term studies of snow-vegetation interactions. Walker, D.A., et al, [1993, p.287-301, eng] 47-4024

Acoustic pulse propagation over a seasonal snow cover. Albert, D.G., [1992, p.47-53, eng] 47-4032

Local influences on winter minimum air temperatures. Hogan, A.W., et al, [1992, p.243-246, eng] 47-4054

2000-year lichen-snowkill chronology for the Colorado Front Range, USA. Benedict, J.B., [1993, p.27-3[illegible], eng] 47-4144

Snowmelt-induced stream acidity in a subarctic catchment. Davies, T.D., et al, [1993, p.267-300, eng] 47-4171

Bio-optical observations of first-year arctic sea ice. Perovich, D.K., et al, [1993, p.1059-1062, eng] 47-4266

Variations in snow on sea ice: a mechanism for producing climate variations. Ledley, T.S., [1993, p.10,401-10,410, eng] 47-4291

Snow cover model for global climate simulations. Loth, B., et al, [1993, p.10,455-10,464, eng] 47-4293

Spring in the forest terrain at Svartberget, northern Sweden. Odin, H., et al, [1990, p.167-178, eng] 47-4311

Ground temperature variations in a subarctic mountain valley, Abisko, northern Sweden. Josefsson, M., [1990, p.179-190, eng] 47-4312

Depth of snow and frost on a palsa mire, Finnish Lapland. Seppälä, M., [1990, p.191-201, eng] 47-4313

Observations on rock moisture variability in gneiss and basalt under natural, arctic conditions. Humlum, O., [1992, p.197-205, eng] 47-4328

Large sorted stone polygons, and ventifact distribution, in the Syrkadal area, Scania, S. Sweden. Schlyter, P., [1992, p.219-226, eng] 47-4330

Brightness temperature of snow-covered saline ice. Lohanick, A.W., [1993, p.4667-4674, eng] 47-4388

Spatial patterns in backscatter strength across the Greenland ice sheet. Jezek, K.C., [1993, p.269-272, eng] 47-4424

Zonality of macrolichens in British Columbia. Goward, T., et al, [1992, 60p., eng] 47-4516

East antarctic sea ice: albedo, thickness distribution, and snow cover. Allison, I., et al, [1993, p.12,417-12,429, eng] 47-4519

Drag coefficients for winter antarctic pack ice. Wamser, C., et al, [1993, p.12,431-12,437, eng] 47-4520

Roughness of Weddell Sea ice and estimates of the air-ice drag coefficient. Andreas, E.L., et al, [1993, p.12,439-12,452, eng] 47-4521

Influence of opening size on snow evaporation in the forests of the Alberta Foothills. Bernier, P.Y., et al, [1993, p.239-244, eng] 47-4585

Snow and floating ice. Gray, D.M., et al, [1993, p.7/1-7/58, eng] 47-4637

Statistical analysis of soil temperature on Spitsbergen. Mietus, M., [1992, p.103-112, eng] 47-4650

Spatial heterogeneity of high mountain vegetation in the Andean desert zone of Chile. Squeo, F.A., et al, [1993, p.203-209, eng] 47-4712

Plant competition over winter in alpine shrubland and grassland, Snowy Mountains, Australia. Egerton, J.J.G., et al, [1993, p.124-129, eng] 47-4745

Theoretical and experimental studies of snow covers' microwave emissivity. Boyarskii, D.A., et al, [1993, p.959-970, eng] 47-4828

Influence of snow upon rates of granodiorite weathering, Colorado Front Range, USA. Benedict, J.B., [1993, p.87-92, eng] 47-4850

Tracked vehicle performance over snow-covered slopes. Muro, T., [1993, p.143-155, eng] 47-4889

Study of the arctic heat sink. Ripley, E.A., [1990, 95p. + appends., eng] 47-4910

Freezing tolerance of an arctic/subarctic cushion plant. Junttila, O., et al, [1993, p.423-426, eng] 47-4911

Driver behavior during winter conditions. Gabestad, K.O., et al, [1988, 54p. + appends., nor] 47-4992

Pinus development related to soil preparation. Fries, C., [1993, p.73-80, eng] 47-4997

Identification of clear and cloudy pixels at high latitudes from AVHRR radiances. Sakellariou, N.K., et al, [1993, p.2005-2024, eng] 47-5106

Bog fertilizer removal through surface runoff. Telitsyn, V.L., [1993, p.72-78, eng] 47-5192

Snow cover effect *(cont.)*
Correlation between continental snow cover and air temperature. Leathers, D.J., et al. [1993, p.1345-1355, eng] **47-5212**
Bedrock weathering associated with antarctic snowpatches. Hall, K., [1993, p.121-129, eng] **47-5270**
Snow cover stability
Studying the stability of a snow catchment on a glacier. Kunakhovich, M.G., [1991, p.102-107, rus] **47-327**
Classification of snow cover in avalanche-prone regions of the USSR, based on their stratigraphy and stability properties. Troshkina, E.S., et al, [1991, p.196-200, rus] **47-343**
Snow science: reflections on the past, perspectives on the future. Kalitowski, M., ed, [1992, 46p., eng] **47-477**
Suggestions for snow research. Schaerer, P., [1992, p.32-41, eng] **47-481**
Five problems in avalanche research. Perla, R., [1992, p.42-45, eng] **47-482**
Proceedings. [1985, 2 vols., eng] **47-523**
Some observations on the seasonal snow cover. Rao, N.M., [1985, p.65-78, eng] **47-525**
Densification and stability of a seasonal snow pack. Agrawal, K.C., et al, [1985, p.99-111, eng] **47-528**
Slope monitoring in high hills using LANDSAT imageries. Joshi, M.D., et al, [1985, p.196-203, eng] **47-538**
Trials for the measurement of static and impact pressure of snow and avalanches. Hariprasad, N.M., et al, [1985, p.226-243, eng] **47-541**
Study of creep in a mountain snow pack. Ghoshal, P.R., et al, [1985, p.257-270, eng] **47-544**
Assessment of stresses and strains on an avalanche slope by indirect evidence. Sharma, S.S., [1985, p.276-295, eng] **47-546**
Avalanche forecasting by acoustic monitoring of snowpacks. Koul, B.B., [1985, p.318-323, eng] **47-549**
Afforestation for avalanche prevention and control. Tiwari, K.M., et al, [1985, p.392-395, eng] **47-556**
Dynamic simulation of phase changes in snowpacks and soils. Grant, R.F., [1992, p.1051-1062, eng] **47-902**
Avalanche control. [1985, 231p., eng] **47-987**
Outline of avalanches in the Tien Shan mountains. Hu, R.J., et al, [1992, p.7-10, eng] **47-1078**
Effects of forests near the timberline on avalanche formation. Gubler, H., et al, [1991, p.19-38, eng] **47-1290**
Physically based snowcover model. Vehviläinen, B., [1991, p.113-135, eng] **47-1380**
Snowpack characteristics associated with avalanche accidents. Jamieson, J.B., et al, [1992, p.862-866, eng] **47-1441**
Climatic factors and snow surface energy exchange, pt.2. Marks, D., et al, [1992, p.3043-3054, eng] **47-1477**
Avalanche events and weather conditions in Austria, winter 1987/88, '988/89, 1989/90 and 1990/91. Luzian, R., [1992, 188p., ger] **47-1496**
Experience with rutschblocks. Jamieson, J.B., et al, [1992, p.1.4-5, eng] **47-1886**
Identification and mitigation of glacier-related hazards: examples from the Cordillera Blanca, Peru. Reynolds, J.M., [1992, p.143-157, eng] **47-2077**
Month of July like no other. Brunot, G., [1992, p.12-13, fre] **47-2331**
Avalanches in the Italian Alps in the winter of 1991-92. [1992, p.20-63, ita] **47-2616**
Effects of explosives on the mountain snowpack. Ueland, J., [1993, p.4-5, eng] **47-2820**
Investigations on snow disasters and development of a disaster potential index. Ito, T., [1992, p.147-156, eng] **47-3195**
Mechanical properties of high water content snow. Kobayashi, S., et al, [1992, p.313-321, eng] **47-3209**
Perspective: Analytical modeling. Irwin, P.A., [1992, p.471-472, eng] **47-3224**
Seismic properties of artificial polar bear dens. Blix, A.S., et al, [1992, p.20-24, eng] **47-3350**
Prairie Blowing Snow Model: characteristics, validation, operation. Pomeroy, J.W., et al, [1993, p.165-192, eng] **47-3801**
Study on predicting snow avalanches. Oka, K., [1990, *p.1-4, jpn*] **47-4679**
Science of snow and ice (1). Inoue, M., [1984, p.15-18, jpn] **47-5062**
Science of snow and ice (4). Inoue, M., [1985, p.7-11, jpn] **47-5148**
Avalanche countermeasures (1). Kuriyama, H., [1985, p.53-57, jpn] **47-5154**
Avalanche prediction in Scotland: 2. Development of a predictive model. Ward, R.G.W., [1984, p.109-133, eng] **47-5255**
See also: Snow stabilization
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See also: Snow stratigraphy
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Classification of snow cover in avalanche-prone regions of the USSR, based on their stratigraphy and stability properties. Troshkina, E.S., et al, [1991, p.196-200, *rus*] **47-343**
Density of snow and its variations in central and western Himalaya. Rangachary, N., et al, [1985, p.84-97, eng] **47-527**
Integration of remote sensing and nuclear geophysics in seasonal snow cover assessment. Bardhan, M., [1985, p.112-119, eng] **47-529**
On some physical properties of snowpack. Puri, S.R., et al, [1985, p.133-143, eng] **47-532**
Review of isotopic techniques for snow and glacier hydrology of mountain watersheds. Bahadur, J., [1985, p.64-75, eng] **47-562**
Short review on the potentialities of isotope techniques in snow hydrology. Jain, S.K., et al, [1985, p.144-150, eng] **47-567**
Snowpack characteristics associated with avalanche accidents. Jamieson, J.B., et al, [1992, p.862-866, eng] **47-1441**
Non-linear model of the structural transformations of a snow sequence. Samolliuk, V.I., et al, [1991, p.112-115, *rus*] **47-2797**
Polarimetric observations and theory of millimeter-wave backscatter from snow cover. Mead, J.B., et al, [1993, p.38-46, eng] **47-3172**
Signatures of antarctic firn by means of ERS-1 AMI and by field measurements. Rott, H., et al, [1993, p.227-233, eng] **47-4417**
Theoretical and experimental studies of snow covers' microwave emissivity. Boyarskii, D.A., et al, [1993, p.959-970, eng] **47-4828**
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Study of creep in a mountain snow pack. Ghoshal, P.R., et al, [1985, p.257-270, eng] **47-544**
Snow crystal growth
Aircraft observations of the origin and growth of very large snowflakes. Lawson, R.P., et al, [1993, p.53-56, eng] **47-2846**
Formation of patterns during growth of snow crystals. Yokoyama, E., [1993, p.251-257, eng] **47-3470**
Snow crystals, natural and man made. Mason, B.J., [1992, p.227-243, eng] **47-3718**
Growth habits and growth rates of snow crystals. Mason, B.J., [1993, p.3-16, eng] **47-3727**
Mass transfer measurements of graupel growth. Cober, S.G., et al, [1993, p.1591-1609, eng] **47-4832**
Snow crystal nuclei
Dependence of cloud chemistry on drop size. Collett, J.L., Jr., et al, [1993, p.33-42, eng] **47-2705**
Cloud droplets at a mountain-top site in Colorado. *Hindman, E.E., et al, [1993, p.15-22, eng]* **47-3099**
Snow crystal structure
Field guide to snow crystals. LaChapelle, E.R., [1992, 101p., eng] **47-1620**
Structure and physical properties of snow and ice. Maeno, N., ed, [1986, 209p., jpn] **47-1679**
Growth rate of polyhedral ice crystals growing from the *vapor phase and their habit change.* Sei, T., et al, [1989, p.495-502, eng] **47-3465**
Crystal structure of typical snow crystals of low temperature types. Sato, N., et al, [1989, p.521-528, eng] **47-3467**
Formation of patterns during growth of snow crystals. Yokoyama, E., [1993, p.251-257, eng] **47-3470**
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Snow conditions during MLRS-TGW BBU1 Captive Flight Program. Fisk, D.J., et al, [1992, 76p., eng] **47-700**
Longbow-Apache field experiment: data report. Bates, R.E., et al, [1992, 53p., eng] **47-701**
Positioning of satellite navigation system during snowfall. Tranquilla, J.M., et al, [1993, p.295-299, eng] **47-3361**
Magnitude of error factors in estimates of snow-particle masses from images. Detwiler, A.G., et al, [1993, p.804-809, eng] **47-3512**
Snow deformation
Deformation of snow cover under static loads. *Bolotnikov, G.I.,* [1991, p.103-106, rus] **47-389**
Shock wave studies of snow. Johnson, J.B., et al, [1992, p.107-110, eng] **47-1143**
Shock response of snow. Johnson, J.B., et al, [1993, p.4852-4861, eng] **47-3794**
Temperate firn constitutive equation *derived from strain* rates. Ambach, W., et al, [1993, p.295-303, eng] **47-3932**
Snow densification
See also: Snow compression
Snow density
Regularities and distribution of snow cover in the high *mountain regions of the Greater Caucasus.* Menshutin, V.M., [1991, p.39-43, rus] **47-319**
Evaluating water vapor diffusion. Delarov, D.A., et al, [1991, p.46-56, rus] **47-383**
Evaluating the effect of a shock wave on snow cover. *Delarov, D.A., et al, [1991, p.107-122, rus]* **47-390**
Monitoring snow grain size for passive microwave studies. Armstrong, R.L., et al, [1992, p.46-55, eng] **47-493**
Density of snow and its variations in central and western Himalaya. Rangachary, N., et al, [1985, p.84-97, eng] **47-527**
Densification and stability of a seasonal snow pack. Agrawal, K.C., et al, [1985, p.99-111, eng] **47-528**
On some physical properties of snowpack. Puri, S.R., et al, [1985, p.133-143, eng] **47-532**
Dielectric properties of ice and snow at 26.5 to 40 GHz. Koh, G., [1992, p.820-822, eng] **47-660**
Inversion of snow parameters by neural network with iterative inversion. Chen, Z.X., et al, [1992, p.1061-1063, eng] **47-669**
Snow conditions during MLRS-TGW BBU1 Captive Flight Program. Fisk, D.J., et al, [1992, 76p., eng] **47-700**
Longbow-Apache field experiment: data report. Bates, R.E., et al, [1992, 53p., eng] **47-701**
Using field methods to determine strength properties of snow. Samoilov, R.S., et al, [1991, p.170-177, rus] **47-2809**
Shock response of snow. Johnson, J.B., et al, [1993, p.4852-4861, eng] **47-3794**
Model for the anisotropic reflectance of pure snow. Li, S.S., [1982, 60p., eng] **47-4644**
Firn density of the Greenland ice sheet. Braithwaite, R.J., et al, [1993, p.62-65, eng] **47-4918**
Texture and hardness of compacted snow. Kobayashi, T., [1986, *p.64-69, jpn*] **47-5182**
Snow surface scattering theory and particle size distribution. West, R., et al, [1993, p.426-437, eng] **47-5268**
Snow depth
Snow cover of non-Soviet Asia. Kadomtseva, T.G., [1991, p.28-34, rus] **47-317**
On the estimation of snow depth from microwave radiometric measurements. Wang, J.R., et al, [1992, p.785-792, eng] **47-357**
Evaluating water vapor diffusion. Delarov, D.A., et al, [1991, p.46-56, rus] **47-383**
Monitoring snow grain size for passive microwave studies. Armstrong, R.L., et al, [1992, p.46-55, eng] **47-493**
Necessity for creating network for the gauging of snow in the Himalayas. Gupta, M.P., [1985, p.79-83, eng] **47-526**
Possibilities of snow cover estimation using satellite imageries. Joshi, M.D., et al, [1985, p.120-124, eng] **47-530**
On some physical properties of snowpack. Puri, S.R., et al, [1985, p.133-143, eng] **47-532**
Some studies in gamma attenuation for application in snow gauging. Rao, M.V.N., et al, [1985, p.144-148, eng] **47-533**
Validation of passive microwave snow cover algorithms. Hardman, M., et al, [1992, p.818-819, eng] **47-659**
Snow conditions during MLRS-TGW BBU1 Captive Flight Program. Fisk, D.J., et al, [1992, 76p., eng] **47-700**
Longbow-Apache field experiment: data report. Bates, R.E., et al, [1992, 53p., eng] **47-701**
Preliminary assessments of accuracy characteristics of the double-fenced precipitation gauge. Golubev, V.S., [1991, p.101-106, eng] **47-797**
Snow-meteorological yearbook of the Veneto Region mountains, 1988. Cagnati, A., ed, [1989, 209p., ita] **47-840**
Snow-meteorological yearbook of the Veneto Region mountains, 1989. Cagnati, A., ed, [1990, 239p., ita] **47-841**
Snow-meteorological yearbook of the Veneto Region mountains, 1991. Cagnati, A., ed, [1991, 247p., ita] **47-842**
Mass-balance calculation differences due to glacier sampling technique variations. Elder, K., et al, [1992, p.198-206, eng] **47-1112**
Influence of local factors on the distribution of snow resources in northern Tien Shan. Severskii, S.I., et al, [1992, p.220-224, eng] **47-1116**
Revised estimate of pollutant reserve in the snow cover. Fedoseev, N.F., et al, [1989, p.59-63, eng] **47-1224**
Use of microwave radiometry for monitoring the alpine environment. Keshari, A.K., et al, [1991, p.81-89, eng] **47-1295**
Snow-meteorological yearbook of the Veneto mountain region, 1985-1986-1987. Cagnati, A., ed, [1988 249p., ita] **47-1484**
Snow cover distribution in a burned forest. Liang, L.H., et al, *[1992, p.134-140, chi]* **47-1650**
Snow survey of Great Britain, 1991/92. [1992, 24p., eng] **47-2336**
Multiyear surface climatology of a regional atmospheric model over the western United States. Giorgi, F., et al, [1993, p.75-95, eng] **47-2460**
Estimating avalanche hazard in the territory of *Afghanistan.* Kravtsova, V.I., et al, [1991, p.86-93, rus] **47-2793**
Using field methods to determine strength properties of snow. Samollov, R.S., et al, [1991, p.170-177, rus] **47-2809**
Remote sensing of snow using [illegible] methods. Kulemin, G.P., et al, [1992, 36p., rus] **47-2910**
Automated snow depth measurement. Bradley, J.T., et al, [1993, p.74-79, eng] **47-3065**
Proceedings. [1992, 485p., eng] **47-3182**
Statistical analysis of annual extreme ground snow weights for structural design. Joh, O., et al, [1992, p.3-14, eng] **47-3183**

Estimation of ground snow depth based on topographic factors. Takahashi, T., et al. [1992, p.21-32, eng] 47-3185

Field measurement and characteristic analyses of snow load on flat roofs. Mihashi, H., et al. [1992, p.69-80, eng] 47-3189

Roof snow observation and application to house construction. Nakamura, T., et al. [1992, p.81-92, eng] 47-3190

Survey of roof snow depths by *aerial photogrammetry.* Sakurai, S., et al. [1992, p.93-103, eng] 47-3191

Simulation on depth of newly fallen snow based on AMeDAS data. Yamada, Y., et al. [1992, p.169-178, eng] 47-3197

Perspective: Ground snow. Mihashi, H., [1992, p.467-468, eng] 47-3222

Working wih ultrasonic snow depth sensors. Judd, D., [1993, p.6-7, eng] 47-3262

Depth sensors, part 2. Judd, D., [1993, p.6-7, eng] 47-3263

Snow cover and moisture limit in the Tazheran steppe (Priol'khon'e). Gagarin, P.K., [1992, p.62-69, rus] 47-3273

Landfast ice thickness variations in the Canadian High Arctic. Brown, R.D., et al, [1992, p.273-284, eng] 47-3321

Snow depth and density along the Norman Wells pipeline. Burgess, M.M., [1993, 13p. + appends., eng] 47-3903

Estimating snow grain size using AVIRIS data. Nolin, A.W., et al, [1992, p.231-238, eng] 47-3919

Snow in north and east Tyrol 1897-1991. Fliri, F., [1992, 2 vols., ger] 47-4208

Annual snowpack patterns across the Rockies. Changnon, D., et al, [1993, p.633-647, eng] 47-4255

Depth of snow and frost on a palsa mire, Finnish Lapland. Seppälä, M., [1990, p.191-201, eng] 47-4313

Revised snowstorm maximization method for Canadian boreal regions. Chow, K.C.A., et al, [1993, p.449-454, eng] 47-4401

Snow estimation—a GIS application for water resources forecasting. McManamon, A., et al, [1993, p.856-861, eng] 47-4402

East antarctic sea ice: albedo, thickness distribution, and snow cover. Allison, I., et al, [1993, p.12,417-12,429, eng] 47-4519

Snow disposal

Pneumatic process and device for conveying snow. Pasquier, A., [1989, 10 col., eng] 47-3331

Snow removal method. Swanson, E.V., [1988, 8 col., eng] 47-3419

Urban snow dump quality and pollutant reduction in snowmelt by sedimentation. Droste, R.L., et al, [1993, p.9-21, eng] 47-3719

See also: Snow removal

Snow distribution

See also: Snow cover distribution

Snow drifts

See also: Snowdrifts

Snow electrical properties

Extinction behavior of snow between 18 and 90 GHz. West, R., et al, [1992, p.809-[illegible] eng] 47-656

Dielectric properties of ice and snow at 1.5 to 40 GHz. Koh, G., [1992, p.820-822, eng] 47-660

T-matrix approach to scattering from a snow layer. Tzeng, Y.C., et al, [1992, p.828-829, eng] 47-661

Review of the microwave dielectric and extinction properties of sea ice and snow. Hallikainen, M., [1992, p.961-965, eng] 47-665

Long-term study of microwave propagation over changing ground and snow cover. Peck, L., [1992, p.1144-1146, eng] 47-671

Radar cross sections for snow cover at 35, 95, and 225 GHz. Lohmeier, S.P., et al, [1992 p.1655-1657, eng] 47-686

Two-parameter backscatter model of snowcover at millimeter wavelengths. Chang, P., et al, [1992, p.1667-1669, eng] 47-690

Determination of the water content of snow by *dielectric measurements.* Camp, P.R., et al, [1992, 38p., eng] 47-1899

On the dielectric properties of dry snow in the 800 MHz to 13 GHz range. Nyfors, E., [1982, 17p., eng] 47-2772

Snow wetness project. Final report. Wilson, M.A., [1984, 10p. + appends., eng] 47-4904

Snow erosion

Spatial patterns of geochemical denudation in a Colorado alpine environment. Caine, N., [1992, p.63-88, eng] 47-847

Measuring blowing snow in Adélie Land, eastern Antarctica. Wendler, G., [1988, p.93-96, eng] 47-4191

Snow evaporation

Calculating the evaporation from snow in fields with snow fences. Shutov, V.A., [1991, p.35-45, rus] 47-382

Sublimation of intercepted snow as a global *source of water vapor.* Schmidt, R.A., et al, [1992, p.1-9, eng] 47-488

Where has all the snow gone? Snowpack sublimation in northern Arizona. Avery, C.C., et al, [1992, p.84-94, eng] 47-497

Snowpack loss *in the water budget of the San Juan aquifer.* Waltemeyer, S.D., et al, [1992, p.141-145, eng] 47-506

Transport and sublimation of snow in wind-scoured alpine terrain. Pomeroy, J.W., [1991, p.131-140, eng] 47-1300

Snow sublimation in the Urumqi River Basin. Yang, D.Q., et al, [1992, p.122-128, chi] 47-1648

Evaporation of snow under isothermal conditions. Golubev, V.N., et al, [1991, p.27-32, rus] 47-2785

Snow ablation in small forest openings in southwest Alberta. Berry, G.J., et al, [1992, p.1326-1331, eng] 47-3842

Influence of opening size on snow evaporation in the forests of the Alberta Foothills. Bernier, P.Y., et al, [1993, p.239-244, eng] 47-4585

Snow fences

Formation and calculation of snow reserves on agricultural fields with a snow fence. Kaliuzhnyi, I.L., et al, [1991, p.22-34, rus] 47-381

Calculating the evaporation from snow in fields with snow fences. Shutov, V.A., [1991, p.35-45, rus] 47-382

Effectiveness of snow fences in cultivated fields. Petropavlovskaia, M.S., et al, [1991, p.57-66, rus] 47-384

Calculating the thermal regime of soils in areas with snow fences. Lavrov, S.A., [1991, p.67-74, rus] 47-385

Trapping efficiency of snow fences and implications for system design. Tabler, R.D., et al, [1992, 11p., eng] 47-944

Snow fence guide, [1992, p.57-59, eng] 47-1924

How to design and use snow fences, [1992, p.20-21, eng] 47-2324

Snowplow for removing snow from guard rails. Akiba, K., et al, [1992, p.283-286, jpn] 47-2494

Snow loads on cable-anchored avalanche snow fences. Kurokawa, K., et al, [1992, p.103-108, jpn] 47-2512

Wind tunnel tests on snow fences in Hokkaido. Sasaki, M., et al, [1992, p.109-114, jpn] 47-2513

Characteristics of snow pressure acting on avalanche-preventive fences. Katakawa, K., et al, [1992, p.323-331, eng] 47-3210

How to design snow fences. Shelquist, K., [1993, p.22, eng] 47-3681

Fencing pays off big for arctic community. Weber, S., [1992, p.8-11, eng] 47-3836

Use of trees and shrubs for control of blowing snow in *select locations along Wyoming highways.* Powell, K., et al, [1992, 30p., eng] 47-4214

Local *protection from snowdrifts defence structures.* Sivardière, F., et al, [1993, p.6-17, ita] 47-4700

Snow load on *avalanche barriers. In-situ measurements* and experiments. Bavoux, E., [1993, p.18-25, ita] 47-4701

Experiments on snowdrift *prevention in the Okushunbetsu* district of Teshikaga. Anno, Y., [1980, p.46-50, jpn] 47-4932

Review of a wind tunnel experimental facility. *Kokubun,* M., et al, [1981, p.45-62, jpn] 47-4937

Wind tunnel experiments on highway snow countermeasures. Nakano, T., et al, [1987, p.17-28, jpn] 47-4955

Wind tunnel experiments on construction of a highway interchange. Takabe, N., et al, [1987, p.29-34, jpn] 47-4956

Wind tunnel experiments on snow fences. Takabe, N., et al, [1988, p.72-81, jpn] 47-4961

Wind tunnel experiments on highway snow countermeasures. Sasaki, T., et al, [1992, p.92-101, jpn] 47-4976

Study on snow fences. Takeuchi, M., et al, [1984, p.96-100, jpn] 47-5075

Study and design of countermeasures for blowing snow. Katayama, O., et al, [1985, p.96-101, jpn] 47-5090

Snow *countermeasure operations at the Hokkaido* Development Bureau. Bando, T., [1985, p.21-28, jpn] 47-5095

Avalanche countermeasures in Hokkaido. Takeuchi, M., [1985, p.22-26, jpn] 47-5149

Snow loads on avalanche prevention structures. Shimomura, C., et al, [1985, p.63-68, jpn] 47-5156

Snow gages

See also: Precipitation gages

Snow glide

See also: Snow slides

Snow hardness

Problems in studying geographical regularities *in the characteristics of snow cover hardness.* Samoilov, R.S., et al, [1983, p.86-90, rus] 47-1248

Discussion of deep snow *mobility models.* Richmond, P.W., [1993, 10p., eng] 47-3901

Texture and hardness of compacted snow. Kobayashi, T., [1986, p.64-69, jpn] 47-5182

Snow heat flux

Net energy budget over a snow surface. Upadhyay, D.S., et al, [1985, p.129-143, eng] 47-566

Comparison of radar observations of snow with simulation. Davis, R.E., et al, [1992, p.815-817, eng] 47-658

Energy balance of a snow cover and simulation of snowmelt in the western Tien Shan mountains, China. Ma, H., et al, [1992, p.73-78, eng] 47-1089

Physically based approach to modelling distributed snowmelt in a small alpine catchment. Ranzi, R., et al, [1991, p.141-150, eng] 47-1301

Climatic factors and snow *surface energy exchange, pt.1.* Marks, D., et al, [1992, p.3029-3042, eng] 47-1476

Climatic factors and snow surface energy exchange, pt.2. Marks, D., et al, [1992, p.3043-3054, eng] 47-1477

Energy resource of winter season in Siberia and polar areas. Karnatsevich, I.V., [1992, p.177-179, eng] 47-1725

Solar-heating rates and *temperature profiles in antarctic snow and ice.* Brandt, R.E., et al, [1993, p.99-110, eng] 47-3944

Snow *surface temperature variation near a snow pit.* Gwilliam, B.L., [1992, p.269-272, eng] 47-4058

Energy transfer in *ventilated low-temperature snow.* Lax, J., [1988, p.153-157, eng] 47-4207

Snow cover model for global climate simulations. Loth, B., et al, [1993, p.10,451-10,464, eng] 47-4293

Snow hedges

Snow hedge design guidelines: preliminary results and implications. Perchanok, M.S., [1992, p.25-30, eng] 47-4029

Experiments on snowdrift prevention in the Okushunbetsu district of Teshikaga. Anno, Y., [1980, p.46-50, jpn] 47-4932

Wind tunnel experiments on snowbreak forest planting. Ishizuka, Y., [1983, p.17-32, jpn] 47-4943

Wind tunnel *experiments on highway snow* countermeasures. Ishizuka, Y., et al, [1986, p.55-64, jpn] 47-4952

Wind tunnel experiments on highway snow countermeasures. Nakano, T., et al, [1987, p.17-28, jpn] 47-4955

Wind tunnel experiments on highway snow countermeasures. Takabe, N., et al, [1991, p.69-73, jpn] 47-4971

Wind tunnel experiments on innovations at the *Toyono* bypass on National Highway 40. Takabe, N., et al, [1992, p.70-91, jpn] 47-4975

Study and design of countermeasures for blowing snow. Katayama, O., et al, [1985, p.96-101, jpn] 47-5090

Snow countermeasure operations at the Hokkaido *Development* Bureau. Bando, T., [1985, p.21-28, jpn] 47-5095

Selection *of tree species and patterns of planting for snowy* regions. Oie, T., [1985, p.75-81, jpn] 47-5158

Snow highways

See also: Snow roads

Snow hydrology

Influence of avalanche snow transport on snowmelt runoff. De Scally, F.A., [1992, p.73-97, eng] 47-173

Modulation of the diurnal streamflow response by the seasonal snowcover of an alpine basin. Caine, N., [1992, p.245-260, eng] 47-175

Hydrological modelling of a medium-size mountainous *catchment from incomplete* meteorological data. Panagoulia, D., [1992, p.279-310, eng] 47-176

Laboratory investigation *of the leaching of solute from* snowpack by rainfall. Tranter, M., et al, [1992, p.169-178, eng] 47-376

Hydrologic flowpaths of snowpack runoff in a high-elevation catchment. Williams, M.W., [1992, p.103-112, eng] 47-499

Simulation of snowmelt in a small rangeland watershed. Flerchinger, G.N., et al, [1992, p.129-132, eng] 47-503

Proceedings, [1985, 2 vols., eng] 47-523

Necessity for creating network for the gauging of snow in the Himalayas. Gupta, M.P., [1985, p.79-83, eng] 47-526

Density of snow and its variations in central and western Himalaya. Rangachary, N., et al, [1985, p.84-97, eng] 47-527

Some studies in gamma attenuation for application in snow *gauging.* Rao, M.V.N., et al, [1985, p.144-148, eng] 47-533

Some aspects of snow hydrology. Kango, G.H., [1985, p.6-10, eng] 47-557

Snowmelt runoff using Landsat imageries. Jeyaram, A., *et* al, [1985, p.11-21, eng] 47-558

Nomograms for estimating rate of snow-melting from routine meteorological data. Daoo, V.J., et al, [1985, p.22-31, eng] 47-559

Estimation of flow yield in a snow-bound catchment. Abbi, S.D.S., et al, [1985, p.32-42, eng] 47-560

Snow melt runoff for a sub-catchment of Beas basin. Agrawal, K.C., et al, [1985, p.43-63, eng] 47-561

Review of *isotopic techniques for snow and glacier* hydrology of mountain watersheds. Bahadur, J., [1985, *p.64-75, eng]* 47-562

Empirical model for prediction of snowmelt runoff in *Sutlej.* Upadhyay, D.S., et al, [1985, p.76-103, eng] 47-563

Modelling of daily snowmelt runoff during pre-monsoon months for Beas basin up to Manali. Seth, S.M., [1985, p.104-115, eng] 47-564

Short review on the potentialities of isotope techniques in *snow hydrology.* Jain, S.K., et al, [1985, p.144-150, eng] 47-567

Snow hydrology *(cont.)*

Estimation of stored water in the seasonal snow cover by ground surveys in the upper reaches of Beas basin during 1980. Krishnan, V., et al. [1985, p.152-162, eng] **47-568**

Factors affecting snow hydrology. Singh, L.D., [1985, p.180-182, eng] **47-571**

Spillway design floods in Sweden: 1. New guidelines. Bergström, S., et al. [1992, p.505-519, eng] **47-922**

Spillway design floods in Sweden: 2. Applications and sensitivity analysis. Lindström, G., et al. [1992, p.521-539, eng] **47-923**

Proceedings. [1992, 239p., eng] **47-1076**

Factors delaying spring runoff in the upper Ürümqi River basin, China. Kattelmann, R., et al. [1992, p.225-230, eng] **47-1117**

Physics-based models of snow. Morris, E.M., [1991, p.85-112, eng] **47-1379**

Physically based snowcover model. Vehviläinen, B., [1991, p.113-135, eng] **47-1380**

Problems of runoff modeling which are particular to the area or climate being modeled. Dawdy, D.R., [1991, p.541-547, eng] **47-1382**

Snow hydrology. Marshall, S., et al. [1991, p.149-154, eng] **47-1504**

Measurements of snow temperature during rain. Conway, H., et al. [1993, p.6-7, eng] **47-1888**

Simulation of time variation in seasonal snowcover based on routinely available data. Ujihashi, Y., et al. [1991, p.57-68, eng] **47-1934**

Water balance in Svalbard—snow erosion, May 19-24, 1992. Tveit, J., [1992, 51p., nor] **47-2145**

Managing water resources during global change. Herrmann, R., ed. [1992, 860p., eng] **47-2721**

Effects of climate changes on water supplies. Cooley, K.R., et al. [1992, p.185-194, eng] **47-2727**

Rainfall-snowmelt peaks in a warmer climate. Martinec, J., et al. [1992, p.195-202, eng] **47-2728**

Acid deposition and global change in Sequoia National Park. Tonnessen, K.A., [1992 p.497-507, eng] **47-2735**

Accumulation and melt characteristics of northeastern Sierra Nevada snowpacks. Reece, B., et al. [1992, p.631-640, eng] **47-2739**

Snowmelt in Sierra Nevada and Coast Range streamflows. Riddle, L., et al. [1992, p.641-650, eng] **47-2740**

Precipitation model for the Gunnison River basin. Hay, L.E., et al. [1992, p.651-660, eng] **47-2741**

Evaluation of trends in runoff in the western United States. Wahl, K.L., [1992, p.701-710, eng] **47-2746**

Sensitivity of streamflow simulation to changes in climatic inputs. Ng, H.Y.F., et al. [1992, p.257-272, eng] **47-3802**

Acidification potential of snowpack in Sierra Nevada—discussion. Bales, R.C., et al. [1993, p.399-403, eng] **47-4010**

Proceedings of the 49th annual Eastern Snow Conference, Oswego, NY, June 3-4, 1992. [1992, 273p., eng] **47-4026**

Environmental isotope hydrograph separation during snowmelt in a suburban catchment. Buttle, J.M., et al. [1992, p.1-12, eng] **47-4027**

Induced flow channels in a natural snowpack. Albert, M.R., et al. [1992, p.55-60, eng] **47-4033**

Hillslope thermal and hydrologic processes. Pangburn, T., et al. [1992, p.161-167, eng] **47-4045**

Nitrogen dynamics and sub-ice meltwater patterns in a small boreal lake during snowmelt. Jones, H.G., et al. [1992, p.169-180, eng] **47-4046**

Snow cover distribution and watershed management. Schroeter, H.O., et al. [1992, p.181-192, eng] **47-4047**

Hydrology of a prairie slough. Woo, M.K., et al. [1993, p.175-207, eng] **47-4170**

Snowmelt-induced stream acidity in a subarctic catchment. Davies, T.D., et al. [1993, p.267-300, eng] **47-4171**

Revised *snowstorm maximization* method for Canadian boreal regions. Chow, K.C.A., et al. [1993, p.449-454, eng] **47-4401**

Snow estimation—a GIS application for water resources forecasting. McManamon, A., et al. [1993, p.856-861, eng] **47-4402**

Snow and floating ice. Gray, D.M., et al. [1993, p.7/1-7/58, eng] **47-4637**

Hydrologic forecasting. Lettenmaier, D.P., et al. [1993, p.26/1-26/30, eng] **47-4638**

Identifying sources of snowmelt acidification with a watershed mixing model. Schaefer, D.A., et al. [1993, p.345-365, eng] **47-4758**

Chaotic characteristics of snowmelt runoff: a preliminary study. Wilcox, B.P., et al. [1990, p.125-134, eng] **47-5217**

Possible climate change and its impact on snowmelt and water supply in California. Roos, M., [1990, p.135-144, eng] **47-5218**

Snow ice

Structural characteristics and development of sea ice in the western Ross Sea. Jeffries, M.O., et al. [1993, p.63-75, eng] **47-2245**

Snow ice interface

Theoretical approach of thermal regime of snow-covered sea ice. Krass, M.S., et al. [1992, p.62-64, eng] **47-116**

Comparison of radar backscatter from antarctic and arctic sea ice. Hosseinmostafa, R., et al. [1992, p.1533-1535, eng] **47-682**

Case study of whirl ice-holes. Hyvärinen, V., [1988, p.191-193, eng] **47-731**

Snowline/ the equilibrium line. Huang, M.H., [1992, p.285-286, chi] **47-1670**

Chemical composition of snow cover on drifting ice in the Arctic. Bardin, V.I., et al. [1991, p.129-135, rus] **47-2802**

Characterization of snow on floating ice. Garrity, C., [1992, p.313-328, eng] **47-3030**

Effects of freeze-up and melt processes on microwave signatures. Gogineni, S.P., et al. [1992, p.329-341, eng] **47-3031**

Can greenhouse warming induce ice sheet growth. Ledley, T.S., et al. [1993, p.272-275, eng] **47-3046**

Passive microwave remote sensing of snow on floating ice. Garrity, C., [1991, 348p., eng] **47-3133**

Inferring snow cover on sea ice from passive microwave signatures. Lohanick, A.W., [1991, p.119-124, eng] **47-3380**

Snow cover and some of its effects on passive microwave signatures. Garrity, C., [1991, p.125-132, eng] **47-3381**

Surface albedo of snow covered first year and multi-year sea ice. *De Abreu, R.A., et al.* [1991, p.133-140, eng] **47-3382**

Spatial and temporal variations of sea ice surface. Flett, D.G., et al. [1991, p.179-186, eng] **47-3385**

Integration of optical and active microwave data of a snow-covered sea ice surface. Manore, M.J., et al. [1991, p.209-215, eng] **47-3387**

Summer cryospheric and atmospheric variability in the Arctic Basin. Robinson, D.A., et al. [1988, p.44-47, eng] **47-4182**

Brightness temperature of snow-covered saline ice. Lohanick, A.W., [1993, p.4667-4674, eng] **47-4388**

Modeling study of the role of snow on sea ice in producing interannual climate variations. Ledley, T.S., [1991, p.323-326, eng] **47-4486**

Atmospheric forcings on albedo over arctic sea ice. Serreze, M.C., et al. [1991, p.396-399, eng] **47-4493**

Bibliography on snow and ice friction. Colbeck, S.C., [1993, 17p., eng] **47-4869**

Snow impurities

Arctic contaminants: sources, occurrence and pathways. Barrie, L.A., et al. [1992, p.1-74, eng] **47-261**

Evaluating the effect of snow cover pollution on its melting rate. Shutov, V.A., [1991, p.75-86, rus] **47-386**

Distribution and forms of lead compounds in the environment near southern Finland highways. Vuorinen, A., [1986, p.30-33, eng] **47-595**

Seasonal input of heavy metals to antarctic snow. Suttie, E.D., et al. [1992, p.351-357, eng] **47-835**

Changing sources of impurities to the Greenland ice sheet over the last 250 years. Laj, P., et al. [1992, p.2627-2640, eng] **47-901**

Evaluating the effect of dust and gas exhaust on a city and its surrounding terrain. Davydova, N.D., [1990, p.65-74, rus] **47-979**

Anthropogenic sulfate and Asian dust signals in snow from Tien Shan, northwest China. Wake, C.P., et al. [1992, p.45-52, eng] **47-1085**

Industrial influence on glacial processes in mountains of circumpolar regions. Grebenets, V.I., et al. [1992, p.212-214, eng] **47-1114**

Deposition of sulfur and nitrogen compounds over the USSR. Vasilenko, V.N., et al. [1991, p.19-24, eng] **47-1177**

Revised estimate of pollutant reserve in the snow cover. Fedoseev, N.F., et al. [1989, p.59-63, eng] **47-1224**

Physics-based models of snow. Morris, E.M., [1991, p.85-112, eng] **47-1379**

Organic micropollutants in arctic snow and firn. Gregor, D.J., [1992, p.79-90, eng] **47-1428**

Orographic enhancement of snowfall. Dore, A.J., et al. [1992, p.175-179, eng] **47-1553**

European North: soil degradation due to technogenic pollution. Kriuchkov, V.V., [1992, p.94-97, eng] **47-1710**

Radioactive fallout on Tyrolean glaciers. Ambach, W., et al. [1991, p.7-17, ger] **47-1901**

Chemical analysis of snow cover as an indicator of contamination in the Kola Peninsula. Boltenko, E.L., et al. [1991, p.60-64, rus] **47-1987**

Occurrence of heavy metals in antarctic and Greenland ancient ice and recent snow. Boutron, C.F., et al. [1990, p.137-151, eng] **47-2071**

Transport of marine organic matter evidenced in antarctic snow. Cini, R., et al. [1992, p.191-204, eng] **47-2164**

NWRI digest. Cooley, J., ed. [1993, 8p., eng] **47-2199**

Water soluble organic constituents in arctic aerosols and snow pack. Li, S.M., et al. [1993, p.45-48, eng] **47-2845**

Source of lead in Greenland snows. Rosman, K.J.R., et al. [1993, p.333-335, eng] **47-2891**

Optical properties of snow. Brandt, R.E., et al. [1991, p.272-275, eng] **47-3056**

Atmospheric physics and chemistry of Adélie Coast. Polian, G., [1990, p.50-59, fre] **47-3162**

Ecological aspects of the establishment of a West Siberian territorial-industrial complex. Bud'kov, S.T., [1991, p.34-42, rus] **47-3277**

Assessment of the technogenic migration of chemical elements through terrain of a large urbanized territory. Sorokina, E.P., et al. [1991, p.42-49, rus] **47-3278**

Urban snow dump quality and pollutant reduction in snowmelt by sedimentation. Droste, R.L., et al. [1993, p.9-21, eng] **47-3719**

Size distribution of particles in precipitation and river waters in the Baikal Lake region. Anokhin, Iu.A., et al. [1992, p.19-26, eng] **47-3989**

Snowmelt-induced stream acidity in a subarctic catchment. Davies, T.D., et al. [1993, p.267-300, eng] **47-4171**

Atmospheric pollution related to antarctic snow and ice chemistry. Wolff, E., [1992, p.274-280, eng] **47-4507**

Acid snow over coastal Japan, pt.1. Kitada, T., et al. [1993, p.1061-1076, eng] **47-4581**

Acid snow over coastal Japan, pt.2. Kitada, T., et al. [1993, p.1077-1090, eng] **47-4582**

Identifying sources of snowmelt acidification with a watershed mixing model. Schaefer, D.A., et al. [1993, p.345-365, eng] **47-4758**

Isotope tracing of sulfate trends in Colorado lakes. Turk, J.T., et al. [1993, p.415-431, eng] **47-4759**

Soil degradation in the vicinity of industrial centers in the North. Kriuchkov, V.V., [1991, p.103-108, rus] **47-4818**

Snow impurities as a function of pollutant emission remoteness. Malakhov, S.G., et al. [1993, p.111-115, eng] **47-5003**

Aluminium solubility in rainwater and molten snow. Losno, R., et al. [1993, p.29-43, eng] **47-5145**

Chemical composition of snow near a mining plant. Lazareva, I.P., et al. [1993, p.79-86, eng] **47-5193**

Snow line

Equilibrium line altitude variations with latitude, today and during the late Wisconsin. Pelto, M.S., [1992, p.41-46, eng] **47-198**

Impact of summer snowfalls on glacier regimes in the Akshiyrak Massif. Ushnurtsev, S.N., et al. [1991, p.176-181, rus] **47-339**

Revision of Kuhle's ice sheet hypothesis related to Tibetan glaciation. Shi, Y.F., et al. [1992, p.19-35, eng] **47-777**

Snowline/ the equilibrium line. Huang, M.H., [1992, p.285-286, chi] **47-1670**

Estimating glacier-derived runoff from *mountain rivers in* model predictions. Shentsis, I.D., [1991, p.32-40, rus] **47-2786**

New parameterizations and sensitivities for simple climate *models.* Graves, C.E., et al. [1993, p.5025-5036, eng] **47-3783**

Snow and glacier investigations by ERS-1 SAR—first results. Rott, H., et al. [1993, p.577-582, eng] **47-4445**

Oceanic boundary layer in the tropics during the last ice age. Betts, A.K., et al. [1991, p.480-483, eng] **47-4494**

Snow line plunge and the Ice Age. Kuhle, M., [1988, p.15-18, eng] **47-4645**

Late-Quaternary glaciation as a proxy for climate change in the central Andes. Seltzer, G.O., [1993, p.129-138, eng] **47-4711**

Rhine-Linth glacier in the upper Wurm: a model of the last alpine glaciation. Keller, O., et al. [1993, p.15-17, eng] **47-4749**

Conditions of the Pleistocene glaciation of mountainous regions. Klimaszewski, M., [1993, p.1-18, eng] **47-4982**

Snow loads

Roof-snow load for seismic-design calculations. O'Rourke, M.J., et al. [1992, p.2338-2350, eng] **47-4**

Trials for the measurement of static and impact pressure of snow and avalanches. Hariprasad, N.M., et al. [1985, p.226-243, eng] **47-541**

Finite area element snow loading prediction—applications and advancements. Gamble, S.L., et al. [1992, p.1537-1548, eng] **47-1583**

Snowdrift around antarctic building—effects of corner geometry and wind incidence. Kwok, K.C.S., et al. [1992, p.587-591, eng] **47-1845**

Expert system approach to establish design snow and wind loads. *Embleton,* K.M., [1990, 263p., eng] **47-2103**

Telemetry of loads on avalanche protection structures. Bavoux, E., [1992, p.26-28, fre] **47-2333**

Formation of snow cover on roofs of industrial buildings in Yakutia. Filippov, V.V., et al. [1992, p.136-138, rus] **47-2781**

Proceedings [1992, 485p., eng] **47-3182**

Statistical analysis of annual extreme ground snow weights for structural design. Joh, O., et al. [1992, p.3-14, eng] **47-3183**

Snow load variation with altitude in Norway. Sandvik, R., [1992, p.15-20, eng] **47-3184**

Estimation of ground snow depth based on topographic factors. Takahashi, T., et al. [1992, p.21-32, eng] 47-3185

Use of snow survey data in determination of ground snow loads. Powell, D.R., [1992, p.45-56, eng] 47-3187

Effects of roof size and heat transfer on snow loads on flat roofs. Irwin, P.A., et al. [1992, p.59-68, eng] 47-3188

Field measurement and characteristic analyses of snow load on flat roofs. Mihashi, H., et al. [1992, p.69-80, eng] 47-3189

Roof snow observation and application to house construction. Nakamura, T., et al. [1992, p.81-92, eng] 47-3190

Survey of roof snow depths by aerial photogrammetry. Sakurai, S., et al. [1992, p.93-103, eng] 47-3191

Wind effects on snow accumulation on a flat roof. Suzuya, J., et al. [1992, p.105-116, eng] 47-3192

Snow load prediction in the Andes Mountains and downtown Toronto. Williams, C.J., et al. [1992, p.135-145, eng] 47-3194

Estimation of daily snow mass on the ground using air temperature and precipitation data. Kamimura, S., et al. [1992, p.157-167, eng] 47-3196

Wind tunnel modeling of snow accumulations on large-area roofs. Isyumov, N., et al. [1992, p.181-193, eng] 47-3198

Laboratory studies of snow drifts on multilevel roofs. O'Rourke, M.J., et al. [1992, p.195-206, eng] 47-3199

Development of a wind tunnel for the study of snowdrifting. Toyoda, K., et al. [1992, p.207-214, eng] 47-3200

Excess snow loads on flat roofs. Wianecki, J., et al. [1992, p.215-228, eng] 47-3201

Characteristics of snow pressure acting on avalanche-preventive fences. Katakawa, K., et al. [1992, p.323-331, eng] 47-3210

Design of North Cascade visitor center located in deep snow country. Albrecht, R.G., [1992, p.343-352, eng] 47-3212

Roof snow/ice loads compared to ground snow load. Mackinlay, I., et al, [1992, p.353-363, eng] 47-3213

Design review for snow country. Paine, J.C., [1992, p.373-379, eng] 47-3215

ASCE Standard 7 snow loads. Sack, R.L., et al. [1992, p.381-391, eng] 47-3216

Overview of snow loads for Fairbanks, Alaska. Tobiasson, W., et al, [1992, p.393-404, eng] 47-3217

Standardization of snow loads on roofs—DIS 4355: revision of ISO Standard 4355. Apeland, K., [1992, p.411-437, eng] 47-3219

Effectiveness of code provisions for snow accumulations on stepped roofs. Kennedy, D.J.L., et al. [1992, p.439-452, eng] 47-3220

Codification of European snow loading. Tory, J.R., [1992, p.453-464, eng] 47-3221

Perspective: Ground snow. Mihashi, H., [1992, p.467-468, eng] 47-3222

Perspective: Structured case histories. O'Rourke, M.J., [1992, p.469-470, eng] 47-3223

Perspective: Analytical modeling. Irwin, P.A., [1992, p.471-472, eng] 47-3224

Perspective: Experimental modeling. Isyumov, N., [1992, p.473-476, eng] 47-3225

Perspective: Building design. Mackinlay, I., et al. [1992, p.481-484, eng] 47-3228

Perspective: Codes and standards. Apeland, K., [1992, p.485, eng] 47-3229

Estimation of snowfall from measurements of total snow weight. Abe, O., et al. [1992, p.115-122, jpn] 47-3296

Standing seam metal roofing systems in cold regions. Tobiasson, W., et al. [1993, p.34-44, eng] 47-3542

Analysis of snow loads due to drifting on multilevel roofs. Speck, R.S., Jr., [1984, 92p., eng] 47-3700

Flow along developable surface snowplow moldboards. Crane, R.L., [1992, 293p., eng] 47-4677

Basic experiments on snow avalanche abatement. Shimomura, C., et al. [1990, p.5-8, jpn] 47-4680

Snow load on avalanche barriers. In-situ measurements and experiments. Bavoux, E., [1993, p.18-25, ita] 47-4701

Snow loads on road-side structures during plowing. Rudelstorfer, K., et al. [1987, 88p., ger] 47-4989

Shinjo Branch of the National Research Center for Disaster Prevention Science and Technology. Nakamura, T., [1985, p.53-60, jpn] 47-5100

Snow loads on avalanche prevention structures. Shimomura, C., et al. [1985, p.63-68, jpn] 47-5156

Effects of drifting on snow loads on large roofs. Irwin, P.A., et al. [1993, p.508-513, eng] 47-5262

Snow manufacturing

Snow-weathering test apparatus for self-propelled vehicle. Kimura, C., [1989, 6 col., eng] 47-3329

Apparatus for production of compression-solidified snow. Tsukada, H., et al. [1988, 6 col., eng] 47-3500

Apparatus for changing artificial snow to wet snow. Suga, N., et al, [1988, 6 col., eng] 47-3634

See also: Artificial snow

Snow mechanics

Characteristics of avalanche-forming snow on Sakhalin Island. Danilina, A.V., et al, [1992, p.51-57, rus] 47-184

Methods for improving instruments for contact determination of physical-mechanical properties of snow. Beilinson, M.M., et al, [1991, p.97-102, rus] 47-388

Deformation of snow cover under static loads. Bolotnikov, G.I., [1991, p.103-106, rus] 47-389

Evaluating the effect of a shock wave on snow cover. Delarov, D.A., et al, [1991, p.107-122, rus] 47-390

Proceedings. [1985, 2 vols., eng] 47-523

Densification and stability of a seasonal snow pack. Agrawal, K.C., et al, [1985, p.99-111, eng] 47-528

Single stress time parameter for snow under tension. Kachroo, P.N., [1985, p.244-248, eng] 47-542

Single pressure-time parameter for snow under compression. Kachroo, P.N., [1985, p.249-256, eng] 47-543

Study of creep in a mountain snow pack. Ghoshal, P.R., et al, [1985, p.257-270, eng] 47-544

Shock response of snow: analysis of experimental methods and constitutive model development. Johnson, J.B., et al, [1992, 19p., eng] 47-705

Transfer of ions within the system soil-snow and the role of ice surface in their migration. Ostroumov, V.E., et al, [1992, p.127-135, eng] 47-1717

Analysis of energy dissipation caused by snow compaction during displacement plowing. Hansen, A.C., [1991, p.177-181, eng] 47-1800

Goal-oriented design of an improved displacement snowplow. Crane, R.L., et al, [1991, p.188-192, eng] 47-1802

Negatively buoyant jet (or plume) with applications to snowplow exit flow behavior. Lindberg, W.R., et al, [1991, p.219-229, eng] 47-1806

Studying the friction and adhesive properties of snow. Ermakov, K.K., et al, [1991, p.191-195, rus] 47-2812

Perspective: Mechanical properties and behavior. Tobiasson, W., [1992, p.479-480, eng] 47-3227

Pneumatic process and device for conveying snow. Pasquier, A., [1989, 10 col., eng] 47-3331

Temperate firn constitutive equation derived from strain rates. Ambach, W., et al, [1993, p.295-303, eng] 47-3932

Flow along developable surface snowplow moldboards. Crane, R.L., [1992, 293p., eng] 47-4677

Bibliography on snow and ice friction. Colbeck, S.C., [1993, 17p., eng] 47-4869

Saltating particles over flat beds. Nalpanis, P., et al, [1993, p.661-685, eng] 47-5195

Snow melting

Scattering by rain and melting snow. Kharadly, M.M.Z., [1989, p.406-410, eng] 47-19

Mesoscale interactions in the snow cover-atmosphere system during a period of snow melting. Loktionova, E.M., et al, [1991, p.48-53, rus] 47-321

Evaluating the effect of snow cover pollution on its melting rate. Shutov, V.A., [1991, p.75-86, rus] 47-386

Method of determining the heat balance components of snow cover during a melting period. Shutov, V.A., [1991, p.87-96, rus] 47-387

Solar chest for melting snow performance evaluation. Hariprasad, N.M., et al, [1985, p.203-211, eng] 47-572

Use of radiation absorbing for clearing snow in mountainous regions. Vombatkere, S.G., [1985, p.222-239, eng] 47-574

Use of radiation absorbing materials for clearing snow in mountainous areas. Sharma, H.D., [1985, p.240-247, eng] 47-575

Accelerated snow melting by artificial means. Bhattacharya, U., et al, [1985, p.248-263, eng] 47-576

Snow and ice melting system for automotive vehicles. Ahmed, M.I., [1989, 12 col., eng] 47-3105

Specifying snow melting system performance. Fyall, W.L., et al, [1992, p.241-252, eng] 47-3203

Snow removal from a pantiled roof using electrically heated roof tiles. Higashiyama, Y., et al, [1992, p.253-262, eng] 47-3204

Removal of snow from membrane structures. Otsuka, K., et al, [1992, p.263-274, eng] 47-3205

Heat mechanism of groundwater flow (part 1). Higashiura, M., et al, [1991, p.69-88, jpn] 47-3293

Snow removal method. Swanson, E.V., [1988, 8 col., eng] 47-3419

Field performance of a spinning-reflector microwave radiometer. Demoz, B.B., et al, [1993, p.420-427, eng] 47-3775

Strongly temperature dependent microphysical processes and the atmosphere. Stewart, R.E., et al, [1992, p.309-315, eng] 47-3996

Chemical composition of precipitation in Uzbekistan. Kulmatov, R.A., et al, [1993, p.413-419, eng] 47-4068

Snow-disposal unit and method. Jackson, P.H., [1986, 8 col., eng] 47-4265

Form of cyclonic precipitation and its thermal impact. Gedzelman, S.D., et al, [1993, p.1957-1978, eng] 47-4355

Study of snow melting mechanism by solar radiative absorption material. Inaba, H., et al, [1992, p.715-726, eng] 47-4363

Sprinkler snow melting on railway tracks. Sawase, K., et al, [1992, p.727-738, eng] 47-4364

Application of ERS-1 SAR data to snow mapping. Hallikainen, M., et al, [1993, p.589-594, eng] 47-4447

Simulation for planning road snow melting. Miyamoto, S., [1990, p.13-16, jpn] 47-4682

Road heating in Sapporo, [1990, 18p., eng] 47-4781

Study on winter road maintenance with a snow melting system. Miyamoto, S., et al, [1993, p.34-37, jpn] 47-4790

Road heating control using snowfall forecast data. Takahashi, T., et al, [1993, p.43-50, jpn] 47-4792

Current status of road snow melting in Jozankei, Sapporo City. Sato, M., et al, [1986, p.330-339, jpn] 47-4798

Snow wetness project. Final report. Wilson, M.A., [1984, 10p. + appends., eng] 47-4904

Science of snow and ice (4). Inoue, M., [1985, p.7-11, jpn] 47-5148

Snow removal drains and snow melting drains. Okuma, T., [1985, p.21-26, jpn] 47-5163

Current status and problems of road heating facilities for expressways. Murakuni, M., [1985, p.27-33, jpn] 47-5164

Non-sprinkler snow melting by water pipe heating. [1985, p.40-44, jpn] 47-5166

See also: Snowmelt

Snow metal friction

See also: Metal snow friction

Snow metamorphism

See also: Metamorphism (snow)

Snow morphology

Signatures of antarctic firn by means of ERS-1 AMI and by field measurements. Rott, H., et al, [1993, p.227-233, eng] 47-4417

Snow optics

Extinction of visible and infrared beams by falling snow. Hutt, D.L., et al, [1992, p.5121-5132, eng] 47-449

Remote sensing of alpine snow cover in visible and near-infrared wavelengths. Dozier, J., [1992, p.10-21, eng] 47-479

Neural network inversion of radiometry of snow surface parameters. Tsang, L., et al, [1992, p.1015-1024, eng] 47-1259

Multiple scattering model for the atmosphere-snow system. Aoki, T., [1992, p.77-83, eng] 47-3007

Optical properties of snow. Brandt, R.E., et al, [1991, p.272-275, eng] 47-3056

New airborne precipitation spectrometer for atmospheric research. Lawson, R.P., et al, [1993, p.30-35, eng] 47-3062

Fog, snow and rain calibrations for forward-scatter visibility sensors. Burnham, D.C., [1993, p.66-71, eng] 47-3063

Automating the observation of blowing snow. Lewis, R., [1993, p.86-90, eng] 47-3066

Positioning of satellite navigation system during snowfall. Tranquilla, J.M., et al, [1993, p.295-299, eng] 47-3361

Precipitation detection with a scintillation device. Wang, T.I., [1988, 14 col., eng] 47-3637

Estimating snow grain size using AVIRIS data. Nolin, A.W., et al, [1993, p.231-238, eng] 47-3919

Solar-heating rates and temperature profiles in antarctic snow and ice. Brandt, R.E., et al, [1993, p.99-110, eng] 47-3944

Absorption of solar radiation at the antarctic snow surface. Grenfell, T.C., et al, [1988, p.151-152, eng] 47-4206

Brightness temperature of snow-covered saline ice. Lohanick, A.W., [1993, p.4667-4674, eng] 47-4388

Signatures of antarctic firn by means of ERS-1 AMI and by field measurements. Rott, H., et al, [1993, p.227-233, eng] 47-4417

Snow and glacier investigations by ERS-1 SAR—first results. Rott, H., et al, [1993, p.577-582, eng] 47-4445

Model for the anisotropic reflectance of pure snow. Li, S.S., [1982, 60p., eng] 47-4644

Theoretical and experimental studies of snow covers' microwave emissivity. Boyarskii, D.A., et al, [1993, p.959-970, eng] 47-4828

Snow pellets

Effects of high liquid water content on thunderstorm charging. Saunders, C.P.R., et al, [1992, p.14,671-14,676, eng] 47-252

Computationally efficient approximations to stratiform cloud microphysics parameterization. Ghan, S.J., et al, [1992, p.1572-1582, eng] 47-1998

Development of ice and precipitation in New Mexican summertime cumulus clouds. Blyth, A.M., et al, [1993, p.91-120, eng] 47-2146

Review of thunderstorm electrification processes. Saunders, C.P.R., [1993, p.642-655, eng] 47-3507

Calculation of microwave brightness temperatures over a thunderstorm. Muller, B.M., et al, [1993, p.1006-1013, eng] 47-3567

Hail growth hysteresis. Johnson, D.B., et al, [1992, p.2525-2532, eng] 47-3674

Snow pellets *(cont.)*
High ice crystal production in winter cumuli over the Japan Sea. Takahashi, T., [1993, p.451-454, eng] 47-3729
Microholographic study of cloud layers. Borrmann, S., et al. [1993, p.277-293, eng] 47-3772
Collision between graupel particles: a field observation and theory. Mizuno, H., et al. [1992, p.1037-1043, eng] 47-4019
Mass transfer measurements of graupel growth. Cober, S.G., et al. [1993, p.1591-1609, eng] 47-4832

Snow permeability
Vapor diffusion coefficient for snow. Colbeck, S.C., [1993, p.109-115, eng] 47-1903
Acoustic pulse propagation over a seasonal snow cover. Albert, D.G., [1992, p.47-53, eng] 47-4032

Snow physics
Methods for improving instruments for contact determination of physical-mechanical properties of snow. Bellinson, M.M., et al. [1991, p.97-102, rus] 47-388
Density of snow and its variations in central and western Himalaya. Rangachary, N., et al. [1985, p.84-97, eng] 47-527
Avalanche control. [1985, 231p., eng] 47-987
Physics-based models of snow. Morris, E.M., [1991, p.85-112, eng] 47-1379
Vapor diffusion coefficient for snow. Colbeck, S.C., [1993, p.109-115, eng] 47-1903
Is mummification possible in snow. Ambach, E., et al. [1992, p.191-192, eng] 47-1909
Remote sensing of snow using radar methods. Kulemin, G.P., et al. [1992, 36p., rus] 47-2910
Apparatus for measuring the moisture content of snow particles. Suga, N., [1989, 6 col., eng] 47-3330
Snow crystals, natural and man made. Mason, B.J., [1992, p.227-243, eng] 47-3718
Growth habits and growth rates of snow crystals. Mason, B.J., [1993, p.3-16, eng] 47-3727
Shock response of snow. Johnson, J.B., et al. [1993, p.4852-4861, eng] 47-3794
Small vertical supercooled cloud tunnel system for the study of ice (snow) crystal growth. Gong, N.H., et al. [1992, p.254-262, eng] 47-4074
Snow cover model for global climate simulations. Loth, B., et al. [1993, p.10,451-10,464, eng] 47-4293

Snow pillows
Estimation of snowfall from measurements of total snow weight. Abe, O., et al. [1992, p.115-122, jpn] 47-3296

Snow plastics friction
See also: Plastics snow friction

Snow precipitation
See also: Snowfall

Snow recrystallization
See also: Metamorphism (snow)

Snow removal
Problems of snow on road and airfields. Ghosal, D.N., [1985, p.212-221, eng] 47-573
Use of radiation absorbing for clearing snow in mountainous regions. Vombatkere, S.G., [1985, p.222-239, eng] 47-574
Use of radiation absorbing materials for clearing snow in mountainous areas. Sharma, H.D., [1985, p.240-247, eng] 47-575
Accelerated snow melting by artificial means. Bhattacharya, U., et al. [1985, p.248-263, eng] 47-576
Deicing of roads. Ghosh, S., [1985, p.264-278, eng] 47-577
Snow effects on roads. Dhir, M.P., [1985, p.287-292, eng] 47-579
Construction and maintenance of roads and runways in snowbound region. Shukla, R.S., et al. [1985, p.345-365, eng] 47-582
Systems approach to management of roads and airfields in snowbound areas. Bose, S., et al. [1985, p.366-380, eng] 47-583
Preprints. [1992, Var. p. (2 vols.), eng] 47-925
Snow removal and ice control technology on Swiss highways. Schlup, U., [1992, 8p., eng] 47-927
Goals and methods of winter maintenance in Finland. Katko, K., [1992, 7p., eng] 47-928
Determining maintenance truck station network and snow plow routes in Finland. Korhonen, P., et al. [1992, 17p., eng] 47-930
New ideas and equipment for winter maintenance in Finland. Kuusela, R., et al. [1992, 8p., eng] 47-949
Analytical model for two stage rotary snowplows. Stevens, D.J., et al. [1992, 12p., eng] 47-950
Development of pneumatic snow conveyance equipment. Sumita, N., et al. [1992, 10p., eng] 47-954
Evaluating the technical level of snowplows. Shtain, A.I., et al. [1990, p.23-24, rus] 47-1415
Fight winter and win: a survival guide for public officials. [1992, 9p., eng] 47-1493
Analysis of energy dissipation caused by snow compaction during displacement plowing. Hansen, A.C., [1991, p.177-181, eng] 47-1800
Goal-oriented design of an improved displacement snowplow. Crane, R.L., et al. [1991, p.188-192, eng] 47-1802
Application of routing technologies to rural snow and ice control. Haslam, E., et al. [1991, p.202-211, eng] 47-1804
Integrating GIS and CAD for transportation data base development. Wang, J.Y., et al. [1991, p.212-218, eng] 47-1805
Negatively buoyant jet (or plume) with applications to snowplow exit flow behavior. Lindberg, W.R., et al. [1991, p.219-229, eng] 47-1806
Design and analysis of a low speed drag plow for use in deep snow. Walsh, M.R., et al. [1992, 51p., eng] 47-1894
Village uses a multiple defense strategy for snow removal. Miller, R.H., [1992, p.42-44, eng] 47-1919
One city's guide to snow and ice operations and planning. Usher, B., [1992, p.36-37, eng] 47-1925
Sidewalk snow removal at the foot of the Rockies. Ruiz, J., [1992, p.49-50, eng] 47-1926
Salt and sand compared for winter road treatment. Jones, R.H., [1992, p.58-59, eng] 47-1928
Snow removal from roads. [1992, p.62-63,91, eng] 47-1929
Nevada takes close look at CMA efficacy. Nelson, R.J., [1992, p.32-34, eng] 47-1945
Snow removing equipment for a multipurpose motor vehicle chassis. Nishnevich, E.L., et al. [1991, p.14-15, rus] 47-2062
Bulldozer equipment with a controlled blade for maintaining mountain roads. Turgumbaev, D.D., et al. [1992, p.17-18, rus] 47-2063
Structural analysis of the suspension of a rotary snow blower. Savel'ev, A.G., et al. [1991, p.22-24, rus] 47-2068
What makes a quality material spreader. [1992, p.19, eng] 47-2323
Snow drainage ditch project using sea water. Mizuno, E., et al. [1992, p.23-28, jpn] 47-2490
Mechanical opening and shutting device for snow removal storm drain openings. Fukushi, H., et al. [1992, p.29-34, jpn] 47-2491
Tests on road snow removal (conclusion)—tests on snow removal in urban areas. [1992, p.247-262, jpn] 47-2493
Snowplow for removing snow from guard rails. Akiba, K., et al. [1992, p.283-286, jpn] 47-2494
Improving the efficiency of snowplows. Kubota, S., et al. [1992, p.287-292, jpn] 47-2495
Snow removal channeling operations—battle against snow and ice bars. Suzuki, K., et al. [1992, p.201-204, jpn] 47-2504
Snow removal channeling operations in Iwamizawa City. Hirai, Y., et al. [1992, p.205-208, jpn] 47-2505
Snow removal equipment with an emergency water pump. Hoshino, J., et al. [1991, p.145-150, jpn] 47-2519
Tests on road snow removal (continuation)—tests on snow removal in urban areas. [1991, p.159-178, jpn] 47-2522
Performance tests on a rotary snowplow (with a single loading operation). Sawaguchi, S., et al. [1991, p.199-204, jpn] 47-2523
Tests on improving the efficiency of snow removal equipment on snow removal trucks. Nakajima, J., et al. [1991, p.205-210, jpn] 47-2524
Freeze prevention of water intakes for snow drainage ditches. Takeuchi, T., et al. [1991, p.97-102, jpn] 47-2537
Recessed deflecting road reflector. Sheldon, S.A., [1989, 6 col., eng] 47-3104
Plastic moldboards for snow plows and the like. Ciula, J.C., [1989, 14 col., eng] 47-3111
Influence of winter road maintenance on traffic accident rates. Hanbali, R.M., [1992, 305p., eng] 47-3130
Proceedings. [1992, 485p., eng] 47-3182
Static friction of roofing materials against an ice mass. Watanabe, M., et al. [1992, p.231-240, eng] 47-3202
Specifying snow melting system performance. Fyall, W.L., et al. [1992, p.241-252, eng] 47-3203
Snow removal from a pantiled roof using electrically heated roof tiles. Higashiyama, Y., et al. [1992, p.253-262, eng] 47-3204
Removal of snow from membrane structures. Otsuka, K., et al. [1992, p.263-274, eng] 47-3205
Engineering studies on pneumatic conveying systems of snow. Kobayashi, T., et al. [1992, p.275-286, eng] 47-3206
Hydraulic transportation machine development for snow removal from urban areas. Umemura, T., [1992, p.287-297, eng] 47-3207
Flow characteristics of snow-water mixtures in horizontal pipes. Sasaki, M., et al. [1992, p.301-312, eng] 47-3208
Re-application of traditional architectural schemes in the snow country. Mizuno, I., [1992, p.365-371, eng] 47-3214
Perspective: Snow control. Williams, C., [1992, p.477-478, eng] 47-3226
Perspective: Mechanical properties and behavior. Tobiasson, W., [1992, p.479-480, eng] 47-3227
Heat mechanism of groundwater flow (part 1). Higashiura, M., et al. [1991, p.69-88, jpn] 47-3293
Simple differentiation of snow road formation for snow removal road. Abe, O., [1992, p.137-143, jpn] 47-3298
Snow removal device for vehicle. Motohashi, Y., [1989, 12 col., eng] 47-3324
Automobile windshield cleaning tool. Littledeer, T.F., [1989, 4 col., eng] 47-3326
Pneumatic process and device for conveying snow. Pasquier, A., [1989, 10 col., eng] 47-3331
Adjustable, manual snowplow. Kulat, A.C., [1989, 4 col., eng] 47-3411
Snow removal method. Swanson, E.V., [1988, 8 col., eng] 47-3419
Snow blower with vertical endless belt digger. Cloutier, R., [1988, 6 col., eng] 47-3496
Snowplow assembly quick block and pin disconnect for a payloader. Dejana, V., [1988, 6 col., eng] 47-3499
Apparatus for production of compression-solidified snow. Tsukada, H., et al. [1988, 6 col., eng] 47-3500
Method and apparatus for scraping ice and snow and illuminating a scraping area. Hopkins, E.L., [1988, 6 col., eng] 47-3502
Swing wheel snowthrower. Friberg, N.J., et al. [1988, 10 col., eng] 47-3636
Maintenance vehicle with snow tiller apparatus. Haug, W., [1988, 6 col., eng] 47-3643
How Arizona handles winter roads. [1993, p.19, eng] 47-3683
Snow plow attachment. Steinhoff, K., [1987, 4 col., eng] 47-3848
Cargo container lift device. Hatley, J.F., [1987, 6 col., eng] 47-3852
Winter maintenance (1991-1993). [1993, 33p., eng] 47-3902
Clive's recipe for successful snow and ice control. Wray, W.J., Jr., [1993, p.17, eng] 47-3907
Snowplow resistant road markers. Eigenmann, L., [1987, 6 col. eng] 47-4000
Snowp[illegible]nd implement attachment means for a vehicle. Quen[illegible].J., [1987, 14 col., eng] 47-4001
Snow-removing machine. Gisler, H., et al. [1987, 8 col., eng] 47-4003
Ice preparation machine for ice tracks. Schiehe, H., [1987, 4 col., eng] 47-4005
Snowblower. Swanson, J.L., [1986, 4 col., eng] 47-4099
Snow tiller. Haug, W., [1988, 10 col., eng] 47-4258
Snowplow mounted on longitudinal frame attachable to chassis. Racicot, G., [1986, 14 col., eng] 47-4264
Snow-disposal unit and method. Jackson, P.H., [1986, 8 col., eng] 47-4265
Winter storm mapping: a Geographic Information Systems Transportation application. Swift, L.B., et al. [1992, p.60-71, eng] 47-4359
Sprinkler snow melting on railway tracks. Sawase, K., et al. [1992, p.727-738, eng] 47-4364
Anticorrosive deicer used on bridges. [1993, p.36, eng] 47-4623
Snow-belt county's approach to snow and ice control. Bakken, R.C., [1993, p.40-42, eng] 47-4625
Flow along developable surface snowplow moldboards. Crane, R.L., [1992, 293p., eng] 47-4677
Published research papers. [1990, 37p. + panel discussion, jpn] 47-4678
Development of snow removal information systems. Kato, T., et al. [1990, p.9-11, jpn] 47-4681
Simulation for planning road snow melting. Miyamoto, S., [1990, p.13-16, jpn] 47-4682
Development of methods to evaluate mechanical snow removal. Endo, T., et al. [1990, p.17-19, jpn] 47-4683
Automation of snow removal graders. Kamimura, H., [1990, p.20-23, jpn] 47-4684
Research summaries. [1990, 78p., jpn] 47-4688
Roads in Hokkaido. [1992, 27p., eng] 47-4690
New snow protection engineering handbook. [1988, 527p., jpn] 47-4724
Snow clearing removal technique of Sapporo. Hirata, M., [1991, 7p., eng] 47-4779
Harmony between road management and environment in winter. [1992, 44p., eng] 47-4780
Road heating in Sapporo. [1990, 18p., eng] 47-4781
Published research papers. [1993, 54p., jpn] 47-4782
Study on regional activities and roads in winter. [1993, p.5-8, jpn] 47-4784
Comfortable towns with enhanced safety in snow. Sakamoto, Y., [1991, p.13-21, eng] 47-4786
Tests on snow removal equipment. Sawaguchi, S., [1993, p.22-25, jpn] 47-4787
Development of simple-operation sidewalk snow removal equipment. Fukuta, N., et al. [1993, p.26-29, jpn] 47-4788
Development of shock absorbers for snow removal graders. Kumamoto, Y., et al. [1993, p.30-33, jpn] 47-4789
Study on winter road maintenance with a snow melting system. Miyamoto, S., et al. [1993, p.34-37, jpn] 47-4790
Road heating control [illegible] snowfall forecast data. Takahashi, T., et a[illegible] p.43-50, jpn] 47-4792
Research summari[illegible]07p., jpn] 47-4794

Current status and future trends for road snow and ice countermeasures in North America. Special lecture. Minsk, L.D., [1993, 4p., jpn] 47-4795

Data on Hokkaido roads and snow. [1993, 26p., jpn] 47-4796

New Kotoni snow removal channel. [1992, n.p. (brochure), jpn] 47-4797

Current status of road snow melting in Jozankei, Sapporo City. Sato, M., et al. [1986, p.330-339, jpn] 47-4798

Winter road maintenance by the Hokkaido Development Bureau. [1992, 39p., eng] 47-4799

Snow-Sapporo-21 Project. [1991, 50p., eng] 47-4800

Shock absorption for the KBR-80 compact snowplow. Yamada, Y., et al. [1980, p.23-30, jpn] 47-4929

Determining the operational visibility of snowplows (part 2). Yanagisawa, Y., [1980, p.31-36, jpn] 47-4930

Trends in snow removal machinery at the Hokkaido Development Bureau. Katada, Y., [1980, p.37-45, jpn] 47-4931

Tests on safety of snow removal trucks (part 1). Matsusaka, H., [1980, p.72-79, jpn] 47-4933

Tests on improving the efficiency of rotary snowplows. Motoya, H., [1980, p.80-85, jpn] 47-4934

Tests on improving the efficiency of rotary snowplows. Motoya, H., et al, [1981, p.27-34, jpn] 47-4935

Tests on safety of snow removal trucks. Takeda, Y., et al, [1981, p.35-44, jpn] 47-4936

Review of a wind tunnel experimental facility. Kokubun, M., et al, [1981, p.45-62, jpn] 47-4937

Mechanism for changing the edge of a snow removal grader. Horibe, K., et al, [1982, p.47-50, jpn] 47-4939

Tests on improving a (shear pin) safety mechanism for snow removal graders. Horibe, K., et al, [1982, p.51-56, jpn] 47-4940

Tests on sideways skidding of compact snowplows. Sakai, M., et al, [1982, p.57-66, jpn] 47-4941

Performance tests on the KBR-81 compact snowplow. Sakai, M., [1983, p.33-48, jpn] 47-4944

Tests on snow removal machinery. Yanagisawa, Y., [1983, p.49-66, jpn] 47-4945

Tests on improving the efficiency of road surface maintenance. Itabashi, N., [1983, p.67-88, jpn] 47-4946

Tests on snow removal machinery. Yanagisawa, Y., et al, [1984, p.15-42, jpn] 47-4947

Tests on improving the efficiency of road surface maintenance. Shoji, K., et al, [1984, p.43-68, jpn] 47-4948

Performance tests on a 400 PS-class rotary snowplow with an automatic control device. Yanagisawa, Y., et al, [1985, p.21-26, jpn] 47-4949

Developing a device to record snowplow operation. Matsuzaki, K., et al, [1985, p.43-52, jpn] 47-4950

Tests on the surface layout of snow removal drains. Shimaguchi, Y., et al, [1986, p.65-82, jpn] 47-4953

Tests on the surface layout of snow removal drains. Shimaguchi, Y., et al, [1987, p.1-16, jpn] 47-4954

Tests on snow removal trucks. Itabashi, N., et al, [1987, p.35-56, jpn] 47-4957

Tests on developing studless snowplows. Kawakami, S., et al, [1987, p.57-66, jpn] 47-4958

Tests on the surface layout of snow removal drains. Shimaguchi, Y., et al, [1988, p.1-55, jpn] 47-4959

Tests on rotary snow removal machinery. Yamagami, M., et al, [1988, p.82-119, jpn] 47-4962

Performance tests on rotary snow plows in single file. Sasaki, T., et al, [1990, p.1-9, jpn] 47-4963

Tests on the surface layout of snow removal drains. Maeda, T., [1990, p.23-30, jpn] 47-4964

Tests on snow removal trucks. Nakajima, J., et al, [1990, p.36-67, jpn] 47-4966

Tests on urban snow removal. Sumita, N., et al, [1991, p.1-24, jpn] 47-4967

Tests on developing snowplows with a variable curved surface. Nagahora, K., et al, [1991, p.25-50, jpn] 47-4968

Tests on developing a device to modify the blade cutting edge of road maintenance equipment. Nagahora, K., et al, [1991, p.51-56, jpn] 47-4969

Performance tests on the 10t class B-B-D snow removal truck. Nakajima, J., et al, [1991, p.74-91, jpn] 47-4972

Development of a reverse blade type, shear-pinless device for a snow removal grader. Nagahora, K., et al, [1992, p.1-21, jpn] 47-4973

Development of a guidance system for a snow dump truck. Kubota, S., et al, [1992, p.55-69, jpn] 47-4974

Snow loads on road-side structures during plowing. Rudelstorfer, K., et al, [1987, 88p., ger] 47-4989

Manual for planning and implementing road surface condition studies in wintertime—vol.1 and 2. Gabestad, K.O., [1988, 2 vols., nor] 47-4991

Summary of damages and countermeasures in the snowstorms of 1984. Takahashi, T., [1984, p.30-34, jpn] 47-5063

Status of road snow removal in the snowstorms of 1984. Iina, I., [1984, p.35-39, jpn] 47-5064

Safeguarding traffic on the snowy stretches of National Highway 17 during the 1984 snowstorms. Aoki, S., [1984, p.45-50, jpn] 47-5066

Snowdrifts on National Highway 7. Kuroki, M., [1984, p.51-57, jpn] 47-5067

Safeguarding the main roads in Hokkaido. Bando, T., [1984, p.58-63, jpn] 47-5068

Looking back at the snowstorms of 1984. Iwatani, T., [1984, p.64-68, jpn] 47-5069

Looking back at the snowstorms of 1984. Ima, M., [1984, p.75-79, jpn] 47-5071

Snow removal in Sapporo City. Segawa, T., [1984, p.80-84, jpn] 47-5072

Developing comprehensive technology to make cities snowproof. Shibata, M., et al, [1984, p.85-89, jpn] 47-5073

On-site tests for dealing with roadside snowbanks by water sprinkling. Murakuni, M., [1984, p.90-95, jpn] 47-5074

Sapporo Road Office. Oyama, S., [1984, p.107-110, jpn] 47-5077

Estimated budget requirements for snow and cold weather operations for 1985. Iina, I., [1984, p.111-112, jpn] 47-5078

Pipe transport system for snow. Isobe, K., [1985, p.83-89, jpn] 47-5088

Winter in Yuzawa. Kawakami, A., [1985, p.106-111, jpn] 47-5091

Improvement and development of snow removal equipment at the Hokuriku Regional Construction Bureau. Sugiyama, A., et al, [1985, p.112-119, jpn] 47-5092

Bulletin on the budget for snow and cold weather operations for 1985. Iina, I., [1985, p.123, jpn] 47-5093

Snow countermeasure operations at the Hokkaido Development Bureau. Bando, T., [1985, p.21-28, jpn] 47-5095

Road snow removal in Nagaoka in the snow belt. Nishikata, M., [1985, p.29-32, jpn] 47-5096

Snow removal in Yamagata Prefecture. [1985, p.33-41, jpn] 47-5097

Road snow removal in Hokuriku regional construction. Yasui, K., et al, [1985, p.42-48, jpn] 47-5098

Roads of Hida in snow. Sone, I., et al, [1985, p.72-76, jpn] 47-5102

Improvement and development of sidewalk snow removal equipment at the Tohoku Regional Construction Bureau. Takahashi, K., et al, [1985, p.77-81, jpn] 47-5103

Bulletin on road snow removal in the 1985 snowstorms. Iina, I., [1985, p.82-83, jpn] 47-5104

Development and improvement of snow removal equipment at the Hokkaido Development Bureau. Yamada, S., et al, [1985, p.93-97, jpn] 47-5160

Final breakdown of budget items for snow and cold weather operations in 1983 and 1984. Iina, I., [1985, p.98-99, jpn] 47-5161

Snow removal drains and snow melting drains. Okuma, T., [1985, p.21-26, jpn] 47-5163

Current status and problems of road heating facilities for expressways. Murakuni, M., [1985, p.27-33, jpn] 47-5164

Model operations for towns of the north—surface layout of snow removal drains. Honda, M., [1985, p.34-39, jpn] 47-5165

Non-sprinkler snow melting by water pipe heating. [1985, p.40-44, jpn] 47-5166

Snow countermeasures in Joetsu City. [1985, p.45-49, jpn] 47-5167

Development of equipment for dealing with high snowbanks. Iwamoto, T., et al, [1985, p.54-61, jpn] 47-5169

Mechanical snow removal operations on temporary two-lane sections. Tono, A., et al, [1985, p.67-71, jpn] 47-5171

Snow removal in Fukui. Horikawa, I., [1985, p.72-76, jpn] 47-5172

Development of removal methods and equipment for dealing with snowbanks in the median strip. Abe, T., [1985, p.77-84, jpn] 47-5173

Estimated budget requirements for snow and cold weather operations for 1986. Iina, I., [1985, p.85-86, jpn] 47-5174

Building snowproof cities (Aomori City). Nishiue, H., [1986, p.9-12, jpn] 47-5176

Current status and development of snow removal equipment. Kawabata, T., et al, [1986, p.27-32, jpn] 47-5177

Maintenance and inspection of snow removal equipment. Sugiyama, A., et al, [1986, p.33-38, jpn] 47-5178

Reliability of snow removal equipment. Nakamura, O., et al, [1986, p.39-45, jpn] 47-5179

Snowproofing measures in Tonami City. Fukuda, M., [1986, p.46-53, jpn] 47-5180

Development of technology for continuous transport of snow. Hishita, T., et al, [1986, p.59-63, jpn] 47-5181

Snow removal in Hakkodata. Kudo, N., [1986, p.75-84, jpn] 47-5184

Snow and ice operations in the mountains and highways of Chugoku. Nagata, Y., et al, [1986, p.85-92, jpn] 47-5185

Pipe transport system for snow water mixture. Sai, T., [1986, p.93-94, jpn] 47-5186

Control of the flow terminus of snow removal drains by water pipes. [1986, p.96-97, jpn] 47-5188

Bulletin on the budget for snow and cold weather operations for 1986. Fujieda, H., [1986, p.99, jpn] 47-5189

Snow retention

Proceedings of the 60th annual meeting, Jackson, WY, Apr. 14-16, 1992. [1992, 153p. + append., eng] 47-487

Sublimation of intercepted snow as a global source of water vapor. Schmidt, R.A., et al, [1992, p.1-9, eng] 47-488

Harvesting snow when water levels are low. Jairell, R.L., et al, [1992, p.121-124, eng] 47-501

Snow management in the reclamation of sodic soils. Steppuhn, H., et al, [1992, p.150-153, eng] 47-508

Three-dimensional numerical simulation of snowdrift. Kobayashi, T., et al, [1992, 13p., eng] 47-942

Approach to the design of treatments to control snow drifting on highways. Perchanok, [1992, 18p., eng] 47-943

Trapping efficiency of snow fences and [illegible] for system design. Tabler, R.D., et al. [illegible] eng] 47-944

Glaciological mapping and global seasonal snow storage. Kotliakov, V.M., et al, [1992, p.123-147, eng] 47-1764

Large-scale characteristics of the global distribution of snow cover. Loktionova, E.M., [1992, p.148-159, eng] 47-1765

Snow fence guide. [1992, p.57-59, eng] 47-1924

Report on field work in Svalbard. Bruland, O., [1992, 11p., nor] 47-2012

Works of the wind. Sivardière, F., et al, [1992, p.16-23, fre] 47-2332

Snowbreak forests along a highway in Hokkaido. Ishidoya, S., et al, [1992, p.91-96, jpn] 47-2510

Cultivation of snowbreak forests. Notake, T., et al, [1992, p.97-102, jpn] 47-2511

Wind tunnel tests on forest strip windbreaks. Takabe, N., et al, [1991, p.211-214, jpn] 47-2525

Numerical simulation to estimate the wind- and snowbreak efficiency of snowbreak forests. Yano, S., et al, [1991, p.125-130, jpn] 47-2539

Snow recycling house in a heavy snowfall district. Higuchi, T., [1992, p.405-408, eng] 47-3218

Snow ablation in small forest openings in southwest Alberta. Berry, G.J., et al, [1992, p.1326-1331, eng] 47-3842

Snow hedge design guidelines: preliminary results and implications. Perchanok, M.S., [1992, p.25-30, eng] 47-4029

Local protection from snowdrifts defence structures. Sivardière, F., et al, [1993, p.6-17, ita] 47-4700

Snow roads

Snow-compacting equipment for constructing winter roads and airfields. Rongonen, V.E., [1990, p.22-23, rus] 47-1414

Science of snow and ice (5). Inoue, M., [1985, p.7-10, jpn] 47-5162

Snow rubber friction

See also: Rubber snow friction

Snow samplers

Instrumentation to quantitatively measure dynamic snow accumulation processes in remote regions. Braaten, D.A., [1993, p.72-73, eng] 47-3064

Snow wetness project. Final report. Wilson, M.A., [1984, 10p. + append., eng] 47-4904

Snow slides

Static friction of roofing materials against an ice mass. Watanabe, M., et al, [1992, p.231-240, eng] 47-3202

Removal of snow from membrane structures. Otsuka, K., et al, [1992, p.263-274, eng] 47-3205

Standing seam metal roofing systems in cold regions. Tobiasson, W., et al, [1993, p.34-44, eng] 47-3542

Snow stabilization

Afforestation for avalanche prevention and control. Tiwari, K.M., et al, [1985, p.392-395, eng] 47-556

Works of the wind. Sivardière, F., et al, [1992, p.16-23, fre] 47-2332

Snow loads on avalanche prevention structures. Shimomura, C., et al, [1985, p.63-68, jpn] 47-5156

Method for dealing with snow cornices. Aoki, S., [1986, p.94-95, jpn] 47-5187

See also: Snow cover stability

Snow stratigraphy

Classification of snow cover in avalanche-prone regions of the USSR, based on their stratigraphy and stability properties. Troshkina, E.S., et al, [1991, p.196-200, rus] 47-343

"Taylor Ice-Dome" study: reconnaissance 1990-1991. Grootes, P.M., et al, [1991, p.69-71, eng] 47-2468

Instrumentation to quantitatively measure dynamic snow accumulation processes in remote regions. Braaten, D.A., [1993, p.72-73, eng] 47-3064

Science of snow and ice (3). Inoue, M., [1985, p.7-10, jpn] 47-5094

Snow strength

Classification of snow cover in avalanche-prone regions of the USSR, based on their stratigraphy and stability properties. Troshkina, E.S., et al. [1991, p.196-200, rus] 47-343

Deformation of snow cover under static loads. Bolotnikov, G.I., [1991, p.103-106, rus] 47-389

Evaluating the effect of a shock wave on snow cover. Delarov, D.A., et al. [1991, p.107-122, rus] 47-390

Single stress time parameter for snow under tension. Kachroo, P.N., [1985, p.244-248, eng] 47-542

Single pressure-time parameter for snow under compression. Kachroo, P.N., [1985, p.249-256, eng] 47-543

Construction techniques for expedient air strips in snowbound regions. Natarajan, T.K., et al. [1985, p.293-317, eng] 47-580

Problems in studying geographical regularities in the characteristics of snow cover hardness. Samoilov, R.S., et al. [1983, p.86-90, rus] 47-1248

Using field methods to determine strength properties of snow. Samoilov, R.S., et al. [1991, p.170-177, rus] 47-2809

Mechanical properties of high water content snow. Kobayashi, S., et al. [1992, p.313-321, eng] 47-3209

Perspective: Mechanical properties and behavior. Tobiasson, W., [1992, p.479-480, eng] 47-3227

Discussion of deep snow mobility models. Richmond, P.W., [1993, 10p., eng] 47-3901

Science of snow and ice (5). Inoue, M., [1985, p.7-10, jpn] 47-5162

Texture and hardness of compacted snow. Kobayashi, T., [1986, p.64-69, jpn] 47-5182

Snow structure

See also: Snow cover structure

Snow surface

Two-parameter backscatter model of snowcover at millimeter wavelengths. Chang, P., et al, [1992, p.1667-1669, eng] 47-690

Snow conditions during MLRS-TGW BBU1 Captive Flight Program. Fisk, D.J., et al, [1992, 76p., eng] 47-700

Longbow-Apache field experiment: data report. Bates, R.E., et al, [1992, 53p., eng] 47-701

Evaluation of bi-hemispherical reflectance of antarctic surfaces. Zibordi, G., et al, [1992, p.149-157, eng] 47-1199

Climatic factors and snow surface energy exchange, pt.1. Marks, D., et al, [1992, p.3029-3042, eng] 47-1476

Reflectance from a mountain watershed during snow melt. Winther, J.G., [1992, p.273-290, eng] 47-2829

Characterization of snow on floating ice. Garrity, C., [1992, p.313-328, eng] 47-3030

Absorption of solar radiation at the antarctic snow surface. Grenfell, T.C., et al, [1988, p.151-152, eng] 47-4206

Roughness of Weddell Sea ice and estimates of the air-ice drag coefficient. Andreas, E.L., et al, [1993, p.12,439-12,452, eng] 47-4521

Model for the anisotropic reflectance of pure snow. Li, S.S., [1982, 60p., eng] 47-4644

Science of snow and ice (4). Inoue, M., [1985, p.7-11, jpn] 47-5148

See also: Glacier surfaces

Snow surface temperature

Source strength terms for winter dispersion models. Hogan, A.W., et al, [1992, p.149-155, eng] 47-1069

Snow temperature response to a buried object. Albert, M.R., et al, [1992, 7p., eng] 47-1144

Snow surface temperature variation near a snow pit. Gwilliam, B.L., [1992, p.269-272, eng] 47-4058

Snow survey tools

Improved carrying case for snow tubes. Gluns, D.R., et al, [1992, p.146-149, eng] 47-507

Working wih ultrasonic snow depth sensors. Judd, D., [1993, p.6-7, eng] 47-3262

Depth sensors, part 2. Judd, D., [1993, p.6-7, eng] 47-3263

Snow surveys

Snow cover distribution in the upland zones of the Greater Caucasus. Loktionova, E.M., et al, [1991, p.34-39, rus] 47-318

Date of snow disappearance from tundra determined by radiometric and meteorological observations. Foster, J.L., et al, [1992, p.793-798, eng] 47-358

Snow science: reflections on the past, perspectives on the future. Kalitowski, M., ed, [1992, 46p., eng] 47-477

Snow properties research and data management. Armstrong, R.L., [1992, p.1-9, eng] 47-478

Remote sensing of alpine snow cover in visible and near-infrared wavelengths. Dozier, J., [1992, p.10-21, eng] 47-479

Proceedings of the 60th annual meeting, Jackson, WY, *Apr. 14-16, 1992.* [1992, 153p. + *appends., eng*] 47-487

Snow surveying comes of age in the west. Helms, J.D., [1992, p.10-17, eng] 47-489

Snow cover measurements in France. Duband, D., et al, [1992, p.18-27, eng] 47-490

Expanding SCS's remote sensing program. Werner, J.G., et al, [1992, p.28-35, eng] 47-491

Minimizing measurement errors in automated snowpack profile temperature measurements. Sauter, K.A., et al, [1992, p.36-45, eng] 47-492

Monitoring snow grain size for passive microwave studies. Armstrong, R.L., et al, [1992, p.46-55, eng] 47-493

Estimation of 30 year average annual precipitation for SNOTEL sites in Idaho. Morrisey, P.S., [1992, p.133-136, eng] 47-504

Predicting snow melt and streamflow volumes in the Arkansas River basin of Colorado. Nickless, R.C., [1992, p.137-140, eng] 47-505

Proceedings, [1985, 2 vols., eng] 47-523

Necessity for creating network for the gauging of snow in the Himalayas. Gupta, M.P., [1985, p.79-83, eng] 47-526

Integration of remote sensing and nuclear geophysics in seasonal snow cover assessment. Bardhan, M., [1985, p.112-119, eng] 47-529

Possibilities of snow cover estimation using satellite imageries. Joshi, M.D., et al, [1985, p.120-124, eng] 47-530

Initiation of first snow surveys in the Himalayas a brief appraisal. Dhar, O.N., et al, [1985, p.164-174, eng] 47-536

Slope monitoring in high hills using LANDSAT imageries. Joshi, M.D., et al, [1985, p.196-203, eng] 47-538

Avalanche dating and avalanche accident feed-back. Rao, N.M., [1985, p.212-225, eng] 47-540

General appreciation of ice-snow avalanche and glaciers in Chandra-Bhaga valley. Khular, Y.L., [1985, p.347-353, eng] 47-552

Some aspects of snow hydrology. Kango, G.H., [1985, *p.6-10, eng*] 47-557

Estimation of stored water in the seasonal snow cover by ground surveys in the upper reaches of Beas basin during 1980. Krishnan, V., et al, [1985, p.152-162, eng] 47-568

IGARSS '92. International space year: space remote sensing. [1992, 1776p. (2 vols.), eng] 47-637

Use of satellite data for short term streamflow forecasting with the HYDROTEL model. Fortin, J.P., et al, [1992, *p.51-53, eng*] 47-638

Extinction behavior of snow between 18 GHz and 90 GHz. West, R., et al, [1992, p.809-811, eng] 47-656

Development and intercomparisons of snow mapping algorithms based on SSM/I data. Nagler, T., et al, [1992, p.812-814, eng] 47-657

Comparison of radar observations of snow with simulation. Davis, R.E., et al, [1992, p.815-817, eng] 47-658

Validation of passive microwave snow cover algorithms. Hardman, M., et al, [1992, p.818-819, eng] 47-659

Dielectric properties of ice and snow at 26.5 to 40 GHz. Koh, G., [1992, *p.820-822, eng*] 47-660

T-matrix approach to scattering from a snow layer. Tzeng, Y.C., et al, [1992, p.828-829, eng] 47-661

Radar backscattering response to wet snow. Shi, J.C., et al, [1992, p.927-929, eng] 47-662

Inversion of snow parameters by neural network with iterative inversion. Chen, Z.X., et al, [1992, p.1061-1063, eng] 47-669

Long-term study of microwave propagation over changing ground and snow cover. Peck, L., [1992, p.1144-1146, eng] 47-671

Radar cross sections for snow cover at 35, 95, and 225 GHz. Lohmeier, S.P., et al, [1992, p.1655-1657, eng] 47-686

Polarimetric and multifrequency SAR signatures of wet snow. Rott, H., et al, [1992, p.1658-1660, eng] 47-687

Application of ERS-1 SAR data to remote sensing of snow in Finland. Hallikainen, M., et al, [1992, p.1661-1663, eng] 47-688

Potential of ERS-1 SAR data for snow cover monitoring. Bernier, M., et al, [1992, p.1664-1666, eng] 47-689

Two-parameter backscatter model of snowcover at millimeter wavelengths. Chang, P., et al, [1992, p.1667-1669, eng] 47-690

Snow-meteorological yearbook of the Veneto Region mountains, 1988. Cagnati, A., ed, [1989, 209p., ita] 47-840

Snow-meteorological yearbook of the Veneto Region mountains, 1989. Cagnati, A., ed, [1990, 239p., ita] 47-841

Snow-meteorological yearbook of the Veneto Region mountains, 1991. Cagnati, A., ed, [1991, 247p., ita] 47-842

Yukon Territory snow survey bulletin and water supply forecast, March 1, 1992. [1992, 27p., eng] 47-859

Availability of MSR data for snow water estimation. Suzuki, M., et al, [1990, p.189-196, jpn] 47-885

Sources and spatial variation of the chemical composition of snow in the Tien Shan, China. Williams, M.W., et al, [1992, p.25-32, eng] 47-1082

Use of microwave radiometer data for characterizing snow storage in western China. Chang, A.T.C., et al, [1992, p.215-219, eng] 47-1115

Influence of local factors on the distribution of snow resources in northern Tien Shan. Severskii, S.I., et al, [1992, p.220-224, eng] 47-1116

Deposition of sulfur and nitrogen compounds over the USSR. Vasilenko, V.N., et al, [1991, p.19-24, eng] 47-1177

Snow, hydrology and forests in high alpine areas. Bergman, H., ed, [1991, 250p., eng] 47-1288

Snow cover variation in the Alps using NOAA-AVHRR data. Baumgartner, M.F., et al, [1991, p.41-50, eng] 47-1291

Use of microwave radiometry for characterizing snow storage in large river basins. Chang, A.T.C., et al, [1991, p.73-80, eng] 47-1294

Use of microwave radiometry for monitoring the alpine environment. Keshari, A.K., et al, [1991, p.81-89, eng] 47-1295

Analysis of snow cover patterns as derived from oblique aerial photographs. Kirnbauer, R., et al, [1991, p.91-99, eng] 47-1296

Satellite snow cover mapping and snowmelt runoff *modelling in Beas basin.* Kumar, V.S., et al, [1991, p.101-109, eng] 47-1297

Indirect evaluation of snow reserves in mountain basins. Martinec, J., et al, [1991, p.111-119, eng] 47-1298

Areal modelling of snow water equivalent based on remote sensing techniques. Martinec, J., et al, [1991, p.121-129, eng] 47-1299

Mountain snowpack observations by microwave satellite. Wankiewicz, A., [1991, p.151-160, eng] 47-1302

Satellite snow cover monitoring and snowmelt runoff prediction. Chen, X.Z., et al, [1991, p.161-168, eng] 47-1303

Physical properties of snow cover and estimation of snowmelt. Yang, D.Q., et al, [1991, p.169-177, eng] 47-1304

Degree-day estimate of snow accumulation to a watershed. Sommerfeld, R.A., et al, [1991, p.221-228, eng] 47-1309

Snow-meteorological yearbook of the Veneto mountain region, 1985-1986-1987. Cagnati, A., ed, [1988, 249p., *ita*] 47-1484

Characteristics of seasonal snow cover in Urumqi River Basin. Zhang, Z.Z., et al, [1992, p.129-133, chi] 47-1649

Snow cover distribution in a burned forest. Liang, L.H., et al, [1992, p.134-140, chi] 47-1650

Annual report—1991-92. [1992, 54p. + append., eng] 47-1745

Climate of Spitsbergen. Hanssen-Bauer, I., et al, [1990, 40p., eng] 47-1918

Monitoring and modelling snow storage in Swedish mountain basins. Brandt, M., [1992, *p.204-210, eng*] 47-1962

Flood forecasting and snow mapping by satellite. Lundquist, D., et al, [1992, p.453-459, nor] 47-1972

Reflectance from a mountainous watershed during snow melt. Winther, J.G., [1992, p.632-642, eng] 47-1979

Spatial considerations of snow chemistry as a non-point contamination source in alpine watersheds. Elder, K., et al, [1991, p.31-38, eng] 47-2076

Water balance in Svalbard—snow erosion, May 19-24, 1992. Tveit, J., [1992, 51p., nor] 47-2145

Snow and avalanches in the Swiss Alps, winter 1990/91. [1992, 199p., ger] 47-2206

Snow survey of Great Britain, 1991/92. [1992, 24p., eng] 47-2336

On the dielectric properties of dry snow in the 800 MHz to 13 GHz range. Nyfors, E., [1982, 17p., eng] 47-2772

Yukon Territory snow survey bulletin and water supply forecast, March 1, 1993. [1993, 27p., eng] 47-2818

Reflectance from a mountain watershed during snow melt. Winther, J.G., [1992, p.273-290, eng] 47-2829

Characterization of snow on floating ice. Garrity, C., [1992, p.313-328, eng] 47-3030

Recent trends in Northern Hemisphere snow cover. Robinson, D.A., [1993, p.329-334, eng] 47-3049

Instrumentation to quantitatively measure dynamic snow accumulation processes in remote regions. Braaten, D.A., [1993, p.72-73, eng] 47-3064

Automated snow depth measurement. Bradley, J.T., et al, [1993, p.74-79, eng] 47-3065

Passive microwave remote sensing of snow on floating ice. Garrity, C., [1991, 348p., eng] 47-3133

Proceedings, [1992, 485p., eng] 47-3182

Snow load variation with altitude in Norway. Sandvik, R., [1992, p.15-20, eng] 47-3184

Estimation of ground snow depth based on topographic factors. Takahashi, T., et al, [1992, p.21-32, *eng*] 47-3185

Use of snow survey data in determination of ground snow loads. Powell, D.R., [1992, p.45-56, eng] 47-3187

Field measurement and characteristic analyses of snow load on flat roofs. Mihashi, H., et al, [1992, p.69-80, eng] 47-3189

Estimation of daily snow mass on the ground using air temperature and precipitation data. Kamimura, S., et al, [1992, p.157-167, eng] 47-3196

Estimation of snowfall from measurements of total snow weight. Abe, O., et al, [1992, p.115-122, jpn] 47-3296

SSM/I and other cryospheric products from the snow and ice DAAC. Barry, R.G., et al, [1991, p.87-100, eng] 47-3378

Inferring snow cover on sea ice from passive microwave signatures. Lohanick, A.W., [1991, p.119-124, eng] 47-3380

Snow cover and some of its effects on passive microwave signatures. Garrity, C., (1991, p.125-132, eng) 47-3381

Surface albedo of snow covered first year and multi-year sea ice. De Abreu, R.A., et al, (1991, p.133-140, eng) 47-3382

Yukon Territory snow survey bulletin and water supply forecast, May 15, 1993. (1993, 27p., eng) 47-3711

Snow depth and density along the Norman Wells pipeline. Burgess, M.M., (1993, 13p. + appends., eng) 47-3903

Estimating snow grain size using AVIRIS data. Nolin, A.W., et al, (1993, p.231-238, eng) 47-3919

Aerial infrared mapping of snow cover in the Sierra Nevada. Hall, D.K., et al, (1992, p.39-46, eng) 47-4031

Preliminary analysis of historical snow data using a geographic information system. Loiselle, M.C., et al, (1992, p.81-88, eng) 47-4036

Snow cover distribution and watershed management. Schroeter, H.O., et al, (1992, p.181-192, eng) 47-4047

Annual snowpack patterns across the Rockies. Changnon, D., et al, (1993, p.633-647, eng) 47-4255

Monitoring of snowcover in high mountain terrain with ERS-1 SAR. Haefner, H., et al, (1993, p.583-588, eng) 47-4446

Variability of snowfall over the conterminous United States during the period 1940-1990. Zapotocny, J.V., (1991, p.191-192, eng) 47-4483

Model for the anisotropic reflectance of pure snow. Li, S.S., (1982, 60p., eng) 47-4644

Snow surveys for ski-lift managers in avalanche hazard areas. Bariffi, A., (1993, p.26-37, ita) 47-4702

Snow wetness project. Final report. Wilson, M.A., (1984, 10p. + appends., eng) 47-4904

Chemical composition of snow near a mining plant. Lazareva, I.P., et al, (1993, p.79-86, eng) 47-5193

Snow temperature

Thermal properties of snow/firn on the Law Dome ice cap. Ren, J.W., et al, (1991, p.38-46, eng) 47-39

Thermal effects due to air flow and vapor transport in dry snow. Albert, M.R., et al, (1992, p.273-281, eng) 47-468

Minimizing measurement errors in automated snowpack profile temperature measurements. Sauter, K.A., et al, (1992, p.36-45, eng) 47-492

Inversion of snow parameters by neural network with iterative inversion. Chen, Z.X., et al, (1992, p.1061-1063, eng) 47-669

Snow-meteorological yearbook of the Veneto Region mountains, 1988. Cagnati, A., ed, (1989, 209p., ita) 47-840

Snow-meteorological yearbook of the Veneto Region mountains, 1989. Cagnati, A., ed, (1990, 239p., ita) 47-841

Snow-meteorological yearbook of the Veneto Region mountains, 1991. Cagnati, A., ed, (1991, 247p., ita) 47-842

Temperature regime studies and mathematical calculations for dry snow covers in the western Tien Shan mountains, China. Ma, H., et al, (1992, p.185-189, eng) 47-1109

Permafrost occurrence from BTS measurements and climatic parameters in the eastern Swiss Alps. Hoelzle, M., (1992, p.143-147, eng) 47-1754

Measurements of snow temperature during rain. Conway, H., et al, (1993, p.6-7, eng) 47-1888

Optical properties of snow. Brandt, R.E., et al, (1991, p.272-275, eng) 47-3056

Solar-heating rates and temperature profiles in antarctic snow and ice. Brandt, R.E., et al, (1993, p.99-110, eng) 47-3944

Stabilization of snow temperature in Dronning Maud Land, Antarctica, January 1989. Seppälä, M., (1992, p.227-230, eng) 47-4331

Study of snow melting mechanism by solar radiative absorption material. Inaba, H., et al, (1992, p.715-726, eng) 47-4363

Snow thermal properties

Thermal properties of snow/firn on the Law Dome ice cap. Ren, J.W., et al, (1991, p.38-46, eng) 47-39

Method of determining the heat balance components of snow cover during a melting period. Shutov, V.A., (1991, p.87-96, rus) 47-387

Thermal effects due to air flow and vapor transport in dry snow. Albert, M.R., et al, (1992, p.273-281, eng) 47-468

Determining the mean parameters of heat transfer through snow cover. Zvagin, V.V., et al, (1991, p.1085-1088, rus) 47-2009

Some geophysical problems involving convection in porous media. Nield, D.A., (1991, p.985-1006, eng) 47-2862

Use of a cold energy element in a low-temperature storage system. Suzuki, T., (1992, p.333-339, eng) 47-3211

Hillslope thermal and hydrologic processes. Pangburn, T., et al, (1992, p.161-167, eng) 47-4045

Energy transfer in ventilated low-temperature snow. Lax, J., (1988, p.153-157, eng) 47-4207

Snow trenches

Experience with rutschblocks. Jamieson, J.B., et al, (1992, p.1,4-5, eng) 47-1886

Snow vehicles

Final test report for a snowmobile and sled. Todd, W.E., (1992, 44p. + appends., eng) 47-604

Optimization of the mobility of tracked vehicles. Wong, J.Y., (1992, p.395-421, eng) 47-784

Antarctic snow cruiser. Muller, P., (1993, p.63-64, eng) 47-2197

Pneumatic process and device for conveying snow. Pasquier, A., (1989, 10 col., eng) 47-3331

Newly developed snow vehicle (SM100S) for Antarctica. 1. Takeuchi, S., et al, (1992, p.363-375, jpn) 47-3363

Newly developed snow vehicle (SM100S) for Antarctica. 2. Nakajima, M., et al, (1992, p.376-392, jpn) 47-3364

Newly developed snow vehicle (SM100S) for Antarctica. 3. Sakui, S., et al, (1992, p.393-397, jpn) 47-3365

Newly developed snow vehicle (SM100S) for Antarctica. 4. Maekawa, E., et al, (1992, p.398-409, jpn) 47-3366

Newly developed snow vehicle (SM100S) for Antarctica. 5. Saito, M., et al, (1992, p.410-440, jpn) 47-3367

Cleats for snowmobile track. Simmons, V.M., (1989, 8 col., eng) 47-3413

Test record for the retest of the Heavy Equipment Transport System (HETS) M1000 trailer. Reagan, J.E., (1993, 3p. + appends., eng) 47-3446

Steering system for vehicle such as snowmobile. Bibollet, J.-C., (1988, 6 col., eng) 47-3498

Snowplow assembly quick block and pin disconnect for a payloader. Dejana, V., (1988, 6 col., eng) 47-3499

Swing wheel snowthrower. Friberg, N.J., et al, (1988, 10 col., eng) 47-3636

Maintenance vehicle with snow tiller apparatus. Haug, W., (1988, 6 col., eng) 47-3643

Modification of motor-scooter for snow traversal. Bruzzone, R., (1988, 4 col., eng) 47-3770

Apparatus for converting a road vehicle into a snowmobile. Shaver, A.L., (1988, 8 col., eng) 47-3771

Snow plow attachment. Steinhoff, K., (1987, 4 col., eng) 47-3848

Snow-removing machine. Gisler, H., et al, (1987, 8 col., eng) 47-4003

Rear swing arm assembly for three or four wheeled off-the-road vehicle track conversion unit. Yochum, M., (1986, 10 col., eng) 47-4098

Vehicles and transports during the Swedish Antarctic Research Programme 1991/92. Berg, A., (1993, p.258-266, eng) 47-5114

Transport concept at the antarctic stations and for field operations of the Alfred Wegener Institute. Kohnen, H., et al, (1993, p.267-273, eng) 47-5115

Snow water content

Study of the processes of snow cover formation in an unirrigated agricultural zone. Petropavlovskaia, M.S., (1991, p.3-21, rus) 47-380

Estimation of stored water in the seasonal snow cover by ground surveys in the upper reaches of Beas basin during 1980. Krishnan, V., et al, (1985, p.152-162, eng) 47-568

Comparison of radar observations of snow with simulation. Davis, R.E., et al, (1992, p.815-817, eng) 47-658

Radar backscattering response to wet snow. Shi, J.C., et al, (1992, p.927-929, eng) 47-662

Polarimetric and multifrequency SAR signatures of wet snow. Rott, H., et al, (1992, p.1658-1660, eng) 47-687

Evaluating the effect of dust and gas exhaust on a city and its surrounding terrain. Davydova, N.D., (1990, p.65-74, rus) 47-979

Determination of the water content of snow by dielectric measurements. Camp, P.R., et al, (1992, 38p., eng) 47-1899

Snow cover and moisture limit in the Tazheran steppe (Priol'khon'e). Gagarin, P.K., (1992, p.62-69, rus) 47-3273

Apparatus for measuring the moisture content of snow particles. Suga, N., (1989, 6 col., eng) 47-3330

Snow wetness project. Final report. Wilson, M.A., (1984, 10p. + appends., eng) 47-4904

Snow water equivalent

Necessity for creating network for the gauging of snow in the Himalayas. Gupta, M.P., (1985, p.79-83, eng) 47-526

Integration of remote sensing and nuclear geophysics in seasonal snow cover assessment. Bardhan, M., (1985, p.112-119, eng) 47-529

On some physical properties of snowpack. Puri, S.R., et al, (1985, p.133-143, eng) 47-532

Some studies in gamma attenuation for application in snow gauging. Rao, M.V.N., et al, (1985, p.144-148, eng) 47-533

Estimation of flow yield in a snow-bound catchment. Abbi, S.D.S., et al, (1985, p.32-42, eng) 47-560

Availability of MSR data for snow water estimation. Suzuki, M., et al, (1990, p.189-196, jpn) 47-885

Regional CONUS snowfall intensity and inferred global patterns. Ryerson, C.C., et al, (1990, p.111-122, eng) 47-911

Modelling of the snow-water equivalent in the mountain environment. Braun, L.N., (1991, p.3-17, eng) 47-1289

Glaciological mapping and global seasonal snow storage. Kotlyakov, V.M., et al, (1992, p.123-147, eng) 47-1764

Simulation of time variation in seasonal snowcover based on routinely available data. Ujihashi, Y., et al, (1991, p.57-68, eng) 47-1934

Spatial considerations of snow chemistry as a non-point contamination source in alpine watersheds. Elder, K., et al, (1991, p.31-38, eng) 47-2076

Forecasting meltwater runoff from snow-covered areas and from glacier basins. Lang, H., (1986, p.99-127, eng) 47-2312

Estimating avalanche hazard in the territory of Afghanistan. Kravtsova, V.I., et al, (1991, p.86-93, rus) 47-2793

Correction of precipitation point measurements. Golubev, V.S., (1993, p.325-328, eng) 47-3070

Biases in precipitation measurements: an American experience. Peck, E.L., (1993, p.329-334, eng) 47-3071

Correction of Canadian winter precipitation data. Metcalfe, J.R., et al, (1993, p.338-343, eng) 47-3072

Experiences in correcting point precipitation measurement in Finland. Elomaa, E.J., (1993, p.346-350, eng) 47-3073

Simple method for specifying snowpack water equivalent in the northeastern United States. Samelson, D., et al, (1993, p.965-974, eng) 47-3565

Preliminary analysis of historical snow data using a geographic information system. Loiselle, M.C., et al, (1992, p.81-88, eng) 47-4036

Snow estimation—a GIS application for water resources forecasting. McManamon, A., et al, (1993, p.856-861, eng) 47-4402

GIS modelling of winter orographic precipitation. Hay, L.E., et al, (1993, p.491-499, eng) 47-4460

Predicting wilderness snow water equivalent with nonwilderness snow sensors. McGurk, B.J., et al, (1993, p.85-94, eng) 47-4993

Recent snowfall variations in North America. Karl, T.R., et al, (1993, p.1327-1344, eng) 47-5211

Effects of forest cover on a snowpack in the Sierra Nevada. Kattelmann, R., (1990, p.276-284, eng) 47-5219

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Snowdrifts

Safeguarding deep excavations from snowdrifts in high-altitude sections of railroads. Lomidze, I.N., et al, (1992, p.17, rus) 47-370

Study of the processes of snow cover formation in an unirrigated agricultural zone. Petropavlovskaia, M.S., (1991, p.3-21, rus) 47-380

Three-dimensional numerical simulation of snowdrift. Kobayashi, T., et al, (1992, 13p., eng) 47-942

Approach to the design of treatments to prevent snow drifting on highways. Perchanok, M.S., et al, (1992, 18p., eng) 47-943

Snowdrift around antarctic building—effects of corner geometry and wind incidence. Kwok, K.C.S., et al, (1992, p.587-591, eng) 47-1845

Winds causing deflation and snow drifting in Kilpisjärvi area. Hellemaa, P., (1991, p.309-316, fin) 47-2321

How to design and use snow fences. (1992, p.20-21, eng) 47-2324

Snowdrift around buildings for antarctic environment. Kwok, K.C.S., et al, (1992, p.2797-2808, eng) 47-2643

Buildings for harsh environments. Wallhead, M., (1989, 8 col., eng) 47-3107

Wind tunnel modeling of snow accumulations on large-area roofs. Isyumov, N., et al, (1992, p.181-193, eng) 47-3198

Laboratory studies of snow drifts on multilevel roofs. O'Rourke, M.J., et al, (1992, p.195-206, eng) 47-3199

Development of a wind tunnel for the study of snowdrifting. Toyoda, K., et al, (1992, p.207-214, eng) 47-3200

Excess snow loads on flat roofs. Wianecki, J., et al, (1992, p.215-228, eng) 47-3201

Perspective: Experimental modeling. Isyumov, N., (1992, p.473-476, eng) 47-3225

Numerical simulation of snowdrift on a road. Sato, A., et al, (1992, p.123-135, jpn) 47-3297

Analysis of snow loads due to drifting on multilevel roofs. Speck, R.S., Jr., (1984, 92p., eng) 47-3700

Fencing pays off big for arctic community. Weber, S., (1992, p.8-11, eng) 47-3836

Modeling the redistribution of snow in alpine areas. Cline, D.W., (1992, p.13-24, eng) 47-4028

Snow hedge design guidelines: preliminary results and implications. Perchanok, M.S., (1992, p.25-30, eng) 47-4029

Modelling of snowdrift around prismatic buildings for antarctic environment. Kim, D.H., et al, (1992, p.73-79, eng) 47-4281

Snowdrift around antarctic buildings—effects of corner geometry and wind incidence. Kwok, K.C.S., et al, (1993, p.61-65, eng) 47-4302

Basic plan for a snowdrift information system. (1990, p.26-29, jpn) 47-4685

Snowdrifts *(cont.)*

Local protection from snowdrifts defence structures. Sivardière, F., et al. [1993, p.6-17, ita] 47-4700

Study on blowing snow and snowdrift countermeasures. Tsunaki, R., et al. [1993, p.1-4, jpn] 47-4783

Experiments on snowdrift prevention in the Okushunbetsu district of Teshikaga. Anno, Y., [1980, p.46-50, jpn] 47-4932

Wind tunnel experiments on highway snow countermeasures. Sasaki, T., et al. [1992, p.92-101, jpn] 47-4976

Snowdrifts on National Highway 7. Kuroki, M., [1984, p.51-57, jpn] 47-5067

On-site tests for dealing with roadside snowbanks by water sprinkling. Murakuni, M., [1984, p.90-95, jpn] 47-5074

Science of snow and ice (2). Inoue, M., [1985, p.9-13, jpn] 47-5079

Development of equipment for dealing with high snowbanks. Iwamoto, T., et al. [1985, p.54-61, jpn] 47-5169

Development of removal methods and equipment for dealing with snowbanks in the median strip. Abe, T., [1985, p.77-84, jpn] 47-5173

Effects of drifting on snow loads on large roofs. Irwin, P.A., et al. [1993, p.508-513, eng] 47-5262

Snowfall

Impact of summer snowfalls on glacier regimes in the Akshiyrak Massif. Ushnurtsev, S.N., et al. [1991, p.176-181, rus] 47-339

Snowfall-event climatology: the finale. Mahoney, J.L., et al. [1992, p.66-77, eng] 47-495

Underwater sounds of precipitation. Crum, L.A., et al. [1992, p.2-12, eng] 47-513

On some meteorological aspects of snowfall over the Himalayas as observed by satellite. Kalsi, S.R., et al. [1985, p.125-132, eng] 47-531

Chemical constituents of two snow falls around Manali District, Kulu, Himachal Pradesh. Krishnan, V., et al. [1985, p.151-156, eng] 47-534

Forecasting snow versus rain in Kulu Valley. Rangachary, N., et al. [1985, p.304-309, eng] 47-547

Year-to-year variation of snow cover area in the Northern Hemisphere. Iwasaki, T., [1991, p.209-217, eng] 47-818

Climatic effect of excessive snow mass over Eurasia. Yasunari, T., et al. [1991, p.473-487, eng] 47-819

Tenth annual EOSAEL/TWI Conference; Proceedings. [1990, 713p., eng] 47-908

Obscuration in snow and smoke. Hutt, D.L., [1990, p.101-110, eng] 47-910

Regional CONUS snowfall intensity and inferred global patterns. Ryerson, C.C., et al. [1990, p.111-122, eng] 47-911

Surface air temperature forecasting during heavy snowfall. Petrichenko, I.A., et al. [1991, p.6-9, eng] 47-995

Deposition of sulfur and nitrogen compounds over the USSR. Vasilenko, V.N., et al. [1991, p.19-24, eng] 47-1177

Orographic enhancement of snowfall. Dore, A.J., et al. [1992, p.175-179, eng] 47-1553

Atmospheric radiation regime at Russkaya Station. Mart'ianov, V.L., [1991, p.17-22, rus] 47-1574

Appraisal of snow damage in an urban area. Umemura, T., et al. [1991, p.1-11, eng] 47-1935

Winter Weather Workshop. [1992, Var. p., eng] 47-2130

Operational use of an orographic snow model. Scott, C., [1992, 7p., eng] 47-2134

Analysis of the record-breaking northern plains snowstorm of October 27-29 1991. Abeling, W.A., et al. [1992, 22p., eng] 47-2136

Snowstorms over the western Washington lowlands. Ferber, G.K., [1992, 23p., eng] 47-2137

Winter severity index for Pittsburgh, Pennsylvania. Nouhan, V.J., [1992, 17p., eng] 47-2142

Report on the water shortage of 1990. Satoh, T., et al, [1991, p.55-60, jpn] 47-2518

Precipitation model for the Gunnison River basin. Hay, L.E., et al, [1992, p.651-660, eng] 47-2741

Snow versus rain: looking beyond the "magic" numbers. Heppner, P.O.G., [1992, p.683-691, eng] 47-2764

Snow: a skimpy year. Ludlum, D.M., [1993, p.38-41, eng] 47-2765

Meteorological observations at King Sejong Station. Lee, B.Y., et al. [1992, p.1-16, kor] 47-2926

Air-snow exchange processes. Harder, S.L., et al. [1991, p.277-278, eng] 47-3057

Correction of Canadian winter precipitation data. Metcalfe, J.R., et al. [1993, p.338-343, eng] 47-3072

Experiences in correcting point precipitation measurement in Finland. Elomaa, E.J., [1993, p.346-350, eng] 47-3073

Snow and avalanches in the Dolomites and Veneto Fore-alps, winter season 1991-92. Cagnati, A., et al. [1993, 45p., ita] 47-3153

Continuous measurement of snowfall intensity per short time interval. Tamura, M., [1992, p.33-43, eng] 47-3186

Simulation on depth of newly fallen snow based on AMeDAS data. Yamada, Y., et al. [1992, p.169-178, eng] 47-3197

Radar echoes of winter monsoon affected by mountains. Nakai, S., et al. [1992, p.1-23, jpn] 47-3294

Estimation of snowfall from measurements of total snow weight. Abe, O., et al. [1992, p.115-122, jpn] 47-3296

Network information systems on snow in Japan. Nakamura, T., [1992, p.233-250, jpn] 47-3302

Doppler radar analysis of mesoscale snow bands. Ishihara, M., et al. [1989, p.503-520, eng] 47-3466

Impacts of severe weather during December 1989 in the Lake Erie snowbelt. Schmidlin, T.W., [1993, p.759-767, eng] 47-3476

Proceedings of the 49th annual Eastern Snow Conference, Oswego, NY, June 3-4, 1992. [1992, 273p., eng] 47-4026

Air Force snowfall statistics for engineering applications. Snelling, H.J., [1992, p.61-69, eng] 47-4034

"Tea kettle" effect snow. Woolley, R., et al, [1992, p.101-106, eng] 47-4038

Preliminary numerical simulations of the 31 January 1991 lake-effect snowstorm. Ballentine, R.J., et al, [1992, p.115-123, eng] 47-4040

Multiple lake interaction in a lake-effect snowstorm. Byrd, G., et al, [1992, p.125-134, eng] 47-4041

February 1972 Eastern Snow Conference weather experience at Oswego, New York. Sykes, R.B., Jr., et al, [1992, p.135-144, eng] 47-4042

Does lake-effect snow extend to the mountains of West Virginia. Schmidlin, T.W., [1992, p.145-148, eng] 47-4043

Lake-induced convection from Lake Ontario. Penc, R.S., [1992, p.149-159, eng] 47-4044

Lake-Effect Snow Observation Network (LESON) report for the 1991-1992 snow season. Ferlito, J., et al, [1992, p.227-234, eng] 47-4052

Look at lake effect snow cloudbands with satellite imagery. Niziol, T.A., et al, [1992, p.235-242, eng] 47-4053

Effects of temperature and snowfall on winter low flows in New England. Hartley, S., [1992, p.255-261, eng] 47-4056

Small vertical supercooled cloud tunnel system for the study of ice (snow) crystal growth. Gong, N.H., et al, [1992, p.254-262, eng] 47-4074

Wind-profile estimation by conventional radars. Fabry, F., [1993, p.40-49, eng] 47-4165

Snow in north and east Tyrol 1897-1991. Fliri, F., [1992, 2 vols., ger] 47-4208

Case study of heavy snowfall in Oklahoma. Marwitz, J.D., et al, [1993, p.648-660, eng] 47-4256

Below-cloud scavenging of aerosol particles: particle-bound radionuclides—experimental. Sparmacher, H., et al, [1993, p.605-618, eng] 47-4349

Variability of snowfall over the conterminous United States during the period 1940-1990. Zapotocny, J.V., [1991, p.191-192, eng] 47-4483

Acid snow over coastal Japan, pt.1. Kitada, T., et al, [1993, p.1061-1076, eng] 47-4581

Acid snow over coastal Japan, pt.2. Kitada, T., et al, [1993, p.1077-1090, eng] 47-4582

Snow clearing removal technique of Sapporo. Hirata, M., [1991, 7p., eng] 47-4779

Road heating control using snowfall forecast data. Takahashi, T., et al, [1993, p.43-50, jpn] 47-4792

Science of snow and ice (1). Inoue, M., [1984, p.15-18, jpn] 47-5062

Summary of damages and countermeasures in the snowstorms of 1984. Takahashi, T., [1984, p.30-34, jpn] 47-5063

Scavenging effect of snow. Kumagai, K., et al, [1985, p.61-64, jpn] 47-5101

Heavy snowfall during an arctic outbreak along the Colorado Front Range. Wesley, D.A., et al, [1990, p.2-19, eng] 47-5257

Comments on paper by Wesley et al and reply. Auer, A.H., Jr., et al, [1991, p.19-21, eng] 47-5259

Snowflakes

Aircraft observations of the origin and growth of very large snowflakes. Lawson, R.P., et al, [1993, p.53-56, eng] 47-2846

Measurement of falling motion of snowflakes using CCD camera. Muramoto, K., et al, [1992, p.71-76, eng] 47-3006

Below-cloud scavenging of aerosol particles: particle-bound radionuclides—experimental. Sparmacher, H., et al, [1993, p.605-618, eng] 47-4349

Numerical modeling of the coagulation and aggregation of ice crystals and snowflakes. Sergeev, B.N., et al, [1992, p.71-79, rus] 47-4658

Snowmelt

Influence of avalanche snow transport on snowmelt runoff. De Scally, F.A., [1992, p.73-97, eng] 47-173

Parameter uncertainty and simulation of design floods in Sweden. Harlin, J., et al, [1992, p.209-230, eng] 47-174

Modulation of the diurnal streamflow response by the seasonal snowcover of an alpine basin. Caine, N., [1992, p.245-260, eng] 47-175

Hydrological modelling of a medium-size mountainous catchment from incomplete meteorological data. Panagoulia, D., [1992, p.279-310, eng] 47-176

Characterizing the distribution of observed precipitation and runoff over the continental United States. Dolph, J., et al, [1992, p.99-119, eng] 47-228

Plant reproductive ecology and community structure along a subalpine snowmelt gradient. Ingersoll, C.A., [1991, 184p., eng] 47-296

Climate processes of lake evaporation and snowmelt runoff. Tsuang, B.J., [1991, 380p., eng] 47-311

Morphological classification of the sites of origin of water-snow streams. Evteev, A.O., [1991, p.155-160, rus] 47-334

Date of snow disappearance from tundra determined by radiometric and meteorological observations. Foster, J.L., et al, [1992, p.793-798, eng] 47-358

Boreal forests and climate. Thomas, G., et al, [1992, p.469-497, eng] 47-375

Laboratory investigation of the leaching of solute from snowpack by rainfall. Tranter, M., et al, [1992, p.169-178, eng] 47-376

Data base for runoff forecasting from Himalayan snow cover. Ramamoorthi, A.S., et al, [1991, p.347-355, eng] 47-431

Proceedings of the 60th annual meeting, Jackson, WY, Apr. 14-16, 1992. [1992, 153p. + append., eng] 47-487

Snow cover measurements in France. Duband, D., et al, [1992, p.18-27, eng] 47-490

Prediction of snowmelt rates at a forested alpine site in northern Utah. Sauter, K.A., et al, [1992, p.95-102, eng] 47-498

Hydrologic flowpaths of snowpack runoff in a high-elevation catchment. Williams, M.W., [1992, p.103-112, eng] 47-499

Applying a climatic change scenario to a semi-distributed watershed model. Kite, G.W., [1992, p.113-120, eng] 47-500

Harvesting snow when water levels are low. Jairell, R.L., et al, [1992, p.121-124, eng] 47-501

Water input from rain-on-snow storms in clearcut forests. Brunengo, M.J., et al, [1992, p.125-128, eng] 47-502

Simulation of snowmelt in a small rangeland watershed. Flerchinger, G.N., et al, [1992, p.129-132, eng] 47-503

Predicting snow melt and streamflow volumes in the Arkansas River basin of Colorado. Nickless, R.C., [1992, p.137-140, eng] 47-505

Snowpack loss in the water budget of the San Juan aquifer. Waltemeyer, S.D., et al, [1992, p.141-145, eng] 47-506

Snow management in the reclamation of sodic soils. Steppuhn, H., et al, [1992, p.150-153, eng] 47-508

Necessity for creating network for the gauging of snow in the Himalayas. Gupta, M.P., [1985, p.79-83, eng] 47-526

Winter and spring precipitation over the northwestern Himalayas—a brief appraisal. Rakhecha, P.R., et al, [1985, p.175-185, eng] 47-537

Snowmelt runoff using Landsat imageries. Jeyaram, A., et al, [1985, p.11-21, eng] 47-558

Nomograms for estimating rate of snow-melting from routine meteorological data. Daoo, V.J., et al, [1985, p.22-31, eng] 47-559

Estimation of flow yield in a snow-bound catchment. Abbi, S.D.S., et al, [1985, p.32-42, eng] 47-560

Snow melt runoff for a sub-catchment of Beas basin. Agrawal, K.C., et al, [1985, p.43-63, eng] 47-561

Empirical model for prediction of snowmelt runoff in Sutlej. Upadhyay, D.S., et al, [1985, p.76-103, eng] 47-563

Modelling of daily snowmelt runoff during pre-monsoon months for Beas basin up to Manali. Seth, S.M., [1985, p.104-115, eng] 47-564

Net energy budget over a snow surface. Upadhyay, D.S., et al, [1985, p.129-143, eng] 47-566

Seasonal river runoff calculated from a global atmospheric model. Kuhl, S.C., et al, [1992, p.2029-2039, eng] 47-776

Slope runoff in the Transural steppe region of Bashkiria. Mosienko, N.A., et al, [1991, p.77-80, eng] 47-796

Dynamic simulation of phase changes in snowpacks and soils. Grant, R.F., [1992, p.1051-1062, eng] 47-902

Spillway design floods in Sweden: 1. New guidelines. Bergström, S., et al, [1992, p.505-519, eng] 47-922

Spillway design floods in Sweden: 2. Applications and sensitivity analysis. Lindström, G., et al, [1992, p.521-539, eng] 47-923

Energy balance of a snow cover and simulation of snowmelt in the western Tien Shan mountains, China. Ma, H., et al, [1992, p.73-78, eng] 47-1089

Satellite monitoring of snowmelt runoff. Zeng, Q.Z., et al, [1992, p.193-197, eng] 47-1111

Factors delaying spring runoff in the upper Ürümqi River basin, China. Kattelmann, R., et al, [1992, p.225-230, eng] 47-1117

Snowmelt and heat balance in snow-covered forested areas. Yamazaki, T., et al, [1992, p.1322-1327, eng] 47-1122

Response of a subarctic lake chain to reduced sewage loading. Choulik, O., et al, [1992, p.1236-1245, eng] 47-1267

Large-scale patterns and variability of snowmelt and parameterized surface albedo in the Arctic Basin. Robinson, D.A., et al. [1992, p.1109-1119, eng] 47-1271

Snow, hydrology and forests in high alpine areas. Bergman, H., ed. [1991, 250p., eng] 47-1288

Modelling of the snow-water equivalent in the mountain environment. Braun, L.N., [1991, p.3-17, eng] 47-1289

Snow cover variation in the Alps using NOAA-AVHRR data. Baumgartner, M.F., et al. [1991, p.41-50, eng] 47-1291

Spatially distributed snowmelt model for application in alpine terrain. Blöschl, G., et al. [1991, p.51-60, eng] 47-1292

Use of microwave radiometry for characterizing snow storage in large river basins. Chang, A.T.C., et al. [1991, p.73-80, eng] 47-1294

Analysis of snow cover patterns as derived from oblique aerial photographs. Kirnbauer, R., et al. [1991, p.91-99, eng] 47-1296

Satellite snow cover mapping and snowmelt runoff modelling in Beas basin. Kumar, V.S., et al. [1991, p.101-109, eng] 47-1297

Indirect evaluation of snow reserves in Mountain basins. Martinec, J., et al. [1991, p.111-119, eng] 47-1298

Areal modelling of snow water equivalent based on remote sensing techniques. Martinec, J., et al. [1991, p.121-129, eng] 47-1299

Physically based approach to modelling distributed snowmelt in a small alpine catchment. Ranzi, R., et al. [1991, p.141-150, eng] 47-1301

Mountain snowpack observations by microwave satellite. Wankiewicz, A., [1991, p.151-160, eng] 47-1302

Satellite snow cover monitoring and snowmelt runoff prediction. Chen, X.Z., et al. [1991, p.161-168, eng] 47-1303

Physical properties of snow cover and estimation of snowmelt. Yang, D.Q., et al. [1991, p.169-177, eng] 47-1304

Estimation of streamflow change by global warming. Fukushima, Y., et al. [1991, p.181-188, eng] 47-1305

Peak flows from snowmelt runoff in the Sierra Nevada, USA. Kattelmann, R., [1991, p.203-211, eng] 47-1307

Snowmelt runoff forecasting: case study of Karadj reservoir, Iran. Mashayekhi, T., et al. [1991, p.213-220, eng] 47-1308

Degree-day estimate of snow accumulation to a watershed. Sommerfeld, R.A., et al. [1991, p.221-228, eng] 47-1309

Characteristics of hydrological processes in a small high mountain basin. Yang, Z.N., et al. [1991, p.229-236, eng] 47-1310

Analysis of the relationship between lakes' melting regimes and stream runoff. Zhang, S.Y., et al. [1991, p.245-250, eng] 47-1312

Physics-based models of snow. Morris, E.M., [1991, p.85-112, eng] 47-1379

Physically based snowcover model. Vehviläinen, B., [1991, p.113-135, eng] 47-1380

Recent advances and future implications of remote sensing for hydrologic modeling. Engman, E.T., et al. [1991, p.471-495, eng] 47-1381

Problems of runoff modeling which are particular to the area or climate being modeled. Dawdy, D.R., [1991, p.541-547, eng] 47-1382

Climatic factors and snow surface energy exchange, pt.1. Marks, D., et al. [1992, p.3029-3042, eng] 47-1476

Comparison of snowmelt intensities in urban and rural areas of Norway. Sand, K., [1990, 13p., eng] 47-1684

Urban snowmelt research in Norway: measurements and modelling approach. Thorolfsson, S.T., et al. [1991, 8p., eng] 47-1685

Snowmelt runoff modelling with short time steps. Sand, K., [1990, 15p., eng] 47-1686

Perennial névés and the hydrology of rock glaciers. Tenthorey, G., [1992, p.247-252, eng] 47-1779

Comment on "The episodic acidification of Adirondack Lakes during snowmelt" by Douglas A. Schaefer et al. Eshleman, K.N., et al. [1992, p.2869-2878, eng] 47-1788

Simulation of time variation in seasonal snowcover based on routinely available data. Ujihashi, Y., et al. [1991, p.57-68, eng] 47-1934

Nordic Hydrological Conference 1992. [1992, 757p., nor] 47-1954

Runoff from rain and snowmelt in Norway. Thorolfsson, S.T., et al. [1992, p.127-135, nor] 47-1959

Design events in urban and suburban areas in coastal Norway. Basis for model modification. Thorolfsson, S.T., [1992, p.154-161, nor] 47-1960

Use of a digital terrain model in snowmelt modeling. Kolberg, S., [1992, p.196-203, nor] 47-1961

Monitoring and modelling snow storage in Swedish mountain basins. Brandt, M., [1992, p.204-210, eng] 47-1962

Snowmelt degree-day values for HBV-model in Finland. Vehviläinen, B., [1992, p.211-220, eng] 47-1963

Vertically distributed soil moisture simulations. Sandén, P., et al. [1992, p.251-264, eng] 47-1965

Main project 1991 water balance and a model of drainage in permafrost areas. Bruland, O., [1991, Var.p., nor] 47-2248

Forecasting meltwater runoff from snow-covered areas and from glacier basins. Lang, H., [1986, p.99-127, eng] 47-2312

Hydrology of four headwater basins in the Sierra Nevada. Kattelmann, R., [1989, p.141-147, eng] 47-2577

Hydrologic analysis of the Gulkana National Wild River, Alaska. Ellerbroek, D.A., et al. [1989, p.331-340, eng] 47-2579

Validation of stream flow temperature model. Mattax, B.L., et al. [1989, p.391-400, eng] 47-2582

Geochemistry of salmon rivers during snowmelt. Campbell, P.G.C., et al. [1992, p.1938-1952, eng] 47-2659

Managing water resources during global change. Herrmann, R., ed. [1992, 860p., eng] 47-2721

Experience with probabilistic forecasts for cumulative stochastic optimization. Howard, C.D.D., [1992, p.119-128, eng] 47-2722

Hydrometeorologic forecasting at Salt River Project. Reigle, D., et al. [1992, p.137-142, eng] 47-2723

Operational runoff forecasting and scheduling Pacific Gas and Electric's hydro electric system. Freeman, G.J., [1992, p.143-152, eng] 47-2724

Verification of the National Weather Service extended streamflow prediction procedure. Day, G.N., et al. [1992, p.163-172, eng] 47-2725

Effects of climate change on monthly river runoff. Miller, J.R., et al. [1992, p.175-178, eng] 47-2726

Effects of climate changes on water supplies. Cooley, K.R., et al. [1992, p.185-194, eng] 47-2727

Rainfall-snowmelt peaks in a warmer climate. Martinec, J., et al. [1992, p.195-202, eng] 47-2728

Modeling watershed management for water augmentation. Combs, S.T., et al. [1992, p.221-229, eng] 47-2729

Climate change impacts on Great Lakes water supplies. Croley, T.E., II, [1992, p.241-250, eng] 47-2730

Acid deposition and global change in Sequoia National Park. Tonnessen, K.A., [1992, p.497-507, eng] 47-2735

Hydroclimate response to climate change in the Lake Tahoe basin. Shelton, M.L., [1992, p.557-566, eng] 47-2737

Accumulation and melt characteristics of northeastern Sierra Nevada snowpacks. Reece, B., et al. [1992, p.631-640, eng] 47-2739

Snowmelt in Sierra Nevada and Coast Range streamflows. Riddle, L., et al. [1992, p.641-650, eng] 47-2740

Evaluation of trends in runoff in the western United States. Wahl, K.L., [1992, p.701-710, eng] 47-2746

Estimating glacier-derived runoff from mountain rivers in model predictions. Shentsis, I.D., [1991, p.32-40, rus] 47-2786

Water-snow flows in the Khibiny Mountains. Sapunov, V.N., [1991, p.94-99, rus] 47-2794

Hydrogeology at Romerike. Jörgensen, P., et al. [1992, p.3/1-3/10, eng] 47-2823

Nitrate transport in subalpine streams. Coats, R., et al. [1993, p.17-21, eng] 47-2850

Sulfate sources in the Glacier Lakes catchment, Snowy Range, Wyoming, U.S.A. Finley, J.B., et al. [1993, p.185-188, eng] 47-2851

Eroded chernozems in southern Western Siberia. Tanasienko, A.A., [1992, 150p., rus] 47-2938

Characteristics of the formation of spring runoff from rivers in the cryolithozone. Kravchenko, V.V., et al. [1991, p.53-64, rus] 47-3275

Remote sensing of sea ice geophysical variations. Barber, D.G., et al. [1992, p.233-251, eng] 47-3320

Performance and phenology of alpine herbs along a snow-melting gradient. Kudo, G., [1992, p.297-304, eng] 47-3340

Water resource modelling using remote sensing and object-oriented simulation. McKim, H.L., et al. [1993, p.153-165, eng] 47-3346

Simple method for specifying snowpack water equivalent in the northeastern United States. Samelson, D., et al. [1993, p.965-974, eng] 47-3565

Urban snow dump quality and pollutant reduction in snowmelt by sedimentation. Droste, R.L., et al. [1993, p.9-21, eng] 47-3719

Mapping partial snowcover during the melt season using C-band SAR imagery. Donald, J.R., et al. [1993, p.68-76, eng] 47-3725

Sensitivity of streamflow simulation to changes in climatic inputs. Ng, H.Y.F., et al. [1992, p.257-272, eng] 47-3802

Snow ablation in small forest openings in southwest Alberta. Berry, G.J., et al. [1992, p.1326-1331, eng] 47-3842

Analysis of synthetic aperture radar data collected over the southwestern Greenland ice sheet. Jezek, K.C., et al. [1993, p.119-132, eng] 47-3946

Once more on calculations of maximum spring flood runoff. Vodogretskii, V.E., [1992, p.74-78, eng] 47-3994

Acidification potential of snowpack in Sierra Nevada—discussion. Bales, R.C., et al. [1993, p.399-403, eng] 47-4010

Proceedings of the 49th annual Eastern Snow Conference, Oswego, NY, June 3-4, 1992. [1992, 273p., eng] 47-4026

Environmental isotope hydrograph separation during snowmelt in a suburban catchment. Buttle, J.M., et al. [1992, p.1-12, eng] 47-4027

Induced flow channels in a natural snowpack. Albert, M.R., et al. [1992, p.55-60, eng] 47-4033

Hillslope thermal and hydrologic processes. Pangburn, T., et al. [1992, p.161-167, eng] 47-4045

Nitrogen dynamics and sub-ice meltwater patterns in a small boreal lake during snowmelt. Jones, H.G., et al. [1992, p.169-180, eng] 47-4046

Snow cover distribution and watershed management. Schroeter, H.O., et al. [1992, p.181-192, eng] 47-4047

Effects of temperature and snowfall on winter low flows in New England. Hartley, S., [1992, p.255-261, eng] 47-4056

Thermal equilibrium in porous media with concurrent flow and freezing. Tao, Y.X., et al. [1993, p.323-332, eng] 47-4065

Hydrology of a prairie slough. Woo, M.K., et al. [1993, p.175-207, eng] 47-4170

Snowmelt-induced stream acidity in a subarctic catchment. Davies, T.D., et al. [1993, p.267-300, eng] 47-4171

Early winter flooding along a subalpine river. Butler, D.R., et al. [1993, p.145-155, eng] 47-4369

Snow estimation—a GIS application for water resources forecasting. McManamon, A., et al. [1993, p.856-861, eng] 47-4402

Effects of lime-sludge discharge on an arctic river. Tumeo, M.A., [1992, p.1083-1094, eng] 47-4626

Snow and floating ice. Gray, D.M., et al. [1993, p.7/1-7/58, eng] 47-4637

Hydrologic forecasting. Lettenmaier, D.P., et al. [1993, p.26/1-26/30, eng] 47-4638

Identifying sources of snowmelt acidification with a watershed mixing model. Schaefer, D.A., et al. [1993, p.345-365, eng] 47-4758

Isotope tracing of sulfate trends in Colorado lakes. Turk, J.T., et al. [1993, p.415-431, eng] 47-4759

Firn density of the Greenland ice sheet. Braithwaite, R.J., et al. [1993, p.62-65, eng] 47-4918

Chaotic characteristics of snowmelt runoff: a preliminary study. Wilcox, B.P., et al. [1990, p.125-134, eng] 47-5217

Possible climate change and its impact on snowmelt and water supply in California. Roos, M., [1990, p.135-144, eng] 47-5218

Effects of forest cover on a snowpack in the Sierra Nevada. Kattelmann, R., [1990, p.276-284, eng] 47-5219

Computerized simulation of watershed streamflow. Ffolliott, P.F., et al. [1990, p.285-292, eng] 47-5220

Assessing climate controls of northern forest soils and tree growth. Arp, P.A., et al. [1993, p.187-192, eng] 47-5237

Bedrock weathering associated with antarctic snowpatches. Hall, K., [1993, p.121-129, eng] 47-5270

See also: Meltwater; Snow melting

Snowmobiles

See also: Snow vehicles

Snowplows

See also: Snow removal

Snowsheds

Avalanche protection in the Bavarian Alps. Göttle, A., [1989, p.458-462 (p.463 missing), ger] 47-1197

Shelters to keep blowing snow out of airport road tunnels. Suzuki, H., et al. [1992, p.215-220, jpn] 47-2502

Avalanche shed on a Colorado highway. Mears, A., [1992, 113p., eng] 47-4614

Wind tunnel experiments on the snow shelter facility on National Highway 231. Ishizuka, Y., [1982, p.67-72, jpn] 47-4942

Wind tunnel experiments on the snow shelter at Nita. Ishizuka, Y., et al. [1985, p.53-62, jpn] 47-4951

Wind tunnel experiments on highway snow countermeasures. Nakano, T., et al. [1988, p.56-71, jpn] 47-4960

Avalanche countermeasures in Hokkaido. Takeuchi, M., [1985, p.22-26, jpn] 47-5149

Avalanche countermeasures in Fukushima Prefecture. Hamazu, F., [1985, p.37-44, jpn] 47-5152

Study on providing pedestrian space in snowy regions. Nishiue, H., [1985, p.58-62, jpn] 47-5155

Snowstorms

Active remote sensing of the earth using a powerful dye laser. Jyumonji, M., et al. [1992, p.254-258, eng] 47-145

Snowfall-event climatology: the finale. Mahoney, J.L., et al. [1992, p.66-77, eng] 47-495

Water input from rain-on-snow storms in clearcut forests. Brunengo, M.J., et al. [1992, p.125-128, eng] 47-502

Evidence of ascent in a sloped barrier jet and an associated heavy-snow band. Dunn, L.B., [1992, p.914-924, eng] 47-590

Structure of a winter storm producing heavy precipitation over Nova Scotia. Stewart, R.E., et al. [1990, p.411-426, eng] 47-627

Temporal fluctuations in weather disasters: 1950-1989. Changnon, S.A., et al. [1992, p.191-208, eng] 47-783

Snowstorms *(cont.)*

MOS-1 and radar observation of snow clouds. Koike, T., et al. [1990, p.197-203, jpn] **47-886**

Regional CONUS snowfall intensity and inferred global patterns. Ryerson, C.C., et al. [1990, p.111-122, eng] **47-911**

Traffic volume reductions due to winter storm conditions. Hanbali, R.M., et al. [1992, 11p., eng] **47-959**

1992: Catastrophic avalanches in Turkey. Gürer, I., [1992, p.56-61, eng] **47-1322**

Sierra Nevada winter storms. Demoz, B.B., [1992, 164p., eng] **47-2124**

Winter Weather Workshop. [1992, Var. p., eng] **47-2130**

Front Range/Palmer Divide blizzard of 7 Jan 1992. Wolf, R.A., et al. [1992, 6p., eng] **47-2132**

Observing and forecasting a mesoscale snow event using MAPS. Glancy, R.T., et al. [1992, 11p., eng] **47-2133**

Operational use of an orographic snow model. Scott, C., [1992, 7p., eng] **47-2134**

Analysis of the record-breaking northern plains snowstorm of October 27-29 1991. Abeling, W.A., et al. [1992, 22p., eng] **47-2136**

Snowstorms over the western Washington lowlands. Ferber, G.K., [1992, 23p., eng] **47-2137**

Use of high resolution data from the Nested Grid Model for the prediction of lake-effect snows. Niziol, T.A., et al. [1992, 11p., eng] **47-2138**

Lake effect snow events in eastern New York. Snyder, W.R., [1992, 10p., eng] **47-2139**

Case study of a mesoscale snow event in New York's Capital District. Wooldridge, M.E., et al. [1992, 13p., eng] **47-2140**

NGM model output error and the effect on forecasting a Great Basin cyclogenic event: a case study. Conger, M.C., [1992, 38p., eng] **47-2141**

Winter severity index for Pittsburgh, Pennsylvania. Nouhan, V.J., [1992, 17p., eng] **47-2142**

Meteorological trends in the Italian Alps during the 1991-92 winter season. Kerkmann, J., et al. [1992, p.8-19, ita] **47-2615**

New England's disastrous weather. Watson, B., ed. [1990, 228p., eng] **47-2778**

Meteorological observations at King Sejong Station. Lee, B.Y., et al. [1992, p.1-16, kor] **47-2926**

Radar echoes of *winter monsoon* affected by *mountains*. Nakai, S., et al. [1992, p.1-23, jpn] **47-3294**

Front Range blizzard of 1990. Part I: synoptic and mesoscale structure. Marwitz, J.D., et al. [1993, p.402-415, eng] **47-3676**

Misawa snow accumulation study. Schaub, W.R., Jr., [1991, 20p., eng] **47-3818**

Proceedings of the 49th annual Eastern Snow Conference, Oswego, NY, June 3-4, 1992. [1992, 273p., eng] **47-4026**

Some experiences in assessing aircraft anti-icing fluid under various snow conditions. Stamm, A., et al. [1992, p.31-37, eng] **47-4030**

Air Force snowfall statistics for engineering applications. Snelling, H.J., [1992, p.61-69, eng] **47-4034**

Nested grid model for the prediction of lake-effect snows. Niziol, T.A., et al. [1992, p.89-99, eng] **47-4037**

"Tea kettle" effect snow. Woolley, R., et al. [1992, p.101-106, eng] **47-4038**

Preliminary numerical simulations of the 31 January 1991 lake-effect snowstorm. Ballentine, R.J., et al. [1992, p.115-123, eng] **47-4040**

Multiple lake interaction in a lake-effect snowstorm. Byrd, G., et al. [1992, p.125-134, eng] **47-4041**

February 1972 Eastern Snow Conference weather experience at Oswego, New York. Sykes, R.B., Jr., et al. [1992, p.135-144, eng] **47-4042**

Does lake-effect snow extend to the mountains of West Virginia. Schmidlin, T.W., [1992, p.145-148, eng] **47-4043**

Lake-induced convection from Lake Ontario. Penc, R.S., [1992, p.149-159, eng] **47-4044**

Lake-Effect Snow Observation Network (LESON) report for the 1991-1992 snow season. Ferlito, J., et al. [1992, p.227-234, eng] **47-4052**

Look at lake effect snow cloudbands with satellite imagery. Niziol, T.A., et al. [1992, p.235-242, eng] **47-4053**

Case study of heavy snowfall in Oklahoma. Marwitz, J.D., et al. [1993, p.648-660, eng] **47-4256**

Mean circulations of boundary-layer rolls in lake-effect snow storms. Kristovich, D.A.R., [1993, p.293-315, eng] **47-4350**

Form of cyclonic precipitation and its thermal impact. Gedzelman, S.D., et al. [1993, p.1957-1978, eng] **47-4355**

Winter storm mapping: a Geographic Information Systems Transportation application. Swift, L.B., et al. [1992, p.60-71, eng] **47-4359**

Revised snowstorm maximization method for Canadian boreal regions. Chow, K.C.A., et al. [1993, p.449-454, eng] **47-4401**

Numerical investigation of wind speed effects on lake-effect storms. Sousounis, P.J., [1993, p.261-290, eng] **47-4511**

Lake effect of the Great Salt Lake: overview and forecast problems. Carpenter, D.M., [1993, p.181-193, eng] **47-4831**

Summary of damages and countermeasures in the snowstorms of 1984. Takahashi, T., [1984, p.30-34, jpn] **47-5063**

Status of road snow removal in the snowstorms of 1984. Iina, I., [1984, p.35-39, jpn] **47-5064**

Safeguarding traffic on the snowy stretches of National Highway 17 during the 1984 snowstorms. Aoki, S., [1984, p.45-50, jpn] **47-5066**

Snowdrifts on National Highway 7. Kuroki, M., [1984, p.51-57, jpn] **47-5067**

Looking back at the snowstorms of 1984. Iwatani, T., [1984, p.64-68, jpn] **47-5069**

Current status and countermeasures in isolated communities. [1984, p.69-74, jpn] **47-5070**

Looking back at the snowstorms of 1984. Ima, M., [1984, p.75-79, jpn] **47-5071**

Shinjo Branch of the National Research Center for Disaster Prevention Science and Technology. Nakamura, T., [1985, p.53-60, jpn] **47-5100**

Bulletin on road snow removal in the 1985 snowstorms. Iina, I., [1985, p.82-83, jpn] **47-5104**

Snow countermeasures in Joetsu City. [1985, p.45-49, jpn] **47-5167**

Heavy snowfall during an arctic outbreak along the Colorado Front Range. Wesley, D.A., et al. [1990, p.2-19, eng] **47-5257**

Comments on paper by Wesley et al and reply. Auer, A.H., Jr., et al, [1991, p.19-21, eng] **47-5259**

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Structure-forming ability of the cold-tolerant soil bacteria *Pseudomonas*. Mosolova, A.I., et al. [1987, p.29-33, eng] **47-597**

Estimating thaw-strain settlement of frozen fill. Crowther, G.S., [1992, p.152-159, eng] **47-2641**

Dielectric properties of road aggregates and their effect on GPR surveys. Ravaska, O., et al. [1993, p.17-22, eng] **47-4116**

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Dynamic simulation of phase changes in snowpacks and soils. Grant, R.F., [1992, p.1051-1062, eng] **47-902**

Interannual variations in tundra methane emission: a 4-*year time* series at fixed sites. Whalen, S.C., et al, [1992, p.139-159, eng] **47-1053**

Plant-dependent CH4 emission in a subarctic Canadian fen. Whiting, G.J., et al. [1992, p.225-231, eng] **47-1378**

Climatic change and the permafrost landscape. Lewkowicz, A.G., [1992, p.91-104, eng] **47-1429**

Arctic Boundary Layer Expedition (ABLE 3A): July-August 1988. Harriss, R.C., et al. [1992, p.16,383-16,394, eng] **47-1444**

Deposition of ozone to tundra. Jacob, D.J., et al. [1992, p.16,473-16,479, eng] **47-1449**

Measurements of NOx and NOy concentrations and fluxes *over arctic tundra*. Bakwin, P.S., et al, [1992, p.16,545-16,557, eng] **47-1454**

Carbon monoxide and methane in the North American arctic and subarctic troposphere: July-August 1988. Harriss, R.C., et al. [1992, p.16,589-16,599, eng] **47-1456**

Micrometeorological measurements of CH4 and CO2 exchange between the atmosphere and subarctic tundra. *Fan, S.M., et al.* [1992, p.16,627-16,643, eng] **47-1458**

Methane emissions from tundra environments in the Yukon-Kuskokwim Delta, Alaska. Bartlett, K.B., et al, [1992, p.16,645-16,660, eng] **47-1459**

Methane emissions from Alaska arctic tundra: an assessment of local spatial variability. Morrissey, L.A., et al, [1992, p.16,661-16,670, eng] **47-1460**

CO2 exchange in tundra ecosystems. Whiting, G.J., et al, [1992, p.16,671-16,680, eng] **47-1461**

Emissions of biogenic sulfur gases from Alaskan tundra. Hines, M.E., et al. [1992, p.16,703-16,707, eng] **47-1464**

Turbulent transports over tundra. Fitzjarrald, D.R., et al, [1992, p.16,717-16,729, eng] **47-1466**

Advective contributions to boundary layer moisture profiles in mountainous terrain. Wooldridge, G.L., et al, [1991, p.123-126, eng] **47-1490**

Air flow across an alpine forest clearing in winter. Miller, D.R., et al, [1990, p.172-175, eng] **47-1491**

Energy balance of dry tundra in West Greenland. Rott, H., et al, [1992, p.352-362, eng] **47-1592**

Emission of CO2 and CH4 from northern wetlands to atmosphere. Panikov, N.S., et al, [1992, p.208-216, eng] **47-1731**

Overwinter nitrate loss and denitrification potential of cultivated soils in Alberta. Heaney, D.J., et al. [1992, p.877-884, eng] **47-1795**

Simple soil temperature model. Sandén, P., [1992, p.296-301, eng] **47-1966**

Atmospheric loading of nitrogen to alpine tundra in the *Colorado Front Range*. Sievering, H., et al. [1992, p.339-346, eng] **47-2236**

Geographic variations in the thermal and diffusive stability of ground ice on Mars. Mellon, M.T., et al. [1993, p.3345-3364, eng] **47-2672**

Environmental effects on CO2 tundra efflux. Oberbauer, S.F., et al. [1992, p.568-577, eng] **47-2710**

Thaw depth effects on tundra methane flux. Vourlitis, G.L., et al, [1993, p.329-337, eng] **47-3434**

Significance of stomatal control on methane release from *Carex*-dominated wetlands. Morrissey, L.A., et al, [1993, p.339-355, eng] **47-3435**

Environmental and biotic controls over methane flux from *arctic tundra*. Torn, M.S., et al. [1993, p.357-368, eng] **47-3436**

Permafrost methane content. 2. Modeling theory and results. Moraes, F., et al. [1993, p.595-607, eng] **47-3438**

Methane in permafrost - preliminary results from coring at Fairbanks, Alaska. Kvenvolden, K.A., et al. [1993, p.609-616, eng] **47-3439**

Episodic fluxes of methane from subarctic fens. Windsor, J., et al. [1992, p.441-452, eng] **47-3717**

CO2 emissions in Siberian soils as greenhouse effect factor. Zimov, S.A., et al. [1993, p.5017-5023, eng] **47-3782**

Proceedings. [1993, 112p., eng] **47-3968**

Measurements of methane flux in Yakutsk. Ohta, S., et al, [1993, p.10-17, eng] **47-3970**

Measurement of methane concentration in the atmosphere over Siberia. Uchiyama, M., [1993, p.30-35, jpn] **47-3972**

Soil characteristics and C and N storage in soil. Ohta, S., et al, [1993, p.59-65, eng] **47-3976**

Measurement of methane flux in Tiksi, Siberia. Nakayama, T., [1993, p.110-112, eng] **47-3982**

Climate warming and the carbon cycle in the permafrost zone of the former Soviet Union. Kolchugina, T.P., et al, [1993, p.149-163, eng] **47-4150**

Model for the hydrologic and climatic behavior of water *on Mars*. Clifford, S.M., [1993, p.10,973-11,016, eng] **47-4409**

Statistical analysis of soil temperature on Spitsbergen. Mietus, M., [1992, p.103-112, eng] **47-4650**

Carbon cycling in boreal forest and sub-arctic ecosystems: biospheric responses and feedbacks to global climate change. Vinson, T.S., ed. [1993, 282p., eng] **47-5222**

Boreal carbon pools: approaches and constraints in global extrapolations. Chapin, F.S., III, et al, [1993, p.9-20, eng] **47-5224**

Planetary maximum CO2 and ecosystems of the North. Zimov, S.A., et al. [1993, p.21-34, eng] **47-5225**

Arctic atmospheric CO2 bimodal distribution. Semiletov, I.P., et al. [1993, p.35-42, eng] **47-5226**

Equilibrium analysis of projected climate change effects on the global soil organic matter pool. Turner, D.P., et al. [1993, p.59-63, eng] **47-5229**

Methane from northern peatlands and climate change. Frolking, S., [1993, p.109-124, eng] **47-5233**

Methane and carbon dioxide production and uptake in *some boreal ecosystems of Russia*. Panikov, N.S., et al, [1993, p.125-138, eng] **47-5234**

Boreal forests, the carbon cycle and global change: a challenge for ecologists. Bonan, G.B., [1993, p.139-153, eng] **47-5235**

Greenhouse gases from forest fires in Russia. Krankina, O.N., [1993, p.179-186, eng] **47-5236**

Estimating carbon budgets of Canadian forest ecosystems *using a national scale model*. Apps, M.J., et al. [1993, p.243-252, eng] **47-5240**

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Microorganism nucleic acids and biomass in alpine-forest soils in the northern Caucasus. Aseeva, I.V., et al, [1981, p.37-43, eng] **47-457**

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Paleoecology of an interglacial peat deposit, Nuyakuk, southwestern Alaska, U.S.A. Elias, S.A., et al, [1992, p.85-96, eng] **47-830**

Topography and soil acidity in an arctic landscape. Valentine, D.W., et al. [1992, p.1553-1559, eng] **47-1183**

Development of field screening methods for TNT, 2,4-DNT and RDX in soil. Jenkins, T.F., et al, [1992, p.33-45, eng] **47-1819**

Carbonate isotopic composition of the loess-paleosol sequence and its implication of paleoclimatic change. Gu, Z.Y., [1991, p.1979-1983, eng] **47-1951**

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Soil formation in mountain boreal forests of Siberia. Molokov, V.A., et al, [1991, 151p., rus] **47-2284**

Small-scale patterned ground, Comeragh Mountains, southeast Ireland. Wilson, P., [1992, p.63-70, eng] **47-3128**

Tundra-forest soils in the arctic Yenisey region, subjected to sulfur-containing industrial discharge. Ershov, I.U.I., [1992, p.33-39, rus] **47-3271**

Soil tongues—periglacial relics or active zones. Hinkel, K.M., [1993, p.75-83, eng] **47-5203**

Soil sampling and methods of analysis. Carter, M.R., ed. [1993, 823p. (Pertinent p.755-814), eng] 47-5248
Sampling frozen soils. Tarnocai, C., [1993, p.755-765, eng] 47-5249

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Chemistry of a Wyoming snowpack related to global budgets. Sommerfeld, R.A., et al. [1993, p.140-142, eng] 47-1595
Use of organic nitrogen by an Arctic sedge. Chapin, F.S., III, et al. [1993, p.150-153, eng] 47-1597
Proceedings of the 1st International Conference on Cryopedology. [1992, 272p., eng] 47-1699
Formation and properties of soils in the permafrost regions of Canada. Tarnocai, C., et al. [1992, p.21-42, eng] 47-1702
Soil-forming rates and processes in cold desert soils of Antarctica. Bockheim, J.G., et al. [1992, p.42-56, eng] 47-1703
Aspects of the genesis, geography and evolution of the soils of Greenland. Jakobsen, B.H., [1992, p.71-84, eng] 47-1707
New data on soil geography of the north-eastern Siberia (NES). Mazhitova, G.G., [1992, p.84-88, eng] 47-1708
European North: soil degradation due to technogenic pollution. Kriuchkov, V.V., [1992, p.94-97, eng] 47-1710
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Cryology of soils: collected scientific papers. Gilichinskii, D.A., ed. [1991, 131p., rus] 47-4801
Cryology of soils. Makeev, O.V., [1991, p.3-10, rus] 47-4802

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Organic matter and its availability to microorganisms in antarctic soils. Bölter, M., [1992, p.189-199, eng] 47-1728
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Mineral criterion for evaluating the frost-susceptibility of pavement structures and soils. Brandl, H., [1992, p.3034-3035, eng] 47-1818
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Dating of Quaternary glaciation in the Sierra Nevada, Berry, M.E., [1991, 376p., eng] 47-293
Sand dunes and paleoclimatology of northern Alaska. Galloway, J.P., et al. [1992, p.100-111, eng] 47-613
Radiocarbon date list VII: Baffin Island, N.W.T., Canada. Kaufman, D.S., ed. [1992, 82p., eng] 47-1433
Dating Holocene moraines of Black Rapids Glacier, Delta River valley, central Alaska Range. Reger, R.D., et al. [1993, p.51-59, eng] 47-4778

Soil erosion
Seasonal soil loss and erodibility variation on a Miamian silt loam soil. Bajracharya, R.M., et al. [1992, p.1560-1565, eng] 47-1184
Aspects of the genesis, geography and evolution of the soils of Greenland. Jakobsen, B.H., [1992, p.71-84, eng] 47-1707
Phosphorus in runoff from soil erosion areas. Brynildsen, A., [1992, p.346-353, nor] 47-1968
Mathematical modeling of the thermoerosion process and its use in the study of various regions of the cryolithozone. Baranova, N.A., [1992, p.29-36, rus] 47-2456
Analysis of freeze-thaw cycles and rainfall on frozen soil at seven Canadian locations. Hayhoe, H.N., et al. [1992, p.135-142, eng] 47-2612
Laboratory measurement of freeze-thaw, compaction, residue and slope effects on rill erosion. Frame, P.A., et al. [1992, p.143-149, eng] 47-2613
Eroded chernozems in southern Western Siberia. Tanasienko, A.A., [1992, 150p., rus] 47-2938
Erosion of agricultural lands in the Irkutsk region. Khismatullin, Sh.D., [1991, p.49-61, rus] 47-3279
Relative rates of glacial and nonglacial erosion in alpine environments. Harbor, J.M., et al. [1993, p.1-7, eng] 47-3422
Subarctic dune dynamics determined by tree ring analysis. Marin, P., et al. [1992, p.316-330, eng] 47-4407
See also: Gullies; Soil conservation

Soil fluidization
See also: Thixotropy

Soil formation
Soils of the valley near the middle course of the Amga River. Desiatkin, R.V., et al. [1989, 120p., rus] 47-100
Opal cutans in the profile of mountain tundra sod soil in the extreme north-east of the USSR. Pustovoitov, K.E., [1990, p.12-17, eng] 47-474
Indices of the humus state of some high-mountain soils of Western Pamir. Demin, V.V., [1981, p.77-79, eng] 47-476
Mineralogy of silt material of soils of the forest tundra and northern taiga of the Kola Peninsula. Gradusov, B.P., et al. [1987, p.7-14, eng] 47-596
Structure-forming ability of the cold-tolerant soil bacteria *Pseudomonas*. Mosolova, A.I., et al. [1987, p.29-33, eng] 47-597
Paleoclimatic implications of new data on the origin of "greze" layering. Bertran, P., et al. [1992, p.97-112, fre] 47-831
Ecology of recently-deglaciated terrain. Matthews, J.A., [1992, 386p., eng] 47-1066
Soils of alpine mountains. Legros, J.P., [1992, p.155-181, eng] 47-1211
Soils of cold climate regions. Campbell, I.B., et al. [1992, p.183-201, eng] 47-1212
Proceedings of the 1st International Conference on Cryopedology. [1992, 272p., eng] 47-1699
Formation and properties of soils in the permafrost regions of Canada. Tarnocai, C., et al. [1992, p.21-42, eng] 47-1702
Soil-forming rates and processes in cold desert soils of Antarctica. Bockheim, J.G., et al. [1992, p.42-56, eng] 47-1703
Cryogenesis and forest soil formation in Middle Siberia. Ershov, IU.I., et al. [1992, p.66-71, eng] 47-1706
Aspects of the genesis, geography and evolution of the soils of Greenland. Jakobsen, B.H., [1992, p.71-84, eng] 47-1707
Geographic laws of spatial soil cover organization in the Yamal Peninsula. Aparin, B.F., et al. [1992, p.88-94, eng] 47-1709
Specific features of mineral changing in cryogenic soils under gleyformation process. Zvereva, T.S., [1992, p.145-148, eng] 47-1720
Silt-enriched horizons due to vertical mesosorting in cryogenic soils. Regairaz, M.C., [1992, p.154-167, eng] 47-1722
Heat energetics of cryopedogenesis. Kulikov, A.I., et al. [1992, p.173-177, eng] 47-1724
Humus accumulation and soil formation in Svalbard. Lag, J., [1992, p.222-228, eng] 47-1734
Vertical movements of boulders in a subnival boulder pavement at 2800 m a.s.l. in the Alps (France). Pissart, A., et al. [1992, p.203-208, eng] 47-1771
Evidence of periglacial influence on fragipan formation. Payton, R.W., [1992, p.621-644, eng] 47-2190
Soil catena variation along an alpine climatic transect, northern Peruvian Andes. Miller, D.C., et al. [1992, p.211-223, eng] 47-2252
Soil formation in mountain boreal forests of Siberia. Molokov, V.A., et al. [1991, 151p., rus] 47-2284
Rock weathering, soil development and colonization under a changing climate. Hall, K.J., et al. [1992, p.269-277, eng] 47-3146
Cryolithogenesis: advances, promising trends, and research problems. Ershov, E.D., et al. [1992, p.76-84, eng] 47-3833
Current processes in slightly soddy-podzolic loamy soils. Kanev, V.V., [1991, p.13-29, rus] 47-4104

Soil formation *(cont.)*

Weathering of basaltic rocks under cold arid conditions: Antarctica and Mars. Allen, C.C., et al. [1991, p.711-717, eng] **47-4636**

Cryology of soils; collected scientific papers. Gilichinskii, D.A., ed. [1991, 131p., rus] **47-4801**

Automorphic soil formation in the tundra zone of northern Yakutia. Gubin, S.V., [1991, p.11-20, rus] **47-4803**

Paleosoils of the southern Yenisey region of Siberia: chronology, paleogeography, and cryogenesis. Amskikh, A.F., [1991, p.27-34, rus] **47-4805**

Results of the Fifth All-Union Conference on the Theoretical Principles of Soil Cryogenesis. [1991, p.121-128, rus] **47-4821**

Soil tongues—periglacial relics or active zones. Hinkel, K.M., [1993, p.75-83, eng] **47-5203**

Soil freezing

Design method for frozen-soil retaining wall. Soo, S., et al. [1992, p.73-89, eng] **47-3**

Predicting pipeline frost load. Fielding, M.B., et al. [1988, p.62-69, eng] **47-75**

Characteristics of frost heave properties of freezing ground during engineering geological investigations for construction purposes. Puskov, V.I., [1991, p.21-28, rus] **47-187**

Groundwater issues relating to an Alaskan methanol spill. *Robertson*, S.B., [1992, p.936-940, eng] **47-234**

Effect of soil stress on its water permeability during freezing and forecasting frost heave intensity. Karlov, V.D., [1991, p.77-82, rus] **47-238**

Discrete ice lens theory for frost heave beneath pipelines. Nixon, J.F., [1992, p.487-497, eng] **47-416**

Spectral signature of coupled flow in the refreezing active layer, northern Alaska. *Outcalt*, S.I., et al. [1992, p.273-284, eng] **47-709**

Ground freezing to provide support for tunneling using vertical refrigeration pipes. Sopko, J.A., Jr., et al. [1991, p.267-272, eng] **47-992**

Shaft construction by raise boring through artificially frozen ground. Walsh, A.R., et al. [1991, p.705-719, eng] **47-993**

Ground freezing to control ground water and support deep storm sewer structural excavations. Shuster, J.A., et al. [1989, p.149-155, eng] **47-994**

Influence of frost heave on houses under construction in Merthyr Tydfil. Statham, I., et al. [1989, p.31-33, eng] **47-1001**

Measuring negative pore water pressures in a freezing environment. Fredlund, D.G., et al. [1991, p.291-299, eng] **47-1127**

Field testing of a model for water flow and heat transport in variably saturated, variably frozen soil. Xu, X., et al. [1991, p.300-308, eng] **47-1128**

Effect of a geotextile on water migration and frost heave in a large-scale test basin. Shoop, S.A., et al. [1991, p.309-318, eng] **47-1129**

Mechanical properties of undisturbed Tone River gravel obtained by *in situ* freezing method. Goto, S., et al. [1992, p.15-25, eng] **47-1190**

Incorporating freeze-thaw calculations into a water balance model. Fox, J.D., [1992, p.2229-2244, eng] **47-1507**

Cheng's theory on the formation of thick layered ground ice. Zhou, Y.W., et al. [1992, p.97-100, chi] **47-1644**

Ice formation in freezing and thawing cycles of saturated sand. Wang, J.C., et al. [1992, p.101-106, chi] **47-1645**

Application limit for reducing heave of sulphate saline soil by mixing sodium chloride. Ding, Y.Q., et al. [1992, p.107-114, chi] **47-1646**

Mass transfer in freezing saline soils. Ershov, E.D., et al. [1992, p.115-122, eng] **47-1715**

Dynamics of heat-mass transfer in cryogenic soils of northeast Yakutia. Davydov, S.P., et al. [1992, p.180-184, eng] **47-1726**

Effect of soil freezing on the composition and properties of humus. Plotnikova, T.A., et al. [1992, p.203-208, eng] **47-1730**

Gas-geochemical processes as a result of soil seasonal freezing and thawing in the cryolithozone. Glotov, V.E., [1992, p.216-220, eng] **47-1732**

Stresses in ground-freezing problems with infinite boundaries. Askar, H.G., [1993, p.58-73, eng] **47-1759**

General report—soil freezing-ground freezing. *Andersland*, O.B., et al. [1992, p.2657-2672, eng] **47-1816**

Application of infinite elements to phase change situations on deforming meshes. Sullivan, J.M., Jr., et al. [1992, p.1861-1874, eng] **47-1915**

Electrical conductivity in frozen and unfrozen soils. Lundin, L.C., et al. [1992, p.241-250, eng] **47-1964**

Analysis and design for frost effect in soil-steel structures. Ghobrial, N., [1990, 117p., eng] **47-2104**

Freezing earth with seasonal cooling plants. Buchko, N.A., et al. [1992, p.258-264, eng] **47-2292**

Hydraulic conductivity of compacted clay frozen and thawed *in situ*. Benson, C.H., et al. [1993, p.276-294, eng] **47-2545**

Frost-related performance of heated shallow foundation thermal insulation. Duquennoi, C., [1992, p.3-19, fre] **47-2665**

Frost heave forces on buried pipelines subject to freeze thaw. [1992, 68p., eng] **47-3150**

On spatial irregularities in the frost penetration of soils in *river basins*. Manukalo, V.A., et al. [1991, p.119-123, rus] **47-3282**

Climate of Finland in relation to its hydrology, ecology and cultu[illegible] Solantie, R., [1990, 130p., eng] **47-3540**

Cryogenic deformations of Suluk BAM station building. Rubinchik, S.B., [1993, p.167-169, eng] **47-3577**

Detection of nonconductive heat transport in soils using spectral analysis. Hinkel, K.M., et al. [1993, p.1017-1023, eng] **47-3579**

Foundation improvement by artificial freezing. Spalding, A.V., et al. [1988, 6 col., eng] **47-3769**

Frost in geotechnical engineering. Phukan, A., ed. [1993, 191p., eng] **47-4114**

Sensitivity analysis of frost heave—a theoretical study. Sheng, D., et al. [1993, p.3-16, eng] **47-4115**

Freezing pressure development on a buried chilled pipeline. Ladanyi, B., et al. [1993, p.23-33, eng] **47-4117**

Frost process and thermal degradation of frozen soils. Thimus, J.F., [1993, p.51-57, eng] **47-4120**

Frost heave theories and design measures against frost heave. Phukan, A., [1993, p.173-189, eng] **47-4135**

Proceedings. [1993, 170p., eng] **47-4267**

Gas pipelines and the challenge of the cold regions: an experimental study. Williams, P.J., [1993, p.5-18, eng] **47-4268**

Thermomechanical modelling of freezing soil. Frémond, M., et al. [1993, p.48-60, eng] **47-4272**

Experimental study and numerical solution of frost heaving in specific materials. Padilla, F., [1993, p.116-136, fre] **47-4277**

Cyclic freeze-thaw effects on the soil cover for tailings. Mohamed, A.M.O., et al. [1993, p.259-272, eng] **47-4468**

Refreezing of a building foundation on permafrost. Claisse, M., et al. [1993, p.303-309, fre] **47-4471**

Lagoon sludge dewatering by natural freeze-thaw. Martel, C.J., et al. [1993, p.357-364, eng] **47-4477**

Heat transfer from a heated cylinder buried in a frozen porous medium in an enclosure. Oosthuizen, P.H., et al. [1992, p.315-326, eng] **47-4707**

Mathematical model of frost heave and thaw settlement in pavements. Guymon, G.L., et al. [1993, 126p., eng] **47-4870**

Ground freezing. Bell, F.G., [1992, p.321-333, eng] **47-4890**

Soil sampling and methods of analysis. Carter, M.R., ed. [1993, 823p. (Pertinent p.755-814), eng] **47-5248**

Hydrological properties of frozen soil. Perfect, E., et al. [1993, p.767-781, eng] **47-5250**

Thermal properties of frozen soils. Van Loon, W.K.P., et al. [1993, p.783-795, eng] **47-5251**

Frost heave potential. Konrad, J.M., [1993, p.797-806, eng] **47-5252**

Depth of frost penetration. Schellekens, F.J., et al. [1993, p.807-814, eng] **47-5253**

Soil mapping

Lithologic mapping in Greenland and Egypt. Rivard, B., [1991, 238p., eng] **47-292**

Mapping Alaska's North Slope with aerial photography. Harrison, B.V., [1981, p.179-182, eng] **47-1194**

Multisource evidential classification of surface cover and frozen ground. Peddle, D.R., et al. [1992, p.3375-3380, eng] **47-1443**

Experience in compiling the soil-ecological and soil conservation maps of circumpolar regions. Naumov, E.M., [1992, p.98-104, eng] **47-1711**

Soil mechanics

Some aspects of the statistical evaluation of the mechanical properties of soil and foundations. Gerasimov, A.S., [1991, p.82-91, rus] **47-239**

Patterned ground formation and solar radiation ground heating. McKay, G., [1992, p.249-263, eng] **47-985**

General report—soil freezing-ground freezing. Andersland, O.B., et al. [1992, p.2657-2672, eng] **47-1816**

Proceedings. [1993, 170p., eng] **47-4267**

Soil-pipeline interaction associated with a large diameter chilled pipeline in temperate climates. Greene, D.P., et al. [1993, p.25-33, eng] **47-4270**

Stress history and vertical displacement matching for the pipeline at Caen, France subjected to frost heave. Rajani, B., et al. [1993, p.34-47, eng] **47-4271**

Geochemical processes at the soil-snow boundary. Fedoseeva, V.I., et al. [1991, p.60-67, rus] **47-4811**

Frost-susceptible soils as foundations of structures. Orlov, V.O., et al. [1992, 166p., rus] **47-4977**

See also: Frozen ground mechanics

Soil microbiology

Rhizobia from legumes in the Canadian Arctic. Prévost, D., et al. [1987, p.313-324, eng] **47-253**

Microorganism nucleic acids and biomass in alpine-forest soils *in the northern Caucasus*. Aseeva, I.V., et al. [1981, p.37-43, eng] **47-457**

Some indices of the biological activity of soils of the mountain meadow belt of the northwestern Caucasus. Efremov, A.L., [1981, p.76-78, eng] **47-475**

Structure-forming ability of the cold-tolerant soil bacteria *Pseudomonas*. Mosolova, A.I., et al. [1987, p.29-33, eng] **47-597**

Nutrient cycle in high-meadow alpine soils. Stepanov, A.L., et al. [1989, p.55-57, eng] **47-745**

Proceedings of the 1st International Conference on Cryopedology. [1992, 272p., eng] **47-1699**

Organic matter and its availability to microorganisms in *antarctic soils*. Bolter, M., [1992, p.189-199, eng] **47-1728**

Cryogenesis and functioning of microbial communities in soil of Zabaikalye areas. Kulikov, A.I., et al. [1992, p.199-203, eng] **47-1[illegible]**

Microorganisms [illegible] permafrost. Zvyagintsev, D.G., [19[illegible] p.229-232, eng] **47-1[illegible]**

Sulfate-reducing bacteria *in constant-frozen soils* Vainshtein, M.B., et al. [1992, p.243-247, eng] **47-1738**

Isolation of mercury resistant bacteria from permafrost samples of Kolyma Lowland. Petrova, M.A., et al. [1992, p.247-251, eng] **47-1739**

Role of organic matter on nitric and nitrous oxide *formation of Nitrosomonas and Nitrobacter*. Ehrich, S., et al. [1992, p.251-259, eng] **47-1740**

Viable microorganisms in permafrost: the spectrum of possible applications to new investigations. Gilichinskii, D.A., [1992, p.268-270, eng] **47-1743**

Measurement of microbial biomass in arctic tundra. Cheng, W.X., et al. [1993, p.135-141, eng] **47-3347**

CO2 emissions in Siberian soils as greenhouse effect factor. Zimov, S.A., et al. [1993, p.5017-5023, eng] **47-3782**

Field investigation of bioremediation of tundra with residual hydrocarbons. Wooters, K., et al. [1993, p.331-337, eng] **47-4474**

Case study of arctic in situ bioremediation. Ramert, P.C., et al. [1993, p.339-346, eng] **47-4475**

Microbiology of antarctic soils. Vishniac, H.S., [1993, p.297-341, eng] **47-4597**

Occurrence of algae on tundra soils in Oscar II Land, Spitsbergen. Oleksowicz, A.S., et al. [1992, p.131-147, eng] **47-4652**

Microflora of soils in the Arctic and its activity. Parinkina, O.M., [1991, p.87-91, rus] **47-4815**

Soil moisture

See also: Soil water

Soil patterns

Nature and geomorphological relationships of earth hummocks (thufa) in Iceland. Gerrard, J., [1992, p.173-182, eng] **47-1012**

Soil physics

Formation and properties of soils in the permafrost regions of Canada. Tarnocai, C., et al. [1992, p.21-42, eng] **47-1702**

Frost heave and the surface melting of ice. Dash, J.G., [1991, p.339-356, eng] **47-2302**

Eroded chernozems in southern Western Siberia. Tanasienko, A.A., [1992, 150p., rus] **47-2938**

Laws of the kinetic theory of strength of frozen soils. Konovalov, A.A., [1993, p.892-897, eng] **47-3506**

Effect of fertilization and liming on the potassium condition of soils. Kuznetsova, E.G., et al. [1991, p.56-65, rus] **47-4107**

Effectiveness of applying meliorative agents on tundra soils. Kononenko, A.V., et al. [1991, p.76-88, rus] **47-4109**

Crustal evolution and dust emission of artificial cometary *nuclei*. Thiel, K., et al. [1990, p.389-399, eng] **47-4568**

New results of the dust investigation in the comet simulation project KOSI. Thiel, K., et al. [1991, p.579-589, eng] **47-4634**

Micromorphological features of the USSR zonal soils. Gerasimova, M.I., et al. [1992, 214p. (Pertinent p.66-107), rus] **47-4661**

Soil tongues—periglacial relics or active zones. Hinkel, K.M., [1993, p.75-83, eng] **47-5203**

See also: Frozen ground physics; Permafrost physics

Soil pollution

Arctic terrestrial ecosystem contamination. Thomas, D.J., et al. [1992, p.135-164, eng] **47-263**

Geochemical heterogeneity in a glacial outwash aquifer. Barbar, L.B., II, [1991, 247p., eng] **47-294**

Comment on "A study of the linear ranges of several acid digestion procedures". Hewitt, A.D., et al. [1992, p.1848, eng] **47-453**

Acid digestion of antimony in sludges and soils. Hewitt, A.D., et al. [1991, p.985-986, eng] **47-454**

Distribution and forms of lead compounds in the environment near southern Finland highways. Vuorinen, A., [1986, p.30-33, eng] **47-595**

Identification of TNT transformation products in soil. Walsh, M.E., et al. [1992, 31p., eng] **47-699**

Detecting organic chemical contaminants by spectral-induced polarization method in glacial till environment. Vanhala, H., et al. [1992, p.1014-1017, eng] **47-779**

Elements of the material balance under conditions of an alpine lichen heath of the North Caucasus. Makarov, M.I., [1983, p.58-61, eng] **47-799**

Comparison of analytical methods for determination of volatile organic compounds in soils. Hewitt, A.D., et al. [1992, p.1932-1938, eng] **47-862**

Potential of common well casing materials to influence aqueous metal concentrations. Hewitt, A.D., [1992, p.131-136, eng] 47-879
Hydrocarbon pollution of ocean sediments. Steinhauer, M.S., et al. [1992, p.223-253, eng] 47-1170
White phosphorus poisoning of waterfowl in an Alaskan salt marsh. Racine, C.H., et al. [1992, p.669-673, eng] 47-1235
European North: soil degradation due to technogenic pollution. Kriuchkov, V.V., [1992, p.94-97, eng] *47-1710*
Development of field screening methods for TNT, 2,4-DNT and RDX *in soil.* Jenkins, T.F., et al. [1992, p.33-45, eng] 47-1819
Review of current and potential future sampling practices for volatile organic compounds in soil. Hewitt, A.D., [1992, p.75-82, eng] 47-1820
Effectiveness and variability of digestion procedures for zinc determination in aged, contaminated soils. Reynolds, C.M., [1992, 13p., eng] 47-1897
Potential cause for low lead and chromium recoveries *during acid extractions.* Hewitt, A.D., et al. [1992, 6p., eng] 47-1898
Vertically distributed soil moisture simulations. Sandén, P., et al. [1992, p.251-264, eng] 47-1965
Comparison of cartridge and membrane solid-phase extraction with salting-out solvent extraction. Jenkins, T.F., et al. [1992, 31p., eng] 47-2232
Geology and geohydrology at CRREL, Hanover, New Hampshire: relationship to subsurface contamination. Shoop, S.A., *et al.* [1992, 83p., *eng*] 47-2568
Optimization of an analytical method for determining white phosphorus in contaminated sediments. Taylor, S., et al. [1992, 13p., eng] 47-2755
Hydrogeology of the Gardermoen Airport. Englund, J.O., ed. [1992, Var. p., eng] 47-2822
Contaminants in the Gardermoen areal. Snekkerbakken, A.M., [1992, p.6/1-6/5, eng] 47-2825
Pollution from deicing chemicals at airports. Breedveld, G.D., et al. [1992, p.7/1-7/14, eng] 47-2826
Biodegradation of organic pollutants in soil and groundwater. Breedveld, G.D., et al. [1992, p.15/1-15/13, eng] 47-2827
Modeling of contaminant transport. Englund, J.O., et al. [1992, p.17/1-17/12, eng] 47-2828
Tundra-forest soils in the arctic Yenisey region, subjected to sulfur-containing industrial discharge. Ershov, IU.I., [1992, p.33-39, rus] 47-3271
Potential leachate production due to cold weather effects. Leskiw, E.J., et al. [1992, p.660-667, eng] 47-3345
Distribution of enteric bacteria in antarctic seawater surrounding a sewage outfall. McFeters, G.A., et al. [1993, p.645-650, eng] 47-3678
Novaya Zemlya: analyzing radiation safety and ecological consequences of nuclear tests. Kharitonov, K.V., et al. [1992, p.65-74, rus] 47-3862
Stripping of organic contaminants from soil. Noland, J., et al. [1993, 12 col., eng] 47-3904
Field screening methods for TNT, RDX and 2,4-DNT in soil and water. Jenkins, T.F., et al. [1993, p.282-287, eng] 47-3912
Comparison of methods for extraction of explosives from water. Jenkins, T.F., et al. [1993, p.316-321, eng] 47-3913
Swelling of frozen clay soils contaminated by sodium chloride. Kumor, M.K., [1993, p.97-102, eng] 47-4127
Proceedings. [1993, 2078p. (2 vols.), eng] 47-4465
Disposal of fine tails produced at the Syncrude oil sands mine. Lord, E.R.F., et al. [1993, p.203-212, eng] 47-4466
Disposal of Athabasca oilsand fine tailings. Sheeran, D., et al. [1993, p.221-228, eng] 47-4467
Cyclic freeze-thaw effects on the soil cover for tailings. Mohamed, A.M.O., et al. [1993, p.259-272, eng] 47-4468
Hydrologic analysis and prediction in a soil cover. Woyshner, M.R., et al. [1993, p.289-296, eng] 47-4469
Field investigation of bioremediation of tundra with residual hydrocarbons. Wooters, K., et al. [1993, p.331-337, eng] 47-4474
Case study of arctic in situ bioremediation. Ramert, P.C., et al. [1993, p.339-346, eng] 47-4475
Remediation of diesel contaminated site in a cold climate. Whitlock, C., et al. [1993, p.977-984, eng] 47-4479
Feasibility study of preparing performance evaluation soils for analyzing volatile organic compounds. Hewitt, A.D., [1993, 9p., *eng*] 47-4663
Soil degradation in the vicinity of industrial centers in the North. Kriuchkov, V.V., [1991, p.103-108, rus] 47-4818
Effect of concentration on sorption of dissolved organics by well casings. Parker, L.V., et al. [1993, 17p., eng] 47-4868
Snow impurities as a function of pollutant emission remoteness. Malakhov, S.G., et al. [1993, p.111-115, *eng*] 47-5003

Soil pressure

Arctic pipeline limit states for secondary loadings. Khatib, I.F., et al. [1992, p.7-14, eng] 47-1830
Sensitivity analysis of frost heave—a theoretical study. Sheng, D., et al. [1993, p.3-16, eng] 47-4115
Freezing pressure development on a buried chilled *pipeline.* Ladanyi, B., et al. [1993, p.23-33, eng] 47-4117
Creep movements in soils at shallow depths and their effects on engineering structures. Eigenbrod, K.D., [1993, p.127-136, eng] 47-4131
France-Canada joint study of deformation of an experimental pipe line by differential frost heave Williams, P.J., et al. [1993, p.56-60, *eng*] 47-4301
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Strength testing of marine sediments: laboratory and in-situ measurements. Chaney, R.C., ed. [1985, 558p., eng] 47-1614
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Heat circulation in soil under North conditions. Pavlov, A.V., (1992, p.168-173, eng) **47-1723**
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Ozone and water vapor variations related to the solar diurnal tide. Sivkov, A.M., et al. [1993, p.815-826, eng] 47-2929

Dynamics of the antarctic and arctic mesosphere and the lower thermosphere regions. II. The semidiurnal tide. Portniagin, IU.I., et al. [1993, p.843-855, eng] 47-2931

Nitrate signal of solar flares in polar snow and ice. Dreschhoff, G.A.M., et al. [1992, 23p., eng] 47-3631

Decrease in total ozone concentration in the polar cap following solar proton flares. Shumilov, O.I., et al. [1991, p.17-21, eng] 47-4251

Influence of solar wind on cloud microphysics. Tinsley, B.A., et al. [1993, p.10,375-10,384, eng] 47-4391

Natural ozone depletion over Antarctica. Stephenson, J.A.E., et al. [1991, p.222, eng] 47-4980

Solar radiation

Patterned ground formation and solar radiation ground heating. McKay, G., [1992, p.249-263, eng] 47-985

Vertical retrieval of solar and infrared irradiances in the stratiform regions of EMEX cloud clusters. Churchill, D.D., [1992, p.1229-1247, eng] 47-1119

Evaluation of bi-hemispherical reflectance of antarctic surfaces. Zibordi, G., et al. [1992, p.149-157, eng] 47-1199

Ozone absorption and sun-photometric measurements. Tomasi, C., et al. [1992, p.227-245, eng] 47-1205

Atmospheric radiation regime at Russkaya Station. Mart'ianov, V.L., [1991, p.17-22, rus] 47-1574

Model of potential direct solar radiation for investigating occurrences of mountain permafrost. Funk, M., et al. [1992, p.139-142, eng] 47-1753

Solar UV-spectra in various environmental conditions. Huber, M., et al. [1992, p.413-415, eng] 47-1810

Total ozone measurements with Dobson and Brewer spectrophotometers. Nichol, S.E., et al. [1992, p.469-475, eng] 47-2173

Lake ice radiation transmittance related to photosynthesis. Bolsenga, S.J., et al. [1992, p.95-104, eng] 47-2286

Multiple scattering model for the atmosphere-snow system. Aoki, T., [1992, p.77-83, eng] 47-3007

Optical properties of snow. Brandt, R.E., et al. [1991, p.272-275, eng] 47-3056

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Sensitivity of a thermodynamic model of sea ice to parametrization of short-wave and long-wave radiation. Makshtas, A.P., et al. [1992, p.116-137, rus] 47-3811

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Bio-optical observations of first-year arctic sea ice. Perovich, D.K., et al. [1993, p.1059-1062, eng] 47-4266

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Faint young sun paradox: climate model with sea-ice. Molnar, G.I., et al. [1991, p.135-138, eng] 47-4482

Astronomical theory of ice ages. Lin, R.Q., et al. [1991, p.495-496, eng] 47-4496

Biometeorological monitoring at forest sites. Thorgeirsson, H., et al. [1993, p.227-239, eng] 47-4539

Radiation characteristics at Mizuho Station. Liu, S.H., et al. [1993, p.39-45, chi] 47-4647

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Solid phases

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Solidification of a binary mixture saturating a bed of glass spheres. Cao, W.Z., et al. [1991, p.725-737, eng] 47-2861

Simulation of hexagonal ice molecular dynamics. Sciortino, F., et al. [1993, p.5694-5700, eng] 47-3155

Simulation of liquid and solid phases of water. Clementi, E., et al. [1993, p.205-213, eng] 47-4755

Solidification

Finite element modelling of natural-convection-controlled change of phase. Usmani, A.S., et al. [1992, p.1019-1036, eng] 47-193

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Crystal growth and dendritic solidification. Sethian, J.A., et al. [1992, p.231-253, eng] 47-1785

Application of infinite elements to phase change situations on deforming meshes. Sullivan, J.M., Jr., et al. [1992, p.1861-1874, eng] 47-1915

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Solution of solidification problem using a microcomputer. Rabin, Y., et al. [1993, p.673-683, eng] 47-2653

Low temperature properties of motor oils. Riga, A.T., [1992, p.227-242, eng] 47-2884

Solidification in saline solutions. Rubinsky, B., et al. [1993, p.157-167, eng] 47-3288

Apparatus for production of compression-solidified snow. Tsukada, H., et al. [1988, 6 col., eng] 47-3500

Double-diffusive convection during solidification of a binary system. Nishimura, T., et al. [1992, p.586-600, eng] 47-3514

Solution freezing characteristics in an immersed tube. Yamada, M., et al. [1993, p.54-62, eng] 47-3792

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Numerical study of three-dimensional natural convection and freezing in water. Yeoh, G.H., et al. [1992, p.640-650, eng] 47-4362

Visualization of liquid crystals during solidification. Nishimura, T., et al. [1992, p.456-460, eng] 47-4393

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Numerical and experimental study on supercooled laminar flow of water. Ismail, K.A.R., et al. [1991, p.899-903, eng] 47-5108

Effect of the water density extremum on the solidification process. Braga, S.L., et al. [1991, p.1185-1192, eng] 47-5110

Complete model for the laminar flow of supercooled liquid water. Ismail, K.A.R., et al. [1992, p.335-349, eng] 47-5265

Solids

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Humus accumulation and soil formation in Svalbard. Lag, J., [1992, p.222-228, eng] 47-1734

Freeze-thaw activity in the Abisko Mountains, Sweden. Nyberg, R., [1993, p.37-47, eng] 47-3116

Solifluction meter for permafrost sites. Lewkowicz, A.G., [1992, p.11-18, eng] 47-3122

Solifluction shears at Carsington, Derbyshire. Skempton, A.W., et al. [1991, p.381-387, eng] 47-3890

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Interaction of HCl vapor with water-ice: implications for the stratosphere. Abbatt, J.P.D., et al. [1992, p.15,819-15,826, eng] 47-999

Soluble species in the arctic summer troposphere: acidic gases, aerosols, and precipitation. Talbot, R.W., et al. [1992, p.16,531-16,543, eng] 47-1453

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Solubility effects on mixed aerosol ice nuclei in the supercooled clouds. Smorodin, V.E., [1992, p.295-299, eng] 47-2271

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Aluminium solubility in rainwater and molten snow. Losno, R., et al. [1993, p.29-43, eng] 47-5145

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Effects of natural convection on ice formation inside a horizontal cylinder. Chen, S.L., et al. [1992, p.131-145, eng] 47-790

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Bénard convection in binary mixtures with Soret effects and solidification. Zimmermann, G., et al. [1992, p.657-682, eng] 47-820

Scaling observed in glycerol-water and propylene glycol-water mixtures. Abe, R., et al. [1991, p.2835-2838, eng] 47-918

Hydrocarbon solubility related to ice formation within solutions. Shinoda, K., [1992, p.81-100, eng] 47-1550

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Concentration of black liquor by freeze crystallization. Egan, C.J., et al. [1982, p.471-479, eng] 47-1882

Ice formation in sucrose solutions. Shalaev, E.IU., et al. [1992, p.213-220, eng] 47-1933

Ice nucleation in electrolyte solutions. Fornazero, J., et al. [1992, p.413-418, eng] 47-2011

Freezing points of H2SO4 aqueous solutions and formation of polar stratospheric clouds. Ohtake, T., [1992, p.233-236, eng] 47-2256

Dielectric properties of normal supercooled water obtained in alcohol/water mixtures. Noyel, G.A., et al. [1992, p.1136-1143, eng] 47-2294

Production and heat transfer characteristics of liquid ice as new PCM. Fukusako, S., et al. [1992, p.347-364, eng] 47-2298

Freeze-drying heating profiles. Lombraña, J.I., et al. [1991, p.394-404, eng] 47-2304

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Anomalous behavior of ice in solutions of ice-binding arabinoxylans. Williams, R.J., [1992, p.105-113, eng] **47-2883**
Revised freezing point equation and table for H2O-NaCl solutions. Bodnar, R.J., [1993, p.683-684, eng] **47-2928**
Aerodynamic effects of deicing and anti-icing fluids. Reinmann, J.J., et al, [1993, p.8-9, eng] **47-3310**
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Krill migration at the ice edge in the Scotia/Weddell confluence. Godlewska, M., et al, [1991, p.583-592, eng] **47-3093**
Krill abundance and distribution in the Scotia/Weddell Confluence. Godlewska, M., et al, [1991, p.593-603, eng] **47-3094**
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IGARSS '92. International space year: space remote sensing. [1992, 1776p. (2 vols.), eng] **47-637**
First ERS-1 SAR image acquired at Kiruna Salmijarvi, Spitsbergen (Norway). [1992, p.2515-2516, eng] **47-865**
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Cirrus identification from multichannel satellite data. Sterliadkina, E.A., et al, [1992, p.729-733, eng] **47-3158**
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Intercomparison of artificial intelligence approaches for polar scene identification. Tovinkere, V.R., et al, [1993, p.5001-5016, eng] **47-3781**
Digital photogrammetric approach to ice-flow determination in Antarctica. Tseng, Y.H., [1992, 139p., eng] **47-3856**
Classification of permafrost active layer depth from remotely sensed and topographic evidence. Peddle, D.R., et al, [1993, p.67-80, eng] **47-3918**
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Satellite observations over the Greenland and Barents seas. Claud, C., et al, [1988, p.122-125, eng] **47-4198**
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Mega-scale glacial lineations and cross-cutting ice-flow landforms. Clark, C.D., [1993, p.1-29, eng] 47-4250

Ice detection during cloudy conditions over the Arctic region using NOAA AVHRR satellite imagery. Alm, G., [1991, p.155-166, eng] 47-4338

Radiometric sea ice features from aircraft images. Farmer, L.D., et al, [1993, p.4645-4665, eng] 47-4387

Proceedings. [1993, 2 vol., eng] 47-4415

Utilisation of ERS-1 data for mapping of Antarctica. Sievers, J., et al, [1993, p.247-251, eng] 47-4420

Monitoring of the Greenland ice sheet using ERS-1 synthetic aperture imagery. Bindschadler, R.A., et al, [1993, p.253-257, eng] 47-4421

Investigations of arctic ice-sheets and glaciers using ERS-1 SAR. Rees, W.G., et al, [1993, p.263-268, eng] 47-4423

Ice studies in the Barents Sea by ERS-1 SAR during SIZEX 92. Johannessen, O.M., et al, [1993, p.277-282, eng] 47-4425

Use of ERS-1 SAR to measure ice flux in the East Greenland current. Wadhams, P., et al, [1993, p.283-287, eng] 47-4426

Validation of ERS-1 SAR measurements of sea ice during ARCTIC-91. Askne, J., et al, [1993, p.289-294, eng] 47-4427

Arctic coastal polynya observations with ERS-1 SAR and DMSP SSM/I. Cavalieri, D.J., et al, [1993, p.295-299, eng] 47-4428

Sea ice deformation observed with ERS-1 SAR. Rothrock, D.A., et al, [1993, p.301-306, eng] 47-4429

Finnish ERS-1 Baltic Sea ice experiment in winter 1992. Leppäranta, M., et al, [1993, p.307-312, eng] 47-4430

Experiences from the Swedish sea ice programme during BEERS-92. Thompson, T., et al, [1993, p.313-318, eng] 47-4431

Greenland Sea observations. Gudmandsen, P., et al, [1993, p.319-323, eng] 47-4432

Arctic sea ice microwave signature and geophysical processes study. Onstott, R.G., et al, [1993, p.329-332, eng] 47-4434

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Sea ice radar signatures from ERS-1 SAR during late summer and fall in the Beaufort and Chukchi Seas. Holt, B., et al, [1993, p.339-342, eng] 47-4436

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Sea ice feature and type identification in merged ERS-1 SAR and Landsat Thematic Mapper imagery. Steffen, K., et al, [1993, p.361-365, eng] 47-4440

Summer arctic ice concentrations and characteristics from SAR and SSM/I data. Comiso, J.C., et al, [1993, p.367-372, eng] 47-4441

Evaluating ERS-1 ice motion and classification products. Fetterer, F.M., et al, [1993, p.373-375, eng] 47-4442

Greenland ice sheet mapping by ERS-1. Tscherning, C.C., et al, [1993, p.413-418, eng] 47-4443

Snow and glacier investigations by ERS-1 SAR—first results. Rott, H., et al, [1993, p.577-582, eng] 47-4445

Monitoring of snowcover in high mountain terrain with ERS-1 SAR. Haefner, H., et al, [1993, p.583-588, eng] 47-4446

Application of ERS-1 SAR data to snow mapping. Hallikainen, M., et al, [1993, p.589-594, eng] 47-4447

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Applications of ERS-1 SAR data for analyzing riverine and coastal processes and geomorphology. Gatto, L.W., et al, [1993, p.873-878, eng] 47-4449

TOVS temperature sounding record for the Arctic. Khalsa, S.J.S., et al, [1991, p.366-367, eng] 47-4492

Passive microwave remote sensing of thin sea ice using principal component analysis. Wensnahan, M.R., et al, [1993, p.12,453-12,468, eng] 47-4522

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Comparison of conventional and passive microwave sea ice data sets for Hudson Bay. Etkin, D.A., [1991, 132p., eng] 47-4668

Feature maps of ice streams C, D, and E, West Antarctica. Scambos, T.A., et al, [1991, p.312-314, eng] 47-4674

High-resolution radiometry of cirrus clouds. Ou, S.C., et al, [1993, p.2171-2180, eng] 47-4713

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Antarctic ice sheet topography mapped with the ERS-1 radar altimeter. Ridley, J.K., et al, [1993, p.1649-1650, eng] 47-5119

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Analysis of errors in satellite altimetry. Minster, J.F., et al, [1993, p.410-419, eng] 47-3774

Instrument for measuring ice depth in aircraft fuel tanks. [1991, 36p., eng] 47-4404

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Validating the UK-PAF land ice product surface elevation. Mantripp, D.R., et al, [1993, p.483-488, eng] 47-4444

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Frost resistance of high-strength concrete. Pigeon, M., et al, [1992, p.975-980, fre] 47-3342

Freeze-thaw durability and scaling resistance of concrete paving blocks. Boisvert, J., et al, [1992, p.1017-1024, fre] 47-3343

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Brillouin and Raman scattering from liquid water. Nardone, M., et al, [1992, p.287-299, eng] 47-1377

Gravity wave dynamics within the polar atmosphere. Wu, Y.F., et al, [1992, p.1781-1789, eng] 47-1474

Model calculations of Auger energy shifts in liquid water and ice. Knuts, S., et al, [1992, p.95-103, eng] 47-1675

Fractal geometry of thermal and chemical time series from the active layer, Alaska. Outcalt, S.I., et al, [1992, p.315-322, eng] 47-2239

Supersaturation spectra of ice nuclei. Hussain, K., [1992, p.309-312, eng] 47-2274

Freezing nucleus spectra in the rain samples and their possible application on cloud conditions. Dubrovský, M., [1992, p.321-324, eng] 47-2277

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Surface-defect vibrational modes of large ice clusters. Rowland, B., et al, [1993, p.2485-2487, eng] 47-3177

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Temperature dependence of crystalline methane refractive indices. Ngoh, M.A., et al, [1993, p.5511-5515, eng] 47-3651

Modeling spectra of weather noise. Alekseev, G.V., [1992, p.50-55, rus] 47-3805

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Determination of dielectric constant of young sea ice using microwave spectral radiometry. St. Germain, K.M., et al, [1993, p.4675-4679, eng] 47-4389

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Detection of nonconductive heat transport in soils using spectral analysis. Hinkel, K.M., et al, [1993, p.1017-1023, eng] 47-3579
Ab initio studies on the structural and dynamical properties of ice. Lee, C.Y., et al, [1993, p.4863-4872, eng] 47-3583
Problem of separating gradation of irregularity in a series of hydrometeorological elements. Brovin, A.I., et al, [1990, p.84-88, rus] 47-3592
Objectivization of the analysis and diagnosis of near surface and high altitude mean ESP fields. Sel'tser, P.A., [1989, p.26-42, rus] 47-3655
Characteristics of synoptic processes in homogeneous groups of macro-changes in the Arctic. Kuznetsov, A.V., et al, [1989, p.43-52, rus] 47-3656
Numerical experiment in hydrodynamic forecasting of pressure fields 5 days in advance in the Arctic. Evseev, M.P., et al, [1989, p.53-65, rus] 47-3657
Some climatic characteristics of precipitation in the Asian Arctic for medium-range weather forecasting. Kuchin, V.A., [1989, p.138-147, rus] 47-3666
Study finds 88.3% crash reduction after deicing. [1993, p.22, eng] 47-3682
Defect theory for the glass transition and residual entropy of hyperquenched water. Johari, G.P., [1993, p.7324-7329, eng] 47-3684
Some results of a statistical analysis of synoptic meso-scale variabilities in the water temperature of the Barents Sea. Lebedev, I.A., [1992, p.169-181, rus] 47-3816
Equatorial atmospheric influence on polar stratospheric temperatures. Kodera, K., [1993, p.7245-7250, eng] 47-3830
Spectroscopic determination of aviation fuel freezing point. Lysaght, M.J., et al, [1993, p.623-631, eng] 47-3985
Forecasting Caspian Sea ice edge. Bukharitsin, P.I., et al, [1992, p.58-63, eng] 47-3992
Probablistic computation of maximum ice-dam water levels. Buzin, V.A., [1992, p.56-62, eng] 47-4025
Roughness parameters and air drag over MIZ sea ice. Burns, B.A., et al, [1988, p.75-78, eng] 47-4186
Arctic ice conditions and the 500 mb component. Englebretson, R.E., [1988, p.79-82, eng] 47-4187
Results from indentation tests in sea ice. Kärnä, T., et al, [1993, p.177-185, eng] 47-4245
Ice forces on light piers in the St. Lawrence Seaway. Frederking, R.M.W., et al, [1992, p.67-72, eng] 47-4280
Properties of a statistical model of ice at low temperatures. Barkema, G.T., et al, [1993, p.2059-2067, eng] 47-4463
Problems of design for operation and transportation in subarctic offshore environments. Fuglem, M.K., et al, [1993, p.311-322, eng] 47-4472
Recent climate variability in the Antarctic Peninsula. King, J.C., [1991, p.354-357, eng] 47-4489
Comparison of VLBI data with the ICE-3G glacial rebound *model.* James, T.S., et al, [1993, p.871-874, eng] 47-4631
Statistical analysis of soil temperature on Spitsbergen. Mietus, M., [1992, p.103-112, eng] 47-4650
Study of the arctic *heat sink.* Ripley, E.A., [1990, 95p. + appends., eng] 47-4910
Temporal characteristics of USA snowfall 1945-1946 through to 1984-1985. Leathers, D.J., et al, [1993, p.65-76, eng] 47-4981
Classification of the maximum annual Baltic Sea ice cover *extent—1720-1992.* Seinä, A., et al, [1993, p.5-20, fin] 47-4995
Chemical composition of snow near a mining plant. Lazareva, I.P., et al, [1993, p.79-86, eng] 47-5193
Topography of the upper and lower *surfaces of 10 hectares* of deformed sea ice. Melling, H., et al, [1993, p.349-369, eng] 47-5206
Sea ice edge forecast verification program for the Bering Sea. Wohl, *G.M., [1991, p.6-12, eng]* 47-5260

Steam
Power plants of future icebreakers. Kulikov, A., [1990, p.43-44, rus] 47-4092
Snow-disposal unit and method. Jackson, P.H., [1986, 8 col., eng] 47-4265

Steam curing
See also: Concrete curing

Steel structures
Resistance of microsilica concrete to steel corrosion, erosion, and chemical attack. Berke, N.S., [1989, p.861-886, eng] 47-58
Use of concrete admixtures to provide long-term durability from steel corrosion. Berke, N.S., et al, [1989, p.383-403, eng] 47-65
Solar chest for melting snow performance evaluation. Hariprasad, N.M., et al, [1985, p.203-211, eng] 47-572
Analysis and design for frost effect in soil-steel structures. Ghobrial, N., [1990, 117p., eng] 47-2104
Newly developed snow vehicle (SM100S) for Antarctica. 3. Sakui, S., et al, [1992, p.393-397, jpn] 47-3365

Steels
API X65 *grade normalized* and tempered seamless tubes with improved low temperature toughness. Cumino, G., et al, [1992, p.134-141, eng] 47-1837
Tension and compression tests of 13-3/8" lbs/ft L-80 HF-ERW casings with buttress connections. Konno, N., et al, [1992, p.169-173, eng] 47-1838
Steel selection for arctic ships: effects of elevated loading rate on toughness. Tyson, W.R., et al, [1993, p.261-265, eng] 47-4830

Stefan problem
Solution of inverse heat conduction problems with phase changes by the mollification method. Murio, D.A., [1992, p.45-57, eng] 47-265
Enthalpy *formulation of the conduction problem with phase changes.* Cesari, F., [1992, p.983-987, eng] 47-775
Adaptive finite element analysis of axisymmetric freezing. Sutanto, E., et al, [1992, p.3301-3312, eng] 47-2609
Mathematical modeling of melting and freezing processes. Alexiades, V., et al, [1993, 323p., eng] 47-3541

Steppes
Slope runoff in the Transural steppe region of Bashkiria. Mosienko, N.A., *et al, [1991, p.77-80, eng]* 47-796
Cryogenesis and forest soil formation in Middle Siberia. Ershov, IU.I., *et al, [1992, p.66-71, eng]* 47-1706
Cryogenesis and functioning of microbial communities in soil of Zabaikalye areas. Kulikov, A.I., et al, [1992, p.199-203, eng] 47-1729
Study of the distribution of *snow cover in the central* forest-steppe. Kitaev, L.M., [1992, p.64-68, rus] 47-1991

Analysis of the composition of cryophyte steppe communities. Slinchenkova, E.IU., [1991, p.52-67, rus] 47-2358

Dust-accumulative capacity of pine and birch phytocenosis in forest-steppe regions in Siberia. Skripal'shchikova, L.N., [1992, p.39-43, rus] 47-3272

Snow cover and moisture limit in the Tazheran steppe (Priol'khon'e). Gagarin, P.K., [1992, p.62-69, rus] 47-3273

Equilibrium analysis of projected climate change effects on the global soil organic matter pool. Turner, D.P., et al, [1993, p.59-63, eng] 47-5229

Framework to quantify the natural terrestrial carbon cycle of the former Soviet Union. Kolchugina, T.P., et al, [1993, p.259-275, eng] 47-5242

Stereotemplate triangulation

See also: Stereomapping

Storage

See also: Cold storage; Ice (water storage); Oil storage; Snow retention; Underground storage; Water storage

Storage tanks

Water freezing enhancement for thermal storage brine tube. Holowczenko, A., et al, [1988, 6 col., eng] 47-3641

Cargo container lift device. Hatley, J.F., [1987, 6 col., eng] 47-3852

See also: Tanks (containers)

Storms

Supercooled liquid water and precipitation-enhancement opportunities. Long, A.B., et al, [1992, p.1041-1055, eng] 47-9

Polarimetric radar remote sensing of hailstorms. Zhao, Y., [1990, 256p., eng] 47-85

Kinetic energy of hailfalls. Part 4: patterns of hailpad and radar data. Schmid, W., *et al*, [1992, p.1165-1178, eng] 47-460

Effect of severe storms on the ice cover of the northern Tatarskiy Strait. Martin, S., et al, [1992, p.17,753-17,764, eng] 47-1064

Winter Icing and Storms Project (WISP). Rasmussen, R., et al, [1992, p.951-974, eng] 47-1263

Navy arctic seas weather analysis and forecast, Vol.8, Part 2. Fett, R.W., ed, [1992, Var. p., eng] 47-3911

Coastal influences on winter precipitation events in southeast Labrador. Newell, J.P., [1992, p.107-114, eng] 47-4039

Synoptic activity in the Arctic Basin in summer, 1979-1985. *Serreze, M.C., et al*, [1988, p.52-55, eng] 47-4184

Storm water regulations—aircraft deicer/anti-icers operations. Espey, W.H., Jr., et al, [1993, p.2333-2338, eng] 47-4452

Polar lows and katabatic winds as a triggering mechanism. Wos, K.A., [1992, 139p., eng] 47-4622

Polarimetric measurements in a severe hailstorm. Zrnić, D.S., et al, [1993, p.2223-2238, eng] 47-4706

Forecasters handbook for the Bering Sea, Aleutian Islands, and Gulf of Alaska. Fett, R.W., et al, [1993, Var. p., eng] 47-4886

Storm-generated currents and offshore sediment transport in the Beaufort Sea. Héquette, A., et al, [1993, p.283-304, eng] 47-5201

See also: Ice storms; Snowstorms; Thunderstorms

Strain measuring instruments

Effects of temperature on an ISL-PVDF shock sensor between +20 C and -40 C. Solie, D.J., et al, [1992, p.891-892, eng] 47-1142

Tools for examining subglacial bed deformation. Blake, E., et al, [1992, p.388-396, eng] 47-1390

Strain relaxation

See also: Relaxation (mechanics)

Strain tests

Changes of crystal c-axis orientation fabric in uniaxial extension tests. Li, J., et al, [1992, p.29-35, chi] 47-72

Temperature-independent relationships for frozen soils. Wijeweera, H., et al, [1992, p.1-21, eng] 47-516

Tools for examining subglacial bed deformation. Blake, E., et al, [1992, p.388-396, eng] 47-1390

Determination of a flow center on an ice cap. Van der Veen, C.J., et al, [1992, p.412-416, eng] 47-1392

Experimental study of the influence of mixing silt on ice creep. Li, G., et al, [1992, p.1827-1830, eng] 47-1952

Ductile ice. Schulson, E.M., et al, [1993, p.151-157, eng] 47-3564

Temperate firn constitutive equation derived from strain rates. Ambach, W., et al, [1993, p.295-303, eng] 47-3932

Dynamic observations of dislocation generation at grain boundaries in ice. Liu, F., et al, [1993, p.1261-1276, eng] 47-3986

Compressive strength of ice cubes of different sizes. Kuehn, G.A., et al, [1993, p.142-148, eng] 47-4060

Flow properties of crushed ice: crushing plus extrusion tests. Spencer, P.A., et al, [1993, p.45-51, eng] 47-4229

Combined creep and yield model of ice under multiaxial stress. Fish, A.M., [1993, p.130-138, eng] 47-4298

Effect of confining stress on brittle indentation failure of columnar ice. Grape, J.A., et al, [1992, p.212-221, eng] 47-4305

Creep behavior of fine-grained frozen soils: discussion and reply. Juárez-Badillo, E., et al, [1993, p.385-389, eng] 47-4515

Steel selection for arctic ships: effects of elevated loading rate on toughness. Tyson, W.R., et al, [1993, p.261-265, eng] 47-4830

Strains

Stress-induced foliation formed by surging in a glacier tongue. Pfeffer, W.T., [1992, p.213-222, eng] 47-462

Estimating thaw-strain settlement of frozen fill. Crowther, G.S., [1992, p.152-159, eng] 47-2641

Topological approach to the strain-rate pattern of ice sheets. Nye, J.F., [1993, p.10-14, eng] 47-3936

Elastic analysis of stresses in ice structure interactions. Nixon, W.A., et al, [1993, p.83-88, eng] 47-4234

Location of mechanical controls on Columbia Glacier, Alaska, U.S.A., prior to its rapid retreat. Van der Veen, C.J., et al, [1993, p.99-105, eng] 47-4742

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Stratification

Double-diffusive convection during solidification of a binary system. *Nishimura, T., et al*, [1992, p.586-600, eng] 47-3514

Atlantic circulation simulation with sea ice interface model, pt.2. Oberhuber, J.M., [1993, p.830-845, eng] 47-3569

Accounting for atmospheric stratification in the calculation of tangential wind pressure in questions of the dynamics of ice cover. Pozdnyshev, S.P., [1990, p.117-125, rus] 47-3598

Water volume transport through Green Bay, Lake Michigan. Miller, G.S., et al, [1993, p.361-367, eng] 47-4564

Theoretical and experimental studies of snow covers' microwave emissivity. Boyarskii, D.A., et al, [1993, p.959-970, eng] 47-4828

High latitude ocean convection. Rudels, B., [1993, p.323-356, eng] 47-4843

Ocean convection and the creation of polynyas. Schmalzl, J., et al, [1993, p.371-383, eng] 47-4844

Ship of opportunity section to the North Pole: upper ocean temperature observations. Quadfasel, D., et al, [1993, p.777-789, eng] 47-4854

See also: Firn stratification; Snow stratigraphy

Stratigraphy

Geology of Quaternary deposits and recent tectonics in glacial regions of eastern Europe. Evzerov, V.IA., ed, [1992, 55p., rus] 47-241

Quaternary geology of southwestern Alaska. Waythomas, C.F., [1991, 305p., eng] 47-290

Stratigraphy of Wisconsinan deposits in Maine. Weddle, T.K., [1991, 422p. (2 vols.), eng] 47-303

Late Proterozoic glaciation in the Mackenzie Mountains. Aitken, J.D., -1991, 43p., eng] 47-435

Ages of the Fossvogur layers and the Álftanes end-moraine, SW-Iceland. Hjartarson, Á., [1989, p.21-31, eng] 47-711

Geology of the Innuitian orogen and arctic platform of *Canada and Greenland*. Trettin, H.P., ed, [1991, 569p. + maps in separate book jacket (Pertinent p.27-56,497-553), eng] 47-766

Periglacial geomorphology in the Netherlands. Vandenberghe, J., [1992, p.65-75, eng] 47-1006

Stratigraphy of Quaternary sediments in the Arctic Ocean. Nowaczyk, N.R., et al, [1992, p.S567-S601, eng] 47-1279

Ice-core dating and chemistry by direct-current electrical *conductivity*. Taylor, K., *et al*, [1992, p.325-332, eng] 47-1385

Ground moraines in European northeastern Russia and their lithostratigraphic significance. Andreicheva, L.N., [1992, 124p., rus] 47-1499

Seismic profiles of alpine glacial basins. Pugin, A., et al, [1992, p.491-502, eng] 47-1912

Weichselian stratigraphy and *palaeoenvironments* at Bellsund, western Svalbard. Landvik, J.Y., et al, [1992, p.335-358, eng] 47-2044

Morphology of Quaternary deposits in the southern *Netherlands*. Kasse, K., et al, [1992, p.327-342, eng] 47-2240

Cryoturbations: a sediment structural analysis. Vandenberghe, J., [1992, p.343-352, eng] 47-2241

Periglacial phenomena and Pleistocene environmental conditions in the Netherlands—an overview. Vandenberghe, J., [1992, p.363-374, eng] 47-2243

Last interglacial-glacial transition in North America. Clark, P.U., ed, [1992, 317p., eng] 47-2678

Historical overview of early Wisconsin glaciation. Goldthwait, R.P., [1992, p.13-18, eng] 47-2680

Last interglacial-glacial transition in Illinois: 123-25 ka. Curry, B.B., et al, [1992, p.71-88, eng] 47-2684

Ages of the Whitewater and Fairhaven tills in southwestern Ohio and southeastern Indiana. Miller, B.B., et al, [1992, p.89-98, eng] 47-2685

Reevaluation of early Wisconsinan stratigraphy of northern Ohio. Szabo, J.P., [1992, p.99-107, eng] 47-2686

Early Wisconsinan in the north-central part of the Lake Erie basin: a new interpretation. Dreimanis, A., [1992, p.109-118, eng] 47-2687

Sedimentary and biological record of the last interglacial-glacial *transition* at Toronto, Canada. Eyles, N., et al, [1992, p.119-137, eng] 47-2688

Sunnybrook drift in the Toronto area, Canada: reinvestigation and reinterpretation. Hicock, S.R., et al, [1992, p.139-161, eng] 47-2689

On the age of the penultimate full glaciation of New England. *Oldale, R.N., et al*, [1992, p.163-170, eng] 47-2690

Early Wisconsinan events in southern Quebec. Lamothe, M., et al, [1992, p.171-184, eng] 47-2691

Pre-late Wisconsinan chronology of Nova Scotia, Canada. Stea, R.R., et al, [1992, p.185-206, eng] 47-2692

Hudson Bay lowland Quaternary stratigraphy. Thorleifson, L.H., et al, [1992, p.207-221, eng] 47-2693

Last interglacial-glacial transition in Baffin Bay. Miller, G.H., et al, [1992, p.223-231, eng] 47-2694

Sangamonian and early Wisconsinan glacial record in the western Canadian Arctic. Vincent, J.S., [1992, p.233-252, eng] 47-2695

Sangamonian and early Wisconsinan stages in western *Canada and northwestern* United States. Clague, J.J., et al, [1992, p.253-268, eng] 47-2696

Early Wisconsinan alpine glaciation in the western United States. Colman, S.M., et al, [1992, p.269-278, eng] 47-2697

Early Wisconsin lakes and glaciers in the Great Basin, U.S.A. Oviatt, C.G., et al, [1992, p.279-287, eng] 47-2698

Pre-late Wisconsin paleolimnologic record from the Estancia Valley, central New Mexico. Bachhuber, F.W., [1992, p.289-307, eng] 47-2699

Outline of stratigraphy of the Pleistocene and the Holocene in south and central Spitsbergen. Lindner, L., et al, [1991, p.165-172, eng] 47-2769

Shale compaction and stratigraphic restoration. Issler, D.R., [1992, p.1170-1189, eng] 47-2775

Marine transgressions and paleoclimatology in northern Alaska. Brigham-Grette, J., et al, [1992, p.74-89, eng] 47-3352

Early Pleistocene paleoclimate indicated by Greenland sediments. Penney, D.N., [1993, p.49-66, eng] 47-3460

Last interglaciation in Alaska: stratigraphy and paleoecology of potential sites. Hamilton, T.D., et al, [1991, p.49-71, eng] 47-3480

Interglaciation palynology in the Yukon. Schweger, C.E., et al, [1991, p.85-94, eng] 47-3482

Paleoenvironments in the northwest North Atlantic. De Vernal, A., et al, [1991, p.95-106, eng] 47-3483

Isotope stage 5 (130-74 ka) in Greenland—a review. Funder, S., et al, [1991, p.107-122, eng] 47-3484

Review of the Late Pleistocene stratigraphy of Reykjavík, Iceland. Eiríksson, J., et al, [1991, p.143-150, eng] 47-3486

Last interglacial in northernmost Sweden. Robertsson, A.M., [1991, p.173-181, eng] 47-3489

Problems of the last interglacial in arctic Siberia. Sher, A.V., [1991, p.215-222, eng] 47-3491

Glacial stratigraphy, engineering geology and earth *construction*. Kauranne, K., ed, [1992, 167p., eng] 47-3543

Glacial stratigraphy in Lapland. Hirvas, H., [1992, p.41-42, eng] 47-3546

Glacial stratigraphy in Sweden. Lundqvist, J., [1992, p.43-59, eng] 47-3547

Glacial stratigraphy in Norway. Andersen, B.G., [1992, p.61-71, eng] 47-3548

Palynological correlation of paleoclimatic changes. Peteet, D.M., [1992, p.327-344, eng] 47-3561

Sedimentary record and Neoglacial history of Tide Lake, northwestern British Columbia. Clague, J.J., et al, [1992, p.2383-2396, eng] 47-3715

Late Quaternary *glacial marine sediment record*. Praeg, D., et al, [1992, p.133-150, eng] 47-3787

Stratigraphy of a moraine deposited in a marine environment. Brandal, M.K., et al, [1991, p.3-14, eng] 47-3832

Basal ice accretion and debris entrainment within the coastal ice margin, Law Dome, Antarctica. Goodwin, I.D., [1993, p.157-166, eng] 47-3949

Radiocarbon dating of west Spitsbergen Quaternary deposits. Forman, S.L., et al, [1993, p.1-6, eng] 47-4015

Exceptionally long, narrow drumlins formed in subglacial cavities, North Dakota. Bluemle, J.P., et al, [1993, p.15-24, eng] 47-4016

Glacigenic deposits of the Central Deep: a key to the Late Quaternary evolution of the eastern Barents Sea. Gataullin, V., et al, [1993, p.47-58, eng] 47-4017

Physical signatures of Pleistocene ice advance in Norway. Lönne, I., [1993, p.59-70, eng] 47-4018

Quaternary loess deposition in a montane environment. Roberts, M.C., et al, [1992, p.291-301, eng] 47-4023

Holocene water-level fluctuations of a subarctic lake at the tree line in northern Quebec. Payette, S., et al, [1993, p.7-14, eng] 47-4072

Paleoclimate record for Northwind Ridge, western Arctic Ocean. Poore, R.Z., et al, [1993, p.149-159, eng] 47-4152

Quaternary stratigraphy, paleoecology, and glacial geology, Iles de la Madeleine, Quebec. Dredge, L.A., et al, [1992, p.1981-1996, eng] 47-4157

Stratigraphy *(cont.)*

Reconstruction of glacial events in southeastern New Brunswick. Foisy, M., et al. [1991, p.1594-1612, eng] **47-4159**

Preconsolidation pressures in the Battleford Formation, southern Saskatchewan, Canada. Sauer, E.K., et al. [1991, p.1613-1623, eng] **47-4257**

Submarine rock diagenesis as exposed on Ellesmere I. Davies, G.R., et al. [1990, 77p., eng] **47-4365**

Three-dimensional model of an Alaskan river polar fan-delta. Lindsay, J.F., [1992, p.183-201, eng] **47-4366**

Last glacial maximum on Spitsbergen, Svalbard. Mangerud, J., et al. [1992, p.1-31, eng] **47-4406**

Paleoecology of peats from the Chukchi Sea shelf region. Elias, S.A., et al. [1992, p.371-378, eng] **47-4408**

Compression properties of Canadian intertill clays. Sauer, E.K., et al. [1993, p.257-275, eng] **47-4513**

PIXE analysis as a tool for dating of ice cores from the Greenland ice sheet. Hansson, H.C., et al. [1993, p.428-434, eng] **47-4592**

Late Proterozoic anthracite coals from the Hornsund area, south Spitsbergen. Birkenmajer, K., et al. [1992, p.71-90, eng] **47-4648**

Paleoclimatic implications of Alaskan coastal marine deposits. Kaufman, D.S., et al. [1993, p.21-33, eng] **47-4733**

Deposition of the Late Wisconsin Johnston moraine, southcentral Wisconsin. Lundqvist, J., et al. [1993, p.53-59, eng] **47-4751**

Stratigraphy and origin of an area of hummocky glacial topography, northern Wisconsin, U.S.A. Attig, J.W., et al. [1993, p.61-67, eng] **47-4752**

Till stratigraphy and glacial history of the Vestfold Hills area, East Antarctica. Hirvas, H., et al. [1993, p.81-95, eng] **47-4753**

Short notes on Alaskan geology 1993. Solie, D.N., ed. [1993, 99p., eng] **47-4773**

Penultimate great earthquake in Alaska. Combellick, R.A., [1993, p.7-15, eng] **47-4774**

Organic-rich shale and bentonite in the Arctic Creek unit. Mull, C.G., et al. [1993, p.41-49, eng] **47-4777**

Stratigraphy and paleoclimatic analysis of deep water antarctic glacial marine sediments. Domack, E.W., [1993, p.89-104, eng] **47-4825**

Moraine-ridge formation along a stationary ice front in Iceland. Krüger, J., [1993, p.101-109, eng] **47-4851**

Silurian pinnacle reefs of the Canadian Arctic. De Freitas, T.A., et al. [1993, p.172-182, eng] **47-4912**

Periglacial microjointing and faulting in Weichselian fluvio-aeolian deposits. Mol, J., et al. [1993, p.15-30, eng] **47-5005**

See also: Firn stratification; Snow stratigraphy

Stratosphere

Detecting polar stratospheric clouds from NOAA-HIRS data. Meerkoetter, R., [1992, p.1351-1354, eng] **47-48**

Adsorption of HCl on ice under stratospheric conditions. Kroes, G.J., et al. [1992, p.1355-1358, eng] **47-49**

Variability of the arctic stratosphere in winter. Labitzke, K., et al. [1992, p.179-180, ger] **47-210**

Ozone depletion in Antarctica in 1991. Hofmann, D.J., et al. [1992, p.283-287, eng] **47-484**

Possibility of an Arctic ozone hole in a doubled-CO2 climate. Austin, J., et al. [1992, p.221-225, eng] **47-907**

O3 and NO2 absorption cross section measurements by multipath spectrophotometer. Bonasoni, P., et al, [1992, p.205-211, eng] **47-1202**

Stratospheric ozone depletion 1990 status report. Kurylo, M.J., [1992, p.221-226, eng] **47-1204**

Ice clouds in the antarctic stratosphere: evidence for water *removal.* Di Girolamo, P., et al, [1992, p.271-275, eng] **47-1206**

Stratospheric GCM for polar ozone studies. Pitari, G., et al, [1992, p.285-316, eng] **47-1208**

Role of sulfate aerosols in the stratospheric ozone climatology. Pitari, G., [1992, p.331-347, eng] **47-1210**

Total ozone changes and stratospheric wind and temperature. Xiong, K., et al, [1992, p.45-50, chi] **47-1256**

Sticking of HCl and ClOH to ice: a computational study. Kroes, G.J., et al, [1992, p.7079-7088, eng] **47-1265**

Stratospheric sudden cooling after solar proton event. Kodama, M., et al, [1992, p.361-366, eng] **47-1336**

Lidar detection of ozone in the troposphere and lower stratosphere. Browell, E.V., [1991, p.77-89, eng] **47-1338**

Vapor pressures of solid hydrates of nitric acid and PSCs. Worsnop, D.R., et al, [1993, p.71-74, eng] **47-1339**

Radiative climate forcing from stratospheric ozone loss. Ramaswamy, R., et al, [1992, p.810-812, eng] **47-1593**

Heterogeneous reactions in the antarctic autumn stratosphere. Keys, J.G., et al, [1993, p.49-51, eng] **47-1594**

Chemical and dynamic processes in the antarctic ozone depletion. Eckman, R.S., et al, [1993, p.(1)311-(1)319, eng] **47-1930**

Denitrification of the 1990 antarctic spring stratosphere. Gobbi, G.P., et al, [1991, p.1995-1998, eng] **47-2027**

1990 spring stratospheric denitrification. Gobbi, G.P., et al, [1992, p.323-326, eng] **47-2167**

Pinatubo in the Antarctic?. Stefanutti, L., et al, [1992, p.327-343, eng] **47-2168**

DIAL ozone measurements at *Dumont d'Urville Station.* Stefanutti, L., et al, [1992, p.345-358, eng] **47-2169**

Simulation of lidar depolarization by polar stratospheric clouds. Flesia, C., et al, [1992, p.359-365, eng] **47-2170**

1991 spring lidar PSC studies at McMurdo. Adriani, A., et al, [1992, p.367-373, eng] **47-2171**

PSC in a 2D model and the secular ozone trend. Pitari, G., et al, [1992, p.375-396, eng] **47-2172**

Tropospheric and stratospheric thin clouds at McMurdo. Adriani, A., et al, [1992, p.491-503, eng] **47-2175**

Aerosol role in the ozone hole. Prendez, M., [1992, p.10-12, spa] **47-2300**

Stratospheric stability and tropospheric circulations over *the South Pole.* Neff, W.D., [1992, p.115-120, eng] **47-2396**

Combined system for observations of tropospheric and stratospheric thin clouds. Adriani, A., et al, [1993, p.34-40, eng] **47-2552**

PSCs above the South Pole in 1990. Collins, R.L., et al, [1993, p.1001-1010, eng] **47-2701**

Relation between arctic sea ice extent and ozone levels. Marko, J.R., et al, [1993, p.37-40, eng] **47-2843**

Laboratory measurements of the loss of ClO on Pyrex, ice and NAT at 183 K. Kenner, R.D., et al, [1993, p.193-196, eng] **47-2857**

Results of ozonesonde observations at Syowa Station in 1990. Shibata, S., et al, [1992, p.46-52, eng] **47-3004**

Stratospheric ozone depletion and denitrification in spring 1990. Deshler, T., [1991, p.242-244, eng] **47-3055**

Ozone loss in Antarctica: the implications for global change. Pyle, J.A., et al, [1992, p.219-226, eng] **47-3141**

Stratospheric ozone on Adélie Coast. Aimedieu, P., [1990, p.47-49, fre] **47-3161**

French research on polar ozone. Pommereau, J.P., [1991, p.28-35, fre] **47-3179**

Uptake of HNO3 onto ice, NAT, and frozen sulfuric acid. Hanson, D.R., [1992, p.2063-2066, eng] **47-3319**

Rifting, ozone layer and the level of the world ocean. Syvorotkin, V.L., et al, [1992, p.731-733, rus] **47-3335**

NO2 measurements in the polar stratosphere. Roscoe, H.K., et al, [1993, p.257-276, eng] **47-3464**

Tropospheric ozone annual variation at both poles. Gruzdev, A.N., et al, [1993, p.89-98, eng] **47-3530**

Tropospheric ozone distribution in Antarctica and European Arctic. Taalas, P., et al, [1993, p.106-119, eng] **47-3532**

Freezing points of H2SO4 aqueous solutions and formation of *stratospheric ice clouds.* Ohtake, T., [1993, p.138-144, eng] **47-3534**

Stratospheric ozone in the Arctic and Antarctic (Review). Danilov, A.D., et al, [1992, p.1-10, eng] **47-3629**

Stratospheric ozone variations 1957-1990. Xanthakis, J., et al, [1993, p.109-125, eng] **47-3713**

Stratospheric denitrification indicated by firn core chemistry. Mulvaney, R., et al, [1993, p.5213-5220, eng] **47-3785**

Modeling of trace species in the arctic stratosphere. Chipperfield, M.P., et al, [1993, p.7199-7218, eng] **47-3828**

Stratospheric cooling over Scandinavia. Claud, C., et al, [1993, p.7229-7243, eng] **47-3829**

Equatorial atmospheric influence on polar stratospheric temperatures. Kodera, K., [1993, p.7245-7250, eng] **47-3830**

Occurrence of ozone laminae near the boundary of the stratospheric polar vortex. Reid, S.J., et al, [1993, p.8883-8890, eng] **47-4381**

Atmospheric NO3. 4. Vertical profiles at middle and polar latitudes at sunrise. Smith, J.P., et al, [1993, p.8983-8989, eng] **47-4383**

Influence of solar wind on cloud microphysics. Tinsley, B.A., et al, [1993, p.10,375-10,384, eng] **47-4391**

Lidar for monitoring polar stratospheric clouds. Stefanutti, L., et al, [1992, p.13-17, eng] **47-4721**

Probing stratospheric ozone. Rodriguez, J.M., [1993, p.1128-1129, eng] **47-5132**

Chlorine chemistry on polar stratospheric cloud particles in the Arctic winter. Webster, C.R., et al, [1993, p.1130-1134, eng] **47-5133**

Characteristics of cold volcanic aerosols. Toon, O., et al, [1993, p.1136-1140, eng] **47-5135**

Stratospheric meteorological conditions in the Arctic polar vortex, 1991-1992. Newman, P., et al, [1993, p.1143-1146, eng] **47-5137**

Ozone and aerosol changes *during the* 1991-1992 Airborne Arctic Stratospheric Expedition. Browell, E.V., et al, [1993, p.1155-1158, eng] **47-5140**

Stream flow

Modulation of the diurnal streamflow response by the seasonal snowcover of an alpine basin. Caine, N., [1992, p.245-260, eng] **47-175**

Stochastic approaches for forecasting monthly streamflows. Wang, D.C., [1991, 278p., eng] **47-299**

Morphological classification of the sites of origin of water-snow streams. Evteev, A.O., [1991, p.155-160, rus] **47-334**

Factors delaying spring runoff in the upper Urumqi River basin, China. Kattelmann, R., et al, [1992, p.225-230, eng] **47-1117**

Estimation of streamflow change by global warming. Fukushima, Y., et al, [1991, p.181-188, eng] **47-1305**

Arctic streamflow. Woo, M.K., [1992, p.105-111, eng] **47-1430**

Cation export from Alaskan arctic watersheds. Cornwell, J.C., [1992, p.15-22, eng] **47-1600**

Water and sediment export of the upper Kuparuk River drainage of the North Slope of Alaska. Kriet, K., et al, [1992, p.71-81, eng] **47-1605**

Reliability of a proglacial river monitoring program. Gurnell, A.M., et al, [1992, p.191-200, eng] **47-1814**

Establishment of gauging stations under arctic conditions the Svalbard experience. Skretteberg, R., [1992, p.711-717, eng] **47-1983**

Hydrology of four headwater basins in the Sierra Nevada. Kattelmann, R., [1989, p.141-147, eng] **47-2577**

Groundwater contributions in an alpine basin in the Sierra Nevada. Kattelmann, R., [1989, p.361-369, eng] **47-2580**

Spatial and seasonal patterns of streambed water temperatures in an Alaskan subarctic stream. Irons, *J.G., III, et al, [1989, p.381-390, eng]* **47-2581**

Validation of stream flow temperature model. Mattax, B.L., et al, [1989, p.391-400, eng] **47-2582**

Verification of the National Weather Service extended streamflow prediction procedure. Day, G.N., et al, [1992, p.163-172, eng] **47-2725**

Climate change and seasonal *streamflow in the Sierra* Nevada. Duell, L.F.W., Jr., [1992, p.731-740, eng] **47-2748**

Application of watershed models to the Gunnison River basin. Kuhn, G., et al, [1992, p.741-750, eng] **47-2749**

Potential climate-change effects on bed-material entrainment, the Gunnison Gorge, Colorado. Elliot, J.G., et al, [1992, p.751-759, eng] **47-2750**

Nitrate transport in subalpine streams. Coats, R., et al, [1993, p.17-21, eng] **47-2850**

Hydrological yearbook 1989. Leppäjärvi, R., ed, [1992, 174p., eng] **47-3154**

Sensitivity of streamflow simulation to changes in climatic inputs. Ng, H.Y.F., et al, [1992, p.257-272, eng] **47-3802**

Environmental isotope hydrograph separation during snowmelt in a suburban catchment. Buttle, J.M., et al, [1992, p.1-12, eng] **47-4027**

Effects of temperature and snowfall on winter low flows in New England. Hartley, S., [1992, p.255-261, eng] **47-4056**

Snowmelt-induced stream acidity in a subarctic catchment. Davies, T.D., et al, [1993, p.267-300, eng] **47-4171**

Water quality and placer mining in interior Alaska, 1992. Ray, S.R., [1993, 83p., eng] **47-4763**

Water quality study of Hoseanna Creek basin. Ray, S.R., et al, [1992, 51p., eng] **47-4766**

Water quality in the Gold Creek drainage basin. Noll, R.S., [1992, 32p., eng] **47-4767**

Water quality and placer mining in interior Alaska, 1991. Ray, S.R., [1992, 73p., eng] **47-4770**

Computerized simulation of watershed streamflow. Ffolliott, P.F., et al, [1990, p.285-292, eng] **47-5220**

See also: River flow; Runoff

Streams

Morphological classification of the sites of origin of water-snow streams. Evteev, A.O., [1991, p.155-160, rus] **47-334**

Seasonal temperature patterns in an arctic and two subarctic Alaskan (USA) headwater streams. Irons, *J.G., III, et al, [1992, p.147-157, eng]* **47-780**

Use of meltwater stream material loads in the estimation of glacial erosion rates. Warburton, J., et al, [1993, p.19-28, eng] **47-4983**

See also: Rock streams

Strength

Effect of temperature on the strength of adhesive joints. Adams, R.D., et al, [1992, p.185-190, eng] **47-878**

Root mechanical properties related to disturbed and stressed habitats in the Arctic. Jonasson, S., et al, [1992, p.179-186, eng] **47-1557**

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Stress concentration

Single stress time parameter for snow under tension. Kachroo, P.N., [1985, p.244-248, eng] **47-542**

Single pressure-time parameter for snow under compression. Kachroo, P.N., [1985, p.249-256, eng] **47-543**

Clues to causes of deformation features in coastal sea ice. Kozo, T.L., et al, [1992, p.385,388-389, eng] **47-2597**

Pressure of crushed ice as Mohr-Coulomb material against flat, axisymmetric indentor. Duthinh, D., [1992, p.139-151, eng] **47-2640**

Oscillations of an ice sheet under a periodically varying load. Kozin, V.M., et al. (1993, p.746-750, eng) 47-3169

Brittle compressive failure of fresh-water columnar ice under biaxial loading. Smith, T.R., et al. (1993, p.153-163, eng) 47-3776

Novel processes of dislocation multiplication observed in ice. Shearwood, C., et al. (1993, p.205-210, eng) 47-3777

Modelling of rock mass responses to glaciation at Finnsjön, central Sweden. Rosengren, L., et al. (1993, p.75-82, eng) 47-3920

Internal melting and ice accretion at the bottom of temperate glaciers. Lliboutry, L.A., (1993, p.50-64, eng) 47-3940

Dynamic observations of dislocation generation at grain boundaries in ice. Liu, F., et al. (1993, p.1261-1276, eng) 47-3986

Compressive strength of ice cubes of different sizes. Kuehn, G.A., et al. (1993, p.142-148, eng) 47-4060

Field pile load tests in saline permafrost. 2. Analysis of results. Biggar, K.W., et al. (1993, p.46-59, eng) 47-4163

Contact force and damage evolution in a moving uniaxial ice bar. Shin, J.G., et al. (1992, p.129-134, eng) 47-4287

Stresses and forces under ice compacting. Nikitin, V.A., et al. (1993, p.139-142, eng) 47-4299

Effect of confining stress on brittle indentation failure of columnar ice. Grape, J.A., et al. (1992, p.212-221, eng) 47-4305

Location of mechanical controls on Columbia Glacier, Alaska, U.S.A., prior to its rapid retreat. Van der Veen, C.J., et al. (1993, p.99-105, eng) 47-4742

Notch sensitivity of first-year sea ice. Parsons, B.L., et al. (1993, p.1303-1313, eng) 47-4848

Model for thermally-induced stresses in multi-year sea ice. Lewis, J.K., (1993, p.337-348, eng) 47-5205

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Shock response of snow: analysis of experimental methods and constitutive model development. Johnson, J.B., et al. (1992, 19p., eng) 47-705

Assessment of the mathematical modelling of the creep of ice and frozen soils. Azizi, F., (1992, p.3-14, eng) 47-1014

Stress and time effects on the creep rate of polycrystalline ice. Kuo, S.S., (1992, p.209-224, eng) 47-1030

Stress-strain behaviour of frozen soil in tension. Sayles, F.H., (1993, p.61-72, eng) 47-4273

Stresses

Effect of soil stress on its water permeability during freezing and forecasting frost heave intensity. Karlov, V.D., (1991, p.77-82, rus) 47-238

Assessment of stresses and strains on an avalanche slope by indirect evidence. Sharma, S.S., (1985, p.276-295, eng) 47-546

Two-dimensional extrusion of crushed ice. Part 1: experimental. Sayed, M., et al. (1992, p.25-36, eng) 47-801

Two-dimensional extrusion of crushed ice. Part 2: analysis. Savage, S.B., et al. (1992, p.37-47, eng) 47-802

Effect of temperature and time on stresses in frozen concrete under thermal cycling. Ben'kov, V.N., et al. (1991, p.7-9, rus) 47-2157

Arctic ice stress measurements. Lau, P.A., et al. (1991, p.645-650, eng) 47-2183

Elastic analysis of stresses in ice structure interactions. Nixon, W.A., et al. (1993, p.83-88, eng) 47-4234

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Striations

Glacial history of the Ellsworth Mountains. Denton, G.H., et al. (1992, p.403-432, eng) 47-2700

Reconstruction of glacial events in southeastern New Brunswick. Foisy, M., et al. (1991, p.1594-1612, eng) 47-4159

Glacial ice-flows on the islands of Bornholm and Christiansö, Denmark. Lindström, E., (1991, p.17-35, eng) 47-4317

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Structural analysis

Masonry wall and window system leakage investigation for university building. Frauenhoffer, J., (1992, p.107-115, eng) 47-409

Crystallographic analyses of clathrate hydrates included in Vostok ice cores. Hondoh, T., et al. (1992, p.268-278, jpn) 47-976

Passive acoustic emission for quantitative evaluation of freeze thaw and alkali aggregate reaction in concretes. Taylor, M.A., (1992, p.1-12, eng) 47-1376

Dependence of post-stable fluidelastic behavior on the degrees-of-freedom of a tube bundle. Lever, J.H., et al, (1992, p.167-187, eng) 47-1913

Cavity development in ice-rich permafrost, Pangnirtung, *Baffin Island, Northwest Territories.* Hyatt, J.A., (1992, p.293-313, eng) 47-2238

Doppler radar analysis of mesoscale snow bands. Ishihara, M., et al. (1989, p.503-520, eng) 47-3466

Steel selection for arctic ships: effects of elevated loading rate on toughness. Tyson, W.R., et al. (1993, p.261-265, eng) 47-4830

Reliability of guyed masts with special reference to arctic conditions. Johansson, B., et al. (1991, 18p., eng) 47-5011

Structural changes

Passive acoustic emission for quantitative evaluation of freeze thaw and alkali aggregate reaction in concretes. Taylor, M.A., (1992, p.1-12, eng) 47-1376

Structures

Avalanche control in formation zone—a case study. Rajaram, T., (1985, p.354-368, eng) 47-553

New approach for design of diversion and retarding dams. Sharma, S.S., (1985, p.369-383, eng) 47-554

Polar engineering. Guichard, A., et al. (1990, p.84-87, fre) 47-3164

Tunnel kiln adapted for firing frost-resistant bricks in a reducing atmosphere. Mueller, M., (1988, 6 col., eng) 47-3420

Cryogenic ambient air vaporizers: frost growth, wind and seismic design for safety. Bernert, R.E., Jr., et al, (1993, p.789-793, eng) 47-4876

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Subarctic landscapes

Radiation balance of ridge-tillage with modeling strategies for slope and aspect in the subarctic. Sharratt, B.S., et al, (1992, p.1379-1384, eng) 47-1182

Plant-dependent CH4 emission in a subarctic Canadian fen. Whiting, G.J., et al. (1992, p.225-231, eng) 47-1378

Recent dynamics of jack pine at its northern distribution limit in northern Quebec. Desponts, M., et al, (1992, p.1157-1167, eng) 47-1482

Characterization of fungi ecosystems in subarctic alder forests. Brunner, I., et al, (1992, p.1247-1258, eng) 47-1483

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Response of subarctic forest tundra to climatic factors. Timoney, K.P., et al, (1992, p.1-9, eng) 47-3348

Shoreline shrub development in relation to isostatic rebound. von Mörs, I., et al, (1993, p.15-23, eng) 47-3423

Pine tree-limit surveillance in Sweden. Kullman, L., (1993, p.24-31, eng) 47-3424

Seasonal changes in the radiation balance of subarctic forest and tundra. Lafleur, P.M., et al, (1993, p.32-36, eng) 47-3425

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Seasonal variations in dissolved inorganic nitrogen utilization in a subarctic Alaskan lake. Gu, B.H., et al, (1993, p.273-288, eng) 47-3647

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Holocene water-level fluctuations of a subarctic lake at the *tree line in northern* Quebec. Payette, S., et al, (1993, p.7-14, eng) 47-4072

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Fertilizer placement for conventional and no-tillage barley *in the subarctic.* Cochran, V.L., et al, (1992, p.1973-1978, eng) 47-4356

Subarctic dune dynamics determined by tree ring analysis. Marin, P., et al, (1992, p.316-330, eng) 47-4407

Seed bank composition in a subarctic forest. Vieno, M., *et al,* (1993, p.379-384, eng) 47-4583

Response of shrub-tussock community to vehicle use. Ahlstrand, G.M., et al, (1993, p.142-149, eng) 47-4746

Taxonomic revision of a herb distribution in arctic landscapes. Bayer, R.J., (1993, p.150-159, eng) 47-4747

Debris flow in Canadian continuous permafrost area. Harris, S.A., et al, (1993, p.41-56, eng) 47-4984

Paleoclimatic variables derived from subarctic treeline *dendrochronology.* Yamaguchi, D.K., et al, (1993, p.256-262, eng) 47-5123

Late Quaternary lacustrine pollen records from *southwestern Beringia.* Lozhkin, A.V., et al, (1993, p.314-324, eng) 47-5142

Distribution and renovation time of soil carbon in boreal *and subarctic ecosystems* of European Russia. Cherkinskii, A.E., et al, (1993, p.65-69, eng) 47-5230

Estimating carbon budgets of Canadian forest ecosystems using a national scale model. Apps, M.J., et al, (1993, p.243-252, eng) 47-5240

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Frost action of rock faces within a glacier of the *Juran* Neuchâtel. Pancza, A., (1992, p.49-54, fre) 47-3126

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Drainage of the Cazadora Glacier at Juan-Carlos I Base. *Eraso, A., et al,* (1991, p.69-91, eng) 47-25

Glacial caves in Spitsbergen. Pulina, M., et al, (1991, p.93-117, eng) 47-26

Climatic conditions of outflow from a glacier in Spitsbergen. Pereyma, J., (1991, p.135-146, eng) 47-28

Subglacial drainage of Heim Glacier in Patagonia. Lario Gomez, J., (1991, p.163-170, spa) 47-31

Glacier studies from the Greenland '90 Expedition. Eraso, A., et al, (1991, p.171-184, eng) 47-32

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Depositional model for Rogen moraine, with examples from the Avalon Peninsula, Newfoundland. Fisher, T.G., et al, (1992, p.669-686, eng) 47-378

Record of the 1988-1989 expedition at the Spanish Juan Carlos I Station. Eraso, A., et al, (1989, p.3-22, spa) 47-808

Correlation between discharge and hydrochemical *parameters in the river* at Juan Carlos I Station. Antiguedad, I., et al, (1989, p.24-31, spa) 47-809

Meteorological data and hydrogram of the river at Juan Carlos I Station. Antiguedad, I., et al, (1989, p.32-40, spa) 47-810

Different water types found in the vicinity of Juan Carlos I Station. Antiguedad, I., et al, (1989, p.41-49, spa) 47-811

Structural analysis of the Cazadora Glacier ice, directional anisotropy quantification and subglacial drainage prediction. Eraso, A., et al, (1989, p.71-79, spa) 47-814

Mineralogic and *microsonde analysis of volcanic ash in the* vicinity of Juan Carlos I Station. Eraso, A., et al, (1989, p.80-88, spa) 47-815

Model of water movement in rock glaciers and associated water characteristics. Giardino, J.R., et al, (1992, p.159-184, eng) 47-851

Jökulhlaups in the Kunmalike River, southern Tien Shan mountains, China. Liu, J.S., (1992, p.85-88, eng) 47-1091

Jökulhlaups in Iceland: prediction, characteristics and simulation. Björnsson, H., (1992, p.95-106, eng) 47-1093

Investigation of glacier bursts of the Yarkant River in Xinjiang, China. Zhang, X.S., (1992, p.135-139, eng) 47-1099

Relationship between runoff and meteorological factors. Kang, E.S., (1991, p.189-202, eng) 47-1306

Hydrological interactions in the Mistaya basin, Alberta, Canada. Young, G.J., (1991, p.237-244, eng) 47-1311

Development of an ice-dammed lake: the contemporary and older sedimentary record. Johnson, P.G., et al, (1992, p.304-313, eng) 47-1587

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Borehole measurements in a Greenland glacier. Iken, A., et al. [1993, p.15-25, eng] 47-3937

Consolidation of sediments by glaciers. Boulton, G.S., et al. [1993, p.26-44, eng] 47-3938

Subglacial flow of a mountain glacier. Fountain, A.G., [1993, p.143-156, eng] 47-3948

Erosion of bedrock by subglacial meltwater, Georgian Bay, Ontario: a regional view. Kor, P.S.G., et al. [1991, p.623-642, eng] 47-4155

Preconsolidation pressures in the Battleford Formation, southern Saskatchewan, Canada. Sauer, E.K., et al. [1991, p.1613-1623, eng] 47-4257

Subglacial meltwater channel systems and ice sheet overriding, Asgard Range, Antarctica. Sugden, D.E., et al. [1991, p.109-121, eng] 47-4310

Boulder ring structures produced during jökulhlaup flows, Maizels, J., [1992, p.21-33, eng] 47-4320

Glacial lake bathymetry at Bering Piedmont Glacier, AK. Fleisher, P.J., et al. [1993, p.267-274, eng] 47-4566

Late Wisconsin subglacial megaflood paths in Alberta. Rains, B., et al, [1993, p.323-326, eng] 47-4594

Bedrock water erosion typified by subglacial flutes. Dreimanis, A., [1993, p.110-112, eng] 47-4852

Subglacial observations

In situ spectroradiometric estimation of microalgal biomass in first-year sea ice. Legendre, L., et al. [1991, p.113-115, eng] 47-5

High porosity of basal till at Burroughs glacier, southeastern Alaska. Ronnert, L., et al. [1992, p.849-852, eng] 47-246

Application of seismic processing techniques to ice and ground penetrating radar data. Fisher, E.A., [1992, 145p., eng] 47-281

Ice thickness and subglacial topography of the Fridtjof Glacier based on data from ground-based radar sounding. Glazovskii, A.F., et al, [1991, p.161-166, rus] 47-336

Geo-Radar in tunneling—the tunnel radar. Westerdahl, H., et al, [1992, p.41-45, eng] 47-631

Multistatic radar system—MRS. Ulriksen, P., [1992, p.57-63, eng] 47-632

Radar sounding of a temperate glacier: modelling and interpretation. Nicollin, F., et al. [1992, p.278-280, eng] 47-645

Grímsvötn Caldera, Vatnajökull: subglacial topography and structure of caldera infill. Gudmundsson, M.T., [1989, p.1-20, eng] 47-710

Contour mapping of Arctic basin ice draft and roughness parameters. Bourke, R.H., et al. [1992, p.17,715-17,728, eng] 47-1061

Access pipes for sampling through thick ice. Kipphut, G.W., et al, [1992, p.267-269, eng] 47-1607

Autonomous Conductivity Temperature Vehicle: recent developments. Morison, J.H., et al. [1991, p.633-637, eng] 47-2181

Hot water drill for glaciological research. Iken, A., [1992, p.365-368, ger] 47-2204

Ocean interactions with the base of Amery Ice Shelf, Antarctica. Hellmer, H.H., et al. [1992, p.20,305-20,317, eng] 47-2342

Sandstones and conglomerates formed by precipitation of CaCO3 under stagnant ice sheet. Drozdowski, E., [1991, p.253-266, eng] 47-2570

Using a nuclear submarine for arctic research. Keigwin, L.D., et al. [1992, p.209,220-221, eng] 47-2600

Propagation of coastal-trapped waves under an ice cover in Hudson Bay. Reynaud, T., et al, [1992, p.593-620, eng] 47-2880

Internal waves in an ice-covered basin. Pisarev, S.P., [1991, p.42-46, eng] 47-2887

Frost action of rock faces within a glacier of the Juran Neuchâtel. Pancza, A., [1992, p.49-54, fre] 47-3126

Measuring the point spread function of sea ice *in situ*. Voss, J.M., et al. [1992, p.517-526, eng] 47-3735

Influence of sea ice particulate matter on ocean irradiance. Fritsen, C.H., et al. [1992, p.527-541, eng] 47-3736

Basal ice accretion and debris entrainment within the coastal ice margin, Law Dome, Antarctica. Goodwin, I.D., [1993, p.157-166, eng] 47-3949

Angiosperm acclimation beneath lake ice. Spencer, W.E., et al. [1993, p.985-991, eng] 47-4169

Effects of variable eddy viscosity on wave-induced currents under ice. Melsom, A., [1993, p.78-88, eng] 47-4218

Subgrade maintenance

Detection of frost-prone highway beds from response-type surface roughness measurements. Scully, J., [1992, 15p. + appends., eng] 47-4616

Subgrade soils

Concepts and procedures for evaluation/design of materials and flexible pavements. Ruth, B.E., et al, [1992, p.270-288, eng] 47-1138

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Determination of the elastic stiffness of thawing subgrade soil. Palolahti, A., et al, [1993, p.65-68, eng] 47-4122

Subgrades

Proceedings of the 37th Annual Conference [1992, 307p + appends., eng] 47-1133

Evaluation of frost action mitigation procedures for highly frost-susceptible soils. MacKay, M.H., et al. [1992, p.91-109, eng] 47-1134

Performance of asphalt concrete airport pavements during thaw weakening periods. Janoo, V.C., et al. [1992, p.167-183, eng] 47-1135

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Sublimation

Thermal effects due to air flow and vapor transport in dry snow. Albert, M.R., et al, [1992, p.273-281, eng] 47-468

Prairie Blowing Snow Model: characteristics, validation, operation. Pomeroy, J.W., et al, [1993, p.165-192, eng] 47-3801

Influence of freezing technique on freeze drying. Kochs, M., et al, [1993, p.1727-1738, eng] 47-4413

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Nuclear-powered submarine transport for the Arctic. Dronov, B.F., et al, [1992, p.3-7, rus] 47-2899

Estimated inventory of radionuclides in former Soviet Union naval reactors dumped in the Kara Sea. Mount, M.E., et al, [1993, p.105-118, eng] 47-5024

Cs-137 contamination of sea water surrounding the "Komsomoletz" nuclear submarine. Neldanov, G., [1993, p.119-133, eng] 47-5025

Arctic radioactive contamination: past legacy and future. IAkimets, V., [1993, p.169-190, eng] 47-5029

Radioactive contamination of the northern seas: approaches to the assessment of the impact on the marine environment and man. Kuznetsov, IU.V., et al, [1993, p.379-394, eng] 47-5044

Radioecological risk assessment for solid radioactive waste (SRW) dumped into the Kara Sea by the former USSR. Lystsov, V.N., [1993, p.395-414, eng] 47-5045

Expedition to the nuclear submarine *Komsomolets* site. Samoilov, V., [1993, p.439-442, eng] 47-5047

Radioactive pollution from accidents involving nuclear-powered vessels: problems and solutions. Handler, J., [1993, p.557-572, eng] 47-5054

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Subpermafrost ground water

Groundwater issues relating to an Alaskan methanol spill. Robertson, S.B., [1992, p.936-940, eng] 47-234

Computerized simulation of permafrost mass transfer. Kozlov, A.N., et al, [1992, p.63-67, eng] 47-4384

Model for the hydrologic and climatic behavior of water on Mars. Clifford, S.M., [1993, p.10,973-11,016, eng] 47-4409

Subpolar regions

Removal of atmospheric aerosols in the sub-arctic region. Selin, E., et al, [1992, p.S965-S968, eng] 47-2074

Late Cenozoic uplift and volcanism on Spitsbergen: caused by *mantle convection*?. Vagnes, E., et al, [1993, p.251-254, eng] 47-2849

Marine transgressions and paleoclimatology in northern Alaska. Brigham-Grette, J., et al. [1992, p.74-89, eng] 47-3352

Air temperature variations on Spitsbergen in 1979-1983. Przybylak, R., [1992, p.113-129, eng] 47-4651

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Subsea permafrost

Detection of sub-sea permafrost by electromagnetic sounding. Palacky, G.J., et al, [1992, p.1419-1427, eng] 47-1509

Deformation properties of warm permafrost. Shields, D.H., et al, [1985, p.473-486, eng] 47-1616

Mathematical modelling of near-shore permafrost thermal regimes, western Canadian Arctic. Wang, B.L., [1992, p.202-209, chi] 47-1659

Field investigation of water and salt movement in permafrost and the active layer. Final report. Osterkamp, T.E., [1993, Var. p., eng] 47-2619

Identification of features due to former permafrost in the North Sea. Long, D., [1991, p.369-372, eng] 47-3888

Pipeline insulation system. Patterson, M.M., [1987, 4 col., eng] 47-4004

Permafrost and Holocene shoreline regression in arctic Canada. Adams, J., [1993, 66p., eng] 47-4606

Substrates

Observations of heterogeneous nucleation of water vapor on a cold substrate. Shinagawa, H., et al, [1992, p.448-450, eng] 47-1054

Tree-ring dating of moraines. McCarthy, D.P., et al, [1993, p.63-68, eng] 47-3430

Monomer molecular adsorption on ice Ih. Bell, K.P., et al, [1993, p.4160-4167, eng] 47-5272

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Different water types found in the vicinity of Juan Carlos I Station. Antiguedad, I., et al, [1989, p.41-49, spa] 47-811

Specific hydrogeological conditions of the North-Muya Ridge. Shabinin, L.L., et al, [1991, p.76-80, eng] 47-1674

Perennial néves and the hydrology of rock glaciers. Tenthorey, G., [1992, p.247-252, eng] 47-1779

Lomen water power plant : channel formation over a lake discharge outlet. Wold, K., [1988, 98p., nor] 47-2246

Groundwater contributions in an alpine basin in the Sierra Nevada. Kattelmann, R., [1989, p.361-369, eng] 47-2580

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Subsurface investigations

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Approach to slope and subsurface studies in avalanche prone area by air photos. Pathak, R.C., et al, [1985, p.204-211, eng] 47-539

Proceedings, [1992, 365p., eng] 47-630

Applications of ground-penetrating radar in Quaternary geology. Grasmück, M.P., [1992, p.471-490, ger] 47-1993

Characteristics of the spatial structure of subsurface ice in the vicinity of Vostok Station, Antarctica. Chashchinov, IU.M., et al, [1991, p.121-125, rus] 47-2800

Shifts in ice sheet temperatures. Colbeck, S.C., [1993, p.5115-5120, eng] 47-2855

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Heat transfer from a heated cylinder buried in a frozen porous medium in an enclosure. Oosthuizen, P.H., et al, [1992, p.315-326, eng] 47-4707

Glacier study using wavenumber domain synthetic aperture radar. Hamran, S.E., et al, [1993, p.559-570, eng] 47-5120

Subsurface structures

Freezable, flotable water lines?. Ainsworth, L., [1992, p.42-43, eng] 47-1884

In-slab hydronic heating systems warm rooms indoors, melt snow and ice outdoors. Smith, A., [1990, p.851-856, eng] 47-2715

Recessed deflecting road reflector. Sheldon, S.A., [1989, 6 col., eng] 47-3104

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Mobile marine operations structure. Bhalaik, A., et al, [1989, 38 col., eng] 47-3323

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Freeze thaw resistance of underwater concrete aggregates. Fukudome, K., et al, [1993, p.1565-1582, eng] 47-3618

Stern apron for ice breakers. Varges, G., [1988, 4 col., eng] 47-3768

Arctic structure of composite wall construction. Birdy, J.N., et al, [1987, 14 col., eng] 47-4007

Composite platform for petroleum workings in polar seas. Michel, D., et al, [1986, 6 col., eng] 47-4259

Mobile marine operations structure. Bhalaik, A., et al, [1988, 30 col., eng] 47-4261

France-Canada joint study of deformation of an experimental pipe line by differential frost heave. Williams, P.J., et al, [1993, p.56-60, eng] 47-4301

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Low-temperature physics: an introduction for scientists and engineers. McClintock, P.V.E., et al, [1992, 296p., eng] 47-4858

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Numerical simulation of ice phase microphysics in clouds, part 2. Kong, F.Y., et al. (1991, p.459-470, eng) 47-426
Assessment of the one-dimensional icing forecast model applied to stratiform clouds. Tunick, A., et al. (1990, p.57-64, eng) 47-909
Sierra Nevada winter storms. Demoz, B.B., (1992, 164p., eng) 47-2124
Aerosol scavenging by ice in supercooled clouds. Song, N.H., et al. (1991, p.63-74, eng) 47-2208
Ice nuclei availability in the higher troposphere. Sassen, K., (1992, p.287-290, eng) 47-2269
Solubility effects on mixed aerosol ice nuclei in the supercooled clouds. Smorodin, V.E., (1992, p.295-299, eng) 47-2271
Observations of the initial stage of ice phase evolution in supercooled clouds. Nevzorov, A.N., et al. (1992, p.69-76, eng) 47-3458
Ice crystals produced by expansion: experiments and application to aircraft-produced ice. Foster, T.C., et al. (1993, p.716-728, eng) 47-3509
Estimation of cloud resources for dispersion over the USSR territory. Belova, L.K., et al. (1992, p.13-18, eng) 47-3988
Measurements of cloud-droplet-size distributions in polluted and unpolluted stratiform. Alkezweeny, A.J., et al. (1993, p.106-115, eng) 47-4166
Automated dual polarization complex for studying the characteristics of cumulonimbus. Dinevich, L.A., et al. (1992, p.79-95, rus) 47-4659
Radiosonde supercooled liquid water detector. Hill, G.E., (1990, 97p., eng) 47-4882
Homogeneous ice nucleation and supercooled liquid water in orographic wave clouds. Heymsfield, A.J., et al. (1993, p.2335-2353, eng) 47-4891

Supercooled fog
Rime-ice accretion on fixed stranded conductors. Skelton, P.L.I., et al. (1993, p.45-52, eng) 47-3529
Small vertical supercooled cloud tunnel system for the study of ice (snow) crystal growth. Gong, N.H., et al. (1992, p.254-262, eng) 47-4074

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Freezing in confined geometries. Sokol, P.E., et al. (1992, p.777-779, eng) 47-180
Thermodynamic analysis of supercooled liquid water. Walrafen, G.E., et al. (1992, p.3840-3846, eng) 47-247
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Study on dynamical structure in water and heavy water by low-frequency Raman spectroscopy. Mizoguchi, K., et al. (1992, p.1961-1968, eng) 47-1056
Winter Icing and Storms Project (WISP). Rasmussen, R., et al. (1992, p.951-974, eng) 47-1263
Brillouin and Raman scattering from liquid water. Nardone, M., et al. (1992, p.287-299, eng) 47-1377
Measurements of water film surface temperature on gyrating hailstones. Garcia-Garcia, F., et al. (1992, p.2058-2073, eng) 47-1508
Supercooled water self-diffusion related to hydrogen bond cooperativity. Lamanna, R., et al. (1992, p.R7367-R7370, eng) 47-1891
Relation of acclimating bud water to winter hardiness. Vertucci, C.W., et al. (1992, p.503-511, eng) 47-1950
Ice nucleation in electrolyte solutions. Fornazero, J., et al. (1992, p.413-418, eng) 47-2011
Liquid water with an *ab initio* potential: X-ray and neutron scattering from 238 to 368 K. Corongiu, G., et al. (1992, p.2030-2038, eng) 47-2048
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Solvated water molecules and hydrogen-bridged networks in liquid water. Corongiu, G., et al. (1993, p.2241-2249, eng) 47-2109
Fundamental research on external factors affecting the freezing of supercooled water. Saito, A., et al. (1992, p.2527-2536, eng) 47-2147
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Hydrogen-bond structures in water & ice. Dore, J., (1990, p.188-197, eng) 47-2194
Dielectric properties of normal supercooled water obtained in alcohol/water mixtures. Noyel, G.A., et al. (1992, p.1136-1143, eng) 47-2294
Performance of a kinetic model for intracellular ice formation based on the extent of supercooling. Pitt, R.E., et al. (1992, p.359-373, eng) 47-2297
Freezing of a supercooled water droplet on a heat transfer surface. Saito, A., et al. (1991, p.319-326, eng) 47-2560
Cooling and freezing of water between concentric cylinders. Narumi, A., et al. (1991, p.391-398, eng) 47-2563
Novel differential scanning calorimetric studies of supercooled organic liquids. Murthy, S.S.N., et al. (1993, p.509-514, eng) 47-2605
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Structural study of water confined in porous glass by neutron scattering. Bellissent-Funel, M.C., et al. (1993, p.4246-4252, eng) 47-2675
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Dielectric dispersion of supercooled trimethyleneglycol-water mixtures. Abe, R., et al. (1992, p.4204-4211, eng) 47-3580
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Singularity of liquid water—data analysis and modeling. Sato, H., (1992, p.89-101, eng) 47-3730
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Comment on "The episodic acidification of Adirondack Lakes during snowmelt" by Douglas A. Schaefer et al. Eshleman, K.N., et al. (1992, p.2869-2878, eng) 47-1788
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Net energy budget over a snow surface. Upadhyay, D.S., et al. (1985, p.129-143, eng) 47-566
Dynamic simulation of phase changes in snowpacks and soils. Grant, R.F., (1992, p.1051-1062, eng) 47-902
Summer energy balance on West Gulkana Glacier, Alaska, and linkages to a temporal synoptic index. Brazel, A.J., et al. (1992, p.15-34, eng) 47-1003
Energy balance of a snow cover and simulation of snowmelt in the western Tien Shan mountains, China. Ma, H., et al. (1992, p.73-78, eng) 47-1089
Uncertainty in a path-averaged measurement of the friction velocity u*. Andreas, E.L., (1992, p.1312-1321, eng) 47-1121
Sticking of HCl and ClOH to ice: a computational study. Kroes, G.J., et al. (1992, p.7079-7088, eng) 47-1265
Impacts of summer warming on the energy and water balance of wetland tundra. Rouse, W.R., et al. (1992, p.305-326, eng) 47-1375
Energy balance of dry tundra in West Greenland. Rott, H., et al. (1992, p.352-362, eng) 47-1592
Very large melting point depression of water in silica. van Miltenburg, J.C., et al. (1993, p.1143-1149, eng) 47-3290
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Europa, Ganymede, and Callisto: new radar results from Arecibo and Goldstone. Ostro, S.J., et al. (1992, p.18,227-18,244, eng) 47-1556
Memory effect in the nucleation of ice on mercuric iodide. Vali, G., (1992, p.259-262, eng) 47-2262
Frost heave and the surface melting of ice. Dash, J.G., (1991, p.339-356, eng) 47-2302
Interpretation of SAR imagery of the Greenland ice sheet using coregistered TM imagery. Bindschadler, R.A., et al. (1992, p.167-175, eng) 47-2554
Remote sensing of sea ice geophysical variations. Barber, D.G., et al. (1992, p.233-251, eng) 47-3320
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Tunnel kiln adapted for firing frost-resistant bricks in a reducing atmosphere. Mueller, M., (1988, 6 col., eng) 47-3420
Water freezing enhancement for thermal storage brine tube. Holowczenko, A., et al. (1988, 6 col., eng) 47-3641
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Enhancement of microwave images of sea ice. Full, W.E., et al. (1993, p.1-23, eng) 47-3917
Low-energy electron diffraction study of oxygen, water and ice adsorption on Pt(111). Starke, U., et al. (1993, p.432-437, eng) 47-4732
Evaluation of ice prevention properties of road surface with calcium chloride admixture. Augustin, H., et al. (1986, 60p., ger) 47-4988
Manual for planning and implementing road surface condition studies in wintertime—vol.1 and 2. Gabestad, K.O., (1988, 2 vols., nor) 47-4991
O2 electron attachment resonances on amorphous ice surfaces. Huels, M.A., et al. (1993, p.340-346, eng) 47-5191

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Snow conditions during MLRS-TGW BBU1 Captive Flight Program. Fisk, D.J., et al. (1992, 76p., eng) 47-700
Physical and dynamic properties of sea ice in the polar oceans. Gow, A.J., et al. (1991, 46p., eng) 47-704
On the melt rate of drifting ice heated from below. Omstedt, A., et al. (1992, p.91-100, eng) 47-806
Relationship between sea ice freeboard and draft in the Arctic Basin, and implications for ice thickness monitoring. Wadhams, P., et al. (1992, p.20,325-20,334, eng) 47-2344
Statistical properties of sea ice surface topography in the Baltic Sea. Lewis, J.E., et al. (1993, p.127-142, eng) 47-2889
Aerodynamic effects of ground de anti-icing fluids on Fokker 50 and Fokker 100. van Hengst, J., (1993, p.35-40, eng) 47-3315
Prairie Blowing Snow Model: characteristics, validation, operation. Pomeroy, J.W., et al. (1993, p.165-192, eng) 47-3801

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Field pile load tests in saline permafrost. 1. Test procedures and results. Biggar, K.W., et al. [1993, p.34-45, eng] 47-4162
Drag coefficients for winter antarctic pack ice. Wamser, C., et al. [1993, p.12,431-12,437, eng] 47-4520
Roughness of Weddell Sea ice and estimates of the air-ice drag coefficient. Andreas, E.L., et al. [1993, p.12,439-12,452, eng] 47-4521
Evaluation of limits to the performance of the surface roughness meter. Johnson, F., et al. [1993, p.140-145, eng] 47-4591
Scattering of low frequency sound waves under sea ice. LePage, K., et al. [1992, p.3-16, eng] 47-4714
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Surface structure
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Registration of vehicular tracks on the Svalbard archipelago. Raheim, E., [1992, 51p., eng] 47-1890
Characterization of spatial statistics of distributed targets in SAR data. Rignot, E.J., et al. [1993, p.345-363, eng] 47-2754
Micro-relief on a rock glacier, Dalton Range, Yukon, Canada. Johnson, P.G., [1992, p.41-47, eng] 47-3125
Small-scale patterned ground, Comeragh Mountains, southeast Ireland. Wilson, P., [1992, p.63-70, eng] 47-3128
Surface-defect vibrational modes of large ice clusters. Rowland, B., et al. [1993, p.2485-2487, eng] 47-3177
Cleats for snowmobile track. Simmons, V.M., [1989, 8 col., eng] 47-3413
Growth rate of polyhedral ice crystals growing from the vapor phase and their habit change. Sei, T., et al, [1989, p.495-502, eng] 47-3465
Crystal structure of typical snow crystals of low temperature types. Sato, N., et al, [1989, p.521-528, eng] 47-3467
Icing on a small horizontal-axis wind turbine—part 2: three dimensional ice and wet snow formations. Bose, N., [1992, p.87-96, eng] 47-3922
Analysis of synthetic aperture radar data collected over the southwestern Greenland ice sheet. Jezek, K.C., et al, [1993, p.119-132, eng] 47-3946
Radiometric sea ice features from aircraft images. Farmer, L.D., et al. [1993, p.4645-4665, eng] 47-4387
Diapirism on Triton: a record of crustal layering and instability. Schenk, P.M., et al. [1993, p.299-302, eng] 47-4593
Effects of surfaces on the melting/freezing behavior of fluids in derivatized- and nude-porous silica. Malhotra, V.M., et al, [1993, p.121-126, eng] 47-4709
Thermal effects on the shape of a solidifying interface near a foreign particle. Casses, P., et al. [1993, p.13-20, eng] 47-4756
Bedrock water erosion typified by subglacial flutes. Dreimanis, A., [1993, p.110-112, eng] 47-4852
Optics on a fractal surface and the photometry of the regoliths. Drossart, P., [1993, p.381-393, eng] 47-4994

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Arctic sea ice cover effect on summer atmospheric circulation. Yang, X.Q., et al. [1992, p.401-411, eng] 47-353
Growing season trends in the Alaskan climate record. Sharratt, B.S., [1992, p.124-127, eng] 47-518
Surface air temperature forecasting during heavy snowfall. Petrichenko, I.A., et al, [1991, p.6-9, eng] 47-995
Climatology of surface-based inversion in the North American Arctic. Bradley, R.S., et al, [1992, p.15,699-15,712, eng] 47-997
Energy-balance and surface layer measurements in Antarctica. Georgiadis, T., et al, [1992, p.213-218, eng] 47-1203
Neural network inversion of radiometry of snow surface parameters. Tsang, L., et al, [1992, p.1015-1024, eng] 47-1259
Bio-optical variability across the Arctic Front. Trees, C.C., et al, [1992, p.455-461, eng] 47-1470
Asian snow cover-monsoon-ENSO connection. Barnett, T.P., et al, [1991, p.191-225, eng] 47-1503
Measurements of water film surface temperature on gyrating hailstones. García-García, F., et al, [1992, p.2058-2073, eng] 47-1508
Air temperature at the surface of Qilian glaciers. Liu, C.H., [1992, p.34-39, chi] 47-1536
Numerical model for prediction of road temperature and ice. Sass, B.H., [1992, p.1499-1506, eng] 47-1582
Improved ice and snow control with pavement-specific forecasting. Kelley, J.R., [1992, p.46-47,83, eng] 47-1920
Climatic changes in central and eastern Canada inferred from deep borehole temperature data. Wang, K., et al, [1992, p.129-141, eng] 47-2020
Paleoclimate change and heat flow density inferred from temperature data in the Superior Province of the Canadian Shield. Shen, P.Y., et al, [1992, p.143-165, eng] 47-2021
Evidence of climatic changes from Canadian borehole measurements. Beltrami, H., et al, [1992, p.167-184, eng] 47-2022
Alaskan borehole temperature for the last 1000 years. Kakuta, S., [1992, p.225-244, eng] 47-2023
Toward using borehole temperatures to calibrate an isotopic paleothermometer in central Greenland. Cuffey, K.M., et al, [1992, p.265-268, eng] 47-2026
One-dimensional modeling study of carbonaceous haze effects on the springtime arctic environment. Emery, C.A., et al, [1992, p.20,599-20,613, eng] 47-2053
Multiyear surface climatology of a regional atmospheric model over the western United States. Giorgi, F., et al. [1993, p.75-95, eng] 47-2460
Improved real-time global sea surface temperature analysis. Reynolds, R.W., et al, [1993, p.114-119, eng] 47-2461
Extending the antarctic meteorological record using ice-sheet temperature profiles. Nicholls, K.W., et al, [1993, p.141-150, eng] 47-2462
Sea surface temperature of the southern ocean in iceberg regions. Popov, I.K., [1992, p.181-183, rus] 47-3337
Eemian-Early Weichselian N-S temperature gradients: North Atlantic-NW Europe. Sejrup, H.P., et al, [1991, p.161-166, eng] 47-3488
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Observations and theoretical studies of microwave emission from thin saline ice. Wensnahan, M.R., et al, [1993, p.8531-8545, eng] 47-3983
Infrared emissivities of arctic land cover types. Rees, W.G., [1993, p.1013-1017, eng] 47-4070
Effectiveness of applying meliorative agents on tundra soils. Kononenko, A.V., et al, [1991, p.76-88, rus] 47-4109
Polar low sensitivity to sea surface temperature. Langland, R.H., et al, [1988, p.83-86, eng] 47-4188
Southern Oscillation signal in Antarctica. Savage, M.L., et al, [1988, p.141-144, eng] 47-4203
Observation of recurrent temperature lapse near the surface at the South Pole. Obremski, J.S., et al, [1988, p.145-147, eng] 47-4204
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Recent climate variability in the Antarctic Peninsula. King, J.C., [1991, p.354-357, eng] 47-4489
Oceanic boundary layer in the tropics during the last ice age. Betts, A.K., et al, [1991, p.480-483, eng] 47-4494
Global coupled models: atmosphere, ocean, sea ice. Meehl, G.A., [1992, p.555-581, eng] 47-4501
Detectability of arctic leads using thermal imagery under varying atmospheric conditions. Stone, R.S., et al, [1993, p.12,469-12,482, eng] 47-4523
Climate change inferred from borehole temperatures. Pollack, H.N., [1993, p.173-179, eng] 47-4589
Arctic Ocean Buoy Program data report for 1 January 1987-31 December 1987. Colony, R.L., et al, [1990, 152p., eng] 47-4670
Arctic Ocean Buoy Program data report for 1 January 1988-31 December 1988. Colony, R.L., et al, [1991, 181p., eng] 47-4671
Arctic Ocean Buoy Program data report for 1 January 1989-31 December 1989. Colony, R.L., et al, [1991, 158p., eng] 47-4672
Arctic Ocean Buoy Program data report for 1 January 1990-31 December 1990. Colony, R.L., et al, [1991, 142p., eng] 47-4673
Frost formation and heat transfer on circular cylinders in cross flow. Raju, S.P., et al, [1992, p.109-122, eng] 47-4704
Mass transfer measurements of graupel growth. Cober, S.G., et al, [1993, p.1591-1609, eng] 47-4832
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Sulfate sources in the Glacier Lakes catchment, Snowy Range, Wyoming, U.S.A. Finley, J.B., et al, [1993, p.185-188, eng] 47-2851
Reconstruction of paleoclimatic sea surface salinity. Duplessy, J.-C., et al, [1992, p.201-217, eng] 47-3559
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Glaciofluvial sediment transfer of a subpolar glacier, Erikbreen, Svalbard. Vatne, G., et al, [1992, p.253-266, eng] 47-2121
Interaction of frazil with suspended particles. Reimnitz, E., et al, [1993, p.117-135, eng] 47-2645
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Suspended sediment character and distribution in McBeth Fiord, Baffin Island. Winters, G.V., et al, [1992, p.25-35, eng] 47-3351
Rare earth elements in the Arctic Ocean. Westerlund, S., et al, [1992, p.1613-1626, eng] 47-3537
Sediment dynamics in the St. Lawrence estuary. Drapeau, G., [1992, p.233-242, fre] 47-3791
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Effect of the complexity of soil cover on the agricultural development of meadow-swamp soils. Butsenko, A.N., [1991, p.97-103, rus] 47-4817

Bog fertilizer removal through surface runoff. Telitsyn, V.L., [1993, p.72-78, eng] 47-5192

Carbon storage in peat based on regionality of Russian mires. Botch, M.S., [1993, p.101-107, eng] 47-5232

Methane from northern peatlands and climate change. Frolking, S., [1993, p.109-124, eng] 47-5233

Methane and carbon dioxide production and uptake in some boreal ecosystems of Russia. Panikov, N.S., et al, [1993, p.125-138, eng] 47-5234

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Relating bearing capacity to pavement condition. Lenngren, C.A., [1990, 189p., eng] 47-436

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Proposal for new winter road maintenance strategy— MINSALT Project. Axelson, L., [1992, 6p., eng] 47-929

Extension of the regions in Sweden where salt is not used —MINSALT Project. Öberg, G., [1992, 7p., eng] 47-960

Description of a local climatological model for improvement of winter road surveys. Bogren, J., et al, [1992, 10p., eng] 47-969

MINSALT. An experiment with unsalted road in Västerbottens county. Öberg, G., et al, [1991, 69p. + appends., swe] 47-1216

Effects of studded tyres: consequences of amended regulations. Carlsson, A., et al, [1992, 53p. + appends., swe] 47-1217

Floods in Sweden—occurrence and trends. Lindström, G., [1992, p.65-74, eng] 47-1957

Hydrological modeling of extreme floods in Sweden. Harlin, J., [1992, p.107-117, swe] 47-1958

Monitoring and modelling snow storage in Swedish mountain basins. Brandt, M., [1992, p.204-210, eng] 47-1962

Significance of groundwater levels for discharge peak flows. Lundin, L.C., [1992, p.316-323, eng] 47-1967

Studies of some acid springs in till, Lofsdalen, Sweden. Knutsson, G., [1992, p.366-375, eng] 47-1969

Flood control in Luleälven. Sensitivity analysis of new Swedish guidelines. Brandesten, C.O., [1992, p.443-452, swe] 47-1971

Excursion guide for northern Finland-Norway-Sweden. Revised edition. Sollid, J.L., ed, [1989, 105p., eng] 47-2116

Minsalt Gotland. The road users' attitude to road salt. Gregersen, N.P., [1991, 39p. + appends., swe] 47-2205

Glacial stratigraphy in Sweden. Lundqvist, J., [1992, p.43-59, eng] 47-3547

Economic Quaternary geology in Sweden—some comments on the contemporary situation. Königsson, L.K., [1992, p.75-87, eng] 47-3549

Origins and engineering hazards of Swedish glaciomarine and marine clays. Stevens, R.L., et al, [1991, p.257-264, eng] 47-3882

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Ground frost restriction of subarctic Picea abies forest in northern Sweden. Kullman, L., [1991, p.167-178, eng] 47-4339

Palimpsest glacial landscape in northwestern Sweden. Kleman, J., [1992, p.305-325, eng] 47-4342

Selection and breeding of Scots pine for northern Sweden. Nilsson, J.E., [1993, p.321-332, eng] 47-4546

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Altitudinal zonation of selected geomorphological phenomena in an alpine periglacial area (Abisko, northern Sweden). Niessen, A., et al, [1992, p.183-196, eng] 47-4327

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Snow cover variation in the Alps using NOAA-AVHRR data. Baumgartner, M.F., et al, [1991, p.41-50, eng] 47-1291

Morphological and human changes of Swiss lakeshores. Huber, A., [1992, p.334-336, ger] 47-2202

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Snow and avalanches in the Swiss Alps, winter 1990/91. [1992, 199p., ger] 47-2206

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Synoptic climatology in environmental analysis; a primer. Yarnal, B., [1993, 195p., eng] 47-2176

Interannual variability of wintertime snow cover across the Northern Hemisphere. Gutzler, D.S., et al, [1992, p.1441-1447, eng] 47-2178

Snow versus rain: looking beyond the "magic" numbers. Heppner, P.O.G., [1992, p.683-691, eng] 47-2764

Calculating the circulation and thermobarometric background in long range meteorological forecasts. Vinogradov, N.D., [1989, p.6-11, rus] 47-3653

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Study of the arctic heat sink. Ripley, E.A., [1990, 95p. + appends., eng] 47-4910

Modeled variations of precipitation over the Greenland ice sheet. Bromwich, D.H., et al, [1993, p.1253-1268, eng] 47-5210

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First ERS-1 SAR image acquired at Kiruna Salmijärvi, Spitsbergen (Norway). [1992, p.2515-2516, eng] 47-865

Airborne video as satellite imagery ground truthing. Johannessen, B.O., et al, [1992, p.337-349, eng] 47-1040

Skeletal modeling of ice leads. Banfield, J., [1992, p.918-923, eng] 47-1258

River and lake ice conditions as interpreted from microwave imagery. Melloh, R.A., et al, [1992, p.381-395, eng] 47-1914

SAR: a new ice analysis tool. Kniskern, F.E., [1993, p.22-23, eng] 47-2143

Automated sea-ice tracking for LIMEX '87 and '89. Hirose, T., et al, [1992, p.173-191, eng] 47-2346

Wave attenuation in the marginal ice zone during LIMEX. Liu, A.K., et al, [1992, p.192-206, eng] 47-2347

Interpretation of SAR imagery of the Greenland ice sheet using coregistered TM imagery. Bindschadler, R.A., et al, [1992, p.167-175, eng] 47-2554

Mathematical approach to the segmentation of sea-ice SAR images. Korsnes, R., [1993, p.313-332, eng] 47-2753

Characterization of spatial statistics of distributed targets in SAR data. Rignot, E.J., et al, [1993, p.345-363, eng] 47-2754

Remote sensing of sea ice geophysical variations. Barber, D.G., et al, [1992, p.233-251, eng] 47-3320

Repeat-pass interferometry with airborne synthetic aperture radar. Gray, A.L., et al, [1993, p.180-191, eng] 47-3359

Change detection on Alaska's North Slope using repeat-pass ERS-1 SAR images. Villasenor, J.D., et al, [1993, p.227-236, eng] 47-3360

Mapping partial snowcover during the melt season using C-band SAR imagery. Donald, J.R., et al, [1993, p.68-76, eng] 47-3725

Analysis of synthetic aperture radar data collected over the southwestern Greenland ice sheet. Jezek, K.C., et al, [1993, p.119-132, eng] 47-3946

Test of airborne, side-looking synthetic aperture radar. Graham, D.F., et al, [1991, p.257-265, eng] 47-4161

Roughness parameters and air drag over MIZ sea ice. Burns, B.A., et al, [1988, p.75-78, eng] 47-4186

Proceedings. [1993, 2 vol., eng] 47-4415

Sea ice—a climate component. Gudmandsen, P., [1993, p.9-13, eng] 47-4416

Utilisation of ERS-1 data for mapping of Antarctica. Sievers, J., et al, [1993, p.247-251, eng] 47-4420

Monitoring of the Greenland ice sheet using ERS-1 synthetic aperture imagery. Bindschadler, R.A., et al, [1993, p.253-257, eng] 47-4421

Investigations of arctic ice-sheets and glaciers using ERS-1 SAR. Rees, W.G., et al, [1993, p.263-268, eng] 47-4423

Spatial patterns in backscatter strength across the Greenland ice sheet. Jezek, K.C., [1993, p.269-272, eng] 47-4424

Ice studies in the Barents Sea by ERS-1 SAR during SIZEX 92. Johannessen, O.M., et al, [1993, p.277-282, eng] 47-4425

Use of ERS-1 SAR to measure ice flux in the East Greenland current. Wadhams, P., et al, [1993, p.283-287, eng] 47-4426

Validation of ERS-1 SAR measurements of sea ice during ARCTIC-91. Askne, J., et al, [1993, p.289-294, eng] 47-4427

Arctic coastal polynya observations with ERS-1 SAR and DMSP SSM/I. Cavalieri, D.J., et al, [1993, p.295-299, eng] 47-4428

Sea ice deformation observed with ERS-1 SAR. Rothrock, D.A., et al, [1993, p.301-306, eng] 47-4429

Finnish ERS-1 Baltic Sea ice experiment in winter 1992. Leppäranta, M., et al, [1993, p.307-312, eng] 47-4430

Experiences from the Swedish sea ice programme during BEERS-92. Thompson, T., et al, [1993, p.313-318, eng] 47-4431

Greenland Sea observations. Gudmandsen, P., et al, [1993, p.319-323, eng] 47-4432

Synthetic aperture radar *(cont.)*
Air-sea-ice interactions in the Weddell Sea. Viehoff, T., et al. [1993, p.325-327, eng] 47-4433
Arctic sea ice microwave signature and geophysical processes study. Onstott, R.G., et al. [1993, p.329-332, eng] 47-4434
C-band SAR backscatter from ice on shallow tundra lakes: observations and modelling. Wakabayashi, H., et al. [1993, p.333-337, eng] 47-4435
Sea ice radar signatures from ERS-1 SAR during late summer and fall in the Beaufort and Chukchi Seas. Holt, B., et al. [1993, p.339-342, eng] 47-4436
Waves and mesoscale features in the marginal ice zone. Liu, A.K., et al. [1993, p.343-348, eng] 47-4437
Ocean circulation revealed by ice floe tracking. Ikeda, M., et al. [1993, p.351-353, eng] 47-4438
ERS-1 SAR use in the Canadian sea ice monitoring program. Shokr, M.E., et al. [1993, p.355-360, eng] 47-4439
Sea ice feature and type identification in merged ERS-1 SAR and Landsat Thematic Mapper imagery. Steffen, K., et al. [1993, p.361-365, eng] 47-4440
Summer arctic ice concentrations and characteristics from SAR and SSM/I data. Comiso, J.C., et al. [1993, p.367-372, eng] 47-4441
Evaluating ERS-1 ice motion and classification products. Fetterer, F.M., et al. [1993, p.373-375, eng] 47-4442
Greenland ice sheet mapping by ERS-1. Tscherning, C.C., et al. [1993, p.413-418, eng] 47-4443
Snow and glacier investigations by ERS-1 SAR—first results. Rott, H., et al. [1993, p.577-582, eng] 47-4445
Monitoring of snowcover in high mountain terrain with ERS-1 SAR. Haefner, H., et al. [1993, p.583-588, eng] 47-4446
Application of ERS-1 SAR data to snow mapping. Hallikainen, M., et al. [1993, p.589-594, eng] 47-4447
Impact of ERS-1 wind/wave/ice data on operational ocean forecasting. Guddal, J., [1993, p.695-699, eng] 47-4448
Applications of ERS-1 SAR data for analyzing riverine and coastal processes and geomorphology. Gatto, L.W., et al. [1993, p.873-878, eng] 47-4449
Evaluation of limits to the performance of the surface roughness meter. Johnson, F., et al. [1993, p.140-145, eng] 47-4591
Glacier study using wavenumber domain synthetic aperture radar. Hamran, S.E., et al. [1993, p.559-570, eng] 47-5120

Synthetic materials
Low-temperature viscosity characteristics of synthetic aviation oils. Echin, A.I., et al. [1993, p.337-341, eng] 47-1997
Anti-icing and deicing device. Bird, L., [1988, 8 col., eng] 47-3764
Silicone emulsion having improved freeze/thaw resistance. Bakken, K.L., [1987, 8 col., eng] 47-3851
Effects of freezing and moisture on impact properties of glass fiber reinforced RTM parts. Karbhari, V.M., et al. [1992, p.135-142, eng] 47-4627
Test methods for the renovation of road coverings. Wicke, M., et al. [1985, 48p., ger] 47-4987

Taiga
Zonality of the dynamics of the active layer in landscapes in Yakutia. Vasil'ev, I.S., [1991, p.3-9, rus] 47-393
Mineralogy of silt material of soils of the forest tundra and northern taiga of the Kola Peninsula. Gradusov, B.P., et al. [1987, p.7-14, eng] 47-596
Cryogenesis and forest soil formation in Middle Siberia. Ershov, IU.I., et al. [1992, p.66-71, eng] 47-1706
European North: soil degradation due to technogenic pollution. Kriuchkov, V.V., [1992, p.94-97, eng] 47-1710
Cryogenesis and functioning of microbial communities in soil of Zabaikalye areas. Kulikov, A.I., et al. [1992, p.199-203, eng] 47-1729
Emission of CO2 and CH4 from northern wetlands to atmosphere. Panikov, N.S., et al. [1992, p.208-216, eng] 47-1731
Landscapes and soils of the mountain subarctic Transbaikal. Kuz'min, V.A., et al. [1992, p.94-98, rus] 47-3269
Erosion of agricultural lands in the Irkutsk region. Khismatullin, Sh.D., [1991, p.49-61, rus] 47-3279
Climate of Finland in relation to its hydrology, ecology and culture. Solantie, R., [1990, 130p., eng] 47-3540
Aircraft measurement of atmospheric CO2 over Siberia. Izumi, K., et al. [1993, p.21-29, eng] 47-3971
Carbon cycle in Siberia and global warming. Takahashi, K., [1993, p.47-50, jpn] 47-3974
Dendroclimatological analysis of tree growth patterns. Osawa, A., [1993, p.55-58, eng] 47-3975
Regulating the thermal regime of soils in the northern taiga subzone of the Komi ASSR. Mokiev, V.V., [1991, p.41-55, rus] 47-4106
Effects of wind on boreal forests. Robertson, A., [1993, p.203-225, eng] 47-4538
Soil degradation in the vicinity of industrial centers in the North. Kriuchkov, V.V., [1991, p.103-108, rus] 47-4818
Regularities in the vertical-zonal distribution of seasonally frozen taiga soils in the Lake Baykal basin. Tsybzhitov, Ts.Kh., et al. [1991, p.109-115, rus] 47-4819
Framework to quantify the natural terrestrial carbon cycle of the former Soviet Union. Kolchugina, T.P. et al. [1993, p.259-275, eng] 47-5242

Tailings
Cryogenic structure and properties of technogenic soils of placer mines in Northern Yakutia. Samylin, I.A., et al. [1991, p.76-87, rus] 47-401
Biochemical indicators of gold deposits in permafrost. Taisaev, T.T., et al. [1993, p.215-220, eng] 47-4059
Proceedings. [1993, 2078p. (2 vols.), eng] 47-4465
Disposal of fine tails produced at the Syncrude oil sands mine. Lord, E.R.F., et al. [1993, p.203-212, eng] 47-4466
Disposal of Athabasca oilsand fine tailings. Sheeran, D., et al. [1993, p.221-228, eng] 47-4467
Cyclic freeze-thaw effects on the soil cover for tailings. Mohamed, A.M.O., et al. [1993, p.259-272, eng] 47-4468
Hydrologic analysis and prediction in a soil cover Woyshner, M.R., et al. [1993, p.289-296, eng] 47-4469

Taliks
Thermal regime of filtrating taliks in the foundation of a hydraulic power system and reservoir banks. Sobol', S.V., et al. [1992, p.106-110, rus] 47-366
Short-pulse radar detection of groundwater in the Sagavanirktok River floodplain in early spring. Arcone, S.A., et al. [1992, p.2925-2936, eng] 47-1475
Evidence of intrapermafrost groundwater flow beneath an active rock glacier in the Swiss Alps. Vonder Mühll, D.S., [1992, p.169-173, eng] 47-1758

Taliks beneath rivers
Mathematic modeling of conductive and convective heat transfer in the taliks of a cryolite zone. Buldovich, S.N., et al. [1991, p.55-64, eng] 47-420
Computerized simulation of permafrost mass transfer. Kozlov, A.N., et al. [1992, p.63-67, eng] 47-4384

Talus
10 year surficial velocities on a rock glacier (Laurichard, French Alps). Francou, B., et al. [1992, p.209-213, eng] 47-1772
Rock glaciers in Svalbard and Norway. Sollid, J.L., et al. [1992, p.215-220, eng] 47-1773
Glacial flow reorientation in the SW Fosdick Mountains. Richard, S. M., et al. [1991, p.67-69, eng] 47-2467
Rock glacier geomorphology in the Canadian Arctic. Evans, D.J.A., [1993, p.17-35, eng] 47-3115

Tanker ships
M.V. *Arctic* ice transiting performance—continuous mode. Interim report. [1983, Var.p., eng] 47-521
Methodology of the determination of the parameters of large ships designed for the independent navigation in ice-covered waters and of those supported by icebreakers. Tsoi, L.G., [1992, p.777-779, eng] 47-1873
Ice load measurements on board the MS *Kemira*, winter 1991. Muhonen, A., [1992, 26p. + appends., eng] 47-2583
Additional resistance of ice-navigating ships to regular head waves. Savin, S.S., et al. [1992, p.9-12, rus] 47-2918
Transport of small consignments of petroleum products to Arctic points. Kazimirov, A., [1990, p.5-6, rus] 47-4090

Tanks (combat vehicles)
Cold weather countermobility on the battlefield. Richmond, P.W., [1992, 7p., eng] 47-603

Tanks (containers)
Characteristics of the operation of seepage tanks during winter. Golovin, V.L., et al. [1988, p.136-143, rus] 47-978
Guide to proper salt storage. [1992, p.55-56,82-83, eng] 47-1923
Snow-disposal unit and method. Jackson, P.H., [1986, 8 col., eng] 47-4265
Corrosion of aircraft fuel tanks by antifreezes. Likhterova, N.M., et al. [1993, p.563-566, eng] 47-4386
Instrument for measuring ice depth in aircraft fuel tanks. [1991, 36p., eng] 47-4404
See also: Storage tanks

Tectonics
Geology of Quaternary deposits and recent tectonics in glacial regions of eastern Europe. Evzerov, V.IA., ed. [1992, 55p., rus] 47-241
Tectonic forcing of late Cenozoic climate. Raymo, M.E., et al. [1992, p.117-122, eng] 47-373
Engineering geocryological properties of deposits of cryogenic weathering crusts. Vasil'ev, A.A., [1991, p.63-70, rus] 47-399
Deformation history at Kenai Peninsula glaciers. Bradley, D.C., et al. [1992, p.17-32, eng] 47-609
Petroleum potential of the Brooks Range. Howell, D.G., et al. [1992, p.112-126, eng] 47-614
Geology of the Innuitian orogen and arctic platform of Canada and Greenland. Trettin, H.P., ed. [1991, 569p. + maps in separate book jacket (Pertinent p.27-56,497-553), eng] 47-766
Analysis of the Beaufort-Mackenzie Basin, Canada: burial, thermal and hydrocarbon histories. Tang, J., et al. [1992, p.510-525, eng] 47-1171
Quaternary glaciation of the north slope of Karakorum Mountains. Xu, D.M., [1991, p.233-242, eng] 47-1609
Kaltag fault, northern Yukon, Canada: constraints on evolution of arctic Alaska. Lane, L.S., [1992, p.653-656, eng] 47-2599
Late Cenozoic uplift and volcanism on Spitsbergen: caused by mantle convection?. Vagnes, E., et al. [1993, p.251-254, eng] 47-2849
Shear-induced folding in Arsia Mons aureole: evidence for low-latitude Martian glaciations. Anguita, F., et al. [1992, p.11-22, eng] 47-3722
Penultimate great earthquake in Alaska. Combellick, R.A., [1993, p.7-15, eng] 47-4774

Telecommunication
Scattering by rain and melting snow. Kharadly, M.M.Z., [1989, p.406-410, eng] 47-19
Scattering effects of ice needles in satellite communications. Howard, J., [1989, p.411-415, eng] 47-2073
Depolarization of radio waves by ice crystals. Maekawa, Y., et al. [1993, p.249-259, eng] 47-4062
See also: Data transmission; Radio communication

Telemetering equipment
Polar Ocean Profiler: a new generation of oceanographic and meteorological sensory platform. Morison, J.H., et al. [1991, p.627-632, eng] 47-2180
Electromagnetic communications through the seawater-ice-air interface. Steeves, G., et al. [1991, p.638-644, eng] 47-2182
Predicting wilderness snow water equivalent with nonwilderness snow sensors. McGurk, B.J., et al. [1993, p.85-94, eng] 47-4993
See also: Remote sensing

Telluric current exploration
See also: Electromagnetic prospecting

Telluric currents
See also: Geoelectricity

Temperature
See also: Air temperature; Frozen ground temperature; Frozen rock temperature; Ice temperature; Low temperature research; Low temperature tests; Snow surface temperature; Snow temperature; Soil temperature; Surface temperature; Thermal properties; Threshold temperatures; Water temperature

Temperature control
Guard against freezing in water lines. Kenny, T.M., [1991, p.44-47, eng] 47-1996
Fundamental research on external factors affecting the freezing of supercooled water. Saito, A., et al. [1992, p.2527-2536, eng] 47-2147
Operating pressure effects on fluidized bed freezing-drying. Wolff, E., et al. [1991, p.237-246, eng] 47-2303
Freeze-drying heating profiles. Lombraña, J.I., et al. [1991, p.394-404, eng] 47-2304
Simulation of heating profiles in freeze-drying. Lombraña, J.I., et al. [1993, p.85-102, eng] 47-2882
Frost plug heater. Smith, E.L., [1989, 6 col., eng] 47-3109
Design of greenhouses for the manipulation of temperature in tundra plant communities. Debevec, E.M., et al. [1993, p.56-62, eng] 47-3429
De-icer for a transducer assembly. Fox, C.D., [1988, 6 col., eng] 47-3642
Air conditioning energy conservation through ice storage. Tassou, S.A., et al. [1992, p.419-425, eng] 47-3798
Effect of selective withdrawal on the annual thermal regime of a deep water body. Bocharov, O.B., et al. [1993, p.384-390, eng] 47-4066
Multipurpose underground structures in the extreme north. Samokhin, A.V., et al. [1993, p.461-465, eng] 47-4578

Temperature distribution
Investigation of evolution of the Arctic shelf cryolithozone by mathematical simulation. Sigunov, IU.A., et al. [1992, p.13-19, eng] 47-244
Stresses in ground-freezing problems with infinite boundaries. Askar, H.G., [1993, p.58-73, eng] 47-1759
Numerical modelling of the temperature distribution in tabular icebergs. Löset, S., [1993, p.103-115, eng] 47-2644
Initial instrument measurements of the current in the region of the cold bottom water dome in the Greenland Sea. Alekseev, G.V., et al. [1992, p.165-168, rus] 47-3815
Liquid freezing during laminar flow. Weigand, B., et al. [1993, p.294-301, eng] 47-3838
Structure and circulation of waters in the area of the anticyclonic gyre in the northeastern Norwegian Sea. Alekseev, G.V., et al. [1991, p.14-23, rus] 47-3955
Thermal energy conservation in icebergs and tracking by temperature. Löset, S., [1993, p.10,001-10,012, eng] 47-4372
Climatic effects on glacier thermodynamics. Blatter, H., [1991, 98p., eng] 47-4461
Statistical analysis of soil temperature on Spitsbergen. Mietus, M., [1992, p.103-112, eng] 47-4650

Ship of opportunity section to the North Pole: upper ocean temperature observations. Quadfasel, D., et al. [1993, p.777-789, eng] 47-4854

Temperature effects

Low-temperature properties of desorbed raffinates and their hydrocarbon group components. Alekhina, N.I., et al. [1992, p.44-48, eng] 47-206

Atmospheric durability of polymer-fiber composites in cold climates. Bulmanis, V.N., et al. [1992, p.698-705, eng] 47-207

Thermodynamic analysis of supercooled liquid water. Walrafen, G.E., et al. [1992, p.3840-3846, eng] 47-247

Ion pairing in supercooled aqueous solutions. Hage, W., et al. [1992, p.6488-6493, eng] 47-250

Measurement on the dielectric properties of acid-doped ice at 9.7 GHz. Fujita, S., et al. [1992, p.799-803, eng] 47-359

Thermal effects due to air flow and vapor transport in dry snow. Albert, M.R., et al. [1992, p.273-281, eng] 47-468

Soil denitrification rates in a subalpine watershed of the eastern Sierra Nevada. Walker, R.F., et al. [1992, p.217-231, eng] 47-510

Effects of natural convection on ice formation inside a horizontal cylinder. Chen, S.L., et al. [1992, p.131-145, eng] 47-790

Effect of temperature on the strength of adhesive joints. Adams, R.D., et al. [1992, p.185-190, eng] 47-878

Thermal reversal tactical decision aid evaluation. Berrick, S.W., et al. [1992, p.75-83, eng] 47-1068

Ice-core dating and chemistry by direct-current electrical conductivity. Taylor, K., et al. [1992, p.325-332, eng] 47-1385

New band of emission from high-energy-electron-irradiated ice at very low temperature. Miyazaki, T., et al. [1992, p.9558-9561, eng] 47-1567

Effect of density extremum on the solidification of water on a vertical wall of a rectangular cavity. Braga, S.L., et al. [1992, p.703-713, eng] 47-1628

Responses of antarctic diatoms to a simulated sea-ice formation environment. Gleitz, M., et al. [1992, p.271-278, eng] 47-1943

Reuse of converted asphalt in asphalt binders and asphalt deck layers—examination of long-term reactions. Charif, K., [1992, p.97-104, ger] 47-2002

Liquid water with an *ab initio* potential: X-ray and neutron scattering from 238 to 368 K. Corongiu, G., *et al.* [1992, p.2030-2038, eng] 47-2048

Erratum: liquid water with an *ab initio* potential: X-ray and neutron scattering from 238 to 368 K. Corongiu, G., et al. [1992, p.8818, eng] 47-2049

Solvated water molecules and hydrogen-bridged networks in liquid water. Corongiu, G., et al. [1993, p.2241-2249, eng] 47-2109

Effect of temperature and time on stresses in frozen concrete under thermal cycling. Ben'kov, V.N., et al. [1991, p.7-9, rus] 47-2157

Common features of ice nuclei concentration—temperature dependencies. Kim, N.S., et al. [1992, p.279-281, *eng*] 47-2267

Mathematical modeling of the thermoerosion process and its use in the study of various regions of the cryolithozone. Baranova, N.A., [1992, p.29-36, rus] 47-2456

Experimental study of melting of ice about horizontal cylinders. Torikoshi, K., *et al.* [1991, p.269-274, *eng*] 47-2557

Freezing of a supercooled water droplet on a heat transfer surface. Saito, A., et al. [1991, p.319-326, eng] 47-2560

Heat transfer characteristics of ice capsules for encapsulated cool storage systems. Arnold, D., [1991, p.335-342, eng] 47-2562

Structural study of water confined in porous glass by neutron scattering. Bellissent-Funel, M.C., et al. [1993, p.4246-4252, eng] 47-2675

PSCs above the South Pole in 1990. Collins, R.L., et al. [1993, p.1001-1010, eng] 47-2701

Analysis of stress losses in reinforcement depending on temperature drop. Artym, I.T., [1990, p.115-117, rus] 47-2762

Air inclusions as an index of ice formation conditions on polar glaciers. Samoilov, *O.IU.*, [1991, p.118-121, rus] 47-2799

Equilibrium climate model and high latitude glaciation. Oglesby, R.J., [1990, 243p., eng] 47-2894

Electrochemical characteristics of aluminum galvanic anodes in an arctic seawater. Tamada, A., et al. [1993, p.261-277, eng] 47-3176

Recent advances in research on water-freezing and ice-melting problems. Fukusako, S., et al. [1993, p.90-105, *eng*] 47-3287

Melting transition at ice crystal glass substrate interface. Furukawa, Y., et al. [1993, p.1137-1142, eng] 47-3289

Very large melting point depression of water in silica. van Miltenburg, J.C., et al. [1993, p.1143-1149, eng] 47-3290

Contrasting requirements for Type II de anti-icing fluids. Ross, J.F., et al. [1993, p.10-13, eng] 47-3311

Extreme values of thermal loading parameters in concrete bridges. Maes, M.A., et al. [1992, p.935-946, eng] 47-3341

Potential leachate production due to cold weather effects. Leskiw, E.J., et al. [1992, p.660-667, eng] 47-3345

Pine tree-limit surveillance in Sweden. Kullman, L., [1993, p.24-31, eng] 47-3424

Speed of sound in pure water as a function of temperature. Bilaniuk, N., et al. [1993, p.1609-1612, eng] 47-3433

Growth rate of polyhedral ice crystals growing from the vapor phase and their habit change. Sei, T., et al. [1989, p.495-502, eng] 47-3465

Laws of the kinetic theory of strength of frozen soils. Konovalov, A.A., [1993, p.892-897, eng] 47-3506

Anomalous freezing point depression of solvents in a swollen homogeneous rubber network. Grobler, J.H.A., et al. [1993, p.575-577, eng] 47-3562

Dielectric dispersion of supercooled trimethyleneglycol-water mixtures. Abe, R., et al. [1992, p.4204-4211, eng] 47-3580

Temperature dependence of negative ice crystal growth. Furukawa, Y., et al. [1993, p.571-581, eng] 47-3649

Temperature dependence of crystalline methane refractive indices. N[illegible]a, M.A., et al. [1993, p.5511-5515, eng] 47-3651

Analyzing the thermal effect of the Atlantic on variation in the barometric field during winter. Vangengeim, T.G., [1989, p.128-137, rus] 47-3665

Sludges from cold regions lagoons. Schneiter, R.W., et al. [1993, p.146-155, eng] 47-3675

Growth habits and growth rates of snow crystals. Mason, B.J., [1993, p.3-16, eng] 47-3727

Singularity of liquid water - data analysis and modeling. Sato, H., [1992, p.89-101, eng] 47-3730

Pressure effects on non-freezing water layer thickness. Bardasov, S.A., et al. [1992, p.160-166, eng] 47-3733

Calorimetric investigation of solution glass transition. Mehl, P.M., [1993, p.177-197, eng] 47-3779

Solution freezing characteristics in an immersed tube. Yamada, M., et al. [1993, p.54-62, eng] 47-3792

Martian permafrost. Costard, F., [1993, p.91-100, *eng*] 47-3835

Dielectric properties of frozen clay and silt soils. Moore, J.C., et al. [1993, p.265-273, eng] 47-3930

Forecasting Caspian Sea ice edge. Bukharitsin, P.I., et al. [1992, p.58-63, eng] 47-3992

Strongly temperature dependent microphysical processes and the atmosphere. Stewart, R.E., et al. [1992, p.309-315, eng] 47-3996

Dielectric study of frozen aqueous ionic solutions. Laudat, J., et al. [1991, p.211-224, eng] 47-3998

Aqueous salt solution solidification. Heschel, I., et al. [1993, p.63-66, ger] 47-4063

Overhead line ice accretion due to freezing rain. Poots, G., et al. [1992, p.390-398, eng] 47-4069

Survey and new measurements of ice vapor pressure at temperatures between 170 and 250K. Marti, J., et al. [1993, p.363-366, *eng*] 47-4142

Climate and permafrost. Gavrilova, M.K., [1993, p.99-111, eng] 47-4146

Climate warming and the carbon cycle in the permafrost zone of the former Soviet Union. Kolchugina, T.P., et al. [1993, p.149-163, eng] 47-4150

Mountain permafrost and climatic change. Haeberli, W., et al. [1993, p.165-174, eng] 47-4151

Angiosperm acclimation beneath lake ice. Spencer, W.E., et al. [1993, p.985-991, eng] 47-4169

Temperature dependence of ice dielectric relaxation. Bruni, F., et al. [1993, p.538-547, eng] 47-4288

On the engulfment of spherical particles by a moving ice-liquid interface. Lipp, G., et al. [1993, p.475-489, eng] 47-4289

Katabatic flow: thermodynamics of Adélie Coast. Pettré, P., et al. [1993, p.10,429-10,440, eng] 47-4292

Effect of power plant construction on river hydrological regime. Filippov, A.M., [1992, p.61-64, eng] 47-4345

Form of cyclonic precipitation and its thermal impact. Gedzelman, S.D., et al. [1993, p.1957-1978, *eng*] 47-4355

Fertilizer placement for conventional and no-tillage barley in the subarctic. Cochran, V.L., et al. [1992, p.1973-1978, eng] 47-4356

Time- and temperature-dependent solute loading of isolated thylakoids during freezing. Bakaltcheva, I., et al. [1992, p.607-615, eng] 47-4370

Atactic polypropylene as a viscosity index improver for low-temperature oils. Alekseev, A.P., et al. [1993, p.509-512, eng] 47-4385

Freezing of water between vertical tubes. Kim, C.J., et al. [1993, p.2647-2656, eng] 47-4414

Changes of alpine climate and glacier water resources. Chen, J.Y., [1991, 196p., eng] 47-4462

Thermodynamics of fuel oil cloud-point depressant additives. Claudy, P., et al. [1993, p.821-827, eng] 47-4518

Onset and evolution of penetrative convection during the *melting process in a porous medium.* Nguyen, T.H., et al. [1992, p.381-392, eng] 47-4708

Thermodynamic properties of ice and of tetrahydrofuran hydrate in confined geometries. Zakrzewski, M., et al. [1993, p.631-637, *eng*] 47-4738

Inverse relation between frost survival and atmospheric pressure. Halloy, S., et al. [1993, p.117-123, eng] 47-4744

Water II is a "strong" liquid. Angell, C.A., [1993, p.6339-6341, eng] 47-4748

Simulation of liquid and solid phases of water. Clementi, E., et al. [1993, p.205-213, eng] 47-4755

Thermal properties of a plastic at cryogenic temperatures. *Humer, K.*, et al. [1993, p.686-691, eng] 47-4765

Steel selection for arctic ships: effects of elevated loading rate on toughness. Tyson, W.R., et al. [1993, p.261-265, eng] 47-4830

Mechanism of freeze-thaw deterioration of rock in the Great Lakes region. Lienhart, D.A., [1993, p.77-87, eng] 47-4888

Homogeneous ice nucleation and supercooled liquid water in orographic wave clouds. Heymsfield, A.J., et al. [1993, p.2335-2353, eng] 47-4891

Rate of vapor condensation in a cloud layer at a slow updraft. Smirnov, V.I., et al. [1991, p.78-82, eng] 47-4925

Thermal effects of marine water mixing with different temperatures and salinities. Zatsepin, A.G., et al. [1991, p.72-76, eng] 47-4927

Toughness indices of steel fiber reinforced concrete at subzero temperatures. Banthia, N., et al. [1993, p.863-873, eng] 47-5107

Effect of the water density extremum on the solidification process. Braga, S.L., et al. [1991, p.1185-1192, eng] 47-5110

Seasonal variability of hydraulic conductivity. Asare, S.N., et al. [1993, p.451-457, eng] 47-5146

Model for thermally-induced stresses in multi-year sea ice. Lewis, J.K., [1993, p.337-348, eng] 47-5205

Recent snowfall variations in North America. Karl, T.R., et al. [1993, p.1327-1344, eng] 47-5211

Avalanche prediction in Scotland: 2. Development of a predictive model. Ward, R.G.W., [1984, p.169-133, eng] 47-5255

Comments on paper by Wesley et al and reply. Auer, A.H., Jr., et al. [1991, p.19-21, eng] 47-5259

Complete model for the laminar flow of supercooled liquid water. Ismail, K.A.R., et al. [1992, p.335-349, eng] 47-5265

Thermodynamics of high-pressure ice. Chizhov, V.E., [1993, p.253-262, eng] 47-5266

Pauling potential in ice quantum tunneling. Consolini, G., et al. [1993, p.4227-4228, eng] 47-5273

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Reduced geothermal gradients in the shallow West-Siberian Platform. Duchkov, A.D., et al. [1992, p.245-250, eng] 47-2024

Thermal regime of a valley glacier, Erikbreen, northern Spitsbergen. Ödegard, R.S., et al. [1992, p.69-79, eng] 47-2352

Eemian-Early Weichselian N-S temperature gradients; North Atlantic-NW Europe. Sejrup, H.P., et al. [1991, p.161-166, eng] 47-3488

Double-diffusive convection during solidification of a binary system. Nishimura, T., et al. [1992, p.586-600, eng] 47-3514

Subsurface temperatures and geothermal gradients on the North Slope of Alaska. Collett, T.S., et al. [1993, p.275-293, *eng*] 47-3931

Solar-heating rates and temperature profiles in antarctic *snow and ice.* Brandt, R.E., et al. [1993, p.99-110, eng] 47-3944

Visualization of liquid crystals during solidification. Nishimura, T., et al. [1992, p.456-460, eng] 47-4393

Temperature inversions

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Spatial-temporal variability of surface inversions in the Arctic. Timerev, A.A., et al. [1991, p.39-44, eng] 47-267

Climatology of surface-based inversion in the North American Arctic. Bradley, R.S., et al. [1992, p.15,699-15,712, eng] 47-997

Aerosol optical characteristics of the arctic atmosphere. Sakunov, G.G., et al. [1989, p.53-58, eng] 47-1223

Space and time variability of temperature inversion in the lower troposphere of the Arctic. Nagurnyi, A.P., et al. [1991, p.1110-1113, rus] 47-2034

Tropospheric low-level temperature inversions in the Canadian Arctic. Kahl, J.D., et al. [1992, p.511-529, *eng*] 47-2876

Observation of recurrent temperature lapse near the surface at the South Pole. Obremski, J.S., *et al.* [1988, p.145-147, eng] 47-4204

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Tracer gas for meteorological analysis in the Fairbanks basin. Rezek, J.F., et al. [1981, 33p. + appends., eng] 47-5246

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Thermal properties of snow/firn on the Law Dome ice cap. Ren, J.W., et al. [1991, p.38-46, eng] 47-39

Low temperature studies of stability of emulsion explosives. Ganguly, S., et al. [1992, p.243-256, eng] 47-194

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Transitions in frozen gelatinized-starch systems studied by differential scanning calorimetry. Liu, H., et al. [1992, p.179-183, eng] 47-743

Ice nucleation in emulsified aqueous salt solutions: a differential scanning calorimetry study. Ganguly, S., et al. [1992, p.105-111, eng] 47-798

Measurements of snow temperature during rain. Conway, H., et al. [1993, p.6-7, eng] 47-1888

Toward using borehole temperatures to calibrate an isotopic paleothermometer in central Greenland. Cuffey, K.M., et al. [1992, p.265-268, eng] 47-2026

Fractal geometry of thermal and chemical time series from the active layer, Alaska. Outcalt, S.I., et al. [1992, p.315-322, eng] 47-2239

Cold-weather concreting study. Hover, K.C., [1992, p.458-464, eng] 47-2291

Thermal conductivity measurements for liquids at low temperatures. Eftekhar, J.G., [1991, p.451-455, eng] 47-2564

Novel differential scanning calorimetric studies of supercooled organic liquids. Murthy, S.S.N., et al. [1993, p.509-514, eng] 47-2605

Anomalous behavior of ice in solutions of ice-binding arabinoxylans. Williams, R.J., [1992, p.105-113, eng] 47-2883

Meteorological research using a high mast on an antarctic ice shelf. Belitz, H.-J., et al. [1987, p.5-10, eng] 47-2912

Temperature: its measurement and control in science and industry. Volume 6. Schooley, J.F., ed. [1992, 1269p. (2 parts), eng] 47-2939

IPTS-68 and ITS-90 international temperature scales. Swenson, C.A., [1992, p.1-7, eng] 47-2940

Noise thermometry of superconductive transition temperatures. Bremer, J., et al. [1992, p.15-20, eng] 47-2941

Measurements on a *dielectric constant gas thermometer* between 3 K and 84 K. Grohmann, K., et al. [1992, p.21-26, eng] 47-2942

NPL total radiation thermometer; extension of its range to 450 C. Martin, J.E., et al. [1992, p.31-35, eng] 47-2943

Temperature measurements in radiometry. Sapritskii, V.I., et al. [1992, p.37-39, eng] 47-2944

Absolute spectral radiation thermometry at the National Physical Laboratory. Fox, N.P., et al. [1992, p.41-45, eng] 47-2945

International temperature scale of 1990: Part I. Preston-Thomas, H., et al. [1992, p.63-67, eng] 47-2946

International temperature scale of 1990: Part II. Preston-Thomas, H., et al. [1992, p.69-74, eng] 47-2947

Thermodynamic basis of ITS-90 at 13.8-273.16 K. Part I. Ciarlini, P., et al. [1992, p.75-78, eng] 47-2948

Thermodynamic basis of ITS-90 at 13.8-273.16 K. Part II. Pavese, F., et al. [1992, p.79-83, eng] 47-2949

ITS-90 below 1 K: how accurate is it. Fogle, W.E., et al. [1992, p.85-90, eng] 47-2950

New cryogenic temperature scale from 6.3 to 650 mK. Fogle, W.E., et al. [1992, p.91-96, eng] 47-2951

Extrapolation of ITS-90 to lower temperatures. Schuster, G., et al. [1992, p.97-100, eng] 47-2952

He-3 melting curve thermometer as a universal temperature transfer standard. Colwell, J.H., et al. [1992, p.101-106, eng] 47-2953

Parasitic *temperature-dependence in platinum* NMR thermometry. Hechtfischer, D., et al. [1992, p.107-111, eng] 47-2954

High-resolution He-4 melting-pressure thermometer for use near 2 K. Goldner, L.S., et al. [1992, p.113-116, eng] 47-2955

Thermodynamic consistency of vapor pressure vs. temperature. Reesink, A.L., et al. [1992, p.117-120, eng] 47-2956

He-3 gas thermometry at IMGC. Steur, P.P.M., et al. [1992, p.121-125, eng] 47-2957

Practical interpolation gas thermometer for a secondary realization of the ITS-90. Sakurai, H., [1992, p.127-131, eng] 47-2958

Piston gage for the NIST realization of the ITS-90. Meyer, C.W., et al. [1992, p.133-138, eng] 47-2959

Development of the ITS-90 interpolation equations for the platinum resistance thermometer. Crovini, L., [1992, p.139-144, eng] 47-2960

On designing the temperature scale in the range 13.8 K to 273.16 K. Ling, S.K., et al. [1992, p.145-150, eng] 47-2961

Some ancillary equations for the ITS-90. Rusby, R.L., et al. [1992, p.151-154, eng] 47-2962

Realization of the ITS-90 below 83.8 K. Pfeiffer, E.R., [1992, p.155-160, eng] 47-2963

Implementation of the ITS-90 below 0 C at NPL. Head, D.I., et al. [1992, p.161-163, eng] 47-2964

ITS-90 traceability with non-ITS-90 equations. Jump, B.E., [1992, p.203-208, eng] 47-2965

Temperature fixed-points using high-purity *superconductors*. Fellmuth, B., [1992, p.233-238, eng] 47-2966

Study of superconductive transition temperatures for thermometric fixed points. Li, Z.R., et al. [1992, p.239-242, eng] 47-2967

Sealed He-4 superfluid-transition fixed-point device. Duncan, R.V., et al. [1992, p.243-245, eng] 47-2968

Triple point of pure equilibrium deuterium using Gd2O3 spin catalyst. Head, D.I., et al. [1992, p.247-249, eng] 47-2969

Stability of the triple point of gases in metal sealed cells. Pavese, F., et al. [1992, p.251-256, eng] 47-2970

Study of the preparation of sealed cells for thermometry. Liu, F.H., et al. [1992, p.257-260, eng] 47-2971

Realization and intercomparison of cryogenic triple points by means of sealed cells. Guo, N.N., et al. [1992, p.261-263, eng] 47-2972

Argon triple point apparatus with multiple thermometer wells. Furukawa, G.T., [1992, p.265-269, eng] 47-2973

Realization of the triple point of xenon. Pfeiffer, E.R., et al. [1992, p.271-275, eng] 47-2974

Triple-point of trichlorofluoromethane. Méndez-Lango, E., et al. [1992, p.277-279, eng] 47-2975

Realization of the mercury triple point. Furukawa, G.T., [1992, p.281-285, eng] 47-2976

Mercury point realization: *estimate of some uncertainties*. Hermier, Y., et al. [1992, p.287-291, eng] 47-2977

Platinum resistance thermometer for exploration of the Titan atmosphere. Ruffino, G., et al. [1992, p.409-413, eng] 47-2978

Platinum resistance thermometers in the -200 to 0 C range. Mao, Y.Z., et al. [1992, p.423-425, eng] 47-2979

Low-temperature characteristics of some industrial-grade platinum resistance thermometers. Tamura, O., et al. [1992, p.443-448, eng] 47-2980

Temperature measurement with rhodium-iron resistors below 0.5 K. Schuster, G., [1992, p.449-451, eng] 47-2981

Study of Chinese standard rhodium-iron resistance thermometers. Mao, Y.Z., et al. [1992, p.453-456, eng] 47-2982

Fabrication and practical use of two types of rhodium-iron *resistance thermometers*. Tamura, O., et al. [1992, p.457-460, eng] 47-2983

R-T relationship and stability of ceramic rhodium-iron resistance thermometers. Yao, Q.F., et al. [1992, p.461-465, eng] 47-2984

Rhodium-iron resistance thermometer for practical use. Mao, Y.Z., et al. [1992, p.467-470, eng] 47-2985

Resistance thermometers with fast response for use in rapidly oscillating gas flows. Rawlins, W., et al. [1992, p.471-474, eng] 47-2986

Low temperature system for advanced thermal control. Lipa, J.A., et al. [1992, p.949-952, eng] 47-2987

Self-tuning temperature controller for a dilution refrigerator. Schuster, G., [1992, *p.953-954, eng*] 47-2988

Decade of absolute noise thermometry at NIST using a resistive SQUID. Soulen, R.J., Jr, et al. [1992, p.983-988, eng] 47-2989

Signal filtering in SQUID noise thermometers. Nawrocki, W., [1992, p.989-991, eng] 47-2990

Self-balancing bridge for precise susceptibility thermometry. Schuster, G., [1992, p.1009-1011, eng] 47-2991

Nuclear quadrupole resonance spectroscopy for ultra-low-temperature thermometry. Andersen, P.M., et al. [1992, p.1013-1015, eng] 47-2992

Cryogenic thermometer calibration system based on triple points from D2 to H2O. Levine, P.D., et al. [1992, p.1067-1069, eng] 47-2993

Application of mini-refrigerator in temperature measurement. Guo, N.N., et al. [1992, p.1071-1072, eng] 47-2994

Algorithms for Standard Platinum Resistance Thermometer. Cermak, M.A., [1992, p.1087-1091, eng] 47-2995

Thermometry in the thermodynamic limit. Chui, T.C.P., *et al.* [1992, p.1213-1218, eng] 47-2996

Low temperature glass capacitance thermometry. Strehlow, P., et al. [1992, p.1219-1224, eng] 47-2997

Resolution and accuracy of cryogenic temperature measurements. Holmes, D.S., et al. [1992, p.1225-1230, eng] 47-2998

Neutron and gamma radiation effects on cryogenic temperature sensors. Courts, S.S., et al. [1992, p.1237-1242, eng] 47-2999

Matter and methods at low temperatures. Pobell, F., [1992, 319p., eng] 47-3147

Extreme values of thermal loading parameters in concrete bridges. Maes, M.A., et al. [1992, p.935-946, eng] 47-3341

Rotational Raman lidar to measure the atmospheric temperature from the ground to 30 km. Nedeljkovic, D., et al. [1993, p.90-101, eng] 47-3357

Thermal performance of insulation materials and systems: *a retrospective review*. Tye, R.P., [1992, p.17-27, eng] 47-3448

National and international standardization in the field of thermal insulation. Tammes, E., [1992, p.127-131, eng] 47-3454

Process and measuring probe for the determination of ice or snow formation. Meyer, F., [1988, 6 col., eng] 47-3762

Calorimetric investigation of solution glass transition. Mehl, P.M., [1993, p.177-197, eng] 47-3779

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Simulation of extraterrestrial ammonia-water ice system. Yarger, J., et al. [1993, p.13.109-13.117, eng] 47-4412

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Ship of opportunity section to the North Pole: upper ocean temperature observations. Quadfasel, D., et al. [1993, p.777-789, eng] 47-4854

Ice sheet firn temperature and meltwater refreezing in Greenland. Braithwaite, R.J., [1993, p.109-114, eng] 47-4920

Using physical methods to predict slippery road conditions. Hertl, S., et al. [1988, 72p., ger] 47-4990

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Temperature regime studies and mathematical calculations for dry snow covers in the western Tien Shan mountains, China. Ma, H., et al. [1992, p.185-189, eng] 47-1109

Temperature and suction profiles beneath highway pavements: computed and measured. Pufahl, D.E., et al. [1991, p.268-276, eng] 47-1126

Strength characteristics of frozen ground at variable temperatures. Konovalov, A.A., [1991, 91p., rus] 47-1502

Ground temperature measurements in mountain permafrost, Jotunheimen, southern Norway. Ödegard, R.S., et al. [1992, p.231-234, eng] 47-1776

Note on ground thermal regimes and global solar radiation at 4720 m a.s.l., High Andes of Argentina. Happoldt, H., et al. [1992, p.241-245, eng] 47-1778

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Tropospheric aerosol and climate: results from numerical experiments. Kolomeev, M.P., et al. [1991, p.253-257, eng] 47-2896

Inconsistencies *in modern notions about the greenhouse* effect and future environmental conditions. Reznikov, A.P., [1992, p.165-170, rus] 47-3268

Speed of sound in pure water as a function of temperature. Bilaniuk, N., et al. [1993, p.1609-1612, eng] 47-3433

Recent variations of sea ice and air temperature in high latitudes. Chapman, W.L., et al. [1993, p.33-47, eng] 47-3477

Last interglacial evidence in Northern Hemisphere high latitudes. Anderson, P., et al. [1991, p.9-28, eng] 47-3478

Mass balance simulation of the antarctic ice sheet. Fortuin, J.P.F., et al. [1990, p.31-56, eng] 47-3572

Detection of nonconductive *heat transport in soils* using spectral analysis. Hinkel, K.M., et al. [1993, p.1017-1023, eng] 47-3579

Diagnosis and forecasting of significant 10-year anomalies in air temperatures in the western Arctic. Grakhovskii, G.N., et al. [1989, p.88-96, rus] 47-3660

Dependence of the formation of anomalies in air temperature above arctic seas during the autumn period on the H500 field. Korzhikov, A.I.A., [1989, p.122-127, rus] 47-3664

Numerical modeling of heat transfer in irregular solidification of a liquid. Nikitenko, N.I., et al. [1993, p.519-528, eng] 47-3800

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Equatorial atmospheric influence on polar stratospheric temperatures. Kodera, K., [1993, p.7245-7250, eng] 47-3830

Multi-year fluctuations in air temperature in the northern European basin. Dement'ev, A.A., [1991, p.6-13, rus] 47-3954

Large-scale variations in the thermal regime of the Norwegian Sea during 1959-1984. Shevchenko, A.V., [1991, p.56-65, rus] 47-3958
Modeling the temperature regime of an arctic soil. Richeva, T.A., et al, [1993, p.1-11, eng] 47-4011
Permafrost distribution changes in Pleistocene Soviet Union. Kondratieva, K.A., et al, [1993, p.113-119, eng] 47-4147
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Tests

Aerodynamic effects of ground de anti-icing fluids on Fokker 50 and Fokker 100. van Hengst, J., [1993, p.35-40, eng] 47-3315

See also: Bearing tests; Cold weather tests; Environmental tests; Freeze thaw tests; Hardness tests; High pressure tests; *Impact* tests; Low temperature tests; Mechanical tests; Penetration tests; Pile load tests; Plasticity tests; Soil tests; Strain tests; Ultrasonic tests

Textures

See also: Cryogenic textures; Soil texture

Thaw consolidation

Buoyancy forces induced by freeze-thaw in the active layer. Hallet, B., et al, [1992, p.251-279, eng] 47-855

Thaw depth

Field testing of a model for water flow and heat transport in variably saturated, variably frozen soil. Xu, X., et al, [1991, p.300-308, eng] 47-1128
Performance of asphalt concrete airport pavements during thaw weakening periods. Janoo, V.C., et al, [1992, p.167-183, eng] 47-1135
Incorporating freeze-thaw calculations into a water balance model. Fox, J.D., [1992, p.2229-2244, eng] 47-1507
Determining depth of phase change front of solid water in soil. Tsibul'skii, V.R., et al, [1992, p.193-201, chi] 47-1658
Formation of soil-ground temperatures in the drained lake depressions in subarctic Yakutia. Gavrilova, M.K., [1992, p.262-268, eng] 47-1742
Comparison of thawing soil strength measurements for predicting vehicle performance. Shoop, S.A., [1992, 11p., eng] 47-1895
Determining the design values for the depth of seasonal thawing of permafrost for pile foundations. Tsurikov, A.S., et al, [1992, p.22-25, rus] 47-2901
Thaw depth effects on tundra methane flux. Vourlitis, G.L., et al, [1993, p.329-337, eng] 47-3434
Effects of a straw mulch on the thermal conditions in soil after snow-cover loss. Gusev, E.M., et al, [1993, p.12-23, eng] 47-4012
Planetary maximum CO2 and ecosystems of the North. Zimov, S.A., et al, [1993, p.21-34, eng] 47-5225

See also: Active layer

Thaw layer

See also: Active layer

Thaw weakening

Performance of asphalt concrete airport pavements during thaw weakening periods. Janoo, V.C., et al, [1992, p.167-183, eng] 47-1135
Use of falling weight deflectometer (FWD) to characterize seasonal variation in pavement response. Janoo, V.C., et al, [1992, p.395-404, eng] 47-2628
Estimating thaw-strain settlement of frozen fill. Crowther, G.S., [1992, p.152-159, eng] 47-2641
Determination of the elastic stiffness of thawing subgrade soil. Palolahti, A., et al, [1993, p.65-68, eng] 47-4122
Society of soil mechanics report on seasonal thaw weakening. Slunga, E., [1993, p.159-170, eng] 47-4134
Mathematical model of frost heave and *thaw settlement in* pavements. Guymon, G.L., et al, [1993, 126p., eng] 47-4870

Thawing

New technology for *insulating the bottom of an alluvial* reservoir on a frozen base. Kuznetsov, G.I., et al, [1992, p.84-91, rus] 47-2033

See also: Artificial thawing; Defrosting; Geothermal *thawing*; *Ground thawing*; Melting

Thawing rate

Parametric analysis for *thawing frozen spheroidal* (prolate and oblate) or finitely cylindrical food. Sheen, S., et al, [1992, p.236-240, eng] 47-2606

Theories

Revision of Kuhle's ice sheet hypothesis related to Tibetan glaciation. Shi, Y.F., et al, [1992, p.19-35, eng] 47-777
On ice-coupled waves: a comparison of data and theory. Squire, V.A., et al, [1992, p.269-280, eng] 47-1034
New reports theorizing on the periglacial zone and historical geocryology. Velichko, A.A., et al, [1982, p.113-119, rus] 47-1246
Crystal growth and dendritic solidification. Sethian, J.A., et al, [1992, p.231-253, eng] 47-1785
Polar low dynamics. Montgomery, M.T., et al, [1992, p.2484-2505, eng] 47-3673
Snow crystals, natural and man made. Mason, B.J., [1992, p.227-243, eng] 47-3718
Problem of palaeokarst in Tibet. Sweeting, M.M., et al, [1991, p.316-325, eng] 47-3780
Cryolithogenesis: advances, promising trends, and research problems. Ershov, E.D., et al, [1992, p.76-84, eng] 47-3833
Spacing of icicles. Makkonen, L., et al, [1993, p.317-322, eng] 47-3934
Solvation, freezing, and the crystal/liquid interface: modern theories and computer simulation. Haymet, A.D.J., [1993, p.415-426, eng] 47-4216
Freezing. Haymet, A.D.J., [1992, p.363-405, eng] 47-4367
Nucleation. Oxtoby, D.W., [1992, p.407-442, eng] 47-4368
Polarized infrared radiation in ice crystals. Takano, Y., et al, [1993, p.1243-1256, eng] 47-4737
Snow surface scattering theory and particle size distribution. West, R., et al, [1993, p.426-437, eng] 47-5268

See also: Analysis (mathematics); Ice age theory; Viscoelastic theory

Thermal analysis

Finite element modelling of natural-convection-controlled change of phase. Usmani, A.S., et al, [1992, p.1019-1036, eng] 47-193
Freezing of water in hardboard: absence of changes in mechanical properties. George, M.F., et al, [1992, p.252-259, eng] 47-771
Ice formation in sucrose solutions. Shalaev, E.IU., et al, [1992, p.213-220, eng] 47-1933
Evolution theory for optimal control of a Couette iceform design model. LaFleur, R.S., [1992, p.2617-2629, eng] 47-2148
Low temperature properties of motor oils. Riga, A.T., [1992, p.227-242, eng] 47-2884
Protective modification of freeze stress in plant tissue. Olien, R., [1992, p.255-260, eng] 47-2885
Thermal analysis of freezing of conifer seedling buds. Stushnoff, C., et al, [1992, p.1305-1309, eng] 47-3841
Thermal effects on the shape of a solidifying interface near a foreign particle. Casses, P., et al [1993, p.13-20, eng] 47-4756
Thermal analysis of ice melting from surface friction. Pushkarev, O.E., et al, [1992, p.25-30, eng] 47-5004

Thermal balance

See also: Glacier heat balance; Heat balance

Thermal conductivity

Enthalpy formulation of the conduction problem with phase changes. Cesari, F., [1992, p.983-987, eng] 47-775
Measuring negative pore water pressures in a freezing environment. *Fredlund, D.G., et al, [1991, p.291-299,* eng] 47-1127
Assessment of apparent *soil thermal conductivity*. Sterling, R.L., [1992, p.147-157, eng] 47-1153
Soil thermal conductivity: *effects of saturation and dry* density. Fricke, B.A., et al, [1992, p.158-165, eng] 47-1154
Thermal properties of wood and wood products. Goss, W.P., et al, [1992, p.193-203, eng] 47-1155
New computerized approach to estimating the thermal *properties of unfrozen* soils. Tarnawski, V.R., et al, [1992, p.714-720, eng] 47-1186
Freezing flow in a subcooled permeable medium. Griffiths, S.K., et al, [1992, p.1036-1041, eng] 47-1672
Effect of freezing-thawing cycles on the heat-mass-exchangeable properties of cryogenic soils. Stepanov, A.V., et al, [1992, p.136-139, eng] 47-1718
Temperature evolution of porous ice samples covered by a dust mantle. Kömle, N.I., et al, [1992, p.204-212, eng] 47-1953
Comment on paper by Larson and Hsui. Lunardini, V.J., et al, [1992, p.1644-1645, eng] 47-2001
Freeze-drying heating profiles. Lombraña, J.I., et al, [1991, p.394-404, eng] 47-2304
Study on phase changes of heterogeneous composite materials: effects of parameters on solidification process. Hirasawa, Y., et al, [1991, p.225-230, eng] 47-2556
Thermal conductivity measurements for liquids at low temperatures. Eftekhar, J.G., [1991, p.451-455, eng] 47-2564
Adaptive finite element analysis of axisymmetric freezing. Sutanto, E., et al, [1992, p.3301-3312, eng] 47-2609
Studies of the relationship of thermophysical properties of ice to hydrostatic pressure and temperature. Zotikov, I.A., et al, [1991, p.22-27, rus] 47-2784
De-icer for a transducer assembly. Fox, C.D., [1988, 6 col., eng] 47-3642
Process and measuring probe for the determination of ice or snow formation. Meyer, F., [1988, 6 col., eng] 47-3762
Nonstationary heat and mass transfer in disturbed rock massifs. Cherniak, V.P., et al, [1992, 224p., rus] 47-3863
Effects of a straw mulch on the thermal conditions in soil after snow-cover loss. Gusev, E.M., et al, [1993, p.12-23, eng] 47-4012
Evolution of a porous H2O-CO2-ice sample in response to irradiation. Steiner, G., et al, [1993, p.9065-9073, eng] 47-4508
Thermal effects on the shape of a solidifying interface near a foreign particle. Casses, P., et al, [1993, p.13-20, eng] 47-4756
Thermal properties of frozen soils. Van Loon, W.K.P., et al, [1993, p.783-795, eng] 47-5251

Thermal diffusion

Heat of transport of water. Takeyama, N., et al, [1991, p.1134-1135, eng] 47-916
Thermal behaviour of the water-vein system in polycrystalline ice. Mader, H.M., [1992, p.359-374, eng] 47-1388
Frazil ice formation due to difference in heat and salt exchange across a density interface. Krylov, A.D., et al, [1992, p.497-506, eng] 47-2250
Double-diffusive convection during solidification of a binary system. Nishimura, T., et al, [1992, p.586-600, eng] 47-3514

Thermal diffusion *(cont.)*
Ocean convection and the creation of polynyas. Schmalzl, J., et al. [1993, p.371-383, eng] **47-4844**

Thermal drills
Development of a thermal mechanical drill for sampling ice and rock from great depths. Das, D.K., et al. [1992, p.377-382, eng] **47-913**
Hot water drill for glaciological research. Iken, A., [1992, p.365-368, ger] **47-2204**

Thermal effects
See also: Temperature effects

Thermal expansion
Poly(vinyl alcohol) hydrogels prepared by freezing-thawing cyclic processing. Stauffer, S.R., et al. [1992, p.3932-3936, eng] **47-744**
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Thermodynamical behaviour of liquid water near the triple point. Kurioka, S., et al. [1991, p.4181-4198, eng] **47-917**
Mechanism of freeze-thaw deterioration of rock in the Great Lakes region. Lienhart, D.A., [1993, p.77-87, eng] **47-4888**

Thermal imagery
See also: Infrared photography

Thermal insulation
Proceedings. [1992, 756p., eng] **47-1148**
Gas-filled panels: a thermally improved building insulation. *Griffith, B.T., et al,* [1992, p.96-102, eng] **47-1149**
Performance of an attic radiant barrier for a simulated Minnesota winter. Chen, H., et al. [1992, p.114-122, eng] **47-1150**
Experimental long-term performance of some thermal foundation systems. Goldberg, L.F., et al. [1992, p.127-136, eng] **47-1151**
Insulation configurations for slab-on-grade floors. Krarti, M., [1992, p.137-146, eng] **47-1152**
Convergence criterion in measuring building R-values. Flanders, S.N., [1992, p.204-209, eng] **47-1156**
Thermal performance of a residential dynamic wall. Morrison, I.D., et al. [1992, p.229-234, eng] **47-1158**
Thermal analysis of dynamic wall structures. Virtanen, M., et al. [1992, p.240-251, eng] **47-1159**
Performance of wood-based siding in energy-efficient homes located in cold climates. Kroll, R.E., et al. [1992, p.260-267, eng] **47-1160**
Analysis of moisture accumulation in a wood-frame wall subjected to winter climate. Burch, D.M., et al. [1992, p.467-479, eng] **47-1161**
Air exfiltration and moisture accumulation in residential wall cavities. Ojanen, T., et al. [1992, p.491-500, eng] **47-1162**
Moisture control in a ventilated attic. Samuelson, I., [1992, p.512-516, eng] **47-1163**
Creating effective air barriers: materials and techniques. Rousseau, J., [1992, p.646-651, eng] **47-1165**
Airtightness standards for residential buildings in Japan. Yoshino, H., [1992, p.718-724, eng] **47-1166**
Wind-chill properties of various clothing types. Erhart, B., et al. [1991, p.63-75, ger] **47-2058**
Physical assessment of the wind chill index. Ennemoser, O., et al. [1991, p.76-82, ger] **47-2059**
Low energy small house 50%. Experimental house *research. Nieminen, J., et al.* [1992, 39p. + appends., fin] **47-2584**
Thermal analysis of buildings—verification and further *development of the TASE program.* Kalema, T., [1992, 185p., eng] **47-2590**
Frost-related performance of heated shallow foundation *thermal insulation. Duquennoi, C.,* [1992, p.3-19, fre] **47-2665**
Bitumen-vermiculite as thermal insulation beneath a roll roof. *Antsiferov, IU.M., et al.* [1991, p.82-85, rus] **47-2936**
Economic effectiveness of the production and use of *lignovermiculite as thermal insulation products.* Rabcheniuk, G.P., et al. [1991, p.85-95, rus] **47-2937**
Research and development in building physics during the last 25 years. [1992, 165p., eng] **47-3447**
Thermal performance of insulation materials and systems: a retrospective review. Tye, R.P., [1992, p.17-27, eng] **47-3448**
Thermal insulation and research in heat transfer. Bankvall, C., [1992, p.29-35, eng] **47-3449**
Validation of mass transfer calculations. Nielsen, A., [1992, p.37-47, eng] **47-3450**
Moisture research in North America. Bomberg, M.T., et al. [1992, p.57-93, eng] **47-3451**
Capillary suction fabric to prevent moisture accumulation. Korsgaard, V., [1992, p.95-110, eng] **47-3452**
Concrete slab on the ground and moisture control. Harderup, L.E., [1992, p.117-125, eng] **47-3453**
National and international standardization in the field of thermal insulation. Tammes, E., [1992, p.127-131, eng] **47-3454**
Aerated concrete—a building material for the future?. Dahl, G., [1992, p.145-149, eng] **47-3455**
Influence of damage on mechanical properties of woven *composites at low temperatures.* Kriz, R.D., [1985, p.55-58, eng] **47-3909**
Thermophysical properties of carbamide insulation in the temperature range of -20 to +50 deg. Balukh, V.L., et al. [1993, p.55-56, rus] **47-4088**
Use of frost insulation in the repair of frost heave damages. *Saarelainen, S.M.I.,* [1993, p.113-116, eng] **47-4129**
Tire chips as insulation beneath gravel surfaced roads. Humphrey, D.N., et al. [1993, p.137-149, eng] **47-4132**
Multipurpose underground structures in the extreme north. Samokhin, A.V., et al. [1993, p.461-465, eng] **47-4578**
Transparent insulations. Cold-region application. Kouhia, I., et al. [1992, 32p., eng] **47-4619**
See also: Cellular plastics; Pipeline insulation

Thermal measurements
See also: Temperature measurement

Thermal processes
See also: Hydrothermal processes

Thermal properties
New computerized approach to estimating the thermal properties of unfrozen soils. Tarnawski, V.R., et al. [1992, p.714-720, eng] **47-1186**
Space and time regularities in the thermal state of waters in the northern European basin. Romantsov, V.A., et al. [1991, p.24-43, rus] **47-3956**
Thermophysical properties of carbamide insulation in the temperature range of -20 to +50 deg. Balukh, V.L., et al. [1993, p.55-56, rus] **47-4088**
See also: Ice thermal properties; Permafrost thermal properties; Snow thermal properties; Specific heat

Thermal radiation
Thermal reversal tactical decision aid evaluation. Berrick, S.W., et al. [1992, p.75-83, eng] **47-1068**
Polarization characteristics of natural thermal emission from antarctic sea ice. Darovskikh, A.N., et al. [1991, p.32-35, rus] **47-1576**

Thermal regime
Thermal regime of filtrating taliks in the foundation of a hydraulic power system and reservoir banks. Sobol', S.V., et al. [1992, p.106-110, rus] **47-366**
Calculating the thermal regime of soils in areas with snow fences. Lavrov, S.A., [1991, p.67-74, rus] **47-385**
Seasonal temperature patterns in an arctic and two subarctic Alaskan (USA) headwater streams. Irons, J.G., III, et al. [1992, p.147-157, eng] **47-780**
Temperature regime studies and mathematical calculations for dry snow covers in the western Tien Shan mountains, *China. Ma, H., et al.* [1992, p.185-189, eng] **47-1109**
Relationship between the Earth's thermal regime and snow-ice cover during climate warming and cooling. Balkova, I.M., [1989, p.21-27, eng] **47-1229**
Strength characteristics of frozen ground at variable *temperatures.* Konovalov, A.A., [1991, 91p., rus] **47-1502**
Heat circulation in soil under North conditions. Pavlov, A.V., [1992, p.168-173, eng] **47-1723**
Formation of soil-ground temperatures in the drained lake depressions in subarctic Yakutia. Gavrilova, M.K., [1992, p.262-268, eng] **47-1742**
Note on ground thermal regimes and global solar radiation at 4720 m a.s.l., High Andes of Argentina. Happoldt, *H., et al.* [1992, p.241-245, eng] **47-1778**
Thermal regime of a valley glacier, Erikbreen, northern Spitsbergen. Ødegard, R.S., et al. [1992, p.69-79, eng] **47-2352**
Problems in the study of naleds: collected scientific papers. Alekseev, V.R., ed. [1991, 238p., rus] **47-2424**
Thermal regime of a naled valley in the BAM zone. Gavrilova, M.K., [1991, p.146-151, rus] **47-2440**
Winter temperature regime of culverts in channels with naleds. Kuz'minykh, A.I., et al. [1991, p.205-210, rus] **47-2448**
Controlled formation of the temperature field of bearing ground. Odishariia, G.E., et al. [1991, p.30-31, rus] **47-2488**
Mathematical modeling of ice and thermal regime of water bodies under heavy thermal load. Aleksandrov, I.IA., et al. [1992, p.55-61, eng] **47-2713**
Volumetric hydrothermal state and regime of Spitsbergen glaciers. Macheret, IU.IA., et al. [1991, p.40-53, rus] **47-2787**
Intensification of freezing earth hydraulic structures by natural cold. Panteleev, V.G., et al. [1991, p.691-694, rus] **47-2908**
Effect of site disturbance on the soil thermal regime near Fort Simpson, Northwest Territories, Canada. Hayhoe, H.N., et al. [1993, p.37-44, eng] **47-3426**
Detection of nonconductive heat transport in soils using spectral analysis. Hinkel, K.M., et al. [1993, p.1017-1023, eng] **47-3579**
Large-scale variations in the thermal regime of the Norwegian Sea during 1959-1984. Shevchenko, A.V., [1991, p.56-65, rus] **47-3958**
Modeling the temperature regime of an arctic soil. Richeva, T.A., et al. [1993, p.1-11, eng] **47-4011**
Effect of the water-exchange index on the temperature regime of hydrostation pools. Gotlib, IA.L., et al. [1993, p.462-468, eng] **47-4014**
Effect of selective withdrawal on the annual thermal regime of a deep water body. Bocharov, O.B., et al. [1993, p.384-390, eng] **47-4066**
Regulating the thermal regime of soils in the northern taiga subzone of the Komi ASSR. Mokiev, V.V., [1991, p.41-55, rus] **47-4106**
Effect of power plant construction on river hydrological *regime. Filippov, A.M.,* [1992, p.61-64, eng] **47-4345**
Thermal energy conservation in icebergs and tracking by *temperature.* Löset, S., [1993, p.10.001-10.012, eng] **47-4372**
Climatic effects on glacier thermodynamics. Blatter, H., [1991, 98p., eng] **47-4461**
Temperature determination of saline permafrost. Gokhman, M.R., [1993, p.23-26, eng] **47-4730**
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Effect of temperature on the strength of adhesive joints. Adams, R.D., et al. [1992, p.185-190, eng] **47-878**
Large-scale thermal bending fracture of sea ice plates. Bažant, Z.P., [1992, p.17,739-17,751, eng] **47-1063**
Statistical analysis of low temperature thermal stress restrained specimen test results. Jung, D.H., et al. [1992, p.200-223, eng] **47-1136**
Stresses in ground-freezing problems with infinite boundaries. Askar, H.G., [1993, p.58-73, eng] **47-1759**
Extreme values of thermal loading parameters in concrete bridges. Maes, M.A., et al. [1992, p.935-946, eng] **47-3341**
Arctic pack ice thermal stress related to under-ice noise. Lewis, J.K., et al. [1993, p.573-590, eng] **47-4838**
Predictions and measurements of the directivity of a monopole source in a floating ice plate. Stein, P.J., *[1993, p.625-639, eng]* **47-4841**
Toughness indices of steel fiber reinforced concrete at subzero temperatures. Banthia, N., et al. [1993, p.863-873, eng] **47-5107**
Model for thermally-induced stresses in multi-year sea ice. Lewis, J.K., [1993, p.337-348, eng] **47-5205**

Thermistors
Process and measuring probe for the determination of ice or snow formation. Meyer, F., [1988, 6 cc'., eng] **47-3762**

Thermocouples
Longbow-Apache field experiment: data report. Bates, R.E., et al. [1992, 53p., eng] **47-701**
Low temperature cracking experiment at USACRREL Frost Effects Research Facility. Kanerva, H.K., et al. [1992, p.289-307, eng] **47-1139**

Thermodynamic properties
Structure and thermodynamic properties of water-methanol mixtures: role of the water-water interaction. Tanaka, H., et al. [1992, p.2626-2634, eng] **47-208**
Thermodynamic analysis of supercooled liquid water. Walrafen, G.E., et al. [1992, p.3840-3846, eng] **47-247**
Thermodynamical behaviour of liquid water near the triple point. Kurioka, S., et al. [1991, p.4181-4198, eng] **47-917**
Effect of restricted geometries on the structure and thermodynamic properties of ice. Handa, Y.P., et al, [1992, p.8594-8599, eng] **47-1569**
On the thermodynamic stability of clathrate hydrate. I. Tanaka, H., et al. [1993, p.4098-4109, eng] **47-2573**
Thermodynamic stability of clathrate. pt.2. Tanaka, H., et al. [1993, p.8110-8118, eng] **47-3582**
Defect theory for the glass transition and residual entropy of hyperquenched water. Johari, G.P., [1993, p.7324-7329, eng] **47-3684**
Singularity of liquid water—data analysis and modeling. Sato, H., [1992, p.89-101, eng] **47-3730**
High-pressure melting—solidification of a substance. Zelenetskii, A.B., et al. [1993, p.1037-1044, eng] **47-4075**
Simulation of extraterrestrial ice solution melting curves. Boone, S., et al. [1991, p.603-610, eng] **47-4635**
Effects of surfaces on the melting/freezing behavior of fluids in derivatized- and nude-porous silica. Malhotra, V.M., et al. [1993, p.121-126, eng] **47-4709**
Thermodynamic properties of ice and of tetrahydrofuran hydrate in confined geometries. Zakrzewski, M., et al, [1993, p.631-637, eng] **47-4738**
Thermodynamics of high-pressure ice. Chizhov, V.E., [1993, p.253-262, eng] **47-5266**

Thermodynamics
Modeling ice dynamics with regard to thermal conditions. Taran, B.M., [1991, p.137-146, rus] **47-365**
Sea ice advection derived from buoy and satellite data. Massom, R.A., [1992, p.15,559-15,572, eng] **47-515**
Heat of transport of water. Takeyama, N., et al. [1991, p.1134-1135, eng] **47-916**
Thermodynamics of pollutant removal as an indicator of possible source areas for arctic haze. Bowling, S.A., et al. [1992, p.2953-2961, eng] **47-1949**
Thermal processes caused by the formation of defects in materials at cryogenic temperatures. Deviatkin, E.A., et al. [1992, p.541-545, rus] **47-2035**
Chemical thermodynamics of cation exchange reactions. Grant, S.A., et al. [1993, p.1-108, eng] **47-2222**
Modeling the thermodynamic processes of permafrost. Mal'kov, IU.K., [1990, 155p., rus] **47-2317**

Modeling the seasonal variability of a coupled arctic ice-ocean system. Häkkinen, S., et al. [1992, p.20,285-20,304, eng] 47-2341

Sensitivity study of a dynamic thermodynamic sea ice model. Holland, D.M., et al. [1993, p.2561-2586, eng] 47-2626

Very large melting point depression of water in silica. van Miltenburg, J.C., et al. [1993, p.1143-1149, eng] 47-3290

Cause-effect relationships in the interactive processes of the ocean and atmosphere in the North Atlantic. Zablotskii, G.A., et al. [1992, p.105-115, rus] 47-3810

Sensitivity of a thermodynamic model of sea ice to parametrization of short-wave and long-wave radiation. Makshtas, A.P., et al. [1992, p.116-137, rus] 47-3811

Thermo-mechanically coupled ice-sheet response—cold, polythermal, temperate. Hutter, K., [1993, p.65-86, eng] 47-3941

Strongly temperature dependent microphysical processes and the atmosphere. Stewart, R.E., et al. [1992, p.309-315, eng] 47-3996

Solvation, freezing, and the crystal/liquid interface: modern theories and computer simulation. Haymet, A.D.J., [1993, p.415-426, eng] 47-4216

Freezing. Haymet, A.D.J., [1992, p.363-405, eng] 47-4367

Nucleation. Oxtoby, D.W., [1992, p.407-442, eng] 47-4368

Thermodynamic model of ice-atmosphere interactions. Ebert, E.E., et al. [1993, p.10,085-10,109, eng] 47-4378

Sea ice-ocean interaction. Lemke, P., [1987, p.439-451, eng] 47-4457

Thermodynamics of fuel oil cloud-point depressant additives. Claudy, P., et al. [1993, p.821-827, eng] 47-4518

When ice melts in sea water: a review. Gade, H.G., [1993, p.139-165, eng] 47-4914

Thermal effects of marine water mixing with different temperatures and salinities. Zatsepin, A.G., et al. [1991, p.72-76, eng] 47-4927

Behavior of artificial radionuclides in seawater. Khodakovskii, I.L., et al. [1993, p.213-223, eng] 47-5032

Comments on paper by Wesley et al and reply. Auer, A.H., Jr., et al. [1991, p.19-21, eng] 47-5259

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Human-induced permafrost degradation and thermokarst. Gallinger, B.J., et al. [1991, 228p., eng] 47-2106

Hydrographic characteristics of the Strokdammane Plain, west Spitsbergen, Svalbard. Akerman, H.J., [1992, p.169-182, eng] 47-4326

Thermokarst lakes

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Thickness gages

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Review of thunderstorm electrification processes. Saunders, C.P.R., [1993, p.642-655, eng] 47-3507

Storm simulation with and without ice microphysics. Johnson, D.E., et al. [1993, p.745-759, eng] 47-3510

Calculation of microwave brightness temperatures over a thunderstorm. Muller, B.M., et al. [1993, p.1006-1013, eng] 47-3567

Hail: the white plague. Hughes, P., et al. [1993, p.16-21, eng] 47-3924

Destructive hailstorms in Essex on 26 May 1985. Elsom, D.M., et al. [1993, p.166-173, eng] 47-4405

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Noise generation in the marginal ice zone. Johannessen, O.M., et al. [1992, p.28-38, eng] 47-4717

Tidal motions derived from ice buoy data. Turet, P., et al. [1993, 63p., eng] 47-4908

Formation features of the structure and variability of the hydrological processes of the Kara Sea area. Pavlov, V.K., [1993, p.251-265, eng] 47-5035

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JARE-32 oceanographic data, Nov. 1990-Mar.1991. Nakamura, H., et al. [1993, 50p., eng] 47-3620

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Stress and time effects on the creep rate of polycrystalline ice. Kuo, S.S., [1992, p.209-224, eng] 47-1030

Effect of temperature and time on stresses in frozen *concrete under thermal cycling*. Ben'kov, V.N., et al, [1991, p.7-9, rus] 47-2157

Tires

Effects of studded tyres: consequences of amended regulations. Carlsson, A., et al, [1992, 53p. + append., swe] 47-1217

Study on the effects of the popularization of studless tires —2nd report. Horita, N., et al, [1992, p.65-72, jpn] 47-2508

Study on the effects of the *popularization of studless tires* —1st report. Koizumi, S., et al, [1991, p.33-38, jpn] 47-2531

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Continuous snow chain. Lew, H.S., [1989, 8 col., eng] 47-3110

Engineering properties of rubberized concrete. Eldin, N.N., et al, [1992, p.912-923, eng] 47-3307

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Tests on developing studless snowplows. Kawakami, S., et al, [1987, p.57-66, jpn] 47-4958

Influence of studded tires on roadway surfaces. Bereza-Kudrycki, W., [1985, 55p., eng] 47-5008

Determination of road wear from studded tires. Knoflacher, H., et al, [1974, 90p., ger] 47-5010

Current status and countermeasures in the problem of studded tires. Fujishiro, Y., [1985, p.29-34, jpn] 47-5080

Skid resistance of studded tires. Shibata, M., et al, [1985, p.35-41, jpn] 47-5081

Actual conditions and *countermeasures for pavement* abrasion. Iijima, H., [1985, p.42-51, jpn] 47-5082

Summary and improvement trends for studded tires. Hayashi, H., [1985, p. 52-62, jpn] 47-5083

Countermeasures to the problem of studded tires in *Hokkaido*. Ito, K., [1985, p.63-68, jpn] 47-5084

Countermeasures to studded tires in Miyagi Prefecture. Onodera, O., [1985, p.69-72, jpn] 47-5085

Wrestling with the problem of studded tires. [1985, p.77-82, jpn] 47-5087

Study on the performance of various anti-skid devices. Inagaki, M., [1985, p.90-95, jpn] 47-5089

Study on skid resistance of winter tires. Kadoyama, Y., et al, [1985, p.50-53, jpn] 47-5168

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Topographical effects on the equilibrium-line altitude on glaciers. Nesje, A., [1992, p.383-391, eng] 47-447

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Topography and soil acidity in an arctic landscape. Valentine, D.W., et al, [1992, p.1553-1559, eng] 47-1183

Interaction of gravity driven flows at Nansen Ice Sheet. Mastrantonio, G., et al, [1992, p.159-166, eng] 47-1200

Study of ablation variations on the tongue of Hintereisferner, Austrian Alps. Van de Wal, R.S.W., et al, [1992, p.319-324, eng] 47-1384

Orographic enhancement of snowfall. Dore, A.J., et al, [1992, p.175-179, eng] 47-1553

Influence of terrain on bedrock temperatures. Lewis, T.J., et al, [1992, p.87-100, eng] 47-2019

Climatic changes in central and eastern Canada inferred from deep borehole temperature data. Wang, K., et al, [1992, p.129-141, eng] 47-2020

Katabatic winds and large-scale tropospheric forcing. Parish, T.R., et al, [1992, p.J141-J144, eng] 47-2421

Turbulence structure in stably stratified flow in the wake behind high mountains. Smedman, A.S., et al, [1992, p.J145-J148, eng] 47-2422

Mesoscale blocking ahead of mountain ridges and cold fronts. Taylor, P., et al, [1992, p.J149-J152, eng] 47-2423

Satellite radiometric mapping of glacier surfaces. Parrot, J.F., et al, [1992, p.425-440, eng] 47-2661

Snow avalanche and rock *fall mapping projects and* experiences. Lied, K., [1992, p.1-19, nor] 47-2676

Propagation of coastal-trapped waves under an ice cover in Hudson Bay. Reynaud, T., et al, [1992, p.593-620, eng] 47-2880

Using satellite data to determine glacier radiation field. Gratton, D.J., et al, [1993, p.315-331, eng] 47-2886

Bend ice jams: laboratory observations. Urroz, G.E., et al, [1992, p.855-864, eng] 47-3305

Ice formations near upland tarns in Cumbria, 16 April 1992. Kay, A., [1993, p.112-113, eng] 47-3317

Change detection on Alaska's North Slope using repeat-pass ERS-1 SAR images. Villasenor, J.D., et al, [1993, p.227-236, eng] 47-3360

Local climate and mass balance of a blue-ice area in western Dronning Maud Land, Antarctica. Jonsson, S., [1990, p.11-29, eng] 47-3571

Front Range blizzard of 1990. Part 1: synoptic and mesoscale structure. Marwitz, J.D., et al, [1993, p.402-415, eng] 47-3676

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Modelling of snowdrift around prismatic buildings for antarctic environment. Kim, D.H., et al, [1992, p.73-79, eng] 47-4281

Snowdrift around antarctic buildings—effects of corner geometry and wind incidence. Kwok, K.C.S., et al, [1993, p.61-65, eng] 47-4302

GIS modelling of winter orographic precipitation. Hay, L.E., et al, [1993, p.491-499, eng] 47-4460

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Equilibrium line altitude correlation of Norwegian glaciers. Torsnes, I., et al, [1993, p.106-116, eng] 47-4743

Exceptional rain-snow event of February 1990 in the Northern Alps. Blanchet, G., [1993, p.68-77, fre] 47-4761

Conditions of the Pleistocene glaciation of mountainous regions. Klimaszewski, M., [1993, p.1-18, eng] 47-4982

Pinus development related to soil preparation. Fries, C., [1993, p.73-80, eng] 47-4997

Heavy snowfall during an arctic outbreak along the Colorado Front Range. Wesley, D.A., et al, [1990, p.2-19, eng] 47-5257

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Antarctic ice sheet topography mapped with the ERS-1 radar altimeter. Ridley, J.K., et al, [1993, p.1649-1650, eng] 47-5119
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Influence of natural conditions on the development of transportation in the Far East. Vakhnenko, R.V., [1991, p.103-106, rus] 47-3281
Winter storm mapping: a Geographic Information Systems Transportation application. Swift, L.B., et al, [1992, p.60-71, eng] 47-4359
Driver behavior during winter conditions. Gabestad, K.O., et al, [1988, 54p. + appends., nor] 47-4992
Symposium on Antarctic Logistics and Operations, 5th. Proceedings. Melander, O., ed, [1993, 365p., eng] 47-5111
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Effects of summer frosts and subsequent shade on foliage gas exchange in peatland tamarack and black spruce. Dang, Q.L., et al, [1992, p.973-979, eng] 47-1188
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Recent dynamics of jack pine at its northern distribution limit in northern Quebec. Desponts, M., et al, [1992, p.1157-1167, eng] 47-1482
Effects of acidic water vapor on spruce seedling frost hardiness. L'Hirondelle, S.J., et al, [1992, p.611-622, eng] 47-1558
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Mountain conifers reduce snow avalanche hazard in French Alps. Jenkins, M.J., [1993, p.4-5, eng] 47-1887
Pine response to fertilization through snow cover. Marshall, V.G., et al, [1992, p.225-238, eng] 47-2016
Effect of acid mist on spruce frost resistance. Eamus, D., et al, [1993, p.135-142, eng] 47-2017
Cold acclimation of pine trees measured by needle freezing tolerance. Lindgren, K., et al, [1992, p.309-315, eng] 47-2295
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Dust-accumulative capacity of pine and birch phytocenosis in forest-steppe regions in Siberia. Skripal'shchikova, L.N., [1992, p.39-43, rus] 47-3272
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Ground frost restriction of subarctic Picea abies forest in northern Sweden. Kullman, L., [1991, p.167-178, eng] 47-4339
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Socioeconomic importance of forests in Iceland. Blöndal, S., [1993, p.1-13, eng] 47-4526
Molecular bases for adaptation of coniferous trees to cold climates. Durzan, D.J., [1993, p.15-42, eng] 47-4527
Growth and development of northern forest trees as affected by temperature and light. Junttila, O., et al, [1993, p.43-57, eng] 47-4528
Winter desiccation resistance selection at timberlines. Larsen, J.B., [1993, p.59-64, eng] 47-4529

Growth of mountain birch (*Betula pubescens* Ehrh.) in response to changing temperature. Skre, O., [1993, p.65-78, eng] 47-4530
Mountain birch and afforestation in Sweden and Iceland. Sveinbjörnsson, B., et al, [1993, p.79-88, eng] 47-4531
Causes of alpine timberline: a review of the hypotheses. Wardle, P., [1993, p.89-103, eng] 47-4532
Physiology of trees at treeline. Grace, J., et al, [1993, p.105-114, eng] 47-4533
Treeline in relation to climate, with special reference to oceanic areas. Tuhkanen, S., [1993, p.115-134, eng] 47-4534
Pliocene fossil *Nothofagus* (southern beech) from Antarctica. Webb, P.N., et al, [1993, p.135-165, eng] 47-4535
Predicting afforestation success during climatic warming at the northern limit of forests. Solomon, A.M., et al, [1993, p.167-188, eng] 47-4536
Climate change as seen by trees and by climate modelers. Bowling, S.A., [1993, p.189-202, eng] 47-4537
Effects of wind on boreal forests. Robertson, A., [1993, p.203-225, eng] 47-4538
Genetic diversity of tree populations at their arctic limits. Tigerstedt, P.M.A., [1993, p.241-250, eng] 47-4540
Potential species and provenances for forest development in cold climates. Hagman, M., [1993, p.251-263, eng] 47-4541
Species and provenance choice at northern tree limits in maritime climates. Lines, R., [1993, p.265-276, eng] 47-4542
Seed collections from North American trees for marginal sites in the Nordic countries. Skaret, G., et al, [1993, p.277-291, eng] 47-4543
Uses of lignoses in horticulture in Iceland. Pálsson, J., [1993, p.293-297, eng] 47-4544
Accelerating adaptation of trees at tree limits by selective breeding. Lindgren, D., [1993, p.299-320, eng] 47-4545
Selection and breeding of Scots pine for northern Sweden. Nilsson, J.E., [1993, p.321-332, eng] 47-4546
Provenance and individual variation in climatic hardiness of Scots pine in northern Finland. Mikola, J., [1993, p.333-342, eng] 47-4547
Hybridization among provenances of lodgepole pine. Fries, A., [1993, p.343-356, eng] 47-4548
Icelandic birch genetics and reforestation. Anamthawat-Jónsson, K., et al, [1993, p.357-368, eng] 47-4549
Chloroplast DNA diversity, phylogenetics, and hybridization in *Picea*. Sigurgeirsson, A., et al, [1993, p.369-382, eng] 47-4550
Genetic variation in early frost tolerance of spruce from northwestern North America. Dietrichson, J., [1993, p.383-391, eng] 47-4551
History of tree planting on the Aleutian Islands. Bruce, D., [1993, p.393-426, eng] 47-4552
Afforestation of spruce in the Vesteraalen Islands, Norway. Kaasen, N.O., et al, [1993, p.427-436, eng] 47-4553
Forest and arboretum development in Norway. Slettjord, S., [1993, p.437-451, eng] 47-4554
Forest development in Iceland. Loftsson, J., [1993, p.453-461, eng] 47-4555
Potential tree line in the Faroe Islands. Leivsson, T.G., [1993, p.463-474, eng] 47-4556
Forest trials at high elevations in Britain. Nixon, C.J., et al, [1993, p.475-489, eng] 47-4557
Alpine timberline of Tibet. Li, B.S., [1993, p.511-527, eng] 47-4559
Forestry in New Zealand's southern high country. Ledgard, N.J., [1993, p.529-548, eng] 47-4560
Seed bank composition in a subarctic forest. Vieno, M., et al, [1993, p.379-384, eng] 47-4583
Pinus development related to soil preparation. Fries, C., [1993, p.73-80, eng] 47-4997
Paleoclimatic variables derived from subarctic treeline dendrochronology. Yamaguchi, D.K., et al, [1993, p.256-262, eng] 47-5123
Selection of tree species and patterns of planting for snowy regions. Oie, T., [1985, p.75-81, jpn] 47-5158
Assessing climate controls of northern forest soils and tree growth. Arp, P.A., et al, [1993, p.187-192, eng] 47-5237

Trenching

Working tools and special equipment for trenching excavators designed for frozen ground. Sokolov, L.K., et al, [1990, p.17-19, rus] 47-1413
Pipeline trenching. Langner, C.G., [1986, 4 col., eng] 47-4262

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Tritium

Large-scale circulation of the Arctic Ocean: implications for pollutant transport. Schlosser, P., et al, [1993, p.285-309, eng] 47-5037

Triton

Ices on the surface of Triton. Cruikshank, D.P., et al, [1993, p.742-745, eng] 47-5128
Phase composition of Triton's polar caps. Duxbury, N.S., et al, [1993, p.748-751, eng] 47-5130
Phase composition and temperature of nitrogen ice on Triton. Tryka, K.A., et al, [1993, p.751-754, eng] 47-5131

Troposphere

Lidar detection of ozone in the troposphere and lower stratosphere. Browell, E.V., [1991, p.77-89, eng] 47-1338

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See also: Motor vehicles

Tundra

Cost of tundra plant structures: evaluation of concepts and currencies. Chapin, F.S., III, [1989, p.1-19, eng] 47-20
Processes controlling nitrogen release and turnover in arctic tundra. Kielland, K., [1991, 192p., eng] 47-295
Influence of topography on soil acidity and hydrogen ion budgets in an arctic landscape. Valentine, D.W., [1991, 146p., eng] 47-297
Growth forms of a tundra grass of northern Alaska. Dobson, J.L., [1991, 73p., eng] 47-312
Date of snow disappearance from tundra determined by radiometric and meteorological observations. Foster, J.L., et al, [1992, p.793-798, eng] 47-358
Zonality of the dynamics of the active layer in landscapes in Yakutia. Vasil'ev, I.S., [1991, p.3-9, rus] 47-393
Opal cutans in the profile of mountain tundra sod soil in the extreme north-east of the USSR. Pustovoitov, K.E., [1990, p.12-17, eng] 47-474
Mineralogy of silt material of soils of the forest tundra and northern taiga of the Kola Peninsula. Gradusov, B.P., et al, [1987, p.7-14, eng] 47-596
Effect of agricultural development on the variation of *thixotropic properties of tundra soils*. Manucharov, A.S., et al, [1987, p.45-49, eng] 47-598
Interannual variations in tundra methane emission: a 4-year time series at fixed sites. Whalen, S.C., et al, [1992, p.139-159, eng] 47-1053
Impacts of summer warming on the energy and water balance of *wetland tundra*. Rouse, W.R., et al, [1992, p.305-326, eng] 47-1375
Deposition of ozone to tundra. Jacob, D.J., et al, [1992, p.16,473-16,479, eng] 47-1449
Measurements of NOx and NOy concentrations and fluxes over arctic tundra. Bakwin, P.S., et al, [1992, p.16,545-16,557, eng] 47-1454
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Methane emissions from tundra environments in the Yukon-Kuskokwim Delta, Alaska. Bartlett, K.B., et al, [1992, p.16,645-16,660, eng] 47-1459
Methane emissions from Alaska arctic tundra: an assessment of local spatial variability. Morrissey, L.A., et al, [1992, p.16,661-16,670, eng] 47-1460
CO2 exchange in tundra ecosystems. Whiting, G.J., et al, [1992, p.16,671-16,680, eng] 47-1461
Methane transport in macrophytes of a tundra lake. Chanton, J.P., et al, [1992, p.16,681-16,688, eng] 47-1462
Emissions of biogenic sulfur gases from Alaskan tundra. Hines, M.E., et al, [1992, p.16,703-16,707, eng] 47-1464
Turbulent transports over tundra. Fitzjarrald, D.R., et al, [1992, p.16,717-16,729, eng] 47-1466
Nitrogen mineralization and streamwater chemistry, Rock Creek watershed, Denali National Park, U.S.A. Stottlemyer, R., [1992, p.291-303, eng] 47-1586
Holocene vegetation histories from three sites in the tundra of northwestern Quebec, Canada. Gajewski, K., et al, [1992, p.329-336, eng] 47-1589
Energy balance of dry tundra in West Greenland. Rott, H., et al, [1992, p.352-362, eng] 47-1592
Use of organic nitrogen by an Arctic sedge. Chapin, F.S., III, et al, [1993, p.150-153, eng] 47-1597
Geochemistry of a tundra stream on the North Slope of Alaska. Peterson, B.J., et al, [1992, p.61-69, eng] 47-1604
Geographic laws of spatial soil cover organization in the Yamal Peninsula. Aparin, B.F., et al, [1992, p.88-94, eng] 47-1709
Emission of CO2 and CH4 from northern wetlands to atmosphere. Panikov, N.S., et al, [1992, p.208-216, eng] 47-1731
Sulfate-reducing bacteria in constant-frozen soils. Vainshtein, M.B., et al, [1992, p.243-247, eng] 47-1738
Isolation of mercury resistant bacteria from permafrost samples of Kolyma Lowland. Petrova, M.A., et al, [1992, p.247-251, eng] 47-1739
Bryophytes of the Melville Hills region, Northwest *Territories*. Scotter, G.W., et al, [1992, p.100-104, eng] 47-1880
Lichens of *the Cape Parry and Melville Hills regions*, Northwest Territories. Thomson, J.W., et al, [1992, p.105-111, eng] 47-1881
Registration of vehicular tracks on the Svalbard archipelago. Raheim, E., [1992, 51p., eng] 47-1890
Carbon dioxide changes in Arctic tundra ecosystems. Oechel, W.C., et al, [1993, p.520-523, eng] 47-1942
Primary production and organic matter destruction in Spitsbergen tundra. Opaliński, K.W., [1991, p.419-432, eng] 47-2198
Prudhoe Bay Waterflood Project environmental monitoring program 1987. *Final report*. [1993, Var. p., eng] 47-2207
Long-term response of an arctic sedge to *climate change*. a simulation study. Leadley, P.W., et al, [1992, p.323-340, eng] 47-2288
Problems in identifying the tundra type of vegetation. [Urtsev, B.A., [1991, p.30-41, rus] 47-2356
Phytocatena in the vegetation cover of mountain territories. Kholod, S.S., [1991, p.42-51, rus] 47-2357
Environmental effects on CO2 tundra efflux. Oberbauer, S.F., et al, [1992, p.568-577, eng] 47-2710
Measurement of microbial biomass in arctic tundra. Cheng, W.X., et al, [1993, p.135-141, eng] 47-3347
Seasonal changes in the radiation balance of subarctic *forest and tundra*. Lafleur, P.M., et al, [1993, p.32-36, eng] 47-3425
Ecological genetic variation in seed banks. McGraw, J.B., [1993, p.45-49, eng] 47-3427
Modeling of tussock phosphatase activity. Moorhead, D.L., et al, [1993, p.50-55, eng] 47-3428
Design of greenhouses for the *manipulation of temperature* in tundra plant communities. Debevec, E.M., et al, [1993, p.56-62, eng] 47-3429
Thaw depth effects on tundra methane flux. Vourlitis, G.L., et al, [1993, p.329-337, eng] 47-3434
Significance of stomatal control on methane release from *Carex*-dominated wetlands. Morrissey, L.A., et al, [1993, p.339-355, eng] 47-3435
Environmental and biotic controls over methane flux from arctic tundra. Torn, M.S., et al, [1993, p.357-368, eng] 47-3436
American arctic lichens. 1. The macrolichens. Thomson, J.W., [1984, 504p., eng] 47-3671
Paleoclimatology of the Saint Lawrence River basin. Richard, P.J.H., et al, [1992, p.151-172, fre] 47-3788
Small-scale wetland restoration in the high Arctic: a long-term perspective. Forbes, B.C., [1993, p.59-68, eng] 47-3900
Anthropogenic tundra disturbance and patterns of response *in the eastern Canadian Arctic*. Forbes, B.C., [1993, 333p. + append., eng] 47-3914
Analysis of spermatophytes flora of Sakha SSR (Yakutskaya), eastern Siberia. Takahashi, H., [1993, *p.82-86, eng*] 47-3978
Effect of latitude on leaf size and lifespan. Kudo, G., [1993, p.87-94, *eng*] 47-3979
Effectiveness of applying meliorative agents on tundra soils. Kononenko, A.V., et al, [1991, p.76-88, rus] 47-4109
Reflectance characteristics of arctic tundra *vegetation from* airborne radiometry. Stow, D.A., et al, [1993, p.1239-1244, eng] 47-4403
Paleoecology of peats from the Chukchi Sea shelf region. Elias, S.A., et al, [1992, p.371-378, eng] 47-4408
C-band SAR backscatter from ice on shallow tundra lakes: observations and modelling. Wakabayashi, H., et al, [1993, p.333-337, eng] 47-4435
Field investigation of bioremediation of tundra with residual hydrocarbons. Wooters, K., et al, [1993, p.331-337, eng] 47-4474
Case study of arctic in situ bioremediation. Ramert, P.C., et al, [1993, p.339-346, eng] 47-4475
Biosphere reserves— [illegible]hallenge and an opportunity. [1993, 31p., eng] 47-4602
Statistical analysis of soil temperature on Spitsbergen. Mietus, M., [1992, p.103-112, eng] 47-4650
Occurrence of algae on tundra soils in Oscar II Land, Spitsbergen. Oleksowicz, A.S., et al, [1992, p.131-147, *eng*] 47-4652
Conditions and effectiveness of feed production in tundra. *Archegova, I.B., et al, [1988, 102p., rus]* 47-4655
Micromorphological features of the USSR zonal soils. Gerasimova, M.I., et al, [1992, 214p. *(Pertinent p.66-107)*, rus] 47-4661
Response of shrub-tussock community to vehicle use. Ahlstrand, G.M., et al, [1993, p.142-149, eng] 47-4746
Cryology of soils; collected scientific papers. Gilichinskiĭ, D.A., ed, [1991, 131p., rus] 47-4801
Automorphic soil formation in the tundra zone of northern Yakutia. Gubin, S.V., [1991, p.11-20, rus] 47-4803
Microflora of soils in the Arctic and its activity. Parinkina, O.M., [1991, p.87-91, rus] 47-4815
Nitrifying bacteria from frozen deposits in the Kolyma lowlands. Soina, V.S., et al, [1991, p.92-97, rus] 47-4816
Soil degradation in the vicinity of industrial centers in the North. Kriuchkov, V.V., [1991, p.103-108, rus] 47-4818
Modeling the temperature regime of an arctic soil. Rycheva, T.A., et al, [1992, p.1-11, eng] 47-4875
Bomb radiocarbon in arctic Alaskan aquatic and terrestrial biota. Schell, D.M., [1993, p.135-144, eng] 47-5026
Late Quaternary lacustrine pollen records from southwestern Beringia. Lozhkin, A.V., et al, [1993, p.314-324, *eng*] 47-5142

Tundra *(cont.)*
Pleistocene vertebrates and other fossils from Epiguruk, northwestern Alaska. Hamilton, T.D., et al. (1993, p.381-389. eng) 47-5143
Carbon cycling in boreal forest and sub-arctic ecosystems: biospheric responses and feedbacks to global climate change. Vinson, T.S., ed. (1993. 282p., eng) 47-5222
Boreal carbon pools: approaches and constraints in global extrapolations. Chapin, F.S., III, et al. (1993, p.9-20. eng) 47-5224
Arctic atmospheric CO2 bimodal distribution. Semiletov, I.P., et al. (1993, p.35-42. eng) 47-5226
Equilibrium analysis of projected climate change effects on the global soil organic matter pool. Turner, D.P., et al. (1993, p.59-63. eng) 47-5229
Carbon storage in peat based on regionality of Russian mires. Botch, M.S., (1993, p.101-107. eng) 47-5232
Methane from northern peatlands and climate change. Frolking, S., (1993, p.109-124. eng) 47-5233
Methane and carbon dioxide production and uptake in some boreal ecosystems of Russia. Panikov, N.S., et al. (1993, p.125-138. eng) 47-5234
Carbon budget and succession dynamics of Canadian vegetation. Cihlar, J., et al. (1993, p.215-220. eng) 47-5238
Quantifying regional changes in terrestrial carbon storage by extrapolation from local ecosystem models. King, A.W., (1993, p.221-234. eng) 47-5239
Framework to quantify the natural terrestrial carbon cycle of the former Soviet Union. Kolchugina, T.P., et al. (1993, p.259-275. eng) 47-5242
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Tunneling (excavation)
Geo-Radar in tunneling—the tunnel radar. Westerdahl, H., et al. (1992, p.41-45. eng) 47-631
Ground freezing to provide support for tunneling using vertical refrigeration pipes. Sopko, J.A., Jr., et al. (1991, p.267-272. eng) 47-992
Ground freezing to control ground water and support deep storm sewer structural excavations. Shuster, J.A., et al. (1989, p.149-155. eng) 47-994
Hard rock tunneling machine characteristics. Mellor, M., et al. (1972, p.1149-1158. eng) 47-2614

Tunnels
Frazil production in partly filled tunnels. Horjen, I., (1988, p.139-140. nor) 47-726
Effect of tunnel wall rock refreeze on lining stability. Wu, Q.B., et al. (1992, p.218-225. chi) 47-1661
Specific hydrogeological conditions of the North-Muya Ridge. Shabinin, L.L., et al. (1991, p.76-80. eng) 47-1674
Cavity development in ice-rich permafrost, Pangnirtung, Baffin Island, Northwest Territories. Hyatt, J.A., (1992, p.293-313. eng) 47-2238
Shelters to keep blowing snow out of airport road tunnels. Suzuki, H., et al. (1992. p.215-220. jpn) 47-2502
Method for dealing with snow cornices. Aoki, S., (1986, p.94-95. jpn) 47-5187
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Turbidity
Interaction of frazil with suspended particles. Reimnitz, E., et al. (1993, p.117-135. eng) 47-2645
Long-term variations in the turbidity of the arctic atmosphere in Russia. Radionov, V.F., et al. (1992, p.531-549. eng) 47-2877
Glacial lake bathymetry at Bering Piedmont Glacier, AK. Fleisher, P.J., et al. (1993, p.267-274. eng) 47-4566
Sediment export by ice rafting from a coastal polynya, arctic Alaska, U.S.A. Reimnitz, E., et al. (1993, p.83-98. eng) 47-4741
Water quality and placer mining in interior Alaska, 1992. Ray, S.R., (1993, 83p., eng) 47-4763
Water quality and placer mining in interior Alaska, 1991. Ray, S.R., (1992, 73p., eng) 47-4770
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Turbulence
Radiation and eddy flux experiment 1991 (REFLEX I). Hartmann, J., et al. (1992, 72p., eng) 47-41
Correlation of turbulent coefficients in vertical heat flux and moisture in the surface boundary layer. Postnikov, A.N., (1991, p.123-125. rus) 47-391
Minimum sampling for spectral analysis of nonstationary turbulence. Treviño, G., et al. (1992, p.289-292. eng) 47-867

Turbulent boundary layer
Satellite observation of katabatic-wind propagation for great distances across the Ross Ice Shelf. Bromwich, D.H., et al. (1992. p.1940-1949. eng) 47-876
Uncertainty in a path-averaged measurement of the friction velocity u*. Andreas, E.L., (1992. p.1312-1321. eng) 47-1121
Coupled subsurface-boundary layer model of water on Mars. Zent, A.P., et al. (1993, p.3319-3337. eng) 47-2670
Doppler radar analysis of mesoscale snow bands. Ishihara, M., et al. (1989, p.503-520. eng) 47-3466
Polar low dynamics. Montgomery, M.T., et al. (1992, p.2484-2505. eng) 47-3673
Case study of heavy snowfall in Oklahoma. Marwitz, J.D., et al. (1993, p.648-660. eng) 47-4256
Modelling of snowdrift around prismatic buildings for antarctic environment. Kim, D.H., et al. (1992, p.73-79. eng) 47-4281
Katabatic flow thermodynamics of Adelie Coast. Petrié, P., et al. (1993, p.10,429-10,440. eng) 47-4292
Mean circulations of boundary-layer rolls in lake-effect snow storms. Kristovich, D.A.R., (1993, p.293-315. eng) 47-4350
Climatology of the East Antarctic ice sheet (100E to 140E) *derived from automatic weather stations.* Allison, I., et al. (1993, p.8815-8823. eng) 47-4380
Numerical investigation of wind speed effects on lake-effect storms. Sousounis, P.J., (1993, p.261-290. eng) 47-4511
Drag coefficients for winter antarctic pack ice. Wamser, C., et al. (1993, p.12,431-12,437. eng) 47-4520
Lake effect of the Great Salt Lake: overview and forecast *problems* Carpenter, D.M., (1993, p.181-193. eng) 47-4831
Evaluation of air flow over an anti-icing fluid film. Laforte, J.L., et al. (1993, p.96-104. eng) 47-5007

Turbulent diffusion
Uncertainty in a path-averaged measurement of the friction velocity u*. Andreas, E.L., (1992. p.1312-1321. eng) 47-1121
Frazil ice formation due to difference in heat and salt exchange across a density interface. Krylov, A.D., et al. (1992, p.497-506. eng) 47-2250
Relative dispersion of ice crystals in seeded cumuli. Weil, J.C., et al. (1993, p.1055-1073. eng) 47-4080
Hydrography and vertical fluxes of heat and salt northeast of Svalbard in autumn. Steele, M., et al. (1993, p.10,013-10,024. eng) 47-4373
Numerical study of haline convection beneath leads in sea ice. Smith, D.C., IV, et al. (1993, p.10,069-10,083. eng) 47-4377
When ice melts in sea water: a review. Gade, H.G., (1993, p.139-165. eng) 47-4914

Turbulent exchange
Method of determining the heat balance components of *snow cover during a melting period.* Shutov, V.A., (1991, p.87-96. rus) 47-387
Deposition of ozone to tundra. Jacob, D.J., et al. (1992, p.16,473-16,479. eng) 47-1449
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Sampling of radioactive isotopes in the arctic atmosphere. Dibb, J.E., et al. (1992, p.16,709-16,715. eng) 47-1465
Turbulent transports over tundra. Fitzjarrald, D.R., et al. (1992, p.16,717-16,729. eng) 47-1466
Measurement and modelling of *cloudwater deposition to a* snow-covered forest canopy. Gallagher, M.W., et al. (1992, p.2893-2903. eng) 47-1947
Parametrization of the coefficient of vertical turbulent viscosity in modeling of water circulation in arctic seas. *Kulakov, M.IU., et al. (1991, p.22-33,* rus) 47-3687
Analysis of factors determining the circulation of waters in *the Chukchi Sea. Kulakov, M.IU., et al. (1991, p.59-*64, rus) 47-3691
Estimates of parameters of vertical turbulent exchange in the Chukchi Sea based on observational data. Pavlov, V.K., et al. (1991, p.101-106. rus) 47-3696
Stochastic regime of large-scale atmospheric waves. Bekriaev, R.V., (1992, p.22-49. rus) 47-3804
Sparse parameter quasi-solenoidal *model of large-scale* atmospheric movements. Bekriaev, R.V., (1992, p.56-74, rus) 47-3806
Occurrence of ozone laminae near the boundary of the stratospheric polar vortex. Reid, S.J., et al. (1993, p.8883-8890. eng) 47-4381
Ice formation in sea water through turbulent exchange. Zatsepin, A.G., et al. (1992, p.38-42. eng) 47-4563

Turbulent flow
Uncertainty in a path-averaged measurement of the friction velocity u*. Andreas, E.L., (1992. p.1312-1321. eng) 47-1121
Turbulent structure of wind flow over ice-covered sea surface. Naito, G., et al. (1992, p.283-294. eng) 47-1192
Acoustical measurement of current and vorticity beneath ice. Menemenlis, D., et al. (1992, p.827-849. eng) 47-1473
Dependence of post-stable fluidelastic behavior on the degrees-of-freedom of a tube bundle. Lever, J.H., et al. (1992, p.167-187. eng) 47-1913
Numerical and experimental study of wavy ice structure in a parallel plate channel. Weigand, B., et al. (1992, p.233-235. eng) 47-2188
Submerged warm water jet discharge in an ice-covered reservoir or lake. Gu, R.C., et al. (1993, p.151-168. eng) 47-2647
Ice formation on deep weakly stratified water Walin, G., (1993, p.143-157. eng) 47-2890
Parametrization of the coefficient of vertical turbulent viscosity in modeling of water circulation in arctic seas. Kulakov, M.IU., et al. (1991, p.22-33. rus) 47-3687
Sparse parameter quasi-solenoidal model of large-scale atmospheric movements. Bekriaev, R.V., (1992, p.56-74, rus) 47-3806
Swirl anti-ice system. Rosenthal, H.A., (1987, 6 col., eng) 47-3853
Prediction of frost growth on a flat plate. Tao, Y.X., et al. (1992, p.131-139. eng) 47-4705

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Turkey
1992: Catastrophic avalanches in Turkey. Gürer, I., (1992, p.56-61. eng) 47-1322
Glaciers of Turkey. Kurter, A., (1991, p.G1-G30. eng) 47-3823

Ultimate strength
Estimation of casings strength properties. Medvedskii, R.I., et al. (1992, p.68-69. eng) 47-3265

Ultrasonic tests
Using nondestructive diagnostic methods to evaluate the condition of the material in foundations on permafrost. Izotov, V.N., ed. (1989, 44p., rus) 47-2316
Thermal analysis of freezing of conifer seedling buds. Stushnoff, C., et al. (1992, p.1305-1309. eng) 47-3841

Ultraviolet radiation
Increased ultraviolet radiation in New Zealand. Seckmeyer, G., et al. (1992, p.135-137. eng) 47-374
Monomer polymerization in frozen liquids via UV irradiation. Egorov, V.V., et al. (1992, p.95-97. eng) 47-1118
Solar UV-spectra in various environmental conditions. Huber, M., et al. (1992, p.413-415. eng) 47-1810
Ultraviolet-induced amorphization of cubic ice and its implications for the evolution of ice grains. Kouchi, A., et al. (1991, p.87-90. eng) 47-2111
UV-excited luminescences from amorphous and *polycrystalline H2O ices.* Lennon, D., et al. (1993, p.120-126. eng) 47-3513
Ozone depletion and UV-B radiation in the Antarctic—limitations to ecological assessment. Karentz, D., (1992, p.231-232. eng) 47-4505

Underground facilities
Multipurpose underground structures in the extreme north. *Samokhin, A.V., et al. (1993, p.461-465. eng)* 47-4578
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Underground pipelines
Predicting pipeline frost load. Fielding, M.B., et al. (1988, p.62-69. eng) 47-75
Discrete ice lens theory for frost heave beneath pipelines. Nixon, J.F., (1992, p.487-497. eng) 47-416
Frost heave and deformation of buried chilled pipelines. (1986. 71p., eng) 47-437
Trans-Alaska Pipeline reroute meets schedule. Newcomer, E.S., et al. (1992, p.49-57. eng) 47-823
Proceedings. Vol.2. (1992. 806p., eng) 47-1828
Civil engineering in the arctic North Slope, Alaska. Manikian, V., (1992, p.1-6, eng) 47-1829
Arctic pipeline limit states for secondary loadings. Khatib, I.F., et al. (1992, p.7-14. eng) 47-1830
New frost heave prediction method for design of northern pipelines. Nixon, J.F., (1992, p.32-39, eng) 47-1833
France-Canada joint study of deformation of an experimental pipeline by differential frost heave. Williams, P.J., et al. (1992, p.40-45. eng) 47-1834
Plastic buckling of pipes under bending and internal pressure. Kim, H.O., (1992, p.46-51. eng) 47-1835
Experience in full-scale tests of arctic gas pipelines. Kharionovskii, V.V., (1992, p.110-118, eng) 47-1836
Probability estimation of moving pressure ridge contacts with pipelines. Surkov, G.A., et al. (1992, p.797-800. eng) 47-1878
Selection of the subsea pipeline route for the offshore *Chaivo field.* Skurikhin, V.A., et al. (1992, p.801-806. eng) 47-1879
New technical solution for the reliable anchoring of an underground pipeline in frost-heaving ground. Kharionovskii, V.V., et al. (1992, p.20-22, rus) 47-2900
Frost heave forces on buried pipelines subject to freeze thaw. (1992. 68p., eng) 47-3150
Ice plugs help in pipeline retrofit. (1993, p.67. eng) 47-3526
Pipeline insulation system. Patterson, M.M., (1987, 4 col., eng) 47-4004
Freezing pressure development on a buried chilled pipeline. Ladanyi, B., et al. (1993, p.23-33, eng) 47-4117
Seasonal deformations of underground utilidors on permafrost in Norilsk. Grebenets, V.I., et al. (1993, p.151-155. eng) 47-4133
Proceedings. (1993, 170p., eng) 47-4267
Gas pipelines and the challenge of the cold regions: an experimental study. Williams, P.J., (1993, p.5-18, eng) 47-4268

Soil-pipeline interaction associated with a large diameter chilled pipeline in temperate climates. Greene, D.P., et al. [1993, p.25-33, eng] 47-4270

Stress history and vertical displacement matching for the pipeline at Caen, France subjected to frost heave. Rajani, B., et al. [1993, p.34-47, eng] 47-4271

Stress-strain behaviour of frozen soil in tension. Sayles, F.H., [1993, p.61-72, eng] 47-4273

Microstructural genesis of a frost susceptible soil adjacent to a buried chilled pipeline. White, T.L., et al. [1993, p.73-91, eng] 47-4274

Current work, 1992. The Canada-France Pipeline-Frostheave Frozen Transition Experiment. Riseborough, D.W., [1993, p.162-170, eng] 47-4279

Special challenge: cathodic protection on trans-Alaska pipeline. Peabody, A.W., [1976, p.40,42,43, eng] 47-4866

Heat transfer from a cylinder buried in a frozen medium. Oosthuizen, P.H., et al. [1992, p.457-475, eng] 47-5264

Underground storage

Modelling of rock mass responses to glaciation at Finnsjön, central Sweden. Rosengren, L., et al. [1993, p.75-82, eng] 47-3920

Underice

See also: Ice bottom surface; Subglacial

Underwater acoustics

Underwater sounds of precipitation. Crum, L.A., et al. [1992, p.2-12, eng] 47-513

Sub-bottom profiling: a comparison of short-pulse radar and acoustic data. Delaney, A.J., et al. [1992, p.149-157, eng] 47-634

Marginal Ice Zone oceanographic variability and its effects on acoustic propagation. Meredith, R.W., et al. [1991, p.87-101, eng] 47-1074

Treatments of incoherent scattering for the parabolic equation and astral propagation models. Dozier, L.B., et al. [1991, p.265-281, eng] 47-1075

Acoustic probing of the bottom surface of sea ice. Williams, K.L., et al. [1992, p.2075-2092, eng] 47-1125

Three-dimensional acoustic waveguide in the Labrador Sea. Bogdanov, K.T., et al. [1990, p.563-565, eng] 47-1232

Acoustical measurement of current and vorticity beneath ice. Menemenlis, D., et al. [1992, p.827-849, eng] 47-1473

Geoacoustic model of bottom sediments in the Baltic and Barents Seas. Il'in, A.V., et al. [1992, p.953-956, rus] 47-1498

Acoustic scattering from elemental arctic ice features: numerical modeling results. Fricke, J.R., [1993, p.1784-1796, eng] 47-3231

Broadband source localization and signature estimation. Yang, T.C., [1993, p.1797-1806, eng] 47-3232

Scattering from boundary protuberances and reverberation imaging. Yang, T.C., [1993, p.231-242, eng] 47-3233

Very-low-frequency under-ice reflectivity. Wolf, J.W., et al. [1993, p.1329-1334, eng] 47-3432

Speed of sound in pure water as a function of temperature. Bilaniuk, N., et al. [1993, p.1609-1612, eng] 47-3433

Cod schooling behavior in relation to drifting pack ice. Crawford, R.E., et al. [1993, p.345-357, eng] 47-4061

Ocean-acoustic propagation in an arctic profile. Buckingham, M.J., [1993, p.93-104, eng] 47-4633

Scattering of low frequency sound waves under sea ice. LePage, K., et al. [1992, p.3-16, eng] 47-4714

Doppler acoustic studies of fine scale variability in the Arctic Ocean. Pinkel, R., et al. [1992, p.17-23, eng] 47-4715

Matched field tomography results in the Arctic. Diachok, O.I., et al. [1992, p.24-27, eng] 47-4716

Noise generation in the marginal ice zone. Johannessen, O.M., et al. [1992, p.28-38, eng] 47-4717

Analytical technique for solving an arctic acoustic model. Sheard, J.D., et al. [1992, p.39-42, eng] 47-4718

Ice edge noise observations from the 1988-89 Greenland Sea tomography experiment. Lynch, J.F., et al. [1992, p.611-619, eng] 47-4719

Learning behavior of sea ice. Denner, W.W., [1993, p.527-536, eng] 47-4834

Source mechanisms for arctic ocean ambient noise. Dyer, I., [1993, p.537-551, eng] 47-4835

Vertical directivity measurements of ice cracking. Greening, M.V., et al. [1993, p.553-562, eng] 47-4836

Spatial variation in ambient sound level within ice edge eddies. Johannessen, O.M., et al. [1993, p.563-571, eng] 47-4837

Arctic pack ice thermal stress related to under-ice noise. Lewis, J.K., et al. [1993, p.573-590, eng] 47-4838

Sea ice constitutive behavior and under-ice noise. Pritchard, R.S., [1993, p.591-610, eng] 47-4839

Wave induced noise generation in the marginal ice zone. Rottier, P., [1993, p.611-624, eng] 47-4840

Predictions and measurements of the directivity of a monopole source in a floating ice plate. Stein, P.J., [1993, p.625-639, eng] 47-4841

Acoustic radiation beneath the arctic ice cover. Xie, Y.B., et al. [1993, p.641-647, eng] 47-4842

Underwater ice

Mass balance variations on Filchner-Ronne Ice Shelf. Determann, J., et al. [1990, p.57-68, eng] 47-3573

Underwater permafrost

See also: Permafrost beneath lakes; Permafrost beneath rivers; Subsea permafrost

Underwater structures

See also: Hydraulic structures

Unfrozen water content

Physical-mechanical types of cryogenesis. Konishchev, V.N., et al. [1991, p.9-14, rus] 47-394

Assessment of the one-dimensional icing forecast model applied to stratiform clouds. Tunick, A., et al. [1990, p.57-64, eng] 47-909

Relation of acclimating bud water to winter hardiness. Vertucci, C.W., et al. [1992, p.503-511, eng] 47-1950

Electrical conductivity in frozen and unfrozen soils. Lundin, L.C., et al. [1992, p.241-250, eng] 47-1964

Frost heave and the surface melting of ice. Dash, J.G., [1991, p.339-356, eng] 47-2302

Pressure effects on non-freezing water layer thickness. Bardasov, S.A., et al. [1992, p.160-166, eng] 47-3733

CO2 emissions in Siberian soils as greenhouse effect factor. Zimov, S.A., et al. [1993, p.5017-5023, eng] 47-3782

Sensitivity analysis of frost heave—a theoretical study. Sheng, D., et al. [1993, p.3-16, eng] 47-4115

Radiosonde supercooled liquid water detector. Hill, G.E., [1990, 97p., eng] 47-4882

Measurement of drop size and liquid water content in clouds. Bachalo, W.D., et al. [1988, 66p., eng] 47-4903

Seasonal variability of hydraulic conductivity. Asare, S.N., et al. [1993, p.451-457, eng] 47-5146

Hydrological properties of frozen soil. Perfect, E., et al. [1993, p.767-781, eng] 47-5250

United Kingdom

Coastal influence on winter road surface temperatures. McLean, P.J., et al. [1992, 24p., eng] 47-968

Snow survey of Great Britain, 1991/92. [1992, 24p., eng] 47-2336

Rock of ages. Harrison, S., [1992, p.1-4, eng] 47-3861

Field and laboratory tests of clay tills at Hertfordshire. Marsland, A., et al. [1991, p.229-238, eng] 47-3880

Theme lecture: Periglacial and slope processes. Hutchinson, J.N., [1991, p.283-331, eng] 47-3885

Shale from late and post glacial slope development. Gostelow, T.P., et al. [1991, p.349-359, eng] 47-3887

Identification of features due to former permafrost in the North Sea. Long, D., [1991, p.369-372, eng] 47-3888

Solifluction shears at Carsington, Derbyshire. Skempton, A.W., et al. [1991, p.381-387, eng] 47-3890

Periglacial discontinuities in Eocene clays near Denham, Buckinghamshire. Spink, T.W., [1991, p.389-396, eng] 47-3891

—Northern Ireland

Geotechnical properties of Quaternary deposits in the Belfast area. Gregory, B.J., et al. [1991, p.219-228, eng] 47-3879

—Scotland

Quaternary stratigraphy of offshore Scotland. Bone, B.D., et al. [1991, p.119-126, eng] 47-3871

Highway embankment construction across the Strathearn buried valley. Cochrane, G.A., et al. [1991, p.203-209, eng] 47-3877

Suitability for earthworking of glacial tills in Scotland. Matheson, G.D., et al. [1991, p.239-249, eng] 47-3881

Debris flows and snow avalanche landforms in the Lairig Ghru, Cairngorm Mountains, Scotland. Luckman, B.H., [1992, p.109-121, eng] 47-4321

Evolution of large roches moutonnées. Sugden, D.E., et al. [1992, p.253-264, eng] 47-4334

Avalanche prediction in Scotland: 1. A survey of avalanche activity. Ward, R.G.W., [1984, p.91-108, eng] 47-5254

Avalanche prediction in Scotland: 2. Development of a predictive model. Ward, R.G.W., [1984, p.109-133, eng] 47-5255

—Wales

Glacially deformed bedrock at Wylfa Head, Anglesey, North Wales. Harris, C., [1991, p.135-142, eng] 47-3873

Glacigenic soils of the Taff Valley, Wales. Lewis, J.D., [1991, p.423-430, eng] 47-3894

Pleistocene deposits of the South Wales coalfield and their engineering significance. Wright, M.D., [1991, p.441-448, eng] 47-3895

United States

Temporal fluctuations in weather disasters: 1950-1989. Changnon, S.A., et al. [1992, p.191-208, eng] 47-783

Quaternary sediments east of the Rocky Mountains. Soller, D.R., [1992, 54p., eng] 47-2593

Early Wisconsinan alpine glaciation in the western United States. Colman, S.M., et al. [1992, p.269-278, eng] 47-2697

Early Wisconsin lakes and glaciers in the Great Basin, U.S.A. Oviatt, C.G., et al. [1992, p.279-287, eng] 47-2698

Evaluation of trends in runoff in the western United States. Wahl, K.L., [1992, p.701-710, eng] 47-2746

Fatal avalanche accidents in the United States 1991-92, 1992-93 (through 2-13-93). Atkins, D., [1993, p.1-5, eng] 47-3260

Variability of snowfall over the conterminous United States during the period 1940-1990. Zapotocny, J.V., [1991, p.191-192, eng] 47-4483

Temporal characteristics of USA snowfall 1945-1946 through to 1984-1985. Leathers, D.J., et al. [1993, p.65-76, eng] 47-4981

Recent snowfall variations in North America. Karl, T.R., et al. [1993, p.1327-1344, eng] 47-5211

Correlation between continental snow cover and air temperature. Leathers, D.J., et al. [1993, p.1345-1355, eng] 47-5212

—Alaska

Quaternary geology of southwestern Alaska. Wayhomas, C.F., [1991, 305p., eng] 47-290

Growth forms of a tundra grass of northern Alaska. Dobson, J.L., [1991, 73p., eng] 47-312

Geologic studies in Alaska by the U.S. Geological Survey, 1990. Bradley, D.C., ed. [1992, 244p., eng] 47-608

Occurrence of platinum-group elements in some gold-mining districts of Alaska. Cathrall, J.B., et al. [1992, p.33-43, eng] 47-610

Sand dunes and paleoclimatology of northern Alaska. Galloway, J.P., et al. [1992, p.100-111, eng] 47-613

Geochemically anomalous areas in southwest Alaska. Kilburn, J.E., et al. [1992, p.156-162, eng] 47-615

Fluvial facies architecture in the Tertiary Usibelli Group of Suntrana, central Alaska. Stanley, R.G., et al. [1992, p.204-211, eng] 47-617

Gold placers, gold source, and high terrace gravels in the Fortymile River area, Alaska. Yeend, W., [1992, p.228-230, eng] 47-620

1991 annual report on Alaska's mineral resources. Schneider, J.L., ed. [1991, 69p., eng] 47-626

Monitoring of environmental conditions in the Alaskan forests using ERS-1 SAR data. Rignot, E.J., et al. [1992, p.530-532, eng] 47-649

Spectral signature of coupled flow in the refreezing active layer, northern Alaska. Outcalt, S.I., et al. [1992, p.273-284, eng] 47-709

White phosphorus poisoning of waterfowl in an Alaskan salt marsh. Racine, C.H., et al. [1992, p.669-673, eng] 47-1235

Activities of the Alaska District, Water Resources Division, U.S. Geological Survey, 1992. Snyder, E.F., ed. [1992, 21p., eng] 47-1325

Alaska's mineral industry, 1991. Bundtzen, T.K., et al. [1992, 89p., eng] 47-1485

Geochemistry of Haines-Klukwan-Porcupine area, southeastern Alaska. Gilbert, W.G., et al. [1991, 75p. + 2 sheets, eng] 47-1488

Water resources data for Alaska, water year 1991. Lamke, R.D., et al. [1992, 415p., eng] 47-2776

Wetland properties of permafrost soils in Alaska. Ping, C.L., et al. [1992, p.198-205, eng] 47-3898

Late Pleistocene vertebrates and other fossils from Epiguruk, northwestern Alaska. Hamilton, T.D., et al. [1993, p.381-389, eng] 47-3899

Small-scale wetland restoration in the high Arctic: a long-term perspective. Forbes, B.C., [1993, p.59-68, eng] 47-3900

Wetlands: an editorial perspective. Knight, C.W., [1993, p.13-16, eng] 47-4097

1992 annual report on Alaska's mineral resources. Bohn, D., ed. [1992, 65p., eng] 47-4215

Paleoclimatic implications of Alaskan coastal marine deposits. Kaufman, D.S., et al. [1993, p.21-33, eng] 47-4733

Dendrochronology of an iceberg-calving glacier. Wiles, G.C., et al. [1993, p.35-42, eng] 47-4750

Water quality and placer mining in interior Alaska, 1992. Ray, S.R., [1993, 83p., eng] 47-4763

Summary of water-use data in Alaska, 1991. Petrik, W.A., et al. [1992, 5p. + appends., eng] 47-4764

Water quality and placer mining in interior Alaska, 1991. Ray, S.R., [1992, 73p., eng] 47-4770

Heavy mineral analysis from Alaska placer mines. Wood, J.E., [1992, 7p., eng] 47-4771

Short notes on Alaskan geology 1993. Solie, D.N., ed. [1993, 99p., eng] 47-4773

Penultimate great earthquake in Alaska. Combellick, R.A., [1993, p.7-15, eng] 47-4774

Vinasale Mountain gold deposit. DiMarchi, J.J., [1993, p.17-29, eng] 47-4775

Geothermy at the Mount Spurr volcanic complex. Motyka, R.J., et al. [1993, p.31-40, eng] 47-4776

Arctic climatic change: comment and reply. Burn, C.R., et al. [1993, p.1473-1478, eng] 47-5215

Methane from northern peatlands and climate change. Frolking, S., [1993, p.109-124, eng] 47-5233

Boreal forests, the carbon cycle and global change: a challenge for ecologists. Bonan, G.B., [1993, p.139-153, eng] 47-5235

—Alaska—Aleutian Islands

History of tree planting on the Aleutian Islands. Bruce, D., [1993, p.393-426, eng] 47-4552

—Alaska—Anchor Point

Evaluation of two springs at Anchor Point, Alaska, for water-supply potential. Munter, J.A., et al. [1992, 27p., eng] 47-4769

United States *(cont.)*

—Alaska—Arctic National Wildlife Refuge

Geochemistry of an offshore well in northeast Alaska. Banet, A.C., Jr., [1993, 51p. + maps., eng] 47-2618

Organic-rich shale and bentonite in the Arctic Creek unit. Mull, C.G., et al, [1993, p.41-49, eng] 47-4777

—Alaska—Bering Piedmont Glacier

Glacial lake bathymetry at Bering Piedmont Glacier, AK. Fleisher, P.J., et al, [1993, p.267-274, eng] 47-4566

—Alaska—Brooks Range

Petroleum potential of the Brooks Range. Howell, D.G., et al, [1992, p.112-126, eng] 47-614

—Alaska—Bullen Point

Historical overview of the DEW system in Alaska, and *documentation of facilities at POW-3, Bullen Point,* Alaska. [1993, 96p., eng] 47-4209

—Alaska—Columbia Glacier

Location of mechanical controls on Columbia Glacier, Alaska, U.S.A., prior to its rapid retreat. Van der Veen, C.J., et al, [1993, p.99-105, *eng*] 47-4742

—Alaska—Cook Inlet

Cook Inlet ice loads calculated using historical data and probabilistic methods. Utt, M.E., et al, [1992, p.677-680, eng] 47-1859

—Alaska—Delta River

Dating Holocene moraines of Black Rapids Glacier, Delta River valley, central Alaska Range. Reger, R.D., et al, [1993, p.51-59, eng] 47-4778

—Alaska—Fairbanks

Overview of snow loads for Fairbanks, Alaska. Tobiasson, W., et al, [1992, p.393-404, eng] 47-3217

Water quality sampling for the Fairbanks airport. Ray, S.R., et al, [1992, 15p., eng] 47-4772

Tracer gas for meteorological analysis in the Fairbanks basin. Rezek, J.F., et al, [1981, 33p. + appends., eng] 47-5246

—Alaska—Gambell

Analysis of potable water-supply options for Gambell, Alaska. Munter, J.A., et al, [1992, 39p., eng] 47-4768

—Alaska—Gulf of Alaska

Circulation and hydrography in the northwestern Gulf of Alaska. Musgrave, D.L., et al, [1992, *p.1499-1519, eng*] 47-3817

Forecasters handbook for the Bering Sea, Aleutian Islands, and Gulf of Alaska. Fett, R.W., et al, [1993, Var. p., eng] 47-4886

—Alaska—Healy

Water quality study of Hoseanna Creek basin. Ray, S.R., et al, [1992, 51p., eng] 47-4766

—Alaska—Hubbard Glacier

Geology of bay after breakup of Hubbard Glacier ice dam. Carlson, P.R., et al, [1992, 41p., *eng*] 47-3708

—Alaska—Innoko National Wildlife Refuge

Innoko National Wildlife Refuge oil and gas resource assessment. Bascle, R.J., et al, [1993, 20p., eng] 47-4895

—Alaska—Juneau

Water quality in the Gold Creek drainage basin. Noll, R.S., [1992, 32p., eng] 47-4767

—Alaska—Kataklaruk River

Glacier, river and sea ice blister observations. Kovacs, A., [1992, 14p., eng] 47-785

—Alaska—Kenai Peninsula

Deformation history at Kenai Peninsula glaciers. Bradley, D.C., et al, [1992, p.17-32, eng] 47-609

Uranium resource potential in the Kenai Peninsula. Dickinson, K.A., et al, [1992, p.81-99, *eng*] 47-612

Ground-water-quality data collected during 1991, west Nikiski, Alaska. Maurer, M.A., [1993, 64p., eng] 47-4762

—Alaska—Kobuk River

Pleistocene vertebrates and other fossils from Epiguruk, northwestern Alaska. Hamilton, T.D., et al, [1993, p.381-389, eng] 47-5143

—Alaska—Kodiak National Wildlife Refuge

Kodiak National Wildlife Refuge oil and gas resource assessment. Bascle, R.J., et al, [1993, 21p., eng] 47-4894

—Alaska—Kotzebue Sound

Physical and dynamic properties of sea ice in the polar oceans. Gow, A.J., et al, [1991, 46p., eng] 47-704

Sediment inventory of Cs-137 in the Eastern Chukchi Sea, Northwest Alaskan Arctic. Baskaran, M., et al, [1993, p.37-47, eng] 47-5019

—Alaska—Kuparuk River

Glacier, river and sea ice blister observations. Kovacs, A., [1992, 14p., eng] 47-785

—Alaska—Nome

Recharge area evaluation for Moonlight Springs, Nome, Alaska. Munter, J.A., et al, [1992, 69p. + 2 sheets, eng] 47-1487

—Alaska—North Slope

Cenozoic marine and permafrost history of the North Slope. Carter, L.D., et al, [1992, p.44-51, eng] 47-611

Coal resources in the North Slope. Roberts, S.B., et al, [1992, p.196-203, eng] 47-616

Marine deposits and paleoclimatology of the North Slope. Nelson, R.E., et al, [1992, p.219-222, eng] 47-619

Mapping Alaska's North Slope with aerial photography. Harrison, B.V., [1981, p.179-182, eng] 47-1194

Civil engineering in the arctic North Slope, Alaska. Manikian, V., [1992, p.1-6, eng] 47-1829

Short and long term coastal changes along the U.S. Beaufort Sea. Miller, M.C., et al, [1992, p.600-607, eng] 47-1847

Bomb radiocarbon in arctic Alaskan aquatic and terrestrial biota. Schell, D.M., [1993, p.135-144, eng] 47-5026

—Alaska—Norton Sound

Liquefaction potential of sediment in the northern Bering Sea. Winters, W.J., [1985, p.454-472, eng] 47-1615

—Alaska—Palmer

Ground-water resources of the Palmer area, Alaska. LaSage, D.M., [1992, 39p. + 1 sheet, eng] 47-1486

—Alaska—Poker Flat

Prevailing winds in the arctic and antarctic atmospheres at *ca 80-110* km. Portniagin, *IU.I., et al,* [1993, *p.827-841, eng*] 47-2930

Dynamics of the antarctic and arctic mesosphere and the lower thermosphere regions, II. The semidiurnal tide. Portniagin, IU.I., et al, [1993, p.843-855, eng] 47-2931

—Alaska—Prince William Sound

U.S. Army Corps of Engineers response to the *Exxon Valdez* oil spill. McDonnell, J.A., [1992, 148p., eng] 47-509

Effect of inoculation on the biodegradation of weathered Prudhoe Bay crude oil. Mueller, J.G., et al, [1992, p.95-102, eng] 47-864

Prince William Sound starts to recover. Nichols, A.B., [1990, p.48-55, *eng*] 47-1697

Iceberg production in the Prince William Sound area. Long, W.E., [1992, 5p., eng] 47-2774

—Alaska—Prudhoe Bay

Prudhoe Bay Waterflood Project environmental monitoring program 1987. Final report. [1993, Var. p., eng] 47-2207

1988 Endicott Environmental Monitoring Program. Final report. Dewey, R.K., ed, [1992, 5 vols., eng] 47-3456

—Alaska—Teshekpuk Lake

Teshekpuk Lake oil and gas resource assessment. Bascle, R.J., [1993, 20p., eng] 47-4893

—Alaska—Umiat

Glacier, river and sea ice blister observations. Kovacs, A., [1992, 14p., eng] 47-785

—Alaska—Wrangell Mountains

Response of shrub-tussock community to vehicle use. Ahlstrand, G.M., et al, [1993, p.142-149, eng] 47-4746

—Appalachian Mountains

Paleoperiglacial processes in the central Appalachians. Clark, G.M., et al, [1992, p.31-61, eng] 47-846

—Arizona

Where has all the snow gone? Snowpack sublimation in northern Arizona. Avery, C.C., et al, [1992, p.84-94, eng] 47-497

Hydrometeorologic forecasting at Salt River Project. Reigle, D., et al, [1992, p.137-142, eng] 47-2723

Estimation of cloud liquid water in winter storms on the Mongollon Rim—report on task 1. Medina, J.G., [1993, 19p., eng] 47-4913

Computerized simulation of watershed streamflow. *Ffolliott, P.F., et al,* [1990, p.285-292, *eng*] 47-5220

—California

Operational runoff forecasting and scheduling Pacific Gas and Electric's hydro electric system. Freeman, G.J., [1992, p.143-152, eng] 47-2724

Snowmelt in Sierra Nevada and Coast Range streamflows. Riddle, L., et al, [1992, p.641-650, eng] 47-2740

Possible climate change and its impact on snowmelt and water supply in California. Roos, M., [1990, p.135-144, *eng*] 47-5218

—California—Sequoia National Park

Acid deposition and global change in Sequoia National Park. Tonnessen, K.A., [1992, p.497-507, eng] 47-2735

—California—Sierra Nevada

Dating of Quaternary glaciation in the Sierra Nevada. Berry, M.E., [1991, 376p., eng] 47-293

Peak flows from snowmelt runoff in the Sierra Nevada, USA. Kattelmann, R., [1991, p.203-211, eng] 47-1307

Modeling watershed management for water augmentation. Combs, S.T., et al, [1992, p.221-229, eng] 47-2729

Aerial infrared mapping of snow cover in the Sierra Nevada. Hall, D.K., et al, [1992, p.39-46, eng] 47-4031

Predicting wilderness snow water equivalent with nonwilderness snow sensors. McGurk, B.J., et al, [1993, p.85-94, eng] 47-4993

Effects of forest cover on a snowpack in the Sierra Nevada. Kattelmann, R., [1990, p.276-284, eng] 47-5219

—Colorado

Snowfall-event climatology: the finale. Mahoney, J.L., et al, [1992, p.66-77, eng] 47-495

Predicting snow melt and streamflow volumes in the Arkansas River basin of Colorado. Nickless, R.C., [1992, p.137-140, eng] 47-505

Spatial patterns of geochemical denudation in a Colorado alpine environment. Caine, N., [1992, p.63-88, eng] 47-847

Degree-day estimate of snow accumulation to a watershed. Sommerfeld, R.A., et al, [1991, p.221-228, eng] 47-1309

Front Range/Palmer Divide blizzard of 7 Jan 1992. Wolf, R.A., et al, [1992, 6p., eng] 47-2132

Observing and forecasting a mesoscale snow event using MAPS. Glancy, R.T., et al, [1992, 11p., eng] 47-2133

Precipitation model for the Gunnison River basin. Hay, L.E., et al, [1992, p.651-660, eng] 47-2741

Model for simulation of winter precipitation. Medina, J.G., [1992, p.661-670, eng] 47-2742

Use of nested models to simulate regional orographic precipitation. Matthews, D.A., et al, [1992, p.671-680, eng] 47-2743

Application of watershed models to the Gunnison River basin. Kuhn, G., et al, [1992, p.741-750, eng] 47-2749

Potential climate-change effects on bed-material entrainment, the Gunnison Gorge, Colorado. Elliot, J.G., et al, [1992, p.751-759, eng] 47-2750

Cloud droplets at a mountain-top site in Colorado. Hindman, E.E., et al, [1993, p.15-22, eng] 47-3099

Isotope tracing of sulfate trends in Colorado lakes. Turk, J.T., et al, [1993, p.415-431, eng] 47-4759

Heavy snowfall during an arctic outbreak along the Colorado Front Range. Wesley, D.A., et al, [1990, p.2-19, eng] 47-5257

—Colorado—Front Range

Field and laboratory studies of patterned ground in a Colorado alpine region. Benedict, *J.B.*, [1992, *38p., eng*] 47-1434

Sediment transfer on the floor of the Martinelli Snowpatch, Colorado Front Range, U.S.A. Caine, N., [1992, p.133-144, eng] 47-4323

Influence of snow upon rates of granodiorite weathering, Colorado Front Range, USA. Benedict, J.B., [1993, p.87-92, eng] 47-4850

—Idaho

Estimation of 30 year average annual precipitation for SNOTEL sites in Idaho. Morrisey, P.S., [1992, p.133-136, eng] 47-504

—Idaho—Salmon River

Effects of severe freezing periods and discharge on the formation of ice jams. Zufelt, J.E., et al, [1992, 12p., eng] 47-698

Salmon River experimental ice boom: 1989-90 and 1990-91 winter seasons. White, K.D., [1992, 17p., eng] 47-702

—Illinois

Non-environmental effects of alternative deicers in Illinois. Gingrich, C.D., et al, [1992, 12p., eng] 47-936

Effects of CMA deicers on biochemical oxygen demand in streams. Eheart, J.W., *et al,* [1992, *12p., eng*] 47-941

Last interglacial-glacial transition in Illinois: 123-25 ka. Curry, B.B., et al, [1992, p.71-88, eng] 47-2684

—Indiana

Ages of the Whitewater and Fairhaven tills in southwestern Ohio and southeastern Indiana. Miller, B.B., et al, [1992, p.89-98, eng] 47-2685

Soil tongues—periglacial relics or active zones. Hinkel, K.M., [1993, p.75-83, eng] 47-5203

—Maine

Stratigraphy of Wisconsinan deposits in Maine. Weddle, T.K., [1991, 422p. (2 vols.), eng] 47-303

Preliminary analysis of historical snow data using a geographic information system. Loiselle, M.C., et al, [1992, p.81-88, eng] 47-4036

—Massachusetts

How Massachusetts cut salt use and costs. Carr, F.H., Jr., [1992, p.17-18, eng] 47-2322

—Michigan—St. Marys River

River ice and sediment transport during opening of navigation. Zabilansky, L.J., et al, [1992, 76p., eng] 47-1240

—Minnesota

Influence of beaver and bogs on greenhouse gases at *Voyageurs National Park.* Johnston, C.A., et al, [1992, p.471-479, eng] 47-2732

—Missouri River

Ice impacts on flow along the Missouri River. Wuebben, J.L., et al, [1992, 10p., eng] 47-1237

—Montana

Effects of climate changes on water supplies. Cooley, K.R., et al, [1992, p.185-194, eng] 47-2727

—Nevada

Nevada takes close look at CMA efficacy. Nelson, R.J., [1992, p.32-34, eng] 47-1945

—New England

Historical climate records from the northeastern United States, 1640-1900. Baron, W.R., [1992, p.74-91, eng] 47-2082

On the age of the penultimate full glaciation of New England. Oldale, R.N., et al, [1992, p.163-170, eng] 47-2690

New England's *disastrous weather.* Watson, B., *ed,* [1990, 228p., eng] 47-2778

—New Hampshire
Israel River ice control structure. Axelson, K.D., [1991, p.349-352, eng] 47-1238
—New Mexico
Snowpack loss in the water budget of the San Juan aquifer. Waltemeyer, S.D., et al, [1992, p.141-145, eng] 47-506
Pre-late Wisconsin paleolimnologic record from the Estancia Valley, central New Mexico. Bachhuber, F.W., [1992, p.289-307, eng] 47-2699
—New York
Use of high resolution data from the Nested Grid Model for the prediction of lake-effect snows. Niziol, T.A., et al, [1992, 11p., eng] 47-2138
Lake effect snow events in eastern New York. Snyder, W.R., [1992, 10p., eng] 47-2139
Case study of a mesoscale snow event in New York's Capital District. Wooldridge, M.E., et al, [1992, 13p., eng] 47-2140
—New York—Adirondack Mountains
Identifying sources of snowmelt acidification with a watershed mixing model. Schaefer, D.A., et al, [1993, p.345-365, eng] 47-4758
—North Dakota
Bank recession of Lake Sakakawea, North Dakota. Reid, J.R., [1992, 67p., eng] 47-1324
Analysis of the record-breaking northern plains snowstorm of October 27-29 1991. Abeling, W.A., et al, [1992, 22p., eng] 47-2136
—Ohio
Ages of the Whitewater and Fairhaven tills in southwestern Ohio and southeastern Indiana. Miller, B.B., et al, [1992, p.89-98, eng] 47-2685
Reevaluation of early Wisconsinan stratigraphy of northern Ohio. Szabo, J.P., [1992, p.99-107, eng] 47-2686
—Ohio River
Flow regulation for controlled river-ice formation. Jain, S.C., et al, [1993, 50p., eng] 47-4662
Mathematical model for river ice processes. Lal, A.M.W., et al, [1993, 80p., eng] 47-4871
—Pennsylvania—Pittsburgh
Winter severity index for Pittsburgh, Pennsylvania. Nouhan, V.J., [1992, 17p., eng] 47-2142
—Sierra Nevada
Sierra Nevada winter storms. Demoz, B.B., [1992, 164p., eng] 47-2124
Accumulation and melt characteristics of northeastern Sierra Nevada snowpacks. Reece, B., et al, [1992, p.631-640, eng] 47-2739
Climate-change scenarios for the Sierra Nevada. Dettinger, M.D., et al, [1992, p.681-690, eng] 47-2744
Atmospheric circulation and precipitation in the Sierra Nevada. Cayan, D.R., et al, [1992, p.711-720, eng] 47-2747
Climate change and seasonal streamflow in the Sierra Nevada. Duell, L.F.W., Jr., [1992, p.731-740, eng] 47-2748
—South Dakota
Analysis of the record-breaking northern plains snowstorm of October 27-29 1991. Abeling, W.A., et al, [1992, 22p., eng] 47-2136
—Tahoe, Lake
Hydroclimate response to climate change in the Lake Tahoe basin. Shelton, M.L., [1992, p.557-566, eng] 47-2737
—Utah
Rock glaciers and the Holocene paleoclimatic record of the La Sal Mountains, Utah. Nicholas, J.W., [1992, 208p., eng] 47-278
Prediction of snowmelt rates at a forested alpine site in northern Utah. Sauter, K.A., et al, [1992, p.95-102, eng] 47-498
NGM model output error and the effect on forecasting a Great Basin cyclogenic event: a case study. Conger, M.C., [1992, 38p., eng] 47-2141
—Utah—Great Salt Lake
Lake effect of the Great Salt Lake: overview and forecast problems. Carpenter, D.M., [1993, p.181-193, eng] 47-4831
—Washington
Experiments with corrosion inhibited deicers in Washington State. Conrad, J.F., et al, [1992, 11p., eng] 47-935
Operational use of an orographic precipitation model. Hayes, P.S., [1992, 14p., eng] 47-2135
Snowstorms over the western Washington lowlands. Ferber, G.K., [1992, 23p., eng] 47-2137
Washington State OKs six anti-corrosion deicers. [1992, p.24-25, eng] 47-2326
—Washington—Cascade Mountains
Changes in glacier runoff due to climate change in the North Cascades, Washington. Pelto, M.S., [1992, p.489-496, eng] 47-2734
—West Virginia
West Virginia oil and gas well brines for highway deicing. Eck, R.W., et al, [1992, 16p., eng] 47-933
Does lake-effect snow extend to the mountains of West Virginia. Schmidlin, T.W., [1992, p.145-148, eng] 47-4043
—Wisconsin
Deposition of the Late Wisconsin Johnston moraine, southcentral Wisconsin. Lundqvist, J., et al, [1993, p.53-59, eng] 47-4751
Stratigraphy and origin of an area of hummocky glacial topography, northern Wisconsin, U.S.A. Attig, J.W., et al, [1993, p.61-67, eng] 47-4752
—Wyoming
Operational use of an orographic snow model. Scott, C., [1992, 7p., eng] 47-2134
Use of trees and shrubs for control of blowing snow in select locations along Wyoming highways. Powell, K., et al, [1992, 30p., eng] 47-4214
Glacial icemelt in the Wind River Range, Wyoming. Pochop, L.O., et al, [1990, p.118-124, eng] 47-5216
—Wyoming—Snowy Range
Chemistry of a Wyoming snowpack related to global budgets. Sommerfeld, R.A., et al, [1993, p.140-142, eng] 47-1595
Unloading
Navigation in the Weddell and Bellingshausen seas. Federici, V.M., et al, [1993, p.274-299, eng] 47-5116
Unsteady flow
Drag reduction of a cylinder/endwall junction using the ice formation method. LaFleur, R.S., et al, [1993, p.26-32, eng] 47-4021
Upwelling
Retrieval of total precipitable water over high-latitude regions using radiometric measurements near 90 and 183 GHz. Wang, J.R., et al, [1992, p.1368-1378, eng] 47-1581
Hydrodynamics of lakes. Filatov, N.N., [1991, 196p., rus] 47-2283
Meltwater and tidal currents: controls on circulation in a small glacial fjord. Cowan, E.A., [1992, p.381-392, eng] 47-2602
Wave effects on ocean-ice interaction in the marginal ice zone. Liu, A.K., et al, [1993, p.10,025-10,036, eng] 47-4374
Waves and mesoscale features in the marginal ice zone. Liu, A.K., et al, [1993, p.343-348, eng] 47-4437
Urban planning
Unsurfaced road management rating system. Eaton, R.A., et al, [1993, p.25, eng] 47-1911
One city's guide to snow and ice operations and planning. Usher, B., [1992, p.36-37, eng] 47-1925
Sidewalk snow removal at the foot of the Rockies. Ruiz, J., [1992, p.49-50, eng] 47-1926
Effects of banning salt for roadway de-icing. Strizek, P., [1992, p.54,82, eng] 47-1927
Lessons learned from an ice storm emergency. Low, T.A., [1993, p.38-49, eng] 47-4624
Harmony between road management and environment in winter. [1992, 44p., eng] 47-4780
Comfortable towns with enhanced safety in snow. Sakamoto, Y., [1991, p.13-21, eng] 47-4786
Snow-Sapporo-21 Project. [1991, 50p., eng] 47-4800
Building snowproof cities (Aomori City). Nishiue, H., [1986, p.9-12, jpn] 47-5176
Urethane foam
See also: Cellular plastics
USSR
Information resources of the northern regions of Russia: status and availability problems. Vinogradov, A., [1992, p.325-329, eng] 47-1410
Construction of platforms for the Russian northern continental shelf. Eranti, E., et al, [1992, p.557-563, eng] 47-1841
Ice investigations for the proof of tidal power plant designs. Monosov, L.M., [1992, p.714-717, eng] 47-1865
Documentary evidence from the U.S.S.R. Borisenkov, E.P., [1992, p.171-183, eng] 47-2087
Dendroclimatic evidence from the northern Soviet Union. Graybill, D.A., et al, [1992, p.393-414, eng] 47-2093
Persistence of the ozone layer over Norway and Russia. Henriksen, K., et al, [1993, p.145-154, eng] 47-2595
Dynamics of plant communities related to global changes of climate. Puzachenko, IU.G., [1992, p.481-487, eng] 47-2733
Geography of avalanches. Miagkov, S.M., ed, [1992, 331p., rus] 47-3505
U.S. rangeland technology: rehabilitating Russia's oil, gas production sites. McKendrick, J.D., et al, [1993, p.4-7, eng] 47-4096
Northern Sea Route and the policy of new Russia. Granberg, A.G., [1992, p.5-14, eng] 47-4210
History of the Northern Sea Route. Armstrong, T., [1992, p.34-42, eng] 47-4212
Micromorphological features of the USSR zonal soils. Gerasimova, M.I., et al, [1992, 214p. (Pertinent p.66-107), rus] 47-4661
Soil degradation in the vicinity of industrial centers in the North. Kriuchkov, V.V., [1991, p.103-108, rus] 47-4818
Report of Inventories/Sources Group. Smith, J.N., ed, [1993, p.5-7, eng] 47-5014
Report of the Working Group on Routes, Rates, Reactions and Fates. [1993, p.9-11, eng] 47-5015
Legal regulation of environmental improvement of the Russian Federation nuclear complex activities. Veksler, M., [1993, p.609-614, eng] 47-5058
Dynamics of tritium deposition from precipitation over the USSR and its removal into seas. Katrich, I.IU., [1991, p.90-93, eng] 47-5198
State of pollution of terrestrial surface waters on the USSR territory in 1990. Shekhovtsov, A.A., et al, [1991, p.101-106, eng] 47-5199
Distribution and renovation time of soil carbon in boreal and subarctic ecosystems of European Russia. Cherkinskii, A.E., et al, [1993, p.65-69, eng] 47-5230
Framework to quantify the natural terrestrial carbon cycle of the former Soviet Union. Kolchugina, T.P., et al, [1993, p.259-275, eng] 47-5242
—Aksay River
Model evaluations of the Aksay and At-Bashi river runoff with regard to the role of snow cover and glaciers. Shentsis, I.D., [1991, p.136-142, rus] 47-331
—Alexandra Land
Deglaciation and shoreline displacement on Alexandra Land, Franz Josef Land. Glazovskii, A.F., et al, [1992, p.283-293, eng] 47-4340
—Altai Mountains
Paleoclimate of the northwestern Altai Mountains in the Eopleistocene. Derevianko, A.P., et al, [1992, p.842-846, rus] 47-2038
Naleds in the Altay Mountains. Sheinkman, V.S., [1991, p.166-176, rus] 47-2444
Exogenous processes of the Altai highlands and their relations. Ivanovskii, L.N., [1991, p.26-33, rus] 47-3276
—Amga River
Soils of the valley near the middle course of the Amga River. Desiatkin, R.V., et al, [1989, 120p., rus] 47-100
—Amgun' River
Determining parameters of ice jams and accumulation of bottom ice based on field studies of the Amgun' River. Kiselev, A.A., et al, [1991, p.24-29, rus] 47-1045
Field studies of the freezing processes of the Amgun' River. Bolotnikov, G.I., et al, [1991, p.38-46, rus] 47-1047
—Amguyema River
Analysis of the composition of cryophyte steppe communities. Slinchenkova, E.IU., [1991, p.52-67, rus] 47-2358
—Amur River
Calculating the maximum water levels in areas of backwater curves in designing a reservoir. Bolotnikov, G.I., [1991, p.12-16, rus] 47-1043
Space-time variability in ice jams on the Amur and Lena rivers. Shanochkin, S.V., et al, [1991, p.17-23, rus] 47-1044
—Anadyr' River
Gas-bio-geochemical characteristics of the seasonally thawing layer in the Anadyr' and Khatyrka lowlands. Glotov, V.E., [1991, p.80-86, rus] 47-4814
—Angara River
Cryogenic phenomena on the banks of the Angara water reservoirs. Shul'gin, M.V., et al, [1992, p.99-102, rus] 47-3270
—Atbashi River
Model evaluations of the Aksay and At-Bashi river runoff with regard to the role of snow cover and glaciers. Shentsis, I.D., [1991, p.136-142, rus] 47-331
—Balkhash Lake
Hydrodynamics of lakes. Filatov, N.N., [1991, 196p., rus] 47-2283
—Baykal, Lake
Space shuttle photography of ice patterns in Lake Baikal. Evans, C.A., et al, [1992, p.1559-1561, eng] 47-684
Regularities in the vertical-zonal distribution of seasonally frozen taiga soils in the Lake Baykal basin. Tsybzhitov, Ts.Kh., et al, [1991, p.109-115, rus] 47-4819
—Beringia
Late Quaternary lacustrine pollen records from southwestern Beringia. Lozhkin, A.V., et al, [1993, p.314-324, eng] 47-5142
—Bykovskiy Peninsula
Characteristics of the microstructure of deposits from the ice complexes in northern Yakutia. Slagoda, E.A., [1991, p.38-47, rus] 47-4807
—Caspian Sea
Mathematical modeling of ice drift in the example of the Caspian Sea. Mikhal'chuk, A.V., [1991, p.94-96, rus] 47-893
—Caucasus
Snow cover distribution in the upland zones of the Greater Caucasus. Loktionova, E.M., et al, [1991, p.34-39, rus] 47-318
Regularities and distribution of snow cover in the high mountain regions of the Greater Caucasus. Menshutin, V.M., [1991, p.39-43, rus] 47-319
Mesoscale interactions in the snow cover-atmosphere system during a period of snow melting. Loktionova, E.M., et al, [1991, p.48-53, rus] 47-321
Mass balances of the Gergeti Glacier and fluctuations in the regimes of glaciers in the Caucasus. Tsomaia, V.Sh., [1990, p.72-88, rus] 47-418

USSR

—Caucasus *(cont.)*

Distribution of paths of movement of multi-cell hail clouds in the Northern Caucasus. Gazaeva, Z.A., et al. [1991, p.93-99, rus] 47-756

—Chernobyl

Sediment inventory of Cs-137 in the Eastern Chukchi Sea, Northwest Alaskan Arctic. Baskaran, M., et al. [1993, p.37-47, eng] 47-5019

Anthropogenic radioactivity in the arctic seas: time trends and present levels. Dahlgaard, H., [1993, p.49-63, eng] 47-5020

Temporal evolution of artificial radioactivity in the North and Baltic Sea. Nies, H., et al. [1993, p.225-236, eng] 47-5033

—Chukotskiy Peninsula

Phytocatena in the vegetation cover of mountain territories. Kholod, S.S., [1991, p.42-51, rus] 47-2357

Analysis of the composition of cryophyte steppe communities. Slinchenkova, E.IU., [1991, p.52-67, rus] 47-2358

—De Long Islands

Ostrova De-Longa: an analysis of palaeoenvironmental data. Makeev, V., et al. [1992, p.301-306, eng] 47-3857

—Dnepr River

Radioactive contamination of the northern seas: approaches to the assessment of the impact on the marine environment and man. Kuznetsov, IU.V., et al. [1993, p.379-394, eng] 47-5044

—Don-ty Lake

Sapropel of Don-ty Lake. Kazakov, V.G., [1991, p.114-121, rus] 47-4113

—East Sevastian, Lake

Glacial landforms and the age of deglaciation in the Tiksi area, East Siberia. Grosval'd, M.G., et al. [1992, p.295-304, eng] 47-4341

—East Siberian Sea

Intensity of changes in the areas of ice massifs in the East Siberian Sea during summer. IUlin, A.V., [1990, p.25-34, rus] 47-3586

Probability method of forecasting surge level oscillations in the example of the East Siberian Sea. Andriushchenko, V.I., [1991, p.76-85, rus] 47-3693

—Far East

First ice-navigating ships for the Far East. Smirnov, K.D., [1992, p.49-51, rus] 47-2921

Influence of natural conditions on the development of transportation in the Far East. Vakhnenko, R.V., [1991, p.103-106, rus] 47-3281

Carbon storage in peat based on regionality of Russian mires. Botch, M.S., [1993, p.101-107, eng] 47-5232

Greenhouse gases from forest fires in Russia. Krankina, O.N., [1993, p.179-186, eng] 47-5236

—Far North

Floating nuclear power stations for the Far North. Tarasov, V.K., et al, [1992, p.3-6, rus] 47-2916

Site surveys of pipelines in the Far North. Kharionovskii, V.V., [1993, p.30-35, rus] 47-4083

—Franz Josef Land

Prevailing winds in the arctic and antarctic atmospheres at *ca* 80-110 km. Portniagin, IU.I., et al. [1993, p.827-841, eng] 47-2930

Dynamics of the antarctic and arctic mesosphere and the lower thermosphere regions, II. The semidiurnal tide. Portniagin, IU.I., et al. [1993, p.843-855, eng] 47-2931

Expedition to Novaja Zemlja and Franz Josef Land with RV "Dalnie Zelentsy". Nürnberg, D., et al. [1993, p.49-74, eng] 47-4221

Deglaciation and shoreline displacement on Alexandra Land, Franz Josef Land. Glazovskii, A.F., et al. [1992, p.283-293, eng] 47-4340

Expedition to Novaja Zemlja and Franz Josef Land with RV *Dalnie Zelentsy*. Nürnberg, D., et al. [1993, p.45-74, eng] 47-4878

—Georgia

Regions of catastrophic avalanches in Georgian territory. Salukvadze, M.E., [1990, p.100-109, rus] 47-419

—Gydan Peninsula

Formation of the cryogenic structure of the upper layer of permafrost. Konstantinov, S.A., [1991, p.48-53, rus] 47-1989

—Irkutsk

Erosion of agricultural lands in the Irkutsk region. Khismatullin, Sh.D., [1991, p.49-61, rus] 47-3279

Regionalization as a tool for studying carbon cycling in the former Soviet Union. Bianutsa, V., [1993, p.253-258, eng] 47-5241

—Issyk-Kul'

Reconstruction of humidification conditions of eastern Issyk-Kul' areas. Mel'nikova, N.G., et al. [1991, p.80-86, rus] 47-2792

—Kara Sea

Physical and dynamic properties of sea ice in the polar oceans. Gow, A.J., et al. [1991, 46p., eng] 47-704

Climatic regime of the Arctic at the transition from the 20th to the 21st century. Krutskikh, B.A., ed. [1991, 200p., rus] 47-3334

Homogeneous ice regions in the northeastern Kara Sea. Egorov, A.G., et al. [1990, p.6-14, rus] 47-3584

Hydrometeorological conditions characteristic of separated and connected Severnaya Zemlya and Kara Sea ice massifs. Egorov, A.G., [1990, p.35-41, rus] 47-3587

Experiment in formulating short term numerical ice forecasts for the southwestern Kara Sea. Nikolaev, S.IU., et al. [1990, p.98-104, rus] 47-3595

Studying the possibility of a long range forecast of summer ice conditions in the southwestern Kara Sea. Tiuriakov, A.B., [1990, p.105-111, rus] 47-3596

Calculating tidal movements in the Kara Sea. Dmitriev, N.E., et al. [1991, p.14-21, rus] 47-3686

Problem of water circulation in the Kara Sea. Doronin, N.IU., et al. [1991, p.34-41, rus] 47-3688

Proceedings. [1993, 647p., eng] 47-5013

Radioactivity and environmental problems for the seas and oceans. Israel, IU.A., et al. [1993, p.65-78, eng] 47-5021

Radioecology of the Barents and Kara Sea: level of apprehension and research strategy. Ivanov, G.I., et al. [1993, p.79-89, eng] 47-5022

Estimated inventory of radionuclides in former Soviet Union naval reactors dumped in the Kara Sea. Mount, M.E., et al. [1993, p.105-118, eng] 47-5024

Radioactive contamination of the Barents and Kara seas. Vakulovskii, S.M., et al. [1993, p.157-168, eng] 47-5028

Formation features of the structure and variability of the hydrological processes of the Kara Sea area. Pavlov, V.K., [1993, p.251-265, eng] 47-5035

Large-scale circulation of the Arctic Ocean: implications for pollutant transport. Schlosser, P., et al. [1993, p.285-309, eng] 47-5037

Mobility of radioisotopes in marine surface sediments. Buchholtz ten Brink, M.R., et al. [1993, p.311-323, eng] 47-5038

Non-local radiological consequences of nuclear waste dumping in the Arctic seas: a preliminary assessment. Baxter, M.S., et al. [1993, p.329-341, eng] 47-5040

Radioecological risk assessment for solid radioactive waste (SRW) dumped into the Kara Sea by the former USSR. Lystsov, V.N., [1993, p.395-414, eng] 47-5045

International Arctic Seas Assessment Project IASAP (1993-1996). Sjoeblom, K.-L., et al, [1993, p.443-447, eng] 47-5048

Radiological assessment for the dumping of radioactive wastes in the oceans. Templeton, W.L., [1993, p.480-496, eng] 47-5050

—Karelia

Regularities of the nitrogen regime of seasonally freezing soils of Karelia. Fedorets, N.G., [1992, p.220-222, eng] 47-1733

Carbon storage in peat based on regionality of Russian mires. Botch, M.S., [1993, p.101-107, eng] 47-5232

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Evaluating water vapor diffusion. Delarov, D.A., et al, [1991, p.46-56, rus] 47-383

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Gas-bio-geochemical characteristics of the seasonally thawing layer in the Anadyr' and Khatyrka lowlands. Glotov, V.E., [1991, p.80-86, rus] 47-4814

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Morphological classification of the sites of origin of water-snow streams. Evteev, A.O., [1991, p.155-160, rus] 47-334

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Water-snow flows in the Khibiny Mountains. Sapunov, V.N., [1991, p.94-99, rus] 47-2794

Ecological analysis of pigment content in the leaves of mountain-tundra dwarf shrubs. Korniushenko, G.A., et al, [1992, p.55-77, rus] 47-4093

—Kirgizia

Naleds and forecasting them on mountain highways in Kirgizia. Turgunbaev, A.T., [1991, p.219-225, rus] 47-2451

—Kola Peninsula

Bibliography of studies in Finland and the Kola Peninsula. Saarinen, H., et al. [1992, p.102-107, eng] 47-1400

Chemical analysis of snow cover as an indicator of contamination in the Kola Peninsula. Boltenko, E.L., et al, [1991, p.60-64, rus] 47-1987

Carbon storage in peat based on regionality of Russian mires. Botch, M.S., [1993, p.101-107, eng] 47-5232

—Kolyma River

Nitrifying bacteria from frozen deposits in the Kolyma lowlands. Soina, V.S., et al, [1991, p.92-97, rus] 47-4816

—Komi ASSR

Current processes in slightly soddy-podzolic loamy soils. Kanev, V.V., [1991, p.13-29, rus] 47-4104

Using drained land and some examples of its improvement. Gil', A.F., [1991, p.30-40, rus] 47-4105

Regulating the thermal regime of soils in the northern taiga subzone of the Komi ASSR. Mokiev, V.V., [1991, p.41-55, rus] 47-4106

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—Laptev Sea

East Siberian Arctic Region Expedition '92: the Laptev Sea—its significance for arctic sea-ice formation and transpolar sediment flux. Dethleff, D., et al. [1993, p.3-44, eng] 47-4220

Radioecological risk assessment for solid radioactive waste (SRW) dumped into the Kara Sea by the former USSR. Lystsov, V.N., [1993, p.395-414, eng] 47-5045

—Lena River

Space-time variability in ice jams on the Amur and Lena rivers. Shanochkin, S.V., et al. [1991, p.17-23, rus] 47-1044

Effects of climate change on monthly river runoff. Miller, J.R., et al. [1992, p.175-178, eng] 47-2726

—Moscow

Assessment of the technogenic migration of chemical elements through terrain of a large urbanized territory. Sorokina, E.P., et al. [1991, p.42-49, rus] 47-3278

Characteristics of forest biogeocenoses. Pervova, N., [1993, p.79-85, eng] 47-5231

Methane and carbon dioxide production and uptake in some boreal ecosystems of Russia. Panikov, N.S., et al, [1993, p.125-138, eng] 47-5234

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—Noril'sk

Using cast-in-situ concrete for bored and cast-in-place piles in permafrost soils in the Noril'sk industrial region. Lukina, F.Kh., et al. [1991, p.18-19, rus] 47-2361

—Novaya Zemlya

Glaciers of Novaya Zemlya and the climate. Koriakin, V.S., [1990, p.23-29, rus] 47-172

Novaya Zemlya: analyzing radiation safety and ecological consequences of nuclear tests. Kharitonov, K.V., et al, [1992, p.65-74, rus] 47-3862

Expedition to Novaja Zemlja and Franz Josef Land with RV "Dalnie Zelentsy". Nürnberg, D., et al. [1993, p.49-74, eng] 47-4221

Expedition to Novaja Zemlja and Franz Josef Land with RV *Dalnie Zelentsy*. Nürnberg, D., et al. [1993, p.45-74, eng] 47-4878

Novaya Zemlya test site and the problem of the radioactive pollution of the polar ocean. Adushkin, V., et al, [1993, p.27-36, eng] 47-5018

Destruction of the ecological food-chain in the Barents Sea. Vorontsov, N.N., [1993, p.325-327, eng] 47-5039

—Novaya Zemlya

Radioecological risk assessment for solid radioactive waste (SRW) dumped into the Kara Sea by the former USSR. Lystsov, V.N., [1993, p.395-414, eng] 47-5045

—Novosibirsk

Analysis of the characteristics of decrease in areas of ice massifs in the Novosibirsk region during summer. Egorov, A.G., et al. [1990, p.15-24, rus] 47-3585

—Ob' River

Mobility of radioisotopes in marine surface sediments. Buchholtz ten Brink, M.R., et al. [1993, p.311-323, eng] 47-5038

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—Onega Bay

Hydrodynamics of lakes. Filatov, N.N., [1991, 196p., rus] 47-2283

—Pripyat' River

Radioactive contamination of the northern seas: approaches to the assessment of the impact on the marine environment and man. Kuznetsov, IU.V., et al, [1993, p.379-394, eng] 47-5044

—Putorana Plateau

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Problems of choice of sea ice cover parameters design criteria. Truskov, P.A., et al, [1992, p.21-26, eng] 47-108

Probabilistic estimate of the Okhotsk Sea ice vertical profile. Truskov, P.A., et al. [1992, p.57-61, eng] 47-115

Sea level variations in the southern part of the Okhotsk Sea. Shevchenko, G.V., et al. [1992, p.326-328, eng] 47-159

Extreme sea levels at Sakhalin. Shevchenko, G.V., et al. [1992, p.329-333, eng] 47-160

Seasonal variability of sea ice physico-mechanical properties. Polomoshnov, A.M., [1992, p.336-339, eng] 47-161

Characteristics of avalanche-forming snow on Sakhalin Island. Danilina, A.V., et al. [1992, p.51-57, rus] 47-184

Determination of design values for sea ice physico-mechanical properties. Polomoshnov, A.M., et al. [1992, p.641-650, eng] 47-1852

Strength parameters of hummocks. Truskov, P.A., et al. [1992, p.783-789, eng] 47-1875

Selection of the subsea pipeline route for the offshore Chaivo field. Skurikhin, V.A., et al. [1992, p.801-806, eng] 47-1879

Effect of freeze-thaw processes on calcium ion mobility in the example of brown forest soil. Gurikov, IU.V., et al. [1991, p.57-60, rus] 47-4810

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Hydrodynamics of lakes. Filatov, N.N., [1991, 196p., rus] 47-2283

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—Severnaya Zemlya

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Response of authors to commentary on their "Reconstruction of the Holocene climate". Barkov, N.I., et al. [1991, p.233-236, rus] 47-2817

Hydrometeorological conditions characteristic of separated and connected Severnaya Zemlya and Kara Sea ice massifs. Egorov, A.G., [1990, p.35-41, rus] 47-3587

—Siberia

Engineering geological conditions, oases and foundations of transport structures in Siberia: interuniversity collected scientific papers. *Chernousov*, S.I., ed. [1991, 109p., rus] 47-186

Karginsky sea terraces in northern West Siberia and the problem of the Sartan glaciation. Avdalovich, S.A., et al. [1982, p.89-100, rus] 47-1245

Cryogenesis and forest soil formation in Middle Siberia. Ershov, IU.I., et al. [1992, p.66-71, eng] 47-1706

Winter water migration through deep-frozen soils of West Siberia. Panfilov, V.P., et al. [1992, P.111-115, eng] 47-1714

Structure and genesis of layered ground ice in Western Siberia. *Shpolianskaia*, N.A., [1991, p.73-83, rus] 47-1988

Using naleds for regulating the flow of mountain rivers in Siberia. Busygin, V.V., et al. [1991, p.236-238, rus] 47-2454

On the new and rare in the West Siberian arctic species of the genus *Carex (Cyperaceae)*. Rebristaia, O.V., [1991, p.1772-1775, rus] 47-2571

Study of the morphological variability of *Poa argunensis (Poaceae)*. Olonova, M.V., [1992, p.76-85, rus] 47-2572

Ecological aspects in the design of low-rise housing in Siberia. Baklanova, E.I., [1992, p.125-131, rus] 47-2779

Eroded chernozems in southern Western Siberia. *Tanasienko*, A.A., [1992, 150p., rus] 47-2938

Nature of lakes in the West Siberian subarctic. Savchenko, N.V., [1992, p.85-92, rus] 47-3274

Gulags and goldmines. Louis, N., [1992, p.28-34, eng] 47-3860

Aircraft measurement of atmospheric CO2 over Siberia. Izumi, K., et al. [1993, p.21-29, eng] 47-3971

Measurement of methane concentration in the atmosphere over Siberia. Uchiyama, M., [1993, p.30-35, jpn] 47-3972

Carbon cycle in Siberia and global warming. Takahashi, K., [1993, p.47-50, jpn] 47-3974

Development of natural gas resources in northwest Siberia. Michel, F.A., [1993, p.19-24, eng] 47-4269

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Paleosoils of the southern Yenisey region of Siberia: chronology, paleogeography, and cryogenesis. *IAmskikh*, A.F., [1991, p.27-34, rus] 47-4805

Future of Soviet oil supplies to the West. Moe, A., [1991, p.137-167, eng] 47-4867

Future of Russian oil. Moe, A., et al. [1992, p.20-24, rus] 47-4874

Planetary maximum CO2 and ecosystems of the North. Zimov, S.A., et al. [1993, p.21-34, eng] 47-5225

Arctic atmospheric CO2 bimodal distribution. Semiletov, I.P., et al. [1993, p.35-42, eng] 47-5226

Carbon storage in peat based on regionality of Russian mires. Botch, M.S., [1993, p.101-107, eng] 47-5232

Methane from northern peatlands and climate change. Frolking, S., [1993, p.109-124, eng] 47-5233

Greenhouse gases from forest fires in Russia. Krankina, O.N., [1993, p.179-186, eng] 47-5236

—Syktyvkar

Methane and carbon dioxide production and uptake in some boreal ecosystems of Russia. Panikov, N.S., et al. [1993, p.125-138, eng] 47-5234

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—Tien Shan

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Hummocks and hummocky landscapes as indicators of the natural conditions of Tien Shan. *Tarakanov*, A.G., [1991, p.112-118, rus] 47-2042

Across northern Tien Shan: mountain tourist routes across Zailiyskiy Alatau and Kungey Alatau. Vukolov, V.N., [1991, 207p. + 1 fold. map, rus] 47-2244

Erosive-accumulative activity of glaciers of northern Tien Shan during the Little Ice Age. Orlov, A.V., [1991, p.59-65, rus] 47-2789

Mass balance fluctuations of the Sary-Tor Glacier in inner Tien Shan and its reconstruction for 1930-1988. Ushnurtsev, S.N., [1991, p.70-80, rus] 47-2791

Interrelation between the altitude of the equilibrium line, air temperature, and runoff in the Sary-Tor Glacier. *Diurgerov*, M.B., et al. [1991, p.136-139, rus] 47-2803

—Tiksi

Fossil ice wedge formation near Tiksi. Fukuda, M., [1993, p.101-103, eng] 47-3980

Grain-size distribution of the Edoma deposits on Cape Bykovskiy. Nagaoka, D., [1993, p.104-109, eng] 47-3981

Measurement of methane flux in Tiksi, Siberia. *Nakayama*, T., [1993, p.110-112, eng] 47-3982

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Carbon storage in peat based on regionality of Russian mires. Botch, M.S., [1993, p.101-107, eng] 47-5232

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Sublimational drainage of frozen soils in Zabaikalye. Zheleznlak, I.I., et al. [1992, p.122-126, eng] 47-1716

Cryogenesis and functioning of microbial communities in soil of Zabaikalye areas. Kulikov, A.I., et al. [1992, p.199-203, eng] 47-1729

Landscapes and soils of the mountain subarctic Transbaikal. *Kuz'min*, V.A., et al. [1992, p.94-98, rus] 47-3269

Hydrothermy of slope soils in Transbaikal. Kulikov, A.I., et al. [1991, p.69-76, rus] 47-3280

Mineral feeding of plants—to increase bioproductivity and protect frozen soils. Gershevich, E.G., et al. [1991, p.115-120, rus] 47-4820

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—West Siberian Plain

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Upper surface layer of permafrost; collected scientific papers. Mel'nikov, P.I., ed. [1991, 100p., rus] 47-392

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Cryogenic structure and properties of technogenic soils of placer mines in Northern Yakutia. Samylin, I.A., et al. [1991, p.76-87, rus] 47-401

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Purple non-sulphur bacterium from ancient cryogenic rocks of the Kolyma Lowland. Burashnikova, E.N., et al. [1992, p.232-240, eng] 47-1736

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Soil characteristics and C and N storage in soil. Ohta, S., et al. [1993, p.59-65, eng] 47-3976

Improving the technology for building a roadbed in Southern Yakutia. Maksimov, A.V., et al. [1992, p.3-5, rus] 47-4086

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Geochemical study of atmospheric aerosols in Yakutsk. Ohta, S., et al. [1993, p.4-9, eng] 47-3969

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Canada-Russia geotechnical studies of permafrost: Bovanenkovo test site. Kurfurst, P.J., ed. [1992, 402p., eng] 47-977

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Utilities

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Vacuum freezing

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Influence of freezing technique on freeze drying. Kochs, M., et al. [1993, p.1727-1738, eng] 47-4413

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Numerical modeling of the development of U-shaped valleys by glacial erosion. Harbor, J.M., [1992, p.1364-1375, eng] 47-770

Self-organization of glacial landforms. Mazo, V.L., [1992, p.155-160, eng] 47-1010

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Methane transport in macrophytes of a tundra lake. Chanton, J.P., et al. [1992, p.16,681-16,688, eng] 47-1462
Carbon isotopes in methane emitted from Alaskan wetlands. Martens, C.S., et al. [1992, p.16,689-16,701, eng] 47-1463
Emissions of biogenic sulfur gases from Alaskan tundra. Hines, M.E., et al. [1992, p.16,703-16,707, eng] 47-1464
Vapor diffusion coefficient for snow. Colbeck, S.C., [1993, p.109-115, eng] 47-1903
Temperature evolution of porous ice samples covered by a dust mantle. Kömle, N.I., et al. [1992, p.204-212, eng] 47-1953
Geographic variations in the thermal and diffusive stability of ground ice on Mars. Mellon, M.T., et al. [1993, p.3345-3364, eng] 47-2672
Tunnel kiln adapted for firing frost-resistant bricks in a reducing atmosphere. Mueller, M., [1988, 6 col., eng] 47-3420
Growth habits and growth rates of snow crystals. Mason, B.J., [1993, p.3-16, eng] 47-3727
Effects of a straw mulch on the thermal conditions in soil after snow-cover loss. Gusev, E.M., et al. [1993, p.12-23, eng] 47-4012
Influence of freezing technique on freeze drying. Kochs, M., et al. [1993, p.1727-1738, eng] 47-4413
Evolution of a porous H2O-CO2-ice sample in response to irradiation. Steiner, G., et al. [1993, p.9065-9073, eng] 47-4508
Feasibility study of preparing performance evaluation soils for analyzing volatile organic compounds. Hewitt, A.D., [1993, 9p., eng] 47-4663
Microbubble mediated surface probe and the ice-antifreeze *glycoprotein solution system*. Vesenka, J.P., et al. [1993, p.67-74, eng] 47-4757
On the accuracy of cometary nuclei simulation experiments. Klinger, J., et al. [1989, p.493-497, eng] 47-5125

Vapor pressure
Theoretical studies on binary homogeneous nucleation. Laaksonen, A., [1992, 12p., eng] 47-229
Temperature evolution and vapour pressure build-up in porous ices. Kömle, N.I., et al. [1992, p.1311-1323, eng] 47-1468
Heterogeneous interactions of ClONO2 and HCl on nitric acid trihydrate at 202 K. Abbatt, J.P.D., et al. [1992, p.7674-7679, eng] 47-1768
Operating pressure effects on fluidized bed freezing-drying. Wolff, E., et al. [1991, p.237-246, eng] 47-2303
Freeze/thaw characteristics of a copper/water heat pipe: effects of noncondensible gas charge. Ochterbeck, J.M., et al. [1993, p.127-132, eng] 47-2549
Effect of competitive adsorption on polar stratospheric cloud reactions. Mozurkewich, M., [1993, p.355-358, eng] 47-4140
Laboratory simulations of PSC particle formation. Marti, J., et al. [1993, p.359-362, eng] 47-4141
Survey and new measurements of ice vapor pressure at *temperatures* between 170 and 250K. Marti, J., et al. [1993, p.363-366, eng] 47-4142

Vapor transfer
Thermal effects due to air flow and vapor transport in dry snow. Albert, M.R., et al. [1992, p.273-281, eng] 47-468
Experimental study of the sublimation of water ice and the release of trapped gases. Hudson, R.L., et al. [1991, p.326-332, eng] 47-989
Plant-dependent CH4 emission in a subarctic Canadian fen. Whiting, G.J., et al. [1992, p.225-231, eng] 47-1378
Turbulent transports over tundra. Fitzjarrald, D.R., et al. [1992, p.16,717-16,729, eng] 47-1466
Temperature evolution and vapour pressure build-up in porous ices. Kömle, N.I., et al. [1992, p.1311-1323, eng] 47-1468
Flux of CO2 and CH4 from lakes and rivers in arctic Alaska. *Kling, G.W., et al. [1992, p.23-36, eng]* 47-1601
Seasonality of methane emissions from five lakes and associated wetlands of the Colorado Rockies. Smith, L.K., et al. [1992, p.323-338, eng] 47-2235
Freeze/thaw characteristics of a copper/water heat pipe: effects of noncondensible gas charge. Ochterbeck, J.M., et al. [1993, p.127-132, eng] 47-2549
Environmental effects on CO2 tundra efflux. Oberbauer, S.F., et al. [1992, p.568-577, eng] 47-2710
De-icer for a transducer assembly. Fox, C.D., [1988, 6 col., eng] 47-3642
Episodic fluxes of methane from subarctic fens. Windsor, J., et al. [1992, p.441-452, eng] 47-3717
CO2 emissions in Siberian soils as greenhouse effect factor. Zimov, S.A., et al. [1993, p.5017-5023, eng] 47-3782
Snow-disposal unit and method. Jackson, P.H., [1986, 8 col., eng] 47-4265
Particle emission from artificial cometary surfaces: material science aspects. Kochan, H., et al. [1990, p.401-411, eng] 47-4569
New results of the dust investigation in the comet simulation project KOSI. Thiel, K., et al. [1991, p.579-589, eng] 47-4634
Geochemical processes at the soil-snow boundary. Fedoseeva, V.I., et al. [1991, p.60-67, rus] 47-4811
Cryogenic ambient air vaporizers: frost growth, wind and seismic design for safety. Bernert, R.E., Jr., et al. [1993, p.789-793, eng] 47-4876

Variations
Space-time variability in ice jams on the Amur and Lena rivers. Shanochkin, S.V., et al. [1991, p.17-23, rus] 47-1044
Overview of sea ice physical properties and their variability. Richter-Menge, J.A., et al. [1992, p.486-497, eng] 47-1808
Tropospheric ozone annual variation at both poles. Gruzdev, A.N., et al. [1993, p.89-98, eng] 47-3530
Recent surface ozone measurements at Molodezhnaya and Mirnyy stations. Gruzdev, A.N., et al. [1993, p.99-105, eng] 47-3531
Oxygen isotopic content variation in snow at Mizuho Station. Ageta, Y., [1993, p.24-31, jpn] 47-4357
Early Holocene deglaciation of Vestfold Hills. Fitzsimons, S.J., et al. [1993, p.237-240, eng] 47-4577
See also: Diurnal variations; Glacier oscillation; Periodic variations; Seasonal variations; Temperature variations

Vegetation
Carbon budget and succession dynamics of Canadian vegetation. Cihlar, J., et al. [1993, p.215-220, eng] 47-5238
See also: Grasses; Lichens; Mosses; Plants (botany); Protective vegetation; Revegetation; Trees (plants)

Vegetation factors
Boreal forests and climate. Thomas, G., et al. [1992, p.469-497, eng] 47-375
Microorganism nucleic acids and biomass in alpine-forest soils in the northern Caucasus. Aseeva, I.V., et al. [1981, p.37-43, eng] 47-457
Opal cutans in the profile of mountain tundra sod soil in the extreme north-east of the USSR. Pustovoitov, K.E., [1990, p.12-17, eng] 47-474
Some indices of the biological activity of soils of the mountain meadow belt of the northwestern Caucasus. Efremov, A.L., [1981, p.76-78, eng] 47-475
Influence of local factors on the distribution of snow resources in northern Tien Shan. Severskii, S.I., et al. [1992, p.220-224, eng] 47-1116
Effects of forests near the timberline on avalanche formation. Gubler, H., et al. [1991, p.19-38, eng] 47-1290
Plant-dependent CH4 emission in a subarctic Canadian fen. Whiting, G.J., et al. [1992, p.225-231, eng] 47-1378
Methane transport in macrophytes of a tundra lake Chanton, J.P., et al. [1992, p.16,681-16,688, eng] 47-1462
Primary production and organic matter destruction in Spitsbergen tundra. Opaliński, K.W., [1991, p.419-432, eng] 47-2198
Atmospheric loading of nitrogen to alpine tundra in the Colorado Front Range. Sievering, H., et al. [1992, p.339-346, eng] 47-2236
Ice formations near upland tarns in Cumbria, 16 April 1992. Kay, A., [1993, p.112-113, eng] 47-3317
Sediment dynamics in the St. Lawrence estuary Drapeau, G., [1992, p.233-242, fre] 47-3791
Prairie Blowing Snow Model: characteristics, validation, operation. Pomeroy, J.W., et al. [1993, p.165-192, eng] 47-3801
Snow ablation in small forest openings in southwest Alberta. Berry, G.J., et al. [1992, p.1326-1331, eng] 47-3842
Application of ERS-1 SAR data to snow mapping. Hallikainen, M., et al. [1993, p.589-594, eng] 47-4447
Effects of forest cover on a snowpack in the Sierra Nevada. Kattelmann, R., [1990, p.276-284, eng] 47-5219
Boreal carbon pools: approaches and constraints in global extrapolations. Chapin, F.S., III, et al. [1993, p.9-20, eng] 47-5224

Vegetation patterns
Microclimate of an interlobate complex in western Finland. Rajakorpi, A., [1984, p.237-337, eng] 47-10
Plant reproductive ecology and community structure along a subalpine snowmelt gradient. Ingersoll, C.A., [1991, 184p., eng] 47-296
Effect of glaciation on the paleoecological situation in northeastern USSR. Shishorina, Zh.G., [1991, p.190-195, rus] 47-342
Boreal forests and climate. Thomas, G., et al. [1992, p.469-497, eng] 47-375
Natural revegetation of coal mine spoils in an alpine landscape. Baig, M.N., [1992, p.285-300, eng] 47-422
Structure, productivity and energy flow in an alpine grassland in the Garhwal Himalaya. *Sundriyal, R.C.*, [1992, p.15-20, eng] 47-511
Annual nutrient budget for an alpine grassland in the Garhwal Himalaya. Sundriyal, R.C., et al. [1992, p.21-26, eng] 47-512
Soils of alpine mountains. Legros, J.P., [1992, p.155-181, eng] 47-1211
Reconstruction of the development of vegetation in the high-latitude Arctic. Serebriannyi, L.R., et al. [1984, p.75-84, rus] 47-1249
Climate change and its effects on Canadian arctic plant communities. Edlund, S.A., [1992, p.121-137, eng] 47-1432
Characterization of fungi ecosystems in subarctic alder forests. Brunner, I., et al. [1992, p.1247-1258, eng] 47-1483
Holocene vegetation histories from three sites in the tundra of northwestern Quebec, Canada. Gajewski, K., et al. [1992, p.329-336, eng] 47-1589
Reproductive ecology of *Saxifraga oppositifolia*: phenology, mating system, and reproductive success. Stenström, M., et al. [1992, p.337-343, eng] 47-1590
Phytomass and primary productivity in several *communities of a central* Himalayan alpine meadow, India. Rikhari, H.C., et al. [1992, p.344-351, eng] 47-1591
Zonation of flora and vegetation of the northern declivity of the Karakoram/Kunlun Mountains (SW Xinjiang China). Dickoré, W.B., [1991, p.265-284, eng] 47-1613
Impact of glaciation on paleoecological conditions in northeastern Russia. *Shishorina, Zh.G.*, [1992, p.160-166, eng] 47-1766
Pollen and spores from glaciers and from the proglacial zone in the Arctic and Antarctica. Surova, T.G., et al. [1992, p.167-173, eng] 47-1767
Peatland development in relation to Holocene climatic change in Manitoba and Saskatchewan (Canada). Kuhry, P., et al. [1992, p.1070-1090, eng] 47-1798

Problems in identifying the tundra type of vegetation. [Urtsev, B.A., (1991, p.30-41, rus) 47-2356

Phytocatena in the vegetation cover of mountain territories. Kholod, S.S., (1991, p.42-51, rus) 47-2357

Analysis of the composition of cryophyte steppe communities. Slinchenkova, E.IU., (1991, p.52-67, rus) 47-2358

Periglacial processes in Mongolian mountains. Cui, Z.J., et al, (1992, p.55-62, eng) 47-3127

Palynological investigations of Siberian Miocene deposits. Zyrianov, E.V., (1992, p.285-294, eng) 47-3322

Response of subarctic forest tundra to climatic factors. Timoney, K.P., et al, (1992, p.1-9, eng) 47-3348

Shoreline shrub development in relation to isostatic rebound. von Mörs, I., et al, (1993, p.15-23, eng) 47-3423

Pine tree-limit surveillance in Sweden. Kullman, L., (1993, p.24-31, eng) 47-3424

Ecological genetic variation in seed banks. McGraw, J.B., (1993, p.45-49, eng) 47-3427

Tree-ring dating of moraines. McCarthy, D.P., et al, (1993, p.63-68, eng) 47-3430

C4 photosynthesis in alpine species of the Pamirs. P'iankov, V.I., et al, (1992, p.421-430, eng) 47-3472

Paleoclimatology of the Saint Lawrence River basin. Richard, P.J.H., et al, (1992, p.151-172, fre) 47-3788

Vegetation of stressed calcareous screes and slopes on Sverdrup Pass, Ellesmere Island, Canada. Maycock, P.F., et al, (1992, p.2359-2377, eng) 47-3837

Long-term studies of snow-vegetation interactions. Walker, D.A., et al, (1993, p.287-301, eng) 47-4024

Plant colonization in a polar oceanic environment. André, M.F., (1992, p.329-347, eng) 47-4077

Climate warming and the carbon cycle in the permafrost zone of the former Soviet Union. Kolchugina, T.P., et al, (1993, p.149-163, eng) 47-4150

Reflectance characteristics of arctic tundra vegetation from airborne radiometry. Stow, D.A., et al, (1993, p.1239-1244, eng) 47-4403

Subarctic dune dynamics determined by tree ring analysis. Marin, P., et al, (1992, p.316-330, eng) 47-4407

Zonality of macrolichens in British Columbia. Goward, T., et al, (1992, 60p., eng) 47-4516

Wind and wave forests: a case study and implications for silviculture. Robertson, A., (1993, p.491-510, eng) 47-4558

Seed and vegetation dynamics in an alpine herb field: effects of disturbance type. Chambers, J.C., (1993, p.471-485, eng) 47-4584

Spatial heterogeneity of high mountain vegetation in the Andean desert zone of Chile. Squeo, F.A., et al, (1993, p.203-209, eng) 47-4712

Plant competition over winter in alpine shrubland and grassland, Snowy Mountains, Australia. Egerton, J.J.G., et al, (1993, p.124-129, eng) 47-4745

Response of shrub-tussock community to vehicle use. Ahlstrand, G.M., et al, (1993, p.142-149, eng) 47-4746

Taxonomic revision of a herb distribution in arctic landscapes. Bayer, R.J., (1993, p.150-159, eng) 47-4747

Satellite remote sensing of subalpine forest types. Franklin, S.E., (1992, p.25-35, eng) 47-4827

Late Quaternary lacustrine pollen records from southwestern Beringia. Lozhkin, A.V., et al, (1993, p.314-324, eng) 47-5142

Vehicle wheels

Cleats for snowmobile track. Simmons, V.M., (1989, 8 col., eng) 47-3413

Snow chains for vehicles. Artzi, G.B., (1987, 4 col., eng) 47-3847

Vehicles

Packaging emergency power for Alaska. Clevenger, M., (1992, p.36-38, eng) 47-593

Comparison of thawing soil strength measurements for predicting vehicle performance. Shoop, S.A., (1992, 11p., eng) 47-1895

Snow and ice melting system for automotive vehicles. Ahmed, M.I., (1989, 12 col., eng) 47-3105

Fluid line deicer. Wilson, D.W., (1989, 6 col., eng) 47-3112

Snow removal device for vehicle. Motohashi, Y., (1989, 12 col., eng) 47-3324

Automobile windshield cleaning tool. Littledeer, T.F., (1989, 4 col., eng) 47-3326

Snow-weathering test apparatus for self-propelled vehicle. Kimura, C., (1989, 6 col., eng) 47-3329

Method and apparatus for scraping ice and snow and illuminating a scraping area. Hopkins, E.L., (1988, 6 col., eng) 47-3502

Method and apparatus for constructing an ice structure. Erwin, R.E., (1988, 6 col., eng) 47-3635

Improvement and development of snow removal equipment at the Hokuriku Regional Construction Bureau. Sugiyama, A., et al, (1985, p.112-119, jpn) 47-5092

Improvement and development of sidewalk snow removal equipment at the Tohoku Regional Construction Bureau. Takahashi, K., et al, (1985, p.77-81, jpn) 47-5103

Development and improvement of snow removal equipment at the Hokkaido Development Bureau. Yamada, S., et al, (1985, p.93-97, jpn) 47-5160

Development of equipment for dealing with high snowbanks. Iwamoto, T., et al, (1985, p.54-61, jpn) 47-5169

Development of removal methods and equipment for dealing with snowbanks in the median strip. Abe, T., (1985, p.77-84, jpn) 47-5173

Current status and development of snow removal equipment. Kawabata, T., et al, (1986, p.27-32, jpn) 47-5177

Maintenance and inspection of snow removal equipment. Sugiyama, A., et al, (1986, p.33-38, jpn) 47-5178

Reliability of snow removal equipment. Nakamura, O., et al, (1986, p.39-45, jpn) 47-5179

See also: Air cushion vehicles; Aircraft; Airplanes; All terrain vehicles; Amphibious vehicles; Helicopters; Hydrofoil craft; Iceboats; Motor vehicles; Railroad cars; Ships, Sleds; Snow vehicles; Spacecraft; Submarines; Tank cars, Tank trucks; Tanker aircraft; Tanker ships; Tanks (combat vehicles); Tracked vehicles; Tractors

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See also: Ice veins

Velocity

Third central moment of falling velocity of water drops and its relationship to hailstorm clouds. Marchenko, P.E., et al, (1991, p.19-31, rus) 47-749

Air containing propeller stream and its application in ice clearance. Wang, S.L., et al, (1993, p.53-58, eng) 47-4230

See also: Seismic velocity; Wind velocity

Velocity measurement

Determination of glacier speed by time-lapse photography under unfavorable conditions. Harrison, W.D., et al, (1992, p.257-265, eng) 47-466

Marginal Ice Zone oceanographic variability and its effects on acoustic propagation. Meredith, R.W., et al, (1991, p.87-101, eng) 47-1074

Field instrument for examining in-cloud scavenging mechanisms by snow. Mitchell, D.L., et al, (1991, p.239-253, eng) 47-2212

Measurement of glacier velocity using satellite image data. Scambos, T.A., et al, (1992, p.177-186, eng) 47-2555

Bore-hole survey at Camp Century, 1989. Gundestrup, N.S., et al, (1993, p.187-193, eng) 47-2649

Katabatic wind intensity and direction measurements. Remy, F., et al, (1992, p.1021-1024, eng) 47-2907

Sensitivity method for ice floe trajectory calculations. Thomson, N.R., et al, (1992, p.573-585, eng) 47-3344

Adjoint sensitivity theory for a pack ice momentum model. Sykes, J.F., et al, (1992, p.881-889, eng) 47-3353

Sensitivity analysis of ice motion near Adams Island. Sykes, J.F., et al, (1992, p.890-901, eng) 47-3354

Speed of sound in pure water as a function of temperature. Bilaniuk, N., et al, (1993, p.1609-1612, eng) 47-3433

Microholographic study of cloud layers. Borrmann, S., et al, (1993, p.277-293, eng) 47-3772

Tutorial on the use of control methods in ice-sheet modeling. MacAyeal, D.R., (1993, p.91-98, eng) 47-3943

Steady flow of a viscous ice stream across a no-slip/free-slip transition at the bed. Barcilon, V., et al, (1993, p.167-185, eng) 47-3950

Collision between graupel particles: a field observation and theory. Mizuno, H., et al, (1992, p.1037-1043, eng) 47-4019

On the engulfment of spherical particles by a moving ice-liquid interface. Lipp, G., et al, (1993, p.475-489, eng) 47-4289

Use of ERS-1 SAR to measure ice flux in the East Greenland current. Wadhams, P., et al, (1993, p.283-287, eng) 47-4426

Water volume transport through Green Bay, Lake Michigan. Miller, G.S., et al, (1993, p.361-367, eng) 47-4564

Ocean-acoustic propagation in an arctic profile. Buckingham, M.J., (1993, p.93-104, eng) 47-4633

Kinematic model of river ice motion during dynamic breakup. Ferrick, M.G., et al, (1993, p.111-134, eng) 47-4907

Tidal motions derived from ice buoy data. Turet, P., et al, (1993, 63p., eng) 47-4908

Saltating particles over flat beds. Nalpanis, P., et al, (1993, p.661-685, eng) 47-5195

Cylinder ice accretion determined by laser-Doppler analysis. Yoon, B., et al, (1993, p.381-397, eng) 47-5208

Venezuela

Miniature sorted stripes in the Páramo de Piedras Blancas (Venezuelan Andes). Pérez, F.L., (1992, p.125-157, eng) 47-850

Venoms

Ice crystal growth and lectins. Rubinsky, B., et al, (1992, p.113-114, eng) 47-906

Ventilation

Moisture control in a ventilated attic. Samuelson, I., (1992, p.512-516, eng) 47-1163

Air leakage control in residential buildings in cold climates. Parekh, A., (1992, p.632-642, eng) 47-1164

Apparatus for deicing exterior parts of a railway vehicle. Bjorklund, B., (1987, 6 col., eng) 47-4002

Vertical sections

See also: Profiles

Very low frequencies

Very-low-frequency under-ice reflectivity. Wolf, J.W., et al, (1993, p.1329-1334, eng) 47-3432

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Viability

Seed bank composition in a subarctic forest. Vieno, M., et al, (1993, p.379-384, eng) 47-4583

See also: Cold tolerance; Cold weather survival; Survival

Vibration

Seasonal soil strength by spectral analysis of surface waves. Alkire, B.D., (1992, p.22-38, eng) 47-517

Electro-optical parameters of hydrogen-bonded water molecules. IUkhnevich, G.V., et al, (1992, p.211-234, eng) 47-924

Numerical modeling of an advanced pneumatic impulse ice protection system for aircraft. Ramamurthy, S., et al, (1992, p.1057-1063, eng) 47-1564

Approximation of interference effects in dynamic ice-structure interactions. Abul-Azm, A.G., et al, (1992, p.299-309, eng) 47-1799

Influence of immersion vibration on the void system of air entrained concrete. Simon, M.J., et al, (1992, p.99-126, eng) 47-2573

Model tests of dynamic ice loading on the Chinese JZ-20-2 jacket platform. Timco, G.W., et al, (1992, p.819-832, eng) 47-3304

Seismic properties of artificial polar bear dens. Blix, A.S., et al, (1992, p.20-24, eng) 47-3350

Ice forces in dynamic ice structure interaction. Eranti, E., (1992, p.204-211, eng) 47-4304

Vibrations

Snow loads on road-side structures during plowing. Rudelstorfer, K., et al, (1987, 88p., ger) 47-4989

Viscoelasticity

Model for thermally-induced stresses in multi-year sea ice. Lewis, J.K., (1993, p.337-348, eng) 47-5205

Viscosity

Principles of development of diesel fuel composition with pour-point depressants. Mitusova, T.N., et al, (1992, p.3-7, eng) 47-205

Low-temperature properties of desorbed raffinates and their hydrocarbon group components. Alekhina, N.I., et al, (1992, p.44-48, eng) 47-206

Low-temperature shaping of thick-walled composite rings. Stephanychev, E.I., et al, (1992, p.478-481, eng) 47-245

Deformation of snow cover under static loads. Bolotnikov, G.I., (1991, p.103-106, rus) 47-389

Influence of snow viscosity on forced flexural-gravity waves in a basin with a density jump. Bukatov, A.E., et al, (1992, p.259-266, eng) 47-781

Low-temperature viscosity characteristics of synthetic aviation oils. Echin, A.I., et al, (1993, p.337-341, eng) 47-1997

Low temperature properties of motor oils. Riga, A.T., (1992, p.227-242, eng) 47-2884

Contrasting requirements for Type II de anti-icing fluids. Ross, J.F., et al, (1993, p.10-13, eng) 47-3311

Aerodynamic effects of ground de anti-icing fluids on Fokker 50 and Fokker 100. van Hengst, J., (1993, p.35-40, eng) 47-3315

Parametrization of the coefficient of vertical turbulent viscosity in modeling of water circulation in arctic seas. Kulakov, M.IU., et al, (1991, p.22-33, rus) 47-3687

Effects of variable eddy viscosity on wave-induced currents under ice. Melsom, A., (1993, p.78-88, eng) 47-4218

On the engulfment of spherical particles by a moving ice-liquid interface. Lipp, G., et al, (1993, p.475-489, eng) 47-4289

Atactic polypropylene as a viscosity index improver for low-temperature oils. Alekseev, A.P., et al, (1993, p.509-512, eng) 47-4385

Thermodynamics of fuel oil cloud-point depressant additives. Claudy, P., et al, (1993, p.821-827, eng) 47-4518

Water II is a "strong" liquid. Angell, C.A., (1993, p.6339-6341, eng) 47-4748

Evaluation of air flow over an anti-icing fluid film. Laforte, J.L., et al, (1993, p.96-104, eng) 47-5007

Viscous flow

Flows of fractal-broken ice. Gol'dshtein, R.V., et al, (1992, p.576-581, rus) 47-2036

Flow properties of crushed ice. Singh, S.K., et al, (1993, p.11-19, eng) 47-4225

Visibility

Tenth annual EOSAEL/TWI Conference: Proceedings. (1990, 713p., eng) 47-908

Regional CONUS snowfall intensity and inferred global patterns. Ryerson, C.C., et al, (1990, p.111-122, eng) 47-911

Physical properties of suspended ice crystals with respect to optical effects. Hogan, A.W., (1990, p.123-132, eng) 47-912

Visibility *(cont.)*
Visibility reduced by snow in the wake of vehicles on highways. Ishimoto, K., et al. [1992, 15p., eng] **47-963**
Fog, snow and rain calibrations for forward-scatter visibility sensors. Burnham, D.C., [1993, p.66-71, eng] **47-3063**
Automating the observation of blowing snow. Lewis, R., [1993, p.86-90, eng] **47-3066**
ASOS sensor performance--an update. Crosby, J.D., et al, [1993, p.358-362, eng] **47-3074**
Snowplow resistant road markers. Eigenmann, L., [1987, 6 col., eng] **47-4000**
Prediction of restricted visibility at the McMurdo airfield. Hale, R.A., et al, [1988, p.148-150, eng] **47-4205**
Determining the operational visibility of snowplows (part 2). Yanagisawa, Y., [1980, p.31-36, jpn] **47-4930**
See also: Transparence; Turbidity
Visual range theory
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Vitreous ice
Image contrast in high-resolution electron microscopy of biological macromolecules: TMV in ice. Henderson, R., [1992, p.1-18, eng] **47-1676**
Quantitative energy-filtered electron microscopy of biological molecules in ice. Langmore, J.P., et al, [1992, p.349-373, eng] **47-1677**
Electron diffraction of molecules on vitreous and hexagonal ice. Majewski, J., et al, [1993, p.899-902, eng] **47-4880**
See also: Amorphous ice
Volcanic ash
What were the primary forcing mechanisms of high-frequency Holocene climate and glacier variations. Nesje, A., et al, [1992, p.79-84, eng] **47-53**
Continuous 770-year record of volcanic activity from East Antarctica. Moore, J.S., et al, [1991, p.17,353-17,359, eng] **47-348**
Ozone depletion in Antarctica in 1991. Hofmann, D.J., et al, [1992, p.283-287, eng] **47-484**
Postulated new source for the White River Ash, Alaska. McGimsey, R.G., et al, [1992, p.212-218, eng] **47-618**
Vertical distribution of some oligo-elements in the Cazadora Glacier near the Juan Carlos I Station. Eraso, A., et al, [1989, p.61-70, spa] **47-813**
Mineralogic and microsonde analysis of volcanic ash in the vicinity of Juan Carlos I Station. Eraso, A., et al, [1989, p.80-88, spa] **47-815**
1000 years of explosive volcanism recorded at the South Pole. Delmas, R.J., et al, [1992, p.335-350, eng] **47-834**
Reassessment of Crete (Greenland) ice core acidity/volcanism link to climate change. Crowley, T.J., et al, [1993, p.209-212, eng] **47-2856**
Sulfur mass loading of the atmosphere from volcanic eruptions. Sigurdsson, H., et al, [1990, 7p. + appends., eng] **47-4618**
Paleoclimatic variables derived from subarctic treeline dendrochronology. Yamaguchi, D.K., et al, [1993, p.256-262, eng] **47-5123**
Source of volcanic ash in a Greenland ice core. Fiacco, R.J., Jr., et al, [1993, p.267-273, eng] **47-5141**
Volcanoes
Grímsvötn Caldera, Vatnajökull: subglacial topography and *structure of caldera infill.* Gudmundsson, M.T., [1989, p.1-20, eng] **47-710**
Firn stratification on the slopes of the Klyuchevskoy volcano. Salamatin, A.N., et al, [1992, p.230-240, eng] **47-792**
Volcanic aerosol and ozone over Antarctica, Spring 1991. Deshler, T., et al, [1992, p.1819-1822, eng] **47-870**
Brine volcanism and the interior structures of asteroids and icy satellites. Kargel, J.S., [1991, p.368-390, eng] **47-991**
Flood generation and destruction of "Drift" Glacier by the 1989-90 eruption of Redoubt Volcano, Alaska. Trabant, D.C., et al, [1992, p.33-38, eng] **47-1083**
Volcano under Ice Stream B. Monastersky, R., [1993, p.104-107, eng] **47-1940**
Active volcanism beneath the west antarctic ice sheet. Blankenship, D.D., et al, [1993, p.526-530, eng] **47-1941**
Late Cenozoic uplift and volcanism on Spitsbergen: caused by mantle convection?. Vagnes, E., et al, [1993, p.251-254, eng] **47-2849**
HNO3 variations in volcanic layers of polar ice. Laj, P., et al, [1993, p.219-230, eng] **47-3463**
Geothermy at the Mount Spurr volcanic complex. Motyka, R.J., et al, [1993, p.31-40, eng] **47-4776**
Volume
See also: Ice volume
Walls
Design method for frozen-soil retaining wall. Soo, S., et al, [1992, p.73-89, eng] **47-3**
Proceedings. [1992, 756p., eng] **47-1148**
Convergence criterion in measuring building R-values. Flanders, S.N., [1992, p.204-209, eng] **47-1156**
Thermal performance of a residential dynamic wall. Morrison, I.D., et al, [1992, p.229-234, eng] **47-1158**
Thermal analysis of dynamic wall structures. Virtanen, M., et al, [1992, p.240-251, eng] **47-1159**
Performance of wood-based siding in energy-efficient homes located in cold climates. Kroll, R.E., et al, [1992, p.260-267, eng] **47-1160**
Analysis of moisture accumulation in a wood-frame wall subjected to winter climate. Burch, D.M., et al, [1992, p.467-479, eng] **47-1161**
Air exfiltration and moisture accumulation in residential wall cavities. Ojanen, T., et al, [1992, p.491-500, eng] **47-1162**
Creating effective air barriers: materials and techniques. Rousseau, J., [1992, p.646-651, eng] **47-1165**
Airtightness standards for residential buildings in Japan. Yoshino, H., [1992, p.718-724, eng] **47-1166**
Tests on arch-shaped ice-resisting walls for offshore structures. Ellis, R.M., et al, [1993, p.42-51, eng] **47-2547**
Mobile marine operations structure. Bhalaik, A., et al, [1989, 38 col., eng] **47-3323**
Arctic structure of composite wall construction. Birdy, J.N., et al, [1987, 14 col., eng] **47-4007**
Mobile marine operations structure. Bhalaik, A., et al, 988, 30 col., eng] **47-4261**
...parent insulations. Cold-region application. ...ia, I., et al, [1992, 32p., eng] **47-4619**
Warning systems
Performance predictions for a passive infrared intrusion detection system. Lacombe, J., [1992, p.133-140, eng] **47-1167**
Passive infrared intrusion detection systems. Peck, L., [1992, p.141-144, eng] **47-1168**
Ice detectors for aircraft. Horne, T.A., [1993, p.T-11,T-14, eng] **47-5002**
See also: Monitors
Waste disposal
Microorganism survival in ice-covered marine environment. Stanley, S.J., et al, [1992, p.58-72, eng] **47-2**
Arctic terrestrial ecosystem contamination. Thomas, D.J., et al, [1992, p.135-164, eng] **47-263**
Mathematical modeling of ice and thermal regime of water bodies under heavy thermal load. Aleksandrov, I.IA., et al, [1992, p.55-61, eng] **47-2713**
Disposal of hazardous wastes in Canada's Northwest Territories. Heeney, P.L., et al, [1992, p.806-810, eng] **47-3303**
Engineering properties of rubberized concrete. Eldin, N.N., et al, [1992, p.912-923, eng] **47-3307**
Potential leachate production due to cold weather effects. Leskiw, E.J., et al, [1992, p.660-667, eng] **47-3345**
Waste disposal site selection techniques in Quaternary terraine Ontario, Canada. Cooper, A.J., [1991, p.211-217, eng] **47-3878**
Modelling of rock mass responses to glaciation at Finnsjön, central Sweden. Rosengren, L., et al, [1993, p.75-82, eng] **47-3920**
Arctic bases to get cleanup. Carr, F.H., [1993, p.20, eng] **47-4079**
Tire chips as insulation beneath gravel surfaced roads. *Humphrey,* D.N., et al, [1993, p.137-149, eng] **47-4132**
Disposal of fine tails produced at the Syncrude oil sands mine. Lord, E.R.F., et al, [1993, p.203-212, eng] **47-4466**
Disposal of Athabasca oilsand fine tailings. Sheeran, D., et al, [1993, p.221-228, eng] **47-4467**
Cyclic freeze-thaw effects on the soil cover for tailings. Mohamed, A.M.O., et al, [1993, p.259-272, eng] **47-4468**
Hydrologic analysis and prediction in a soil cover. Woyshner, M.R., et al, [1993, p.289-296, eng] **47-4469**
Effects of lime-sludge discharge on an arctic river. Tumeo, M.A., [1992, p.1083-1094, eng] **47-4626**
Proceedings. [1993, 647p., eng] **47-5013**
Arctic radioactive contamination: past legacy and future. *IAkimets,* V., [1993, p.169-190, eng] **47-5029**
Artificial radioactivity, and mixing in the Arctic. Denner, W.W., et al, [1993, p.191-200, eng] **47-5030**
Behavior of artificial radionuclides in seawater. Khodakovskii, I.L., et al, [1993, p.213-223, eng] **47-5032**
Temporal evolution of artificial radioactivity in the North and Baltic Sea. Nies, H., et al, [1993, p.225-236, eng] **47-5033**
Large-scale circulation of the Arctic Ocean: implications for pollutant transport. Schlosser, P., et al, [1993, p.285-309, eng] **47-5037**
Mobility of radioisotopes in marine surface sediments. Buchholtz ten Brink, M.R., et al, [1993, p.311-323, eng] **47-5038**
Non-local radiological consequences of nuclear waste dumping in the Arctic seas: a preliminary assessment. Baxter, M.S., et al, [1993, p.329-341, eng] **47-5040**
U.S. interagency coastal and marine monitoring programs for determining levels of Arctic radioactivity. Curtis, W.R., et al, [1993, p.343-357, eng] **47-5041**
Treatment of data on sea pollutions and dumping sites *with radioecological indices method.* Georgievskii, V., et al, [1993, p.359-365, eng] **47-5042**
Radioactive contamination of the northern seas approaches to the assessment of the impact on the marine environment and man. Kuznetsov, Iu.V., et al, [1993, p.379-394, eng] **47-5044**
Radioecological risk assessment for solid radioactive waste (SRW) dumped into the Kara Sea by the former USSR. Lystsov, V.N., [1993, p.395-414, eng] **47-5045**
Problems of evaluation and management of risk of radioactive contamination of oceans. Protsenko, A.N., et al, [1993, p.425-438, eng] **47-5046**
International Arctic Seas Assessment Project (IASAP (1993-1996). Sjoeblom, K.-L., et al, [1993, p.443-447, eng] **47-5048**
Radiological assessment for the dumping of radioactive wastes in the oceans. Templeton, W.L., [1993, p.480-496, eng] **47-5050**
Certain legal issues concerning prevention of radioactive pollution of the arctic marine environment from land-based sources. Barsegov, Iu., [1993, p.523-534, eng] **47-5051**
London Convention and radioactive waste dumping at sea: *a global treaty regime in transition.* Curtis, C., [1993, p.541-555, eng] **47-5053**
Radioactive pollution from accidents involving nuclear-powered vessels: problems and solutions. Handler, J., [1993, p.557-572, eng] **47-5054**
Some aspects of radioactive wastes dumping: international regulation. Menshikov, V.F., et al, [1993, p.585-594, eng] **47-5056**
Environmental security and governance issues in the Arctic Ocean. Perelet, R., [1993, p.595-601, eng] **47-5057**
Legal regulation of environmental improvement of the Russian Federation nuclear complex activities. Veksler, M., [1993, p.609-614, eng] **47-5058**
See also: Sewage disposal
Waste heat recovery
See also: Heat recovery
Waste treatment
Comment on "A study of the linear ranges of several acid digestion procedures". Hewitt, A.D., et al, [1992, p.1848, eng] **47-453**
Acid digestion of antimony in sludges and soils. Hewitt, A.D., et al, [1991, p.985-986, eng] **47-454**
Feasibility and limits of cold preconditioning prior to depositing. Wiemer, K., et al, [1992, p.280,283-284, ger] **47-1280**
Waste water reuse by freeze concentration with a falling *film reactor.* Müller, M., et al, [1992, p.1475-1482, eng] **47-1552**
Effects of freezing on the measurement of solids in wastewater sludges. Roy, N.A., et al, [1990, p.191-197, fre] **47-1784**
Sludges *from cold regions lagoons.* Schneiter, R.W., et al, [1993, p.146-155, eng] **47-3675**
Urban snow dump quality and pollutant reduction in snowmelt by sedimentation. Droste, R.L., et al, [1993, p.9-21, eng] **47-3719**
Stripping of organic contaminants from soil. Noland, J., et al, [1993, 12 col., eng] **47-3904**
See also: Sewage treatment
Wastes
Natural revegetation of coal mine spoils in an alpine landscape. Baig, M.N., [1992, p.285-300, eng] **47-422**
Potential cause for low lead and chromium recoveries during acid extractions. Hewitt, A.D., et al, [1992, 6p., eng] **47-1898**
Solid wastes *from the drilling of boreholes in the Far* North: means of reduction. Kashkarov, N.G., et al, [1991, p.26, rus] **47-2489**
Optimization of deicer application zone based on industrial wastes. Prisenko, E.D., [1992, p.96-100, rus] **47-2780**
See also: Radioactive wastes
Water
Thermodynamic analysis of supercooled liquid water. Walrafen, G.E., et al, [1992, p.3840-3846, eng] **47-247**
Thermodynamical behaviour of liquid water near the triple point. Kurioka, S., et al, [1991, p.4181-4198, eng] **47-917**
Anomalies of the shock compressibility of water. Bogdanov, G.E., et al, [1992, p.162-165, eng] **47-2458**
Singularity of liquid water--data analysis and modeling. Sato, H., [1992, p.89-101, eng] **47-3730**
Freezing of water between vertical tubes. Kim, C.J., et al, [1993, p.2647-2656, eng] **47-4414**
See also: Anomalous water; Artesian water; Distilled water; Ground water; Heavy water; Hygroscopic water; Lake water; Meltwater; Salt water; Sea water; Soil water; Subpermafrost ground water; Suprapermafrost ground water; Surface waters; *Unfrozen water content*
Water air interactions
See also: Air water interactions
Water balance
Factors affecting snow hydrology. Singh, L.D., [1985, p.180-182, eng] **47-571**
Experimental study of the water and heat balance in the source of the Ürümqi River in the Tien Shan mountains. Kang, E.S., et al, [1992, p.55-66, eng] **47-1087**

Hydrological principles of the Bavarian Alps. Pfündl, D., [1989, p.450-453, ger] **47-1196**

Impacts of summer warming on the energy and water balance of wetland tundra. Rouse, W.R., et al. [1992, p.305-326, eng] **47-1375**

Incorporating freeze-thaw calculations into a water balance *model.* Fox, J.D., [1992, p.2229-2244, eng] **47-1507**

Global climatic changes in water and heat transfer—*accumulation processes.* Dobrovol'skii, S.G., [1992, 265p., eng] **47-1512**

Water balance and water resources of *Heihe Basin* in Qilian Mountain. Yang, Z.N., [1992, p.133-147, chi] **47-1547**

Evaporation and ice growth in Mackenzie Delta lakes. Marsh, P., [1991, p.257-266, eng] **47-1812**

Study of the distribution of snow cover in the central forest-steppe. Kitaev, L.M., [1992, p.64-68, rus] **47-1991**

Report on field work in Svalbard. Bruland, O., [1992, 11p., nor] **47-2012**

Water balance study *in Svalbard—inspection of various* forms of snow erosion, June 5-10, 1991. Frisvold, H., et al. [1991, 16p., nor] **47-2013**

Response of the Canadian permafrost environment to climatic change. Woo, M.K., et al. [1992, p.287-317, eng] **47-2018**

Water balance in Svalbard—snow erosion, May 19-24, 1992. Tveit, J., [1992, 51p., nor] **47-2145**

Main project 1991—water balance and a model of drainage in permafrost areas. Bruland, O., [1991, Var.p., nor] **47-2248**

Anomalies in global heat-water exchange; stochastic models. Dobrovol'skii, S.G., [1991, 128p., rus] **47-2285**

Problems in the study of naleds; collected scientific papers. Alekseev, V.R., ed. [1991, 238p., rus] **47-2424**

Heat and water balance of naleds. Deikin, B.N., [1991, p.76-89, rus] **47-2431**

Thermal regime of a naled valley in the BAM zone. Gavrilova, M.K., [1991, p.146-151, rus] **47-2440**

Effect of climatic changes on water balance of a lake/ground water system. Crowe, A.S., [1993, p.33-73, eng] **47-2635**

Hydroclimate response to climate change in the Lake Tahoe basin. Shelton, M.L., [1992, p.557-566, eng] **47-2737**

Characteristics of the formation of spring runoff from rivers in the cryolithozone. Kravchenko, V.V., et al. [1991, p.53-64, rus] ***47-3275***

Hydrothermy of slope soils in Transbaikal. Kulikov, A.I., et al. [1991, p.69-76, rus] **47-3280**

Hydrology of a prairie slough. Woo, M.K., et al. [1993, p.175-207, eng] **47-4170**

Late Quaternary continental paleohydrology as related to future environmental change. Starkel, L., [1993, p.95-108, eng] **47-4586**

Water cement ratio

Properties of high-strength concrete with silica fume using high-range water reducer of slump retaining type. Mitsui, K., et al. [1989, p.79-97, eng] **47-62**

Model for deicer scaling resistance of field concretes *containing* high-range water reducers. Whiting, D., et al. [1989, p.343-359, eng] **47-64**

Use of concrete admixtures to provide long-term durability from steel corrosion. Berke, N.S., et al. [1989, p.383-403, eng] **47-65**

Water chemistry

Presence and implications of chemical contaminants in the freshwaters of the Canadian Arctic. Lockhart, W.L., et al. [1992, p.165-245, eng] **47-264**

Mineralization of natural waters on Spitsbergen. *Gokhman,* V.V., [1991, p.147-155, rus] **47-333**

Laboratory investigation of the leaching of solute from *snowpack by rainfall.* Tranter, M., et al. [1992, p.169-178, eng] **47-376**

Suspended mesopelagic barite in the southern ocean. Dehairs, F., et al. [1992, p.1332-1335, eng] **47-873**

Bromoform in the Nansen *Basin in the Arctic Ocean.* Krysell, M., [1991, p.187-197, eng] **47-1195**

Response of a subarctic lake *chain* to reduced sewage loading. Choulik, O., et al. [1992, p.1236-1245, eng] **47-1267**

Tracing upper waters of the Nansen Basin in the Arctic Ocean. Anderson, L.G., et al. [1992, p.S425-S433, eng] **47-1272**

Halocarbon ratio and tritium/He-3 *dating of water masses* in the Nansen Basin, Arctic Ocean. Wallace, D.W.R., et al. [1992, p.S435-S458, eng] **47-1273**

O2 and CO2 concentrations in the Weddell Sea in the *spring of 1988.* Bouquegneau, J.M., et al. [1992, p.163-170, eng] **47-1326**

Nitrogen uptake in the Weddell Sea *during late winter and* spring. Kristiansen, S., et al. [1992, p.245-251, eng] **47-1330**

Organic carbon during ice retreat period in the Scotia and Weddell seas. Cadée, G.C., [1992, p.253-259, eng] **47-1331**

Ecology of sea ice biota. 2. Legendre, L., et al. [1992, p.429-444, eng] **47-1335**

Flux of CO2 and CH4 from lakes and rivers in arctic Alaska. Kling, G.W., et al. [1992, p.23-36, eng] **47-1601**

Access pipes for sampling through thick ice. Kipphut, G.W., et al. [1992, p.267-269, eng] **47-1607**

Studies of some acid springs in till, Lofsdalen, Sweden. Knutsson, G., [1992, p.366-375, eng] **47-1969**

Seasonal changes of antarctic marine bacterioplankton. Delille, D., et al. [1991, p.213-218, eng] **47-2070**

Naleds in the Kungur cave. Dorofeev, E.P., [1991, p.181-188, rus] **47-2446**

Geochemistry of salmon rivers during snowmelt. Campbell, P.G.C., et al. [1992, p.1938-1952, eng] **47-2659**

Environment and phytoplankton at the Scotia Sea ice edge. Lipski, M., [1991, p.507-513, eng] **47-3088**

Rare earth elements in the Arctic Ocean. Westerlund, S., et al. [1992, p.1613-1626, eng] **47-3537**

Extremes of the vertical distribution of hydrochemical *indicators in the Norwegian Sea.* Pivovarov, S.V., [1990, p.160-164, rus] **47-3603**

JARE-31 oceanographic survey in Lützow-Holm Bay. 1990-1991. Ushio, S., et al. [1993, 34p., eng] **47-3619**

JARE-32 oceanographic data, Nov. 1990-Mar.1991. *Nakamura,* H., et al. [1993, 50p., eng] **47-3620**

Seasonal variations in dissolved inorganic nitrogen *utilization in a subarctic* Alaskan lake. Gu, B.H., et al. [1993, p.273-288, eng] **47-3647**

Silica cycle in the Weddell Sea. Leynaert, A., et al. [1993, p.1-15, eng] **47-4574**

Effects of lime-sludge discharge *on an arctic river.* Tumeo, M.A., [1992, p.1083-1094, eng] **47-4626**

Isotope tracing of sulfate trends *in Colorado lakes.* Turk, J.T., et al. [1993, p.415-431, eng] **47-4759**

Ground-water-quality data collected during 1991, west Nikiski, Alaska. Maurer, M.A., [1993, 64p., eng] ***47-4762***

Water quality study of Hoseanna Creek basin. Ray, S.R., et al. [1992, 51p., eng] **47-4766**

Water quality in the Gold Creek drainage basin. Noll, R.S., [1992, 32p., eng] **47-4767**

Analysis of potable water-supply options for Gambell, Alaska. Munter, J.A., et al. [1992, 39p., eng] **47-4768**

Evaluation of two springs at Anchor Point, Alaska, for water-supply potential. Munter, J.A., et al. [1992, 27p., eng] **47-4769**

Water quality sampling for the Fairbanks airport. Ray, S.R., et al. [1992, 15p., eng] **47-4772**

Computerized simulation of watershed streamflow. Ffolliott, P.F., et al. *[1990, p.285-292, eng]* ***47-5220***

Water content

Brightness temperature properties of a cloud radiation model. Smith, E.A., et al. [1992, p.506-531, eng] **47-354**

Magnitude of error factors in estimates of snow-particle masses from images. Detwiler, A.G., et al. [1993, p.804-809, eng] **47-3512**

Hail growth hysteresis. Johnson, D.B., et al. [1992, p.2525-2532, eng] **47-3674**

Observations of cirrus cloud microphysical properties. Noone, K.B., et al. [1993, p.294-303, eng] **47-3773**

Cultivation practice influence on conifer seedling frost tolerance. Calmé, S., et al. [1993, p.503-511, eng] **47-3844**

Dielectric properties of frozen clay and silt soils. Moore, J.C., et al. [1993, p.265-273, eng] **47-3930**

Thermo-mechanically coupled ice-sheet response--cold, polythermal, temperate. Hutter, K., [1993, p.65-86, eng] **47-3941**

Measurements of high number densities of ice crystals in the tops of tropical cumulonimbus. Knollenberg, R.G., et al. [1993, p.8639-8664, eng] **47-4379**

Estimation of cloud liquid water in winter storms on the Mongollon Rim—report on task 1. Medina, J.G., [1993, 19p., eng] **47-4913**

See also: Snow water content; Unfrozen water content

Water erosion

Behaviour of high erosion-resistant silica fume-mortars for repair of hydraulic structures. Berra, M., et al. [1989, p.827-847, eng] **47-57**

Cavity development in ice-rich permafrost, Pangnirtung, Baffin Island, Northwest Territories. Hyatt, J.A., [1992, p.293-313, eng] **47-2238**

Runoff and sediment transport in an Iceland periglacial region. Kiel, A., [1989, 128p., ger] **47-2706**

Potential climate-change effects on bed-material entrainment, the Gunnison Gorge, Colorado. Elliot, J.G., et al. [1992, p.751-759, eng] **47-2750**

Erosion of agricultural lands in the Irkutsk region. Khismatullin, Sh.D., [1991, p.49-61, rus] **47-3279**

Erosion of bedrock by subglacial meltwater, Georgian Bay, Ontario: a regional view. Kor, P.S.G., et al. [1991, p.623-642, eng] **47-4155**

Subglacial meltwater channel systems and ice sheet overriding, Asgard Range, Antarctica. Sugden, D.E., et al. [1991, p.109-121, eng] **47-4310**

Early winter flooding along a subalpine river. Butler, D.R., et al. [1993, p.145-155, eng] **47-4369**

Coastal geomorphology of the Martian northern plains. Parker, T.J., et al. [1993, p.11,061-11,078, eng] **47-4410**

Late Wisconsin subglacial megaflood paths in Alberta. Rains, B., et al. [1993, p.323-326, eng] **47-4594**

Bedrock water erosion typified by subglacial flutes Dreimanis, A., [1993, p.110-112, eng] **47-4852**

Water films

Effects of high liquid water content on thunderstorm charging. Saunders, C.P.R., et al. [1992, p.14,671-14,676, eng] **47-252**

Spectroscopic studies of model polar stratospheric cloud films. Tolbert, M.A., et al. [1992, p.1303-1313, eng] **47-1172**

Chemical potential of a layer of water adsorbed on a solid surface. Takagi, S., [1992, p.521-528, eng] **47-1236**

Measurements of water film surface temperature on gyrating hailstones. Garcia-Garcia, F., et al. [1992, p.2058-2073, eng] **47-1508**

Scattering from melting ice spheres at microwave and millimeter-wave frequencies. Fletcher, P.N., et al. [1992, p.545-548, eng] **47-1561**

Cryoprotective properties of water in the earth cryolithosphere and its role in exobiology. Gilichinskii, D.A., et al. [1993, p.65-75, eng] **47-2658**

New concept in runback water modeling for anti-iced aircraft surfaces. Al-Khalil, K.M., et al. [1993, p.41-49, eng] **47-3316**

Contact melting during sliding on ice. Fowler, A.J., et al. [1993, p.1171-1179, eng] **47-3578**

Optical study of surface melting on ice. Elbaum, M., et al. [1993, p.491-505, eng] **47-3648**

Pressure effects on non-freezing water layer thickness. Bardasov, S.A., et al. [1992, p.160-166, eng] **47-3733**

Simulation of water-ice layers on a silver iodide substrate. Taylor, J.H., et al. [1993, p.9732-9741, eng] **47-3984**

Spectroscopic probe of model polar stratospheric cloud films. Koehler, B.G., et al. *[1993, p.10,563-10,571,* eng] **47-4294**

Thermal analysis of ice melting from surface friction. Pushkarev, O.E., et al. [1992, p.25-30, eng] **47-5004**

Water flow

Dependence of ice formation on arrangement of submerged tubes. Hirata, T., et al. [1992, p.681-687, eng] **47-8**

Characteristics of the freezing heat transfer of layered air-water flow in a circular tube. Fukusako, S., et al. [1989, p.91-97, eng] **47-915**

Effect of density extremum on the solidification of water on a vertical wall of a rectangular cavity. Braga, S.L., et al. [1992, p.703-713, eng] **47-1628**

Perennial névés and the hydrology of rock glaciers. Tentnorey, G., [1992, p.247-252, eng] **47-1779**

Measurements of snow temperature during rain. Conway, H., et al. [1993, p.6-7, eng] **47-1888**

Wavy ice formation inside a cooled parallel plate channel. Weigand, B., et al. [1993, p.685-693, eng] **47-2654**

Water-snow flows in the Khibiny Mountains. Sapunov, V.N., [1991, p.94-99, rus] **47-2794**

Freeze safe valve. Roper, B.G., [1988, 8 col., eng] **47-3633**

Subglacial flow of a mountain glacier. Fountain, A.G., [1993, p.143-156, eng] **47-3948**

Effect of the water-exchange index on the temperature regime *of hydrostation pools.* Gotlib, IA.L., et al. [1993, p.462-468, eng] **47-4014**

Effect of selective withdrawal on the *annual thermal* regime of a deep water body. Bocharov, O.B., et al. [1993, p.384-390, eng] **47-4066**

Structural and ice effects on salt water marsh hydrology. Ballestero, T.P., et al. *[1993, p.150-155, eng]* **47-4451**

Numerical and experimental study on supercooled laminar flow of water. Ismail, K.A.R., et al. [1991, p.899-903, eng] **47-5108**

Complete model for the laminar flow of supercooled liquid water. Ismail, K.A.R., et al. [1992, p.335-349, eng] **47-5265**

Water freezing

See also: Ice formation

Water ice interface

See also: Ice water interface

Water intakes

Lomen water power plant—channel formation over a lake discharge outlet. Wold, K., [1988, 98p., nor] **47-2246**

Freeze prevention of water intakes for snow drainage ditches. Takeuchi, T., et al. [1991, p.97-102, jpn] **47-2537**

Water jets

See also: Hydraulic jets

Water level

Measuring water level and discharge—practical experiences in Greenland. Kern-Hansen, C., [1988, p.67-84, eng] ***47-720***

Calculating the maximum water levels in areas of backwater curves in designing a reservoir. Bolotnikov, G.I., [1991, p.12-16, rus] **47-1043**

Reactions of a calving glacier to large changes in water level. Laumann, T., et al. [1992, p.158-162, eng] **47-1104**

Evaporation and ice growth in Mackenzie Delta lakes. Marsh, P., [1991, p.257-266, eng] **47-1812**

Electromagnetic communications through the seawater-ice-air interface. Steeves, G., et al. [1991, p.638-644, eng] **47-2182**

Water level *(cont.)*

Anomalies in global heat-water exchange: stochastic models. *Dobrovol'skii, S.G.,* [1991, 128p., *rus*] **47-2285**

Hydrological yearbook 1989. Leppäjärvi, R., ed. [1992, 174p., eng] **47-3154**

Probability analysis of historical ice jam flood data for a complex reach: a case study. Stanley, S.J., et al. [1992, p.875-885, eng] **47-3306**

Rifting, ozone layer and the level of the world ocean. Syvorotkin, V.L., et al. [1992, p.731-733, rus] **47-3335**

Using piecewise polynomial smoothing in statistical series analysis. Lashov, E.S., [1991, p.96-100, rus] **47-3695**

Fluctuations in the water level of the Yenisey estuary during the summer-fall navigation period. Ivanova, A.A., [1991, p.122-127, rus] **47-3699**

Episodic fluxes of methane from subarctic fens. Windsor, J., et al. [1992, p.441-452, eng] **47-3717**

Numerical computation of river ice jams. Beltaos, S., [1993, p.88-99, eng] **47-3720**

Borehole measurements in a Greenland glacier. Iken, A., et al. [1993, p.15-25, eng] **47-3937**

Analysis of conditions and long-term forecast of ice-dam levels on the Lena. Kilmianinov, V.V., [1992, p.64-69, eng] **47-3993**

Probablistic computation of maximum ice-dam water levels. Buzin, V.A., [1992, p.56-62, eng] **47-4025**

Holocene water-level fluctuations of a subarctic lake at the tree line in northern Quebec. Payette, S., et al. [1993, p.7-14, eng] **47-4072**

Ice action onto multilegged structures due to change of water level. Matskevitch, D.G., et al. [1992, p.222-227, eng] **47-4306**

Physical hydrology of the dry valley lakes. Chinn, T.J., [1993, p.1-51, eng] **47-4395**

See also: Sea level; Water table

Water pipelines

Field-tested model for freeze protection of arctic multiphase pipelines. Eager, K., [1992, p.142-145, eng] **47-223**

Thermogravitational convection of low temperature water in pipes with electric heating elements. Agapkin, V.M., et al. [1991, p.115-120, eng] **47-825**

Prefabricated engineering services for use in antarctic regions: pipe lines in harsh environments. Archibald, J., [1992, p.577-586, eng] **47-1844**

Freezable, flotable water lines?. Ainsworth, L., [1992, p.42-43, eng] **47-1884**

Guard against freezing in water lines. Kenny, T.M., [1991, p.44-47, eng] **47-1996**

Flow characteristics of snow-water mixtures in horizontal pipes. Sasaki, M., et al. [1992, p.301-312, eng] **47-3208**

Water freeze prevention valve. Carney, F.P., [1988, 24 col., eng] **47-3417**

Freeze safe valve. Roper, B.G., [1988, 8 col., eng] **47-3633**

Pipe transport system for snow. Isobe, K., [1985, p.83-89, jpn] **47-5088**

Water pipes

Freeze/thaw characteristics of a copper/water heat pipe: effects of noncondensible gas charge. Ochterbeck, J.M., et al. [1993, p.127-132, eng] **47-2549**

Measurement of heat losses from an operating district heating system. Phetteplace, G., [1992, p.100-111, eng] **47-4897**

Non-sprinkler snow melting by water pipe heating. [1985, p.40-44, jpn] **47-5166**

Pipe transport system for snow water mixture. Sai, T., [1986, p.93-94, jpn] **47-5186**

Control of the flow terminus of snow removal drains by water pipes. [1986, p.96-97, jpn] **47-5188**

Water pollution

Theoretical approaches to the study of ecosystems in the arctic and subarctic seas. Matishov, G.G., ed. [1992, 162p., *rus*] **47-182**

Groundwater issues relating to an Alaskan methanol spill. Robertson, S.B., [1992, p.936-940, eng] **47-234**

Arctic contaminants: sources, occurrence and pathways. Barrie, L.A., et al. [1992, p.1-74, eng] **47-261**

Arctic marine ecosystem contamination. Muir, D.C.G., et al. [1992, p.75-134, eng] **47-262**

Presence and implications of chemical contaminants in the freshwaters of the Canadian Arctic. Lockhart, W.L., et al. [1992, p.165-245, eng] **47-264**

35th conference, University of Waterloo, Ontario, May 31-June 4, 1992. [1992, 193p., eng] **47-600**

Softening of rigid polyvinyl chloride by high concentrations of aqueous solutions of methylene chloride. Parker, L.V., et al. [1992, 40p., eng] **47-696**

Potential of common well casing materials to influence aqueous metal concentrations. Hewitt, A.D., [1992, p.131-136, eng] **47-879**

Natural cleaning processes of arctic waters and ice from petroleum hydrocarbons. Il'inskii, V.V., et al. [1991, p.91-101, rus] **47-889**

Effects of CMA deicers on biochemical oxygen demand in streams. Eheart, J.W., et al. [1992, 12p., eng] **47-941**

Evaluating the effect of dust and gas exhaust on a city and its surrounding terrain. Davydova, N.D., [1990, p.65-74, rus] **47-979**

Synopsis of research conducted under the 1991/1992 northern contaminants program. Murray, J.L., ed. [1992, 213p., eng] **47-1147**

Microbial ecology of the 1989 antarctic oil spill. Karl, D.M., [1992, p.77-89, eng] **47-1257**

Response of a subarctic lake chain to reduced sewage loading. Choulik, O., et al. [1992, p.1236-1245, eng] **47-1267**

Review of recent findings in well-casing studies. Parker, L.V., [1992, p.83-91, eng] **47-1892**

Hydrocarbon pollution in Arthur Harbor subtidal sediments. Kennicutt, M.C., II, et al. [1992, p.499-506, eng] **47-1931**

Hydrocarbon contamination of limpets in Arthur Harbor. Kennicutt, M.C., II, et al. [1992, p.506-511, eng] **47-1932**

Phosphorus in runoff from soil erosion areas. Brynildsen, A., [1992, p.346-353, nor] **47-1968**

NWRI digest. Cooley, J., ed. [1993, 8p., eng] **47-2199**

Geology and geohydrology at CRREL, Hanover, New Hampshire: relationship to subsurface contamination. Shoop, S.A., et al. [1992, 83p., eng] **47-2568**

Environmental geology at a Canadian sulphide deposit site. Claridge, P.G., et al. [1993, p.50-57, eng] **47-2630**

Fate and effects of dispersed crude oil under icy conditions simulated in mesocosms. Siron, R., et al. [1993, p.273-302, eng] **47-2657**

Fate and effects of dispersed crude oil under icy conditions simulated in mesocosms. Siron, R., et al. [1993, p.273-302, eng] **47-2657**

Current tendencies of anthropogenic changes in physical-mechanical properties of natural ice. Paniushkin, A.V., et al. [1991, p.126-129, rus] **47-2801**

Organic contaminants in Canadian lake sediments. Mudroch, A., et al. [1992, p.10-19, eng] **47-3349**

JARE-32 oceanographic data, Nov. 1990-Mar.1991. Nakamura, H., et al. [1993, 50p., eng] **47-3620**

Distribution of enteric bacteria in antarctic seawater surrounding a sewage outfall. McFeters, G.A., et al. [1993, p.645-650, eng] **47-3678**

Urban snow dump quality and pollutant reduction in snowmelt by sedimentation. Droste, R.L., et al. [1993, p.9-21, eng] **47-3719**

Results of the Third Joint US-USSR Bering & Chukchi Seas Expedition (BERPAC), Summer 1988. Nagel, P.A., ed. [1988, 415p., eng] **47-3864**

Field screening methods for TNT, RDX and 2,4-DNT in soil and water. Jenkins, T.F., et al. [1993, p.282-287, eng] **47-3912**

Comparison of methods for extraction of explosives from water. Jenkins, T.F., et al. [1993, p.316-321, eng] **47-3913**

Chemical composition of precipitation in Uzbekistan. Kulmatov, R.A., et al. [1993, p.413-419, eng] **47-4068**

Snowmelt-induced stream acidity in a subarctic catchment. Davies, T.D., et al. [1993, p.267-300, eng] **47-4171**

Expedition to Novaja Zemlja and Franz Josef Land with RV "Dalnie Zelentsy". Nürnberg, D., et al. [1993, p.49-74, eng] **47-4221**

Are arctic marine invertebrates relatively insensitive to metals. Chapman, P.M., [1993, p.611-613, eng] **47-4628**

Selective accumulation of polychlorocamphenes in aquatic biota from the Canadian Arctic. Bidleman, T.F., et al. [1993, p.701-709, eng] **47-4629**

Ecological situation and protection of flora and fauna of the Barents Sea. Matishov, G.G., ed. [1991, 211p., rus] **47-4660**

Identifying sources of snowmelt acidification with a watershed mixing model. Schaefer, D.A., et al. [1993, p.345-365, eng] **47-4758**

Isotope tracing of sulfate trends in Colorado lakes. Turk, J.T., et al. [1993, p.415-431, eng] **47-4759**

Ground-water-quality data collected during 1991, west Nikiski, Alaska. Maurer, M.A., [1993, 64p., eng] **47-4762**

Evaluation of two springs at Anchor Point, Alaska, for water-supply potential. Munter, J.A., et al. [1992, 27p., eng] **47-4769**

Water quality sampling for the Fairbanks airport. Ray, S.R., et al. [1992, 15p., eng] **47-4772**

Effect of concentration on sorption of dissolved organics by well casings. Parker, L.V., et al. [1993, 17p., eng] **47-4868**

Proceedings. [1993, 647p., eng] **47-5013**

Novaya Zemlya test site and the problem of the radioactive pollution of the polar ocean. Adushkin, V., et al. [1993, p.27-36, eng] **47-5018**

Anthropogenic radioactivity in the arctic seas: time trends and present levels. Dahlgaard, H., [1993, p.49-63, eng] **47-5020**

Radioactivity and environmental problems for the seas and oceans. Israel, IU.A., et al. [1993, p.65-78, eng] **47-5021**

Radioecology of the Barents and Kara Sea: level of apprehension and research strategy. Ivanov, G.I., et al. [1993, p.79-89, eng] **47-5022**

Sellafield as a source of radioactivity to the Barents Sea. Kershaw, P., et al. [1993, p.91-104, eng] **47-5023**

Estimated inventory of radionuclides in former Soviet Union naval reactors dumped in the Kara Sea. Mount, M.E., et al. [1993, p.105-118, eng] **47-5024**

Cs-137 contamination of sea water surrounding the "Komsomolets" nuclear submarine. Neidanov, G., [1993, p.119-133, eng] **47-5025**

I-129 as a tracer of European reprocessing emissions in the North Atlantic and Arctic oceans. Zhou, Z.Q., et al. [1993, p.145-156, eng] **47-5027**

Radioactive contamination of the Barents and Kara seas. Vakulovskii, S.M., et al. [1993, p.157-168, eng] **47-5028**

Arctic radioactive contamination: past legacy and future. [Akimets, V., [1993, p.169-190, eng] **47-5029**

Artificial radioactivity, and mixing in the Arctic. Denner, W.W., et al. [1993, p.191-200, eng] **47-5030**

Radioactivity in the Barents Sea, past and present status, and its impact on fisheries. Foyn, L., [1993, p.201-211, eng] **47-5031**

Behavior of artificial radionuclides in seawater. Khodakovskii, I.L., et al. [1993, p.213-223, eng] **47-5032**

Temporal evolution of artificial radioactivity in the North and Baltic Sea. Nies, H., et al. [1993, p.225-236, eng] **47-5033**

Organization and technical facilities of the radiation monitoring of sunken objects with radioactive components. Nosov, N.A., [1993, p.237-249, eng] **47-5034**

Formation features of the structure and variability of the hydrological processes of the Kara Sea area. Pavlov, V.K., [1993, p.251-265, eng] **47-5035**

Potential transport of radionuclides and other pollutants by arctic sea ice. Pfirman, S.L., et al. [1993, p.267-284, eng] **47-5036**

Large-scale circulation of the Arctic Ocean: implications for pollutant transport. Schlosser, P., et al. [1993, p.285-309, eng] **47-5037**

Mobility of radioisotopes in marine surface sediments. Buchholtz ten Brink, M.R., et al. [1993, p.311-323, eng] **47-5038**

Destruction of the ecological food-chain in the Barents Sea. Vorontsov, N.N., [1993, p.325-327, eng] **47-5039**

Non-local radiological consequences of nuclear waste dumping in the Arctic seas: a preliminary assessment. Baxter, M.S., et al. [1993, p.329-341, eng] **47-5040**

U.S. interagency coastal and marine monitoring programs for determining levels of Arctic radioactivity. Curtis, W.R., et al. [1993, p.343-357, eng] **47-5041**

Treatment of data on sea pollutions and dumping sites with radioecological indices method. Georgievskii, V., et al. [1993, p.359-365, eng] **47-5042**

Application of offshore drilling technology to the entombment of artificial sources of radioactivity on the sea floor. Francis, T.J.G., [1993, p.367-377, eng] **47-5043**

Radioactive contamination of the northern seas: approaches to the assessment of the impact on the marine environment and man. Kuznetsov, IU.V., et al. [1993, p.379-394, eng] **47-5044**

Radioecological risk assessment for solid radioactive waste (SRW) dumped into the Kara Sea by the former USSR. Lystsov, V.N., [1993, p.395-414, eng] **47-5045**

Problems of evaluation and management of risk of radioactive contamination of oceans. Protsenko, A.N., et al. [1993, p.425-438, eng] **47-5046**

Expedition to the nuclear submarine *Komsomolets* site. Samoilov, V., [1993, p.439-442, eng] **47-5047**

International Arctic Seas Assessment Project IASAP (1993-1996). Sjoeblom, K.-L., et al. [1993, p.443-447, eng] **47-5048**

Radiological assessment for the dumping of radioactive wastes in the oceans. Templeton, W.L., [1993, p.480-496, eng] **47-5050**

Certain legal issues concerning prevention of radioactive pollution of the arctic marine environment from land-based sources. Barsegov, IU., [1993, p.523-534, eng] **47-5051**

Radioactive pollution from accidents involving nuclear-powered vessels: problems and solutions. Handler, J., [1993, p.557-572, eng] **47-5054**

Some aspects of radioactive wastes dumping: international regulation. Menshikov, V.F., et al. [1993, p.585-594, eng] **47-5056**

Legal regulation of environmental improvement of the Russian Federation nuclear complex activities. Veksler, M., [1993, p.609-614, eng] **47-5058**

Groundwater contamination due to road de-icing chemicals —salt balance implications. Howard, K.W.F., et al. [1993, p.1-8, eng] **47-5190**

Bog fertilizer removal through surface runoff. Telitsyn, V.L., [1993, p.72-78, eng] **47-5192**

Dynamics of tritium deposition from precipitation over the USSR and its removal into seas. Katrich, I.IU., [1991, p.90-93, eng] **47-5198**

State of pollution of terrestrial surface waters on the USSR territory in 1990. Shekhovtsov, A.A., et al. [1991, p.101-106, eng] **47-5199**

Water pressure

Temperature and suction profiles beneath highway pavements: computed and measured. Pufahl, D.E., et al. [1991, p.268-276, eng] **47-1126**

Measuring negative pore water pressures in a freezing environment. Fredlund, D.G., et al. [1991, p.291-299, eng] 47-1127

Creep closure of channels in deforming subglacial till. Fowler, A., et al. [1993, p.17-31, eng] 47-3778

Static analysis of floating ice block stability. Coutermarsh, B.A., et al. [1993, p.147-160, eng] 47-4172

Water purification

See also: Aeration; Water treatment

Water reserves

Hydrometric network evaluation: an assessment of user needs. Wedel, J.H., et al. [1991, 110p., eng] 47-434

Applying a climatic change scenario to a semi-distributed watershed model. Kite, G.W., [1992, p.113-120, eng] 47-500

Harvesting snow when water levels are low. Jairell, R.L., et al. [1992, p.121-124, eng] 47-501

Activities of the Alaska District, Water Resources Division, U.S. Geological Survey, 1992. Snyder, E.F., ed. [1992, 21p., eng] 47-1325

Ground-water resources of the Palmer area, Alaska. LaSage, D.M., [1992, 39p. + 1 sheet, eng] 47-1486

Recharge area evaluation for Moonlight Springs, Nome, Alaska. Munter, J.A., et al. [1992, 69p. + 2 sheets, eng] 47-1487

Polar hydrology: Norwegian hydrological research activities in Svalbard. Sand, K., et al. [1992, p.693-702, nor] 47-1981

Studying naleds to estimate fresh ground water reserves. Kulakov, V.V., et al. [1991, p.131-137, rus] 47-2438

Managing water resources during global change. Herrmann, R., ed. [1992, 860p., eng] 47-2721

Influence of recent climate patterns on runoff in the Missinaibi River. Camacho, F., et al. [1992, p.567-577, eng] 47-2738

Water resources data for Alaska, water year 1991. Lamke, R.D., et al. [1992, 415p., eng] 47-2776

Hydrological yearbook 1989. Leppäjärvi, R., ed. [1992, 174p., eng] 47-3154

Water resource modelling using remote sensing and object-oriented simulation. McKim, H.L., et al. [1993, p.153-165, eng] 47-3346

Annual snowpack patterns across the Rockies. Changnon, D., et al. [1993, p.633-647, eng] 47-4255

Water quality and placer mining in interior Alaska, 1992. Ray, S.R., [1993, 83p., eng] 47-4763

Summary of water-use data in Alaska, 1991. Petrik, W.A., et al. [1992, 5p. + appends., eng] 47-4764

Water quality study of Hoseanna Creek basin. Ray, S.R., et al. [1992, 51p., eng] 47-4766

Water quality in the Gold Creek drainage basin. Noll, R.S., [1992, 32p., eng] 47-4767

Water quality and placer mining in interior Alaska, 1991. Ray, S.R., [1992, 73p., eng] 47-4770

Water retention

Factors delaying spring runoff in the upper Ürümqi River basin, China. Kattelmann, R., et al. [1992, p.225-230, eng] 47-1117

Ice in the northern lowlands and southern highlands of Mars and its enrichment beneath the Elysium lavas. Cave, J.A., [1993, p.11,079-11,097, eng] 47-4411

Water storage

Use of microwave radiometer data for characterizing snow storage in western China. Chang, A.T.C., et al. [1992, p.215-219, eng] 47-1115

Influence of local factors on the distribution of snow resources in northern Tien Shan. Severskiĭ, S.I., et al. [1992, p.220-224, eng] 47-1116

Glaciological mapping and global seasonal snow storage. Kotliakov, V.M., et al. [1992, p.123-147, eng] 47-1764

Large-scale characteristics of the global distribution of snow cover. Loktionova, E.M., [1992, p.148-159, eng] 47-1765

Artificial naled formation for water storage. Krasnov, IU.N., [1991, p.233-235, rus] 47-2453

Annual snowpack patterns across the Rockies. Changnon, D., et al. [1993, p.633-647, eng] 47-4255

See also: Ice (water storage); Snow retention; Snow water equivalent; Water retention

Water structure

Structure and thermodynamic properties of water-methanol mixtures: role of the water-water interaction. Tanaka, H., et al. [1992, p.2626-2634, eng] 47-208

"Electric current" states of the proton in water. Bingi, V.N., [1991, p.1068-1071, eng] 47-230

Ion pairing in supercooled aqueous solutions. Hage, W., et al. [1992, p.6488-6493, eng] 47-250

Electro-optical parameters of hydrogen-bonded water molecules. IUkhnevich, G.V., et al. [1992, p.211-234, eng] 47-924

Dielectric study of the structure of hyperquenched glassy water and its crystallized forms. Johari, G.P., et al. [1992, p.5851-5855, eng] 47-988

Study on dynamical structure in water and heavy water by low-frequency Raman spectroscopy. Mizoguchi, K., et al. [1992, p.1961-1968, eng] 47-1056

Brillouin and Raman scattering from liquid water. Nardone, M., et al. [1992, p.287-299, eng] 47-1377

Effect of restricted geometries on the structure and *thermodynamic properties of ice.* Handa, Y.P., et al. [1992, p.8594-8599, eng] 47-1569

Model calculations of Auger energy shifts in liquid water and ice. Knuts, S., et al. [1992, p.95-103, eng] 47-1675

Supercooled water self-diffusion related to hydrogen bond *cooperativity.* Lamanna, R., et al. [1992, p.R7367-R7370, eng] 47-1891

Liquid water with an *ab initio potential: X-ray and neutron* scattering from 238 to 368 K. Corongiu, G., et al. [1992, p.2030-2038, eng] 47-2048

Erratum: liquid water with an *ab initio potential: X-ray* and neutron scattering from 238 to 368 K. *Corongiu,* G., et al. [1992, p.8818, eng] 47-2049

Solvated water molecules and hydrogen-bridged networks in liquid water. Corongiu, G., et al. [1993, p.2241-2249, eng] 47-2109

Liquid water: theory & experiment. Teixeira, J., [1990, p.167-187, eng] 47-2193

Hydrogen-bond structures in water & ice. Dore, J., [1990, p.188-197, eng] 47-2194

Dielectric properties of normal supercooled water obtained in alcohol/water mixtures. Noyel, G.A., et al. [1992, p.1136-1143, eng] 47-2294

Structural study of water confined in porous glass by neutron scattering. Bellissent-Funel, M.C., et al. [1993, p.4246-4252, eng] 47-2675

Simulation of hexagonal ice molecular dynamics. Sciortino, F., et al. [1993, p.5694-5700, eng] 47-3155

Extremes of the vertical distribution of hydrochemical indicators in the Norwegian Sea. Pivovarov, S.V., [1990, p.160-164, rus] 47-3603

Defect theory for the glass transition and residual entropy of hyperquenched water. Johari, G.P., [1993, p.7324-7329, eng] 47-3684

Structure and circulation of waters in the area of the anticyclonic gyre in the northeastern Norwegian Sea. Alekseev, G.V., et al. [1991, p.14-23, rus] 47-3955

Large-scale structure and characteristics of the average *circulation of waters.* Romantsov, V.A., [1991, p.75-97, rus] 47-3960

Water II is a "strong" liquid. Angell, C.A., [1993, p.6339-6341, eng] 47-4748

Simulation of liquid and solid phases of water. Clementi, E., et al. [1993, p.205-213, eng] 47-4755

Raman and infrared spectra of hexagonal ice between 0 and 400/cm—a molecular dynamics simulation. *Sciortino, F., et al. [1993, p.547-558, eng]* 47-4760

Effect of the water density extremum on the solidification process. Braga, S.L., et al. [1991, p.1185-1192, eng] 47-5110

Water supply

Solar chest for melting snow performance evaluation. Hariprasad, N.M., et al. [1985, p.203-211, eng] 47-572

Glacier, river and sea ice blister observations. Kovacs, A., [1992, 14p., eng] 47-785

Structural analysis of the Cazadora Glacier ice, directional anisotropy quantification and subglacial drainage prediction. Eraso, A., et al. [1989, p.71-79, spa] 47-814

Plans for the construction of a dam in a fossil lagoon near the Juan Carlos I Station. Eraso, A., et al. [1989, p.89-101, spa] 47-816

Perennial névés and the hydrology of rock glaciers. Tenthorey, G., [1992, p.247-252, eng] 47-1779

Creating naleds for water supply and irrigation in valleys of freezing rivers. Vdovin, IU.I., [1991, p.225-233, rus] 47-2452

Report on the water shortage of 1990. Satoh, T., et al. [1991, p.55-60, jpn] 47-2518

Recent trends in glaciers and glacier runoff, Wind River Range, Wyoming. Marston, R.A., et al. [1989, p.159-169, eng] 47-2578

Estimating glacier-derived runoff from mountain rivers in model predictions. Shentsis, I.D., [1991, p.32-40, rus] 47-2786

Snow estimation—a GIS application for water resources *forecasting.* McManamon, A., et al. [1993, p.856-861, eng] 47-4402

Applications of ERS-1 SAR data for analyzing riverine and coastal processes and geomorphology. Gatto, L.W., et al. [1993, p.873-878, eng] 47-4449

GIS modelling of winter orographic precipitation. Hay, L.E., et al. [1993, p.491-499, eng] 47-4460

Influence of opening size on snow evaporation in the forests of the Alberta Foothills. Bernier, P.Y., et al. [1993, p.239-244, eng] 47-4585

Ground-water-quality data collected during 1991, west Nikiski, Alaska. Maurer, M.A., [1993, 64p., eng] 47-4762

Summary of water-use data in Alaska, 1991. Petrik, W.A., et al. [1992, 5p. + appends., eng] 47-4764

Analysis of potable water-supply options for Gambell, Alaska. Munter, J.A., et al. [1992, 39p., eng] 47-4768

Evaluation of two springs at Anchor Point, Alaska, for water-supply potential. Munter, J.A., et al. [1992, 27p., eng] 47-4769

Water quality sampling for the Fairbanks airport. Ray, S.R., et al. [1992, 15p., eng] 47-4772

Predicting wilderness snow water equivalent with nonwilderness snow sensors. McGurk, B.J., et al. [1993, p.85-94, eng] 47-4993

Effects of thawing salts on biological sewage treatment plants. Washüttl, J., [1983, p.1-19, ger] 47-5000

Glacial icemelt in the Wind River Range, Wyoming. Pochop, L.O., et al. [1990, p.118-124, eng] 47-5216

Possible climate change and its impact on snowmelt and water supply in California. Roos, M., [1990, p.135-144, eng] 47-5218

Effects of forest cover on a snowpack in the Sierra Nevada. Kattelmann, R., [1990, p.276-284, eng] 47-5219

Computerized simulation of watershed *streamflow.* Ffolliott, P.F., et al. [1990, p.285-292, eng] 47-5220

See also: Alimentation

Water table

Environmental effects on CO2 tundra efflux. Oberbauer, S.F., et al. [1992, p.568-577, eng] 47-2710

Water temperature

Microorganism survival in ice-covered marine environment. Stanley, S.J., et al. [1992, p.58-72, eng] 47-2

Plankton cycle, currents and temperatures in the Okhotsk Sea. Saito, H., et al. [1992, p.182-187, eng] 47-138

Sea level variations in the southern part of the Okhotsk Sea. Shevchenko, G.V., et al. [1992, p.326-328, eng] 47-159

Seasonal temperature patterns in an arctic and two subarctic Alaskan (USA) headwater streams. Irons, J.G., III, et al. [1992, p.147-157, eng] 47-780

Thermogravitational convection of low temperature water in pipes with electric heating elements. Agapkin, V.M., et al. [1991, p.115-120, eng] 47-825

Estimate of sea ice freezing. Mizuno, Y., et al. [1992, p.147-154, eng] 47-1025

Supercooled water self-diffusion related to hydrogen bond cooperativity. Lamanna, R., et al. [1992, p.R7367-R7370, eng] 47-1891

Evaluating the possible application of pneumohydraulic equipment to lower water temperature. Nazarov, I.I., [1991, p.77-80, rus] 47-2029

Seasonal changes of antarctic marine bacterioplankton. Delille, D., et al. [1991, p.213-218, eng] 47-2070

Fundamental research on external factors affecting the freezing of supercooled water. Saito, A., et al. [1992, p.2527-2536, eng] 47-2147

Lomen water power plant—channel formation over a lake discharge outlet. Wold, K., [1988, 98p., nor] 47-2246

Winter temperature regime of culverts in channels with naleds. Kuz'minykh, A.I., et al. [1991, p.205-210, rus] 47-2448

Freezing of a supercooled water droplet on a heat transfer surface. Saito, A., et al. [1991, p.319-326, eng] 47-2560

Melting process of packed beds of ice particles by water flow. Okada, M., et al. [1991, p.327-333, eng] 47-2561

Spatial and seasonal patterns of streambed water temperatures in an Alaskan subarctic stream. Irons, J.G., III, et al. [1989, p.381-390, eng] 47-2581

Validation of stream flow temperature model. Mattax, B.L., et al. [1989, p.391-400, eng] 47-2582

Salinity, temperature, and photophysiology of antarctic sea ice microalgae. Arrigo, K.R., et al. [1992, p.746-756, eng] 47-2594

Submerged warm water jet discharge in an ice-covered reservoir or lake. Gu, R.C., et al. [1993, p.151-168, eng] 47-2647

Mathematical modeling of ice and thermal regime of water bodies under heavy thermal load. Aleksandrov, I.IA., et al. [1992, p.55-61, eng] 47-2713

Thermal nonequilibrium of freezing bodies of water with the environment. Faiko, L.I., [1991, p.115-118, rus] 47-2798

Effect of cabbeling in the mixing of sea water and its seasonal manifestation on the Pacific Ocean Subarctic Front. Kil'matov, T.R., et al. [1991, p.628-631, eng] 47-2898

Sea surface temperature of the southern ocean in iceberg regions. Popov, I.K., [1992, p.181-183, rus] 47-3337

Speed of sound in pure water as a function of temperature. Bilaniuk, N., et al. [1993, p.1609-1612, eng] 47-3433

JARE-31 oceanographic survey in Lützow-Holm Bay, 1990-1991. Ushio, S., et al. [1993, 34p., eng] 47-3619

JARE-32 oceanographic data, Nov. 1990-Mar.1991. Nakamura, H., et al. [1993, 50p., eng] 47-3620

Predictability of large-scale thermohaline anomalies in *surface waters of the arctic basin.* Artem'ev, A.O., [1991, p.65-75, rus] 47-3692

Interactive coupling of a lake thermal model with a regional climate model. Hostetler, S.W., et al. [1993, p.5045-5057, eng] 47-3784

Cause-effect relationships in the interactive processes of *the ocean and atmosphere in the North Atlantic.* Zablotskii, G.A., et al. [1992, p.105-115, rus] 47-3810

Effect of deep Atlantic waters on the ice-hydrological processes in the northern Barents Sea. Lebedev, I.A., [1992, p.145-156, rus] 47-3813

Water temperature *(cont.)*

Evaluating the role of the West Spitsbergen current in the formation of a sea ice boundary. Makshtas, A.P., et al. [1992, p.157-164, rus] **47-3814**

Initial instrument measurements of the current in the region of the cold bottom water dome in the Greenland Sea. Alekseev, G.V., et al. [1992, p.165-168, rus] **47-3815**

Some results of a statistical analysis of synoptic meso-scale variabilities in the water temperature of the Barents Sea. Lebedev, I.A., [1992, p.169-181, rus] **47-3816**

Structure and circulation of waters in the area of the anticyclonic gyre in the northeastern Norwegian Sea. Alekseev, G.V., et al. [1991, p.14-23, rus] **47-3955**

Space and time regularities in the thermal state of waters in the northern European basin. Romantsov, V.A., et al. [1991, p.24-43, rus] **47-3956**

Deep and bottom waters of the Greenland Sea—formation and transformation processes. Popov, A.V., [1991, p.44-55, rus] **47-3957**

Large-scale variations in the thermal regime of the Norwegian Sea during 1959-1984. Shevchenko, A.V., [1991, p.56-65, rus] **47-3958**

Large-scale changes in the temperature field of the surface layer of water in the North Atlantic and the Norwegian Sea. Seriakov, E.I., [1991, p.98-109, rus] **47-3961**

Forecasting the temperature of water in the Norwegian Sea. Zhevnovatyi, V.T., et al. [1991, p.110-120, rus] **47-3962**

Position, structure and characteristics of the dynamics of the polar frontal zone. Romantsov, V.A., [1991, p.157-181, rus] **47-3967**

Effect of the water-exchange index on the temperature regime of hydrostation pools. Gotlib, I.A.L., et al, [1993, p.462-468, eng] **47-4014**

Effect of selective withdrawal on the annual thermal regime of a deep water body. Bocharov, O.B., et al, [1993, p.384-390, eng] **47-4066**

Microfaunal evidence for elevated Pliocene temperatures in the Arctic Ocean. Cronin, T.M., et al, [1993, p.161-173, eng] **47-4153**

Effect of power plant construction on river hydrological regime. Filippov, A.M., [1992, p.61-64, eng] **47-4345**

Greenland Sea hydrographic studies. Budéus, G., et al, [1993, p.9985-10,000, eng] **47-4371**

Hydrography and vertical fluxes of heat and salt northeast of Svalbard in autumn. Steele, M., et al, [1993, p.10,013-10,024, eng] **47-4373**

Water volume transport through Green Bay, Lake Michigan. Miller, G.S., et al, [1993, p.361-367, eng] **47-4564**

Glacial lake bathymetry at Bering Piedmont Glacier, AK. Fleisher, P.J., et al, [1993, p.267-274, eng] **47-4566**

Flow regulation for controlled river-ice formation. Jain, S.C., et al, [1993, 50p., eng] **47-4662**

High latitude ocean convection. Rudels, B., [1993, p.323-356, eng] **47-4843**

Ship of opportunity section to the North Pole: upper ocean temperature observations. Quadfasel, D., et al, [1993, p.777-789, eng] **47-4854**

When ice melts in sea water: a review. Gade, H.G., [1993, p.139-165, eng] **47-4914**

Observations of large-size river water temperature and accuracy of hydrothermal calculations. Korenkov, V.A., et al, [1991, p.95-98, eng] **47-4924**

Frontal zones of the Barents Sea. Chvilev, S.V., [1991, p.89-95, eng] **47-4928**

Heat transfer from a cylinder buried in a frozen medium. Oosthuizen, P.H., et al, [1992, p.457-475, eng] **47-5264**

Water transport

Supercooled liquid water and precipitation-enhancement opportunities. Long, A.B., et al, [1992, p.1041-1055, eng] **47-9**

Water exchange between Kuril Basin and Pacific Ocean. Kawasaki, Y., et al, [1992, p.173-176, eng] **47-136**

Seasonal variation of Oyashio Water southeast off Hokkaido. Kono, T., et al, [1992, p.177-181, eng] **47-137**

Heat of transport of water. Takeyama, N., et al, [1991, p.1134-1135, eng] **47-916**

Effect of severe storms on the ice cover of the northern Tatarskiy Strait. Martin, S., et al, [1992, p.17,753-17,764, eng] **47-1064**

Tracing upper waters of the Nansen Basin in the Arctic Ocean. Anderson, L.G., et al, [1992, p.S425-S433, eng] **47-1272**

Halocarbon ratio and tritium/He-3 dating of water masses in the Nansen Basin, Arctic Ocean. Wallace, D.W.R., et al, [1992, p.S435-S458, eng] **47-1273**

Thermal behaviour of the water-vein system in *polycrystalline ice.* Mader, H.M., [1992, p.359-374, eng] **47-1388**

Dilatometric variations of calcareous rock cylinders during freeze thaw cycles. Prick, A., et al, [1993, p.1-15, fre] **47-3114**

Circulation and hydrography in the northwestern Gulf of Alaska. Musgrave, D.L., et al, [1992, p.1499-1519, eng] **47-3817**

Sprinkler snow melting on railway tracks. Sawase, K., et al, [1992, p.727-738, eng] **47-4364**

Water volume transport through Green Bay, Lake Michigan. Miller, G.S., et al, [1993, p.361-367, eng] **47-4564**

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Water treatment

Microorganism survival in ice-covered marine environment. Stanley, S.J., et al, [1992, p.58-72, eng] **47-2**

Comment on "Formic and acetic acids in coastal North Carolina rainwater". Hewitt, A.D., et al, [1992, p.1666, eng] **47-452**

Waste water reuse by freeze concentration with a falling film reactor. Müller, M., et al, [1992, p.1475-1482, eng] **47-1552**

Dual freezing chamber system and method for water purification. Chang, C.N., [1989, 14 col., eng] **47-3332**

Sludges from cold regions lagoons. Schneiter, R.W., et al, [1993, p.146-155, eng] **47-3675**

Effects of lime-sludge discharge on an arctic river. Tumeo, M.A., [1992, p.1083-1094, eng] **47-4626**

Water quality sampling for the Fairbanks airport. Ray, S.R., et al, [1992, 15p., eng] **47-4772**

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Water vapor

Phenomenology of a water venting in low earth orbit. Kofsky, I.L., et al, [1992, p.325-347, eng] **47-81**

Evaluating water vapor diffusion. Delarov, D.A., et al, [1991, p.46-56, rus] **47-383**

Correlation of turbulent coefficients in vertical heat flux and moisture in the surface boundary layer. Postnikov, A.N., [1991, p.123-125, rus] **47-391**

Observations of heterogeneous nucleation of water vapor on a cold substrate. Shinagawa, H., et al, [1992, p.448-450, eng] **47-1054**

Physical variation of water vapor, and the relation with carbon dioxide. Egan, W.G., et al, [1992, p.2245-2248, eng] **47-1145**

Ice clouds in the antarctic stratosphere: evidence for water removal. Di Girolamo, P., et al, [1992, p.271-275, eng] **47-1206**

Effects of acidic water vapor on spruce seedling frost hardiness. L'Hirondelle, S.J., et al, [1992, p.611-622, eng] **47-1558**

Condensation and evaporation of H2O on ice surfaces. Haynes, D.R., et al, [1992, p.8502-8509, eng] **47-1568**

Retrieval of total precipitable water over high-latitude regions using radiometric measurements near 90 and 183 GHz. Wang, J.R., et al, [1992, p.1368-1378, eng] **47-1581**

Vapor diffusion coefficient for snow. Colbeck, S.C., [1993, p.109-115, eng] **47-1903**

Denitrification of the 1990 antarctic spring stratosphere. Gobbi, G.P., et al, [1991, p.1995-1998, eng] **47-2027**

Dew and frost chemistry at a midcontinent site, United States. Wagner, G.H., et al, [1992, p.20,591-20,597, eng] **47-2052**

Coupled subsurface-boundary layer model of water on Mars. Zent, A.P., et al, [1993, p.3319-3337, eng] **47-2670**

Atmospheric water-vapour transport to Antarctica inferred from radiosonde data. Connolley, W.M., et al, [1993, p.325-342, eng] **47-2712**

Evaporation of snow under isothermal conditions. Golubev, V.N., et al, [1991, p.27-32, rus] **47-2785**

Ozone and water vapor variations related to the solar diurnal tide. Sivkov, A.M., et al, [1993, p.815-826, eng] **47-2929**

High-altitude and polar humidity. Schlatter, T., [1992, p.39-40, eng] **47-3457**

Revised snowstorm maximization method for Canadian boreal regions. Chow, K.C.A., et al, [1993, p.449-454, eng] **47-4401**

Cloud-ice-vapor feedbacks in a global climate model. Jentsch, V., [1987, p.417-437, eng] **47-4456**

Distribution of *delta*D in snow on the longest antarctic traverse route. Qin, D.H., et al, [1993, p.375-384, eng] **47-4600**

Water waves

Boulder beach formed by waves from a calving glacier. Eqip Sermia, West Greenland. Nielsen, N., [1992, p.159-168, eng] **47-226**

Propagation of M2 waves in the Arctic Ocean. Proshutinskii, A.IU., et al, [1991, p.6-13, rus] **47-3685**

Effects of variable eddy viscosity on wave-induced currents under ice. Melsom, A., [1993, p.78-88, eng] **47-4218**

Wave induced noise generation in the marginal ice zone. Rottier, P., [1993, p.611-624, eng] **47-4840**

See also: Ocean waves

Waterproofing

Retarders keep moisture, the enemy within, at bay. Tobiasson, W., [1990, p.34-35,38,40, eng] **47-451**

Research and development in building physics during the last 25 years. [1992, 165p., eng] **47-3447**

Validation of mass transfer calculations. Nielsen, A., [1992, p.37-47, eng] **47-3450**

Moisture research in North America. Bomberg, M.T., et al, [1992, p.57-93, eng] **47-3451**

Capillary suction fabric to prevent moisture accumulation Korsgaard, V., [1992, p.95-110, eng] **47-3452**

Concrete slab on the ground and moisture control. Harderup, L.E., [1992, p.117-125, eng] **47-3453**

Watersheds

Parameter uncertainty and simulation of design floods in Sweden. Harlin, J., et al, [1992, p.209-230, eng] **47-174**

Modulation of the diurnal streamflow response by the seasonal snowcover of an alpine basin. Caine, N., [1992, p.245-260, eng] **47-175**

Hydrological modelling of a medium-size mountainous catchment from incomplete meteorological data. Panagoulia, D., [1992, p.279-310, eng] **47-176**

Soil denitrification rates in a subalpine watershed of the eastern Sierra Nevada. Walker, R.F., et al, [1992, p.217-231, eng] **47-510**

General appreciation of ice-snow avalanche and glaciers in Chandra-Bhaga valley. Khular, Y.L., [1985, p.347-353, eng] **47-552**

Estimation of flow yield in a snow-bound catchment. Abbi, S.D.S., et al, [1985, p.32-42, eng] **47-560**

Snow melt runoff for a sub-catchment of Beas basin. Agrawal, K.C., et al, [1985, p.43-63, eng] **47-561**

Review of isotopic techniques for snow and glacier hydrology of mountain watersheds. Bahadur, J., [1985, p.64-75, eng] **47-562**

Empirical model for prediction of snowmelt runoff in Sutlej. Upadhyay, D.S., et al, [1985, p.76-103, eng] **47-563**

Simulation of natural acid sulfate weathering in an alpine watershed. Bassett, R.L., et al, [1992, p.2197-2209, eng] **47-1506**

Incorporating freeze-thaw calculations into a water balance model. Fox, J.D., [1992, p.2229-2244, eng] **47-1507**

Nitrogen mineralization and stream-water chemistry, Rock Creek watershed, Denali National Park, U.S.A. Stottlemyer, R., [1992, p.291-303, eng] **47-1586**

Cation export from Alaskan arctic watersheds. Cornwell, J.C., [1992, p.15-22, eng] **47-1600**

Water and sediment export of the upper Kuparuk River drainage of the North Slope of Alaska. Kriet, K., et al, [1992, p.71-81, eng] **47-1605**

Spatial considerations of snow chemistry as a non-point contamination source in alpine watersheds. Elder, K., et al, [1991, p.31-38, eng] **47-2076**

Hydrology of four headwater basins in the Sierra Nevada. Kattelmann, R., [1989, p.141-147, eng] **47-2577**

Recent trends in glaciers and glacier runoff, Wind River Range, Wyoming. Marston, R.A., et al, [1989, p.159-169, eng] **47-2578**

Groundwater contributions in an alpine basin in the Sierra Nevada. Kattelmann, R., [1989, p.361-369, eng] **47-2580**

Validation of stream flow temperature model. Mattax, B.L., et al, [1989, p.391-400, eng] **47-2582**

Effect of climatic changes on water balance of a lake/ground water system. Crowe, A.S., [1993, p.33-73, eng] **47-2635**

Guidelines for determining flood flow frequency. [1982, 28p. + appends., eng] **47-2777**

Nitrate transport in subalpine streams. Coats, R., et al, [1993, p.17-21, eng] **47-2850**

Sulfate sources in the Glacier Lakes catchment, Snowy Range, Wyoming, U.S.A. Finley, J.B., et al, [1993, p.185-188, eng] **47-2851**

Water resource modelling using remote sensing and object-oriented simulation. McKim, H.L., et al, [1993, p.153-165, eng] **47-3346**

Organic contaminants in Canadian lake sediments. Mudroch, A., et al, [1992, p.10-19, eng] **47-3349**

Groundwater discharge in Boggy Creek catchment, Manitoba. Stephenson, M., et al, [1992, p.2640-2652, eng] **47-3714**

Acidification potential of snowpack in Sierra Nevada—discussion. Bales, R.C., et al, [1993, p.399-403, eng] **47-4010**

Identifying sources of snowmelt acidification with a watershed mixing model. Schaefer, D.A., et al, [1993, p.345-365, eng] **47-4758**

Groundwater contamination due to road de-icing chemicals—salt balance implications. Howard, K.W.F., et al, [1993, p.1-8, eng] **47-5190**

Glacial icemelt in the Wind River Range, Wyoming. Pochop, L.O., et al, [1990, p.118-124, eng] **47-5216**

Chaotic characteristics of snowmelt runoff: a preliminary study. Wilcox, B.P., et al, [1990, p.125-134, eng] **47-5217**

Possible climate change and its impact on snowmelt and water supply in California. Roos, M., [1990, p.135-144, eng] **47-5218**

Computerized simulation of watershed streamflow. Ffolliott, P.F., et al, [1990, p.285-292, eng] **47-5220**

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Wave propagation

Scattering by rain and melting snow. Kharadly, M.M.Z., [1989, p.406-410, eng] **47-19**

Mean wave propagation in a slab of one-dimensional discrete random medium. Saatchi, S.S., et al, [1992, p.301-314, eng] **47-441**

Extinction of visible and infrared beams by falling snow. Hutt, D.L., et al, [1992, p.5121-5132, eng] **47-449**

Refraction correction for radio-echo sounding of large ice masses. Rees, W.G., et al. [1992, p.302-308, eng] 47-471

Seasonal soil strength by spectral analysis of surface waves. Alkire, B.D., [1992, p.22-38, eng] 47-517

Influence of snow viscosity on forced flexural-gravity waves in a basin with a density jump. Bukatov, A.E., et al. [1992, p.259-266, eng] 47-781

On ice-coupled waves: a comparison of data and theory. Squire, V.A., et al. [1992, p.269-280, eng] 47-1034

Large amplitude sea/ice coupling. Fox, C., [1992, p.293-304, eng] 47-1036

Treatments of incoherent scattering for the parabolic equation and astral propagation models. Dozier, L.B., et al. [1991, p.265-281, eng] 47-1075

Three-dimensional acoustic waveguide in the Labrador Sea. Bogdanov, K.T., et al. [1990, p.563-565, eng] 47-1232

Internal waves and mixing in the Arctic Ocean. D'Asaro, E.A., et al. [1992, p.S459-S484, eng] 47-1274

Scattering from melting ice spheres at microwave and millimeter-wave frequencies. Fletcher, P.N., et al. [1992, p.545-548, eng] 47-1561

Radar sensing of precipitation: circular polarization effects. Antar, Y.M.M., et al. [1992, p.7-16, eng] 47-1562

Comparison between wave propagation in water-saturated and air-saturated porous materials. Albert, D.G., [1993, p.28-36, eng] 47-1678

Preliminary analysis of measured sound propagation over various seasonal snow covers. Albert, D.G., [1990, p.51-57, eng] 47-1761

Approximation of interference effects in dynamic ice-structure interactions. Abul-Azm, A.G., et al. [1992, p.299-309, eng] 47-1799

Wave attenuation in the marginal ice zone during LIMEX. Liu, A.K., et al. [1992, p.192-206, eng] 47-2347

Propagation of coastal-trapped waves under an ice cover in Hudson Bay. Reynaud, T., et al. [1992, p.593-620, eng] 47-2880

Internal waves in an ice-covered basin. Pisarev, S.P., [1991, p.42-46, eng] 47-2887

Acoustic scattering from elemental arctic ice features: numerical modeling results. Fricke, J.R., [1993, p.1784-1796, eng] 47-3231

Broadband source localization and signature estimation. Yang, T.C., [1993, p.1797-1806, eng] 47-3232

Scattering from boundary protuberances and reverberation imaging. Yang, T.C., [1993, p.231-242, eng] 47-3233

River surge propagation modeling. Hicks, F.E., et al. [1992, p.454-462, eng] 47-3308

Positioning of satellite navigation system during snowfall. Tranquilla, J.M., et al. [1993, p.295-299, eng] 47-3361

Determination of sea ice acoustical properties by tomography. Rajan, S.D., et al. [1993, p.721-738, eng] 47-3431

Very-low-frequency under-ice reflectivity. Wolf, J.W., et al. [1993, p.1329-1334, eng] 47-3432

Shock response of snow. Johnson, J.B., et al. [1993, p.4852-4861, eng] 47-3794

Breakup of shore fast sea ice. Squire, V.A., [1993, p.211-218, eng] 47-3925

Comparison of the mass-loading and elastic plate models of an ice field. Squire, V.A., [1993, p.219-229, eng] 47-3926

Sea ice flexural rigidity: a comparison of methods. DiMarco, R.L., et al. [1993, p.247-255, eng] 47-3928

Depolarization of radio waves by ice crystals. Maekawa, Y., et al. [1993, p.249-259, eng] 47-4062

Wave effects on ocean-ice interaction in the marginal ice zone. Liu, A.K., et al. [1993, p.10,025-10,036, eng] 47-4374

Waves and mesoscale features in the marginal ice zone. Liu, A.K., et al. [1993, p.343-348, eng] 47-4437

Finite-floe wave reflection and transmission coefficients from a semi-infinite model. Meylan, M., et al. [1993, p.12,537-12,542, eng] 47-4524

Ocean-acoustic propagation in an arctic profile. Buckingham, M.J., [1993, p.93-104, eng] 47-4633

Scattering of low frequency sound waves under sea ice. LePage, K., et al. [1992, p.3-16, eng] 47-4714

Matched field tomography results in the Arctic. Diachok, O.I., et al. [1992, p.24-27, eng] 47-4716

Analytical technique for solving an arctic acoustic model. Sheard, J.D., et al. [1992, p.39-42, eng] 47-4718

Vertical directivity measurements of ice cracking. Greening, M.V., et al. [1993, p.553-562, eng] 47-4836

Acoustic radiation beneath the arctic ice cover. Xie, Y.B., et al. [1993, p.641-647, eng] 47-4842

Glacier study using wavenumber domain synthetic aperture radar. Hamran, S.E., et al. [1993, p.559-570, eng] 47-5120

Wave transmission

See also: Wave propagation

Waves

See also: Detonation waves; Elastic waves; Microwaves; Ocean waves; Polarization (waves); Radio waves; Shock waves; Sound waves; Water waves

Weather

See also: Meteorology

Weather control

See also: Artificial precipitation; Climate control; Cloud dissipation; Cloud seeding; Fog dispersal; Hail prevention; Weather modification

Weather forecasting

On some meteorological aspects of snowfall over the Himalayas as observed by satellite. Kalsi, S.R., et al. [1985, p.125-132, eng] 47-531

Forecasting snow versus rain in Kulu Valley. Rangachary, N., et al. [1985, p.304-309, eng] 47-547

Weather forecasters and winter road maintenance. Boselly, S.E., III, et al. [1992, 3p., eng] 47-958

Road weather information systems: what are they and what can they do for you. Boselly, S.E., III, [1992, 8p., eng] 47-964

Road weather service system in Finland and savings in driving costs. Pilli-Sihvola, Y., et al. [1992, 12p., eng] 47-966

Coastal influence on winter road surface temperatures. McLean, P.J., et al. [1992, 24p., eng] 47-968

Description of a local climatological model for improvement of winter road surveys. Bogren, J., et al. [1992, 10p., eng] 47-969

Detailed weather prediction system for snow and ice control. Reiter, E.R., et al. [1992, 12p., eng] 47-972

Prediction of road conditions by combined road layer/atmospheric model in winter. Voldborg, H., [1992, 9p., eng] 47-973

Numerical forecasting of radiation fog. Bergot, T., [1992, 16p., eng] 47-974

Temperature forecast biases associated with snow cover in the Northeast. Wojcik, G.S., et al. [1992, p.501-506, eng] 47-1059

Intelligent and localized weather prediction. Reiter, E.R., et al. [1992, 144p., eng] 47-1619

Winter Weather Workshop. [1992, Var. p., eng] 47-2130

Front Range/Palmer Divide blizzard of 7 Jan 1992. Wolf, R.A., et al. [1992, 6p., eng] 47-2132

Observing and forecasting a mesoscale snow event using MAPS. Glancy, R.T., et al. [1992, 11p., eng] 47-2133

Operational use of an orographic snow model. Scott, C., [1992, 7p., eng] 47-2134

Operational use of an orographic precipitation model. Hayes, P.S., [1992, 14p., eng] 47-2135

Analysis of the record-breaking northern plains snowstorm of October 27-29 1991. Abeling, W.A., et al. [1992, 22p., eng] 47-2136

Snowstorms over the western Washington lowlands. Ferber, G.K., [1992, 23p., eng] 47-2137

Use of high resolution data from the Nested Grid Model for the prediction of lake-effect snows. Niziol, T.A., et al. [1992, 11p., eng] 47-2138

Lake effect snow events in eastern New York. Snyder, W.R., [1992, 10p., eng] 47-2139

Case study of a mesoscale snow event in New York's Capital District. Wooldridge, M.E., et al. [1992, 13p., eng] 47-2140

NGM model output error and the effect on forecasting a Great Basin cyclogenic event: a case study. Conger, M.C., [1992, 38p., eng] 47-2141

Winter severity index for Pittsburgh, Pennsylvania. Nouhan, V.J., [1992, 17p., eng] 47-2142

Can you measure the benefits of RWIS. [1992, p.22-23, eng] 47-2325

Measuring the benefits of RWIS. Boselly, S.E., III, [1992, p.18,20, eng] 47-2328

How Vancouver uses thermal mapping. [1992, p.23,25-27, eng] 47-2329

Snow versus rain: looking beyond the "magic" numbers. Heppner, P.O.G., [1992, p.683-691, eng] 47-2764

Simulation on depth of newly fallen snow based on AMeDAS data. Yamada, Y., et al. [1992, p.169-178, eng] 47-3197

Radar echoes of winter monsoon affected by mountains. Nakai, S., et al. [1992, p.1-23, jpn] 47-3294

Numerical simulation of snowdrift on a road. Sato, A., et al. [1992, p.123-135, jpn] 47-3297

Network information systems on snow in Japan. Nakamura, T., [1992, p.233-250, jpn] 47-3302

Analysis of ice cover in numerical weather prediction. Hallé, J., [1991, p.75-85, eng] 47-3377

Convection forecasting during a cloud-seeding experiment. Czys, R.R., et al. [1993, p.996-1005, eng] 47-3566

Calculating the circulation and thermobarometric background in long range meteorological forecasts. Vinogradov, N.D., [1989, p.6-11, rus] 47-3653

Nature of the annual variation in the circumpolar eddy and its calculation in weather forecasting in the Arctic. Dmitriev, A.A., [1989, p.12-25, rus] 47-3654

Numerical experiment in hydrodynamic forecasting of pressure fields 5 days in advance in the Arctic. Evseev, M.P., et al. [1989, p.53-65, rus] 47-3657

High-latitude zonal index as an informative quantitative indicator of large-scale hydrometeorological processes in the Arctic. Dmitriev, A.A., [1989, p.66-75, rus] 47-3658

Diagnosis and forecasting of significant 10-year anomalies in air temperatures in the western Arctic. Grakhovskii, G.N., et al. [1989, p.88-96, rus] 47-3660

Using hydrodynamic surface fields at a geopotential of 500 gPa for medium-range forecasting of a surface pressure field. Baranov, G.I., et al. [1989, p.113-117, rus] 47-3663

Some climatic characteristics of precipitation in the Asian Arctic for medium-range weather forecasting. Kuchin, V.A., [1989, p.138-147, rus] 47-3666

Static stability parameter and the variation of barometric formations. Golev, D.A., [1989, p.148-151, rus] 47-3667

Methodical plan for compiling hydrometeorological forecasts and results of its use. Ashik, I.M., [1991, p.86-95, rus] 47-3694

Prospects for the development of methods for forecasting climatic changes in polar regions. Alekseev, G.V., [1992, p.5-21, rus] 47-3803

Misawa snow accumulation study. Schaub, W.R., Jr., [1991, 20p., eng] 47-3818

Navy arctic seas weather analysis and forecast, Vol.8, Part 2. Fett, R.W., ed. [1992, Var. p., eng] 47-3911

Nested grid model for the prediction of lake-effect snows. Niziol, T.A., et al. [1992, p.89-99, eng] 47-4037

Wind-profile estimation by conventional radars. Fabry, F., [1993, p.40-49, eng] 47-4165

Submicron size aerosols and weather forecasting in East Antarctica. Lal, M., [1988, p.105-107, eng] 47-4193

Prediction of restricted visibility at the McMurdo airfield. Hale, R.A., et al. [1988, p.148-150, eng] 47-4205

Dynamic modeling of the spatial distribution of precipitation in remote mountainous areas. Barros, A.P., et al. [1993, p.1195-1214, eng] 47-4254

Form of cyclonic precipitation and its thermal impact. Gedzelman, S.D., et al. [1993, p.1957-1978, eng] 47-4355

Numerical investigation of wind speed effects on lake-effect storms. Sousounis, P.J., [1993, p.261-290, eng] 47-4511

Polar lows and katabatic winds as a triggering mechanism. Wos, K.A., [1992, 139p., eng] 47-4622

Modelling of local climate with applications to winter road conditions. Gustavsson, T., [1990, 13p. + reprints, eng] 47-4691

Infrared thermography in applied road climatological studies. Gustavsson, T., et al. [1990, 22p., eng] 47-4692

Risk of road slipperiness during warm-air advections. Gustavsson, T., [1990, 23p., eng] 47-4693

Variation in road surface temperature due to topography and wind. Gustavsson, T., [1990, p.227-236, eng] 47-4694

Nocturnal air and road surface temperature variations in complex terrain. Bogren, J., et al. [1990, 17p., eng] 47-4695

Prediction of air and road surface temperatures. Gustavsson, T., et al. [1990, 45p., eng] 47-4696

Application of a local climatological model for prediction of air and road surface temperatures. Bogren, J., [1990, 12p. + reprints, eng] 47-4697

Screening effects on road surface temperature and road slipperiness. Bogren, J., [1990, 17p., eng] 47-4698

Road surface temperature and risk of slipperiness. Bogren, J., [1990, 17p., eng] 47-4699

Snow clearing removal technique of Sapporo. Hirata, M., [1991, 7p., eng] 47-4779

Published research papers. [1993, 54p., jpn] 47-4782

Study on blowing snow and snowdrift countermeasures. Tsunaki, R., et al. [1993, p.1-4, jpn] 47-4783

Study on methods for predicting road surface freezing. Suzuki, T., et al. [1993, p.38-42, jpn] 47-4791

Road heating control using snowfall forecast data. Takahashi, T., et al. [1993, p.43-50, jpn] 47-4792

Development of a system for forecasting road surface freezing. Ishizaka, T., [1993, p.51-54, jpn] 47-4793

Lake effect of the Great Salt Lake: overview and forecast problems. Carpenter, D.M., [1993, p.181-193, eng] 47-4831

Forecasters handbook for the Bering Sea, Aleutian Islands, and Gulf of Alaska. Fett, R.W., et al. [1993, Var. p., eng] 47-4886

Estimation of cloud liquid water in winter storms on the Mongollon Rim—report on task I. Medina, J.G., [1993, 19p., eng] 47-4913

Avoiding aircraft icing. Collins, R.L., [1993, p.53-57, eng] 47-4999

Heavy snowfall during an arctic outbreak along the Colorado Front Range. Wesley, D.A., et al. [1990, p.2-19, eng] 47-5257

Comments on paper by Wesley et al and reply. Auer, A.H., Jr., et al. [1991, p.19-21, eng] 47-5259

See also: Frost forecasting; Ice forecasting; Long range forecasting

Weather maps

See also: Meteorological charts

Weather modification

Effects of cloud seeding on meteorological parameters. Shmeter, S.M., [1991, p.29-33, eng] 47-2636

Ice crystals produced by expansion: experiments and application to aircraft-produced ice. Foster, T.C., et al. [1993, p.716-728, eng] 47-3509

Convection forecasting during a cloud-seeding experiment. Czys, R.R., et al. [1993, p.996-1005, eng] 47-3566

Weather modification *(cont.)*

Estimation of cloud resources for dispersion over the USSR territory. Belova, L.K., et al. [1992. p.13-18. eng] 47-3988

Decrease in total ozone concentration in the polar cap following solar proton flares. Shumilov, O.I., et al. [1991. p.17-21. eng] 47-4251

Radar analysis of hail clouds during seeding. Fedchenko, L.M., et al. [1992. p.87-92. eng] 47-4346

Estimation of cloud liquid water in winter storms on the Mongollon Rim—report on task 1. Medina, J.G., [1993. 19p., eng] 47-4913

See also: Artificial precipitation; Climate control; Cloud dissipation; Cloud seeding; Fog dispersal; Hail prevention

Weather observations

Active remote sensing of the earth using a powerful dye laser. Jyumonji, M., et al. [1992. p.254-258. eng] 47-145

Backscattering from ice crystals in radar meteorology. Dungey, C.E., [1991. 152p., eng] 47-300

Dual-polarization radar measurements in an Oklahoma hailstorm. Aydin, K., et al. [1992. p.1734-1736. eng] 47-691

Wind-chill—it's sensational. Dixon, J.C., [1991. p.141-144. eng] 47-1242

How has the problem been solved over many centuries. Background to and description of recent nordic activities in the correction of precipitation measurement. Madsen, H., et al. [1988. p.3-11. swe] 47-1689

Climatic differences in Antarctica from automatic weather stations. Stearns, C.R., et al. [1992. p.111-114. eng] 47-2395

Hail occurrences in India. Nizamuddin, S., [1993. p.90-92. eng] 47-2709

Snow: a skimpy year. Ludlum, D.M., [1993. p.38-41. eng] 47-2765

Temperature extremes. Hickcox, D.H., [1993. p.42-46. eng] 47-2766

Preprints. [1993. 501p. + joint papers. eng] 47-3059

ASOS sensor performance—an update. Crosby, J.D., et al. [1993. p.358-362. eng] 47-3074

Capabilities of the Automated Surface Observing System (ASOS). Burch, L.E., [1993. p.363-367. eng] 47-3075

Weather characterization by the mean of a vertically pointing CW radar. Duvernoy, J., et al. [1993. p.379-381. eng] 47-3076

High frequency satellite cloud motion at high latitudes. Herman, L.D., [1993. p.465-468. eng] 47-3077

Towards unbiased estimates of North American precipitation. Groisman, P.IA., [1993. p.J43-J47. eng] 47-3082

Estimation of biases in precipitation gage measurements. Legates, D.R., et al. [1993. p.J48-J51. eng] 47-3083

Homogeneity of precipitation time series in Finland. Heino, R., [1993. p.J52-J55. eng] 47-3084

Long precipitation series in Norway—analysis of homogeneity and regionalization. Hanssen-Bauer, I., et al. [1993. p.J56-J61. eng] 47-3085

Ice formations near upland tarns in Cumbria, 16 April 1992. Kay, A., [1993. p.112-113. eng] 47-3317

Impacts of severe weather during December 1989 in the Lake Erie snowbelt. Schmidlin, T.W., [1993. p.759-767. eng] 47-3476

Meteorological data at Asuka Station, Antarctica in 1991. Sukegawa, Y., et al. [1993. 101p., eng] 47-3905

Hail: the white plague. Hughes, P., et al. [1993. p.16-21. eng] 47-3924

Destructive hailstorms in Essex on 26 May 1985. Elsom, D.M., et al. [1993. p.166-173. eng] 47-4405

Basic plan for a snowdrift information system. [1990. p.26-29. jpn] 47-4685

Using blowing snow observations in traffic management. Fukuzawa, Y., et al. [1990. p.30-33. jpn] 47-4686

Distribution of icicles. Croft, P.J., et al. [1990. p.34. eng] 47-5258

Weather stations

Climate and glacier change: the dilemma of the representative station. Marcus, M.G., et al. [1992. p.1-14. eng] 47-1002

Energy-balance and surface layer measurements in Antarctica. Georgiadis, T., et al. [1992. p.213-218. eng] 47-1203

Arctic automatic weather station field data 1990-91. Alt, B.T., et al. [1992. 54p. + appends., eng] 47-2339

Climatic differences in Antarctica from automatic weather stations. Stearns, C.R., et al. [1992. p.111-114. eng] 47-2395

Simple method for specifying snowpack water equivalent in the northeastern United States. Samelson, D., et al. [1993. p.965-974. eng] 47-3565

Climatology of the East Antarctic ice sheet (100E to 140E) derived from automatic weather stations. Allison, I., et al. [1993. p.8815-8823. eng] 47-4380

Weathering

Tectonic forcing of late Cenozoic climate. Raymo, M.E., et al. [1992. p.117-122. eng] 47-373

Engineering geocryological properties of deposits of cryogenic weathering crusts. Vasil'ev, A.A., [1991. p.63-70. rus] 47-399

Mineralogy of silt material of soils of the forest tundra and northern taiga of the Kola Peninsula. Gradusov, B.P., et al. [1987. p.7-14. eng] 47-596

Laboratory tests for predicting coarse aggregate performance in Ontario. Senior, S.A., et al. [1991. p.97-106. eng] 47-1132

Soils of alpine mountains. Legros, J.P., [1992. p.155-181. eng] 47-1211

Simulation of natural acid sulfate weathering in an alpine watershed. Bassett, R.L., et al. [1992. p.2197-2209. eng] 47-1506

Cation export from Alaskan arctic watersheds. Cornwell, J.C., [1992. p.15-22. eng] 47-1600

Investigations of primary minerals cryogenic weathering as related to podzolization. Martynenko, I.A., et al. [1992. p.149-153. eng] 47-1721

Recent microweathering phenomena in southern and central Sweden. Swantesson, J.O.H., [1992. p.275-292. eng] 47-2237

Rock weathering, soil development and colonization under a changing climate. Hall, K.J., et al. [1992. p.269-277. eng] 47-3146

Small scale glacial erosion forms and their possible relation to post-glacial weathering. Franzén, L.G., et al. [1991. p.1-7. eng] 47-4315

Observations on rock moisture variability in gneiss and basalt under natural, arctic conditions. Humlum, O., [1992. p.197-205. eng] 47-4328

Weathering of basaltic rocks under cold arid conditions: Antarctica and Mars. Allen, C.C., et al. [1991. p.711-717. eng] 47-4636

Influence of snow upon rates of granodiorite weathering, Colorado Front Range, USA. Benedict, J.B., [1993. p.87-92. eng] 47-4850

Dating of weathered Peruvian Pleistocene mountain moraines. Rodbell, D.T., [1993. p.133-143. eng] 47-5121

Bedrock weathering associated with antarctic snowpatches. Hall, K., [1993. p.121-129. eng] 47-5270

See also: Frost weathering; Permafrost weathering

Weatherproofing

Proceedings. [1992. 756p., eng] 47-1148

Wedges

Pediments and cold-climate conditions, Barn Mountains, unglaciated northern Yukon, Canada. French, H.M., et al. [1992. p.145-157. eng] 47-4324

See also: Ice wedges

Welding

Evaluation of FCAW consumables for offshore and arctic structure fabrication. Sala, S.R., et al. [1993. p.76-82. eng] 47-2667

Well casings

Potential of common well casing materials to influence aqueous metal concentrations. Hewitt, A.D., [1992. p.131-136. eng] 47-879

Tension and compression tests of 13-3/8" lbs/ft L-80 HF-ERW casings with buttress connections. Konno, N., et al. [1992. p.169-173. eng] 47-1838

Review of recent findings in well-casing studies. Parker, L.V., [1992. p.83-91. eng] 47-1892

Effect of concentration on sorption of dissolved organics by well casings. Parker, L.V., et al. [1993. 17p., eng] 47-4868

Well drilling

See also: Drilling

Well logging

Subsurface temperatures and geothermal gradients on the North Slope of Alaska. Collett, T.S., et al. [1993. p.275-293. eng] 47-3931

Wells

Ground-water resources of the Palmer area, Alaska. LaSage, D.M., [1992. 39p. + 1 sheet. eng] 47-1486

Geology and geohydrology at CRREL, Hanover, New Hampshire: relationship to subsurface contamination. Shoop, S.A., et al. [1992. 83p., eng] 47-2568

Ground-water-quality data collected during 1991, west Nikiski, Alaska. Maurer, M.A., [1993. 64p., eng] 47-4762

Water quality sampling for the Fairbanks airport. Ray, S.R., et al. [1992. 15p., eng] 47-4772

See also: Gas wells; Oil wells

Wet snow

Polarimetric and multifrequency SAR signatures of wet snow. Rott, H., et al. [1992. p.1658-1660. eng] 47-687

Mechanical properties of high water content snow. Kobayashi, S., et al. [1992. p.313-321. eng] 47-3209

Snow and glacier investigations by ERS-1 SAR—first results. Rott, H., et al. [1993. p.577-582. eng] 47-4445

See also: Slush

Wetlands

Wetlands sewage treatment tested in the north. [1991. p.9-10. eng] 47-221

Interannual variations in tundra methane emission: a 4-year time series at fixed sites. Whalen, S.C., et al. [1992. p.139-159. eng] 47-1053

White phosphorus poisoning of waterfowl in an Alaskan salt marsh. Racine, C.H., et al. [1992. p.669-673. eng] 47-1235

Impacts of summer warming on the energy and water balance of wetland tundra. Rouse, W.R., et al. [1992. p.305-326. eng] 47-1375

Plant-dependent CH4 emission in a subarctic Canadian fen. Whiting, G.J., et al. [1992. p.225-231. eng] 47-1378

Carbon monoxide and methane in the North American arctic and subarctic troposphere: July-August 1988. Harriss, R.C., et al. [1992. p.16,589-16,599. eng] 47-1456

Airborne flux measurements of trace species in an arctic boundary layer. Ritter, J.A., et al. [1992. p.16,601-16,625. eng] 47-1457

Methane emissions from tundra environments in the Yukon-Kuskokwim Delta, Alaska. Bartlett, K.B., et al. [1992. p.16,645-16,660. eng] 47-1459

Methane emissions from Alaska arctic tundra: an assessment of local spatial variability. Morrissey, L.A., et al. [1992. p.16,661-16,670. eng] 47-1460

Carbon isotopes in methane emitted from Alaskan wetlands. Martens, C.S., et al. [1992. p.16,689-16,701. eng] 47-1463

Emissions of biogenic sulfur gases from Alaskan tundra. Hines, M.E., et al. [1992. p.16,703-16,707. eng] 47-1464

Emission of CO2 and CH4 from northern wetlands to atmosphere. Panikov, N.S., et al. [1992. p.208-216. eng] 47-1731

Peatland development in relation to Holocene climatic change in Manitoba and Saskatchewan (Canada). Kuhry, P., et al. [1992. p.1070-1090. eng] 47-1798

Seasonality of methane emissions from five lakes and associated wetlands of the Colorado Rockies. Smith, L.K., et al. [1992. p.323-338. eng] 47-2235

Role of permafrost and seasonal frost in the hydrology of northern wetlands in North America. Woo, M.K., et al. [1993. p.5-31. eng] 47-2634

Thaw depth effects on tundra methane flux. Vourlitis, G.L., et al. [1993. p.329-337. eng] 47-3434

Significance of stomatal control on methane release from Carex-dominated wetlands. Morrissey, L.A., et al. [1993. p.339-355. eng] 47-3435

Environmental and biotic controls over methane flux from arctic tundra. Torn, M.S., et al. [1993. p.357-368. eng] 47-3436

Mire ecosystems on raised peat bogs in Finland. Korhola, A., [1992. p.25-94. eng] 47-3525

Episodic fluxes of methane from subarctic fens. Windsor, J., et al. [1992. p.441-452. eng] 47-3717

Scale and remotely sensed data for change detection in the James Bay, Ontario, coastal wetlands. McNairn, H., et al. [1993. p.45-49. eng] 47-3724

Wetland properties of permafrost soils in Alaska. Ping, C.L., et al. [1992. p.198-205. eng] 47-3898

Small-scale wetland restoration in the high Arctic: a long-term perspective. Forbes, B.C., [1993. p.59-68. eng] 47-3900

Wetlands: an editorial perspective. Knight, C.W., [1993. p.13-16. eng] 47-4097

Hydrology of a prairie slough. Woo, M.K., et al. [1993. p.175-207. eng] 47-4170

Applications of ERS-1 SAR data for analyzing riverine and coastal processes and geomorphology. Gatto, L.W., et al. [1993. p.873-878. eng] 47-4449

Structural and ice effects on salt water marsh hydrology. Ballestero, T.P., et al. [1993. p.150-155. eng] 47-4451

Methane from northern peatlands and climate change. Frolking, S., [1993. p.109-124. eng] 47-5233

Methane and carbon dioxide production and uptake in some boreal ecosystems of Russia. Panikov, N.S., et al. [1993. p.125-138. eng] 47-5234

Carbon budget and succession dynamics of Canadian vegetation. Cihlar, J., et al. [1993. p.215-220. eng] 47-5238

Wettability

Optical study of surface melting on ice. Elbaum, M., et al. [1993. p.491-505. eng] 47-3648

Wharves

See also: Docks; Ice wharves; Piers

Wheels

See also: Vehicle wheels

Wind chill

Wind-chill—it's sensational. Dixon, J.C., [1991. p.141-144. eng] 47-1242

Evaluating the nival-glacial climate of mountains to be used for recreation. Suprunenko, IU.P., [1982. p.34-41. rus] 47-1247

Wind-chill properties of various clothing types. Erhart, B., et al. [1991. p.63-75. ger] 47-2058

Physical assessment of the wind chill index. Ennemoser, O., et al. [1991. p.76-82. ger] 47-2059

New wind-chill nomogram. Rees, W.G., [1993. p.229-234. eng] 47-4703

Wind direction

Katabatic wind intensity and direction measurements. Remy, F., et al. [1992. p.1021-1024. eng] 47-2907

Front Range blizzard of 1990. Part 1: synoptic and mesoscale structure. Marwitz, J.D., et al. [1993. p.402-415. eng] 47-3676

Analysis of strong wind events simulated in a GCM near Casey in the Antarctic. Murphy, B.F., et al. [1993. p.522-534. eng] 47-3677

Katabatic flow thermodynamics of Adélie Coast. Pettré, P., et al. (1993, p.10,429-10,440, eng) 47-4292
Mean circulations of boundary-layer rolls in lake-effect snow storms. Kristovich, D.A.R., (1993, p.293-315, eng) 47-4350
Numerical investigation of wind speed effects on lake-effect storms. Sousounis, P.J., (1993, p.261-290, eng) 47-4511

Wind erosion

Periglacial and eolian processes in southern France. Ambert, P., et al. (1992, p.55-71, fre) 47-778
Erosion of agricultural lands in the Irkutsk region. Khismatullin, Sh.D., (1991, p.49-61, rus) 47-3279
Measuring blowing snow in Adélie Land, eastern Antarctica. Wendler, G., (1988, p.93-96, eng) 47-4191

Wind factors

Kinetic energy of hailfalls. Part 4: patterns of hailpad and radar data. Schmid, W., et al. (1992, p.1165-1178, eng) 47-460
Some observations on the seasonal snow cover. Rao, N.M., (1985, p.65-78, eng) 47-525
Galloping instability of ice coated poles. Durgin, F.H., et al. (1992, p.675-686, eng) 47-1193
Influence of wind, temperature, and deicing chemicals on snow accretion. Adams, E.E., et al. (1991, p.182-187, eng) 47-1801
Wind forcing and ice motion in the Weddell Sea region. Kottmeier, C., et al. (1992, p.20,373-20,383, eng) 47-2051
Detection of Labrador current by radar tracking of ice floe movement. Ikeda, M., et al. (1992, p.223-245, eng) 47-2349
Simulation of sea-ice motion and distribution off Newfoundland during LIMEX, March 1987. Tang, C.L., et al. (1992, p.270-296, eng) 47-2351
Snowdrift around buildings for antarctic environment. Kwok, K.C.S., et al. (1992, p.2797-2808, eng) 47-2643
Sea ice and wind: effects on primary productivity in the Barents Sea. Sakshaug, E., et al. (1992, p.579-591, eng) 47-2879
Ice formations near upland tarns in Cumbria, 16 April 1992. Kay, A., (1993, p.112-113, eng) 47-3317
Suspended sediment character and distribution in McBeth Fiord, Baffin Island. Winters, G.V., et al. (1992, p.25-35, eng) 47-3351
Doppler radar analysis of mesoscale snow bands. Ishihara, M., et al. (1989, p.503-520, eng) 47-3466
Study of the North Water polynya using passive microwave and infrared imagery. Press, M.J., et al. (1993, p.92-101, eng) 47-3726
Ice scours in the sediments of glacial Lake Iroquois, Prince Edward County, eastern Ontario. Gilbert, R., et al. (1992, p.189-194, eng) 47-3789
Prairie Blowing Snow Model: characteristics, validation, operation. Pomeroy, J.W., et al. (1993, p.165-192, eng) 47-3801
Spacing of icicles. Makkonen, L., et al. (1993, p.317-322, eng) 47-3934
Forecasting Caspian Sea ice edge. Bukharitsin, P.I., et al. (1992, p.58-63, eng) 47-3992
Quaternary loess deposition in a montane environment. Roberts, M.C., et al. (1992, p.291-301, eng) 47-4023
Thickness predictions of rafted ice in the Caspian Sea. Bukharitsin, P.I., (1993, p.390-394, eng) 47-4067
Wave effects on ocean-ice interaction in the marginal ice zone. Liu, A.K., et al. (1993, p.10,025-10,036, eng) 47-4374
Numerical investigation of wind speed effects on lake-effect storms. Sousounis, P.J., (1993, p.261-290, eng) 47-4511
Drag coefficients for winter antarctic pack ice. Wamser, C., et al. (1993, p.12,431-12,437, eng) 47-4520
Effects of wind on boreal forests. Robertson, A., (1993, p.203-225, eng) 47-4538
Noise generation in the marginal ice zone. Johannessen, O.M., et al. (1992, p.28-38, eng) 47-4717
Ice edge noise observations from the 1988-89 Greenland Sea tomography experiment. Lynch, J.F., et al. (1992, p.611-619, eng) 47-4719
Exceptional rain-snow event of February 1990 in the Northern Alps. Blanchet, G., (1993, p.68-77, fre) 47-4761
Cryogenic ambient air vaporizers: frost growth, wind and seismic design for safety. Bernert, R.E., Jr., et al. (1993, p.789-793, eng) 47-4876
Reliability of guyed masts with special reference to arctic conditions. Johansson, B., et al. (1991, 18p., eng) 47-5011
Nonsymmetric icing of guyed masts. Peil, U., et al. (1991, 10p., eng) 47-5012
Saltating particles over flat beds. Nalpanis, P., et al. (1993, p.661-685, eng) 47-5195
Reliability-based design of transmission towers under wind and ice loadings. Cho, H.N., et al. (1993, p.1125-1130, eng) 47-5263

Wind (meteorology)

Interrelationship of the structure of hail clouds with the vertical structure of wind in the troposphere. Mal'bakhova, N.M., (1991, p.99-106, rus) 47-757
Satellite observation of katabatic-wind propagation for great distances across the Ross Ice Shelf. Bromwich, D.H., et al. (1992, p.1940-1949, eng) 47-876
Interaction of gravity driven flows at Nansen Ice Sheet. Mastrantonio, G., et al. (1992, p.159-166, eng) 47-1200
Total ozone changes and stratospheric wind and temperature. Xiong, K., et al. (1992, p.45-50, chi) 47-1256
Acoustic sounder experimentation in Victoria Land, Antarctica. Fiocco, G., et al. (1991, p.119-133, eng) 47-2006
Preprints. (1992, 146p. + joint papers, eng) 47-2362
Katabatic surges across the Ross Ice Shelf. Bromwich, D.H., et al. (1992, p.29-32, eng) 47-2371
Determining realistic wind stress forcing fields for marine arctic regions. Davidson, K.L., et al. (1992, p.44-47, eng) 47-2376
Air ice drag coefficients during high wind over the Beaufort Sea. Walter, B.A., et al. (1992, p.48-49, eng) 47-2377
Synoptic influence on inversion winds at the South Pole. Neff, W.D., (1992, p.J24-J28, eng) 47-2409
Acoustic remote sensing study of boundary layer blocking near Ross Island, Antarctica. Liu, Z., et al. (1992, p.J29-J32, eng) 47-2410
Katabatic wind dynamics at Terra Nova Bay, Antarctica from the satellite image perspective. Bromwich, D.H., et al. (1992, p.J125-J128, eng) 47-2417
Case studies of katabatic wind forced mesoscale cyclogenesis over the southwestern Ross Sea. Carrasco, J.F., et al. (1992, p.J129-J132, eng) 47-2418
Katabatic winds at the edge of the Greenland ice sheet. Van den Broeke, M.R., et al. (1992, p.J133-J136, eng) 47-2419
Numerical simulation of katabatic winds crossing the Siple Coast area of West Antarctica. Bromwich, D.H., et al. (1992, p.J137-J140, eng) 47-2420
Katabatic winds and large-scale tropospheric forcing. Parish, T.R., et al. (1992, p.J141-J144, eng) 47-2421
Turbulence structure in stably stratified flow in the wake behind high mountains. Smedman, A.S., et al. (1992, p.J145-J148, eng) 47-2422
Mesoscale blocking ahead of mountain ridges and cold fronts. Taylor, P., et al. (1992, p.J149-J152, eng) 47-2423
Katabatic wind intensity and direction measurements. Remy, F., et al. (1992, p.1021-1024, eng) 47-2907
Prevailing winds in the arctic and antarctic atmospheres at ca 80-110 km. Portniagin, IU.I., et al. (1993, p.827-841, eng) 47-2930
Dynamics of the antarctic and arctic mesosphere and the lower thermosphere regions, II. The semidiurnal tide. Portniagin, IU.I., et al. (1993, p.843-855, eng) 47-2931
Recent surface ozone measurements at Molodezhnaya and Mirnyy stations. Gruzdev, A.N., et al. (1993, p.99-105, eng) 47-3531
Analysis of strong wind events simulated in a GCM near Casey in the Antarctic. Murphy, B.F., et al. (1993, p.522-534, eng) 47-3677
Measuring blowing snow in Adélie Land, eastern Antarctica. Wendler, G., (1988, p.93-96, eng) 47-4191
Numerical simulation of antarctic drainage flows. Parish, T.R., et al. (1988, p.97-99, eng) 47-4192
Katabatic flow thermodynamics of Adélie Coast. Pettré, P., et al. (1993, p.10,429-10,440, eng) 47-4292
Numerical investigation of wind speed effects on lake-effect storms. Sousounis, P.J., (1993, p.261-290, eng) 47-4511
Polar lows and katabatic winds as a triggering mechanism. Wos, K.A., (1992, 139p., eng) 47-4622
See also: Avalanche wind

Wind power generation

Icing on a small horizontal-axis wind turbine—part 1: glaze ice profiles. Bose, N., (1992, p.75-85, eng) 47-3921
Icing on a small horizontal-axis wind turbine—part 2: three dimensional ice and wet snow formations. Bose, N., (1992, p.87-96, eng) 47-3922

Wind pressure

Air-ice drag coefficient in the Weddell Sea deduced from profile measurements. Andreas, E.L., et al. (1992, p.J5/109-J5/112, eng) 47-868
Finite area element snow loading prediction—applications and advancements. Gamble, S.L., et al. (1992, p.1537-1548, eng) 47-1583
Evaluation of wind-induced vibration of arctic pipelines. Sause, R., et al. (1992, p.21-31, eng) 47-1832
Expert system approach to establish design snow and wind loads. Embleton, K.M., (1990, 263p., eng) 47-2103
Accounting for atmospheric stratification in the calculation of tangential wind pressure in questions of the dynamics of ice cover. Pozdnyshev, S.P., (1990, p.117-125, rus) 47-3598

Wind tunnels

Small vertical supercooled cloud tunnel system for the study of ice (snow) crystal growth. Gong, N.H., et al. (1992, p.254-262, eng) 47-4074
Modelling of snowdrift around prismatic buildings for antarctic environment. Kim, D.H., et al. (1992, p.73-79, eng) 47-4281
Snowdrift around antarctic buildings: effects of corner geometry and wind incidence. Kwok, K.C.S., et al. (1993, p.61-65, eng) 47-4302
Mass transfer measurements of graupel growth. Cober, S.G., et al. (1993, p.1591-1609, eng) 47-4832
Review of a wind tunnel experimental facility. Kokubun, M., et al. (1981, p.45-62, jpn) 47-4937
Wind tunnel experiments on the snow shelter facility on National Highway 231. Ishizuka, Y., (1982, p.67-72, jpn) 47-4942
Wind tunnel experiments on snowbreak forest planting. Ishizuka, Y., (1983, p.17-32, jpn) 47-4943
Wind tunnel experiments on the snow shelter at Nita. Ishizuka, Y., et al. (1985, p.53-62, jpn) 47-4951
Wind tunnel experiments on highway snow countermeasures. Ishizuka, Y., et al. (1986, p.55-64, jpn) 47-4952
Wind tunnel experiments on highway snow countermeasures. Nakano, T., et al. (1987, p.17-28, jpn) 47-4955
Wind tunnel experiments on construction of a highway interchange. Takabe, N., et al. (1987, p.29-34, jpn) 47-4956
Wind tunnel experiments on highway snow countermeasures. Nakano, T., et al. (1988, p.56-71, jpn) 47-4960
Wind tunnel experiments on snow fences. Takabe, N., et al. (1988, p.72-81, jpn) 47-4961
Wind tunnel experiments on highway snow countermeasures. Takabe, N., (1990, p.31-35, jpn) 47-4965
Wind tunnel experiments on road improvement at Mineoka on National Highway 238. Takabe, N., et al. (1991, p.57-68, jpn) 47-4970
Wind tunnel experiments on highway snow countermeasures. Takabe, N., et al. (1991, p.69-73, jpn) 47-4971
Wind tunnel experiments on innovations at the Toyono bypass on National Highway 40. Takabe, N., et al. (1992, p.70-91, jpn) 47-4975
Wind tunnel experiments on highway snow countermeasures. Sasaki, T., et al. (1992, p.92-101, jpn) 47-4976
Evaluation of air flow over an anti-icing fluid film. Laforte, J.L., et al. (1993, p.96-104, eng) 47-5007
Cylinder ice accretion determined by laser-Doppler analysis. Yoon, B., et al. (1993, p.381-397, eng) 47-5208

Wind velocity

Momentum and heat fluxes over open water, sea ice and snow cover on an arctic lagoon. Shirasawa, K., et al. (1992, p.75-80, eng) 47-119
Air-ice drag coefficient in the Weddell Sea deduced from profile measurements. Andreas, E.L., et al. (1992, p.J5/109-J5/112, eng) 47-868
Turbulent structure of wind flow over ice-covered sea surface. Naito, G., et al. (1992, p.283-294, eng) 47-1192
Air flow across an alpine forest clearing in winter. Miller, D.R., et al. (1990, p.172-175, eng) 47-1491
Cold air production and drainage in Finnmarksvidda. Part 6. Diurnal and group averages from measurements in the period 1987-1988. Hanssen-Bauer, I., (1989, 51p., nor) 47-1691
Cold air production and drainage in Finnmarksvidda. Part 5. Cold air drainage along the Alta Valley during a week in winter with a weak pressure gradient over Finnmark. Hanssen-Bauer, I., (1988, 17p., nor) 47-1692
Cold air production and drainage in Finnmarksvidda. Part 4. Study on the drainage flow through a canyon with variable scale wind pressure. Hanssen-Bauer, I., (1988, 20p., nor) 47-1693
Cold air production and drainage in Finnmarksvidda. Part 3. Study on the flow in a canyon with neutral stability. Gjessing, Y., et al. (1988, 22p., nor) 47-1694
Cold air production and drainage in Finnmarksvidda. Part 2. Diurnal and group averages from measurements in the period 1984-87. Hanssen-Bauer, I., et al. (1988, 104p., nor) 47-1695
Cold air production and drainage in Finnmarksvidda. Part 1. Statement of the problem, background data and outline. Gjessing, Y., et al. (1988, 17p., nor) 47-1696
Use of a wing-mounted airflow pod for airborne wind and flux measurement. MacPherson, J.I., (1993, p.169-174, eng) 47-3068
Wind-profile estimation by conventional radars. Fabry, F., (1993, p.40-49, eng) 47-4165
High latitude wind velocities derived from polar orbiting satellite imagery. Warren, D., et al. (1988, p.119-121, eng) 47-4197

Windows

Snow removal device for vehicle. Motohashi, Y., (1989, 12 col., eng) 47-3324
Automobile windshield cleaning tool. Littledeer, T.F., (1989, 4 col., eng) 47-3326
Method and apparatus for scraping ice and snow and illuminating a scraping area. Hopkins, E.L., (1988, 6 col., eng) 47-3502

Winter

Low temperature records and snow cover effect in the Colorado desert. Doesken, N.J., (1992, p.19-22, eng) 47-1174

Winter *(cont.)*
Early winter flooding along a subalpine river. Butler, D.R., et al. (1993, p.145-155, eng) **47-4369**
Plant competition over winter in alpine shrubland and grassland, Snowy Mountains, Australia. Egerton, J.J.G., et al. (1993, p.124-129, eng) **47-4745**
Driver behavior during winter conditions. Gabestad, K.O., et al. (1988, 54p. + appends., nor) **47-4992**
Classification of the maximum annual Baltic Sea ice cover extent—1720-1992. Seina, A., et al. (1993, p.5-20, fin) **47-4995**

Winter concreting
Finite element analysis of cold embedments in fresh concrete. Swift, D.P., et al. (1992, p.41-57, eng) **47-1**
Year-round accelerating admixture. Brook, J.W., et al. (1989, p.535-555, eng) **47-66**
Concreting at subfreezing temperatures. Korhonen, C.J., et al. (1992, p.382-397, eng) **47-606**
Strength development of concrete cured at low temperature. Korhonen, C.J., et al. (1992, p.34-39, eng) **47-1560**
Quick-setting claydite-concrete for winter concreting. Ferronskaia, A.V., et al. (1992, p.12-14, rus) **47-2152**
Concrete hardening with low water requirement cements at subfreezing temperatures. Krasnovskii, B.M., et al. (1991, p.17-18, rus) **47-2155**
Effect of temperature and time on stresses in frozen concrete under thermal cycling. Ben'kov, V.N., et al. (1991, p.7-9, rus) **47-2157**
Field studies of the hardening of concrete piles in winter. Krylov, B.A., et al. (1991, p.22-24, rus) **47-2158**
Alkali-silicate concrete for salt-and-frost resistant structures. Guzeev, E.A., et al. (1990, p.4-6, rus) **47-2161**
Cold-weather concreting study. Hover, K.C., (1992, p.458-464, eng) **47-2291**
Using heaters safely during cold weather concreting. Owens, F., (1990, p.878-881, eng) **47-2717**
Designing cold weather concrete mixes. Suprenant, B.A., (1990, p.882-884, eng) **47-2718**
Winter concreting of auto assembly plant floor. Ayers, C., et al. (1989, P.23-27, eng) **47-2751**
Theoretical basis for calculating the control of concrete curing in cold weather. Zubkov, V.I., (1990, p.70-77, rus) **47-2761**
Analysis of stress losses in reinforcement depending on temperature drop. Artym, I.T., (1990, p.115-117, rus) **47-2762**
Improved formulas for concrete mix temperature, required for winter concreting. Panfilov, D.F., (1992, p.113-118, rus) **47-3916**

Winter construction
See also: Cold weather construction

Winter maintenance
Problems of snow on road and airfields. Ghosal, D.N., (1985, p.212-221, eng) **47-573**
Accelerated snow melting by artificial means. Bhattacharya, U., et al. (1985, p.248-263, eng) **47-576**
Deicing of roads. Ghosh, S., (1985, p.264-278, eng) **47-577**
Snow effects on roads. Dhir, M.P., (1985, p.287-292, eng) **47-579**
Construction of concrete pavements in areas of snowfall. Phull, Y.R., et al. (1985, p.318-344, eng) **47-581**
Construction and maintenance of roads and runways in snowbound region. Shukla, R.S., et al. (1985, p.345-365, eng) **47-582**
Systems approach to management of roads and airfields in snowbound areas. Bose, S., et al. (1985, p.366-380, eng) **47-583**
Pavements in seasonal frost areas. Aggarwal, R.C., et al. (1985, p.381-386, eng) **47-584**
PASCON: an expert system for passive snow control on highways. Kaminski, D.F., et al. (1991, p.193-201, eng) **47-1803**
Application of routing technologies to rural snow and ice control. Haslam, E., et al. (1991, p.202-211, eng) **47-1804**
Integrating GIS and CAD for transportation data base development. Wang, J.Y., et al. (1991, p.212-218, eng) **47-1805**
Negatively buoyant jet (or plume) with applications to snowplow exit flow behavior. Lindberg, W.R., et al. (1991, p.219-229, eng) **47-1806**
Chemical undercutting of ice on highway pavement materials. Blackburn, R.R., et al. (1991, p.230-242, eng) **47-1807**
Village uses a multiple defense strategy for snow removal. Miller, R.H., (1992, p.42-44, eng) **47-1919**
Improved ice and snow control with pavement-specific forecasting. Kelley, J.R., (1992, p.46-47,83, eng) **47-1920**
Ice melters and concrete damage: are they related. Balkin, L.E., et al. (1992, p.50-51, eng) **47-1922**
Guide to proper salt storage. (1992, p.55-56,82-83, eng) **47-1923**
Snow fence guide. (1992, p.57-59, eng) **47-1924**
One city's guide to snow and ice operations and planning. Usher, B., (1992, p.36-37, eng) **47-1925**
Sidewalk snow removal at the foot of the Rockies. Ruiz, J., (1992, p.49-50, eng) **47-1926**
Effects of banning salt for roadway de-icing. Strizek, P., (1992, p.54,82, eng) **47-1927**
Salt and sand compared for winter road treatment. Jones, R.H., (1992, p.58-59, eng) **47-1928**
Snow removal from roads. (1992, p.62-63,91, eng) **47-1929**
Recessed deflecting road reflector. Sheldon, S.A., (1989, 6 col., eng) **47-3104**
Photoelectric ice accumulation monitor using dual detectors. Rein, R.G., Jr., (1989, 16 col., eng) **47-3328**
Pneumatic process and device for conveying snow. Pasquier, A., (1989, 10 col., eng) **47-3331**
Adjustable, manual snowplow. Kulat, A.C., (1989, 4 col., eng) **47-3411**
Snow removal method. Swanson, E.V., (1988, 8 col., eng) **47-3419**
Snow blower with vertical endless belt digger. Cloutier, R., (1988, 6 col., eng) **47-3496**
Ways to help bridges and deicers coexist. Miller, W.L., (1993, p.18-19, eng) **47-3680**
How to design snow fences. Shelquist, K., (1993, p.22, eng) **47-3681**
Study finds 88.3% crash reduction after deicing. (1993, p.22, eng) **47-3682**
How Arizona handles winter roads. (1993, p.19, eng) **47-3683**
Fencing pays off big for arctic community. Weber, S., (1992, p.8-11, eng) **47-3836**
Winter equipment maintenance: tips you need to know. (1993, p.18,20,21, eng) **47-3908**
Snowplow resistant road markers. Eigenmann, L., (1987, 6 col., eng) **47-4000**
Snowplow and implement attachment means for a vehicle. Quenzi, P.J., (1987, 14 col., eng) **47-4001**
Anticorrosive deicer used on bridges. (1993, p.36, eng) **47-4623**
Snow-belt county's approach to snow and ice control. Bakken, R.C., (1993, p.40-42, eng) **47-4625**
Determination of salting frequency through examination of salt residue amounts. Dirnböck, G., (1990, 38p., ger) **47-4985**
Maintenance techniques for road surfacings—investigations, route decisions, planning, implementation. (1978, 221p., ger) **47-4986**
Test methods for the renovation of road coverings. Wicke, M., et al. (1985, 48p., ger) **47-4987**
Manual for planning and implementing road surface condition studies in wintertime—vol.1 and 2. Gabestad, K.O., (1988, 2 vols., nor) **47-4991**
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Winter operation
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Winter performance
See also: Cold weather performance

Winter road service
See also: Road maintenance; Snow removal; Winter maintenance

Wood
Freezing of water in hardboard: absence of changes in mechanical properties. George, M.F., et al. (1992, p.252-259, eng) **47-771**
Thermal properties of wood and wood products. Goss, W.P., et al. (1992, p.193-203, eng) **47-1155**
Impact of hygrothermal gradients on juvenile wood. Larson, T., et al. (1992, p.210-218, eng) **47-1157**
Performance of wood-based siding in energy-efficient homes located in cold climates. Kroll, R.E., et al. (1992, p.260-267, eng) **47-1160**
Neoglacial glacier fluctuations in the Canadian Rockies. Luckman, B.H., et al. (1993, p.144-153, eng) **47-5122**

Wood snow friction
Bibliography on snow and ice friction. Colbeck, S.C., (1993, 17p., eng) **47-4869**

Wooden structures
Design of greenhouses for the manipulation of temperature in tundra plant communities. Debevec, E.M., et al. (1993, p.56-62, eng) **47-3429**

X ray analysis
Compression jig for x-ray topography of ice. Liu, F., et al. (1993, p.416-421, eng) **47-3468**
Novel processes of dislocation multiplication observed in ice. Shearwood, C., et al. (1993, p.205-210, eng) **47-3777**
Dynamic observations of dislocation generation at grain boundaries in ice. Liu, F., et al. (1993, p.1261-1276, eng) **47-3986**
PIXE analysis as a tool for dating of ice cores from the Greenland ice sheet. Hansson, H.C., et al. (1993, p.428-434, eng) **47-4592**

X ray diffraction
Mineralogic and microsonde analysis of volcanic ash in the vicinity of Juan Carlos I Station. Eraso, A., et al. (1989, p.80-88, spa) **47-815**
Thermodynamic properties of ice and of tetrahydrofuran hydrate in confined geometries. Zakrzewski, M., et al. (1993, p.631-637, eng) **47-4738**
Electron diffraction of molecules on vitreous and hexagonal ice. Majewski, J., et al. (1993, p.899-902, eng) **47-4880**

Young ice
Observations and theoretical studies of microwave emission from thin saline ice. Wensnahan, M.R., et al. (1993, p.8531-8545, eng) **47-3983**
Determination of dielectric constant of young sea ice using microwave spectral radiometry. St. Germain, K.M., et al. (1993, p.4675-4679, eng) **47-4389**
Arctic coastal polynya observations with ERS-1 SAR and DMSP SSM/I. Cavalieri, D.J., et al. (1993, p.295-299, eng) **47-4428**