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AD-A954 751

Environmental Protection Research Division

CLIMATIC INFORMATION SOURCES FOR GREENLAND

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Research Study Report RER-11

"Original contains color plates: All DTIC reproductions will be in black and white"

7-83-01-001B

January 1957

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OFFICE OF THE COMMANDING GENERAL
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11 January 1957

Major General Kester L. Hastings
The Quartermaster General
Washington 25, D. C.

Dear General Hastings:

The growing importance of northern latitudes in military planning has produced increased demands for climatological and meteorological information for this region. Quartermaster Corps in particular requires such information as a basis for designing and planning issue of items of equipment that will function in high latitudes and will adequately protect troops who must operate there.

Our scientists are currently planning climatic research studies in Greenland, to be conducted jointly with research personnel of Signal Corps and Corps of Engineers. As the existing sources of climatological information for Greenland have not heretofore been published on a regional basis, a need exists for a ready guide to this literature that can be used by Quartermaster Corps and other scientists engaged in environmental studies of Greenland. The enclosed report has been prepared to fill this need. It consists of 275 selected references, indexed in a manner that will permit researchers to find applicable sources without time-consuming searches through existing catalogs of publication titles.

Sincerely yours,

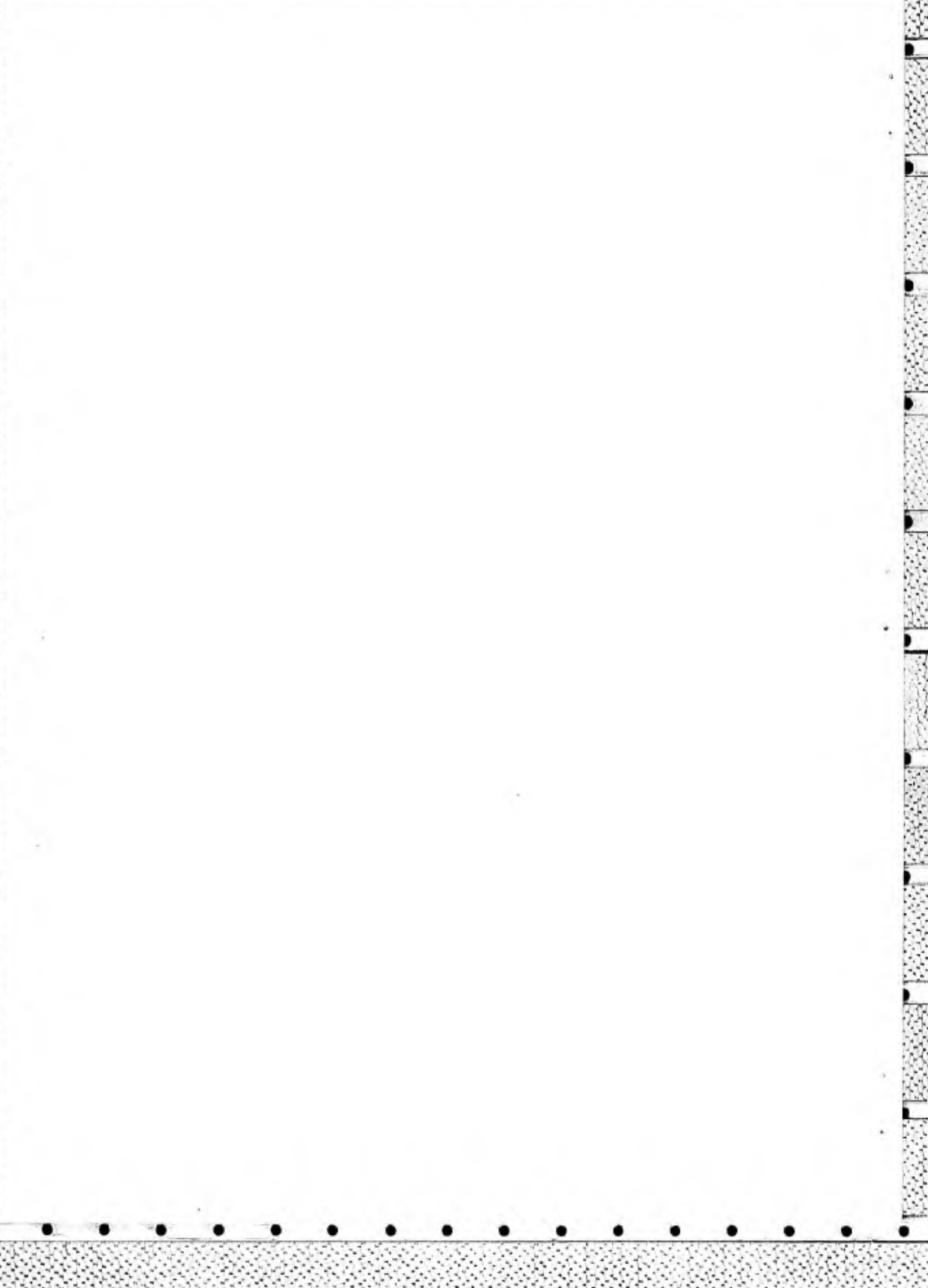
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CLIMATIC INFORMATION SOURCES FOR GREENLAND

1. Purpose and Organization

→ This report was prepared in response to a continuing demand for reference material on the climate of Greenland. The information contained herein is intended to provide a basic interim survey, primarily for use by Quartermaster Corps scientists requiring climatological and meteorological information for Greenland. A more detailed survey of meteorological data is in preparation elsewhere as a joint project of the U. S. Air Force and the U. S. Weather Bureau.

→ A station and route map accompanied by a station record table is provided for location purposes. This section, together with the reference key at the close of the report, can be used to localize most of the entries in the bibliography. Only unclassified sources appear in the bibliography. Owing to the interim nature of this bibliography, it is limited to publications that treat the commonly observed climatic elements, and more specialized subjects such as cosmic radiation, electrical or optical phenomena, radiosonde observations, and soil and water temperatures are largely excluded.

2. Map and Station Records

The map (Fig. 1) shows the location of Greenland stations for which meteorological data are available, and routes of major icecap expeditions of the past 70 years. Boundaries of the five arbitrary indexing areas, referred to in the station record table and the key to the bibliography, are also indicated.

In many instances there is disagreement as to grid coordinates among various sources of information. Also, inasmuch as certain original references were unavailable at the time of compilation, the location of stations with short records should be considered approximate rather than precise. These latter stations, located largely on the icecap and along the north and northeast coasts, recorded data only during the brief occupancy by scientific expeditions.

The table of station information (Table I) is intended to complement the map. Stations are alphabetically arranged under sub-headings indicating the map area in which they can be located. Length and dates of records, elevations, and grid coordinates are shown where available.

For most stations records of mean daily temperature, mean daily maximum and minimum temperatures, extreme temperatures, mean monthly precipitation, mean monthly wind speeds, and mean monthly cloudiness are generally available. Snowfall, snow depth, and humidity data are largely fragmentary or unavailable. Expeditions responsible for the existence of many stations represented many sponsoring nations and a diversity of scientific interests; consequently the summarized data lack uniformity of content and presentation. Exceptions to this pattern are about fifteen Danish and four U. S. Air Force coastal

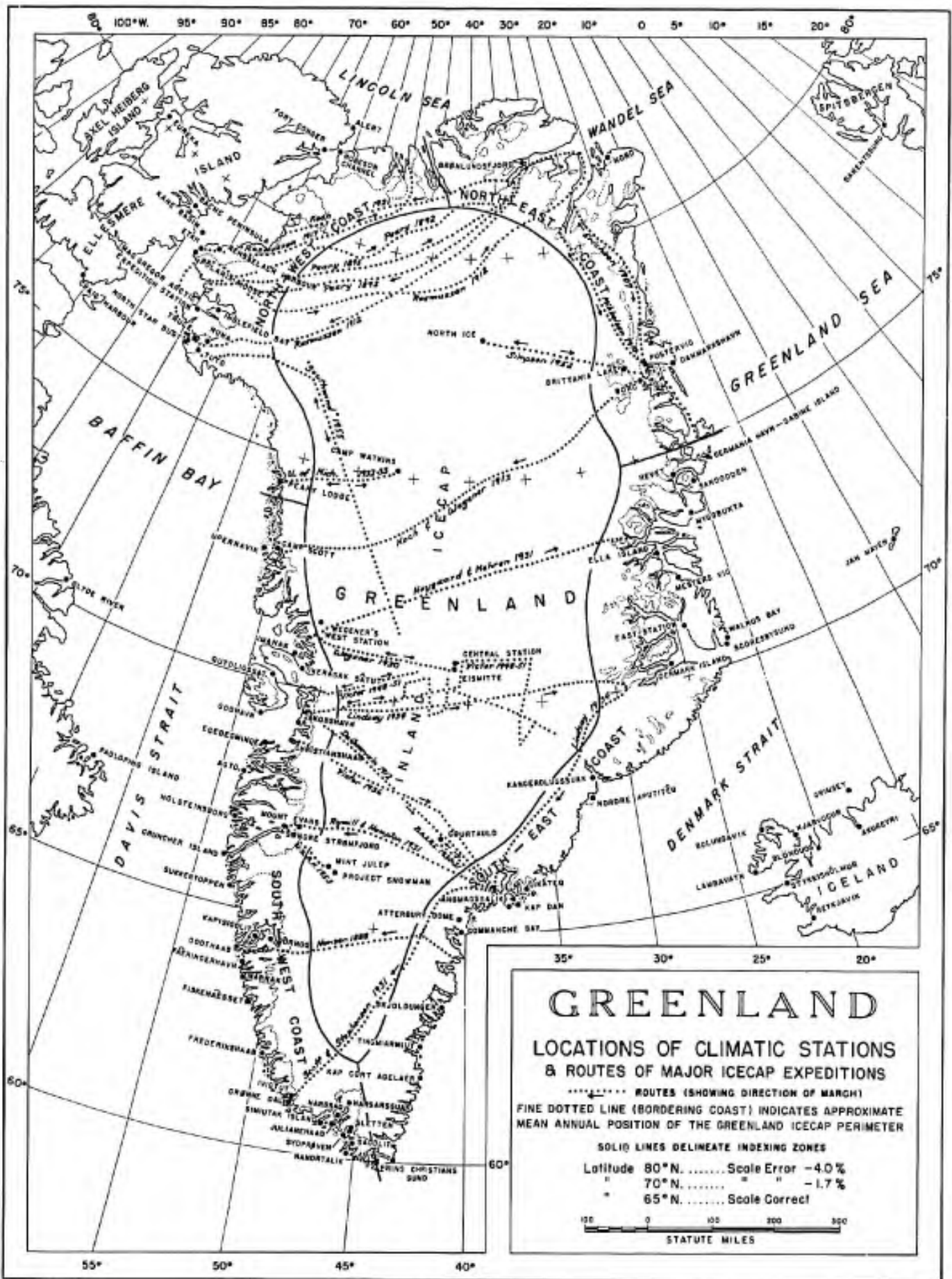


Figure 1

stations. These are permanent installations which currently make most of the standard observations on a continuous basis. Information shown in the table was compiled from sources listed in the accompanying bibliography.

TABLE I: GREENLAND WEATHER STATIONS

Station	Record (Years)	Dates	Elev. (Feet)	Lat(°N)	Long(°W)
<u>INLAND ICE</u>					
Camp Watkins (Univ. of Mich.)	6 mo.	1932-33	8840	75 10	46 30
Central Station (Victor)	2	1949-51	9900	70 57	40 42
Courtauld (Brit. Icecap Sta.)	6 mo.	1934	8200	67 03	41 49
Eismitte (Wegener)	1	1930-31	9938	70 54	40 42
Mint Julep (U. S. A.)	6 mo.	1953	6000	66 16	47 46
North Ice (Simpson)	<1	1952	7874	78 06	38 10
Project Snowman (U. S. A. F.)	<1	1947	6900	66 00	47 00
Thule Site I (U. S. A.)	1	1953		Classified	
Thule Site II (U. S. A.)	3+	1953-		"	
West Station (Wegener)	1	1930-31	3129	71 11	51 07
<u>NORTHEAST COAST</u>					
Borg	<1	1912-13	207	76 41	22 25
Brittania Lake	<1		656	77 09	23 36
Brønlundsfjord	2+	1946-50	15	82 10	31 00
Danmarkshavn	2	1906-08	59	76 46	18 46
Nord	4+	1952-	118	81 36	16 40
Pustervig	1	1912-13		76 56	21 06
<u>NORTHWEST COAST</u>					
Etah	1	1937-38	S. L.	78 20	72 42
Inglefield Bay	<5	1916-20	S. L.	77 20	67 30
MacGregor Exped. Station	<1	1937-38		77 08	69 55
North Star Bugt	5		23	76 30	68 55
Nuna (Nuna Lake)	<1	1953		76 48	67 12
Peary Lodge	<1	1932-33		74 20	56 00
Polaris House	<1	1874-75		78 18	72 51
Rensselaer Harbour	<3	1853-55	S. L.	78 37	70 53
Robeson Channel	1		S. L.	82 00	63 42
Thule	6+	1946-	36	76 34	68 49
Tuto	1+	1953-		76 23	68 16
<u>SOUTHEAST COAST</u>					
Angmagssalik	36+	1906-	118	65 36	37 34
Atterbury Dome	1	1943-44	1186	65 20	40 18
Commanche Bay	1	1944-45		65 04	40 14
Denmark Island	1	1891-92	S. L.	70 27	26 12
East Station (Wegener)	<1	1929-30		71 10	24 24

<u>SOUTHEAST COAST (CONT.)</u>	Record (Years)	Dates	Elev. (Feet)	Lat(^o N)	Long(^o W)		
Ella Island (Ella ø)	<1		26	72 54	24 55		
Germania Havn (Sabine I.)	1			74 32	18 50		
Ikáteq (I.)	5+	1942	187	65 56	36 41		
Kangerdlugssuak	1+	1935-36	24	68 10	31 44		
Kap Cort Adelaer	4	1942-45	44	61 52	42 25		
Kap Dan (I.)	2	1943-45	701	65 32	37 10		
Mesters Vig			36	72 14	23 55		
Myggbukta	11+	1923-35	7	73 29	21 34		
Nordre Aputiteq			39	67 48	32 16		
Prins Christians Sund	5+	1943-	253	60 03	43 12		
Revet	1	1939-40		74 21	21 50		
Sabine Island (Sabine ø)	1+	1869-70		74 32	18 49		
" " (German W W II)	<1	1944-45		" "	" "		
Sandodden (Daneborg) (I.)	2		23	74 18	20 14		
Scoresbysund	18+	1924-	56	70 29	21 58		
Skjoldungen	5	1940-45	297	63 11	41 20		
Tingmiarmiut (I.)			46	62 32	42 08		
Walrus Bay (Hvalrosbugt)	2	1945-46	29	70 30	21 59		
<u>SOUTHWEST COAST</u>							
Agto (I.)	17+	1911 -	13	67 57	53 45		
Camp Scott	1	1930-31	10	72 49	55 06		
Christianshaab				68 50	51 12		
Cruncher Island	13+	1942-	43	66 02	53 33		
Egedesminde (I.)	3	1943-45	157	68 42	52 52		
Faëringerrhavn	2+	1953-	26	63 41	51 34		
Fiskenaësset	10			63 05	50 40		
Frederikshaab			52	62 00	49 43		
Godhavn (Disko I.)	30+	1923 -	36	69 14	53 31		
Godthaab	50	1906-	75	64 10	51 45		
Grønne Dal			33	61 13	48 07		
Holsteinsborg	20+	1906-	30	66 56	53 42		
Ikerasak (Sátut)	16		66	70 31	51 19		
Iviglut	46+	1901-	82	61 12	48 10		
Jakobshavn	50	1906-	138	69 13	51 03		
Julianehaab	40+	1913-	213	60 43	46 03		
Kapisigdlit	1+	1950-51		64 26	50 15		
Marrak	4	1943-46	138	63 26	51 11		
Mount Evans	1	1930-31	1294	67 08	49 55		
Nanortalik (I.)	53+	1884-	23	60 08	45 11		
Narsarssuak	7+	1940-	89	61 11	45 25		
Narssaq (Narsak Point)	3+	1944-47	95	60 54	46 00		
Qórnoq (Kornok I.)	40+	1906-	10	64 26	50 58		
Qutdligssat (Disko I.)			13	70 01	52 40		
Sagdlit (Sagdleq I.)	8	1909-19	16	60 15	45 15		
Simiutak Island	6+	1942-47	203	60 41	46 33		

<u>SOUTHWEST COAST (CONT.)</u>	<u>Record (Years)</u>	<u>Dates</u>	<u>Elev. (Feet)</u>	<u>Lat(°N)</u>	<u>Long(°W)</u>
Sletten	4+	1932-	16	60 35	45 26
Søndre Strømfjord	15+	1940-	187	67 00	50 48
Sukkertoppen (I.)	6		85	65 24	52 51
Sydprøven	2+	1932-	49	60 28	45 38
Umanak	25	1931-	26	70 41	52 15
Upernavik (Upernivik I.)	50	1906-	210	72 47	56 10

3. Bibliography

The bibliography is composed of 275 selected entries, each containing meteorological data and/or a discussion of some phase of the climatology of Greenland. These sources were derived principally from Meteorological Abstracts and Bibliography (Entry No. 3), the Arctic Bibliography (Entry No. 5), and the Bibliography on Snow, Ice and Permafrost (Entry No. 243). It is suggested that users consult these listings for abstracted information.

For publications not readily available, the abstracts in the foregoing bibliographies provided the basis for selection. Where several accounts of the same expedition phase were available, the one which promised to be the most comprehensive was selected, regardless of language.

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4. Simplified Key to Bibliography

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* Area refers to indexing zones shown on map, Figure 1.