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U.S. DEPARTMENT OF COMMERCE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
ALASKA OUTER CONTINENTAL SHELF ENVIRONMENTAL ASSESSMENT PROGRAM  
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**CLIMATIC ATLAS  
OF THE OUTER CONTINENTAL SHELF WATERS  
AND COASTAL REGIONS OF ALASKA.**

**VOLUME II. BERING SEA.**

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## Acknowledgements

Much of the extremes data for the first section came from files at the Arctic Environmental Information and Data Center (AEIDC), University of Alaska. Many of these are handwritten, individual station records, maintained by the National Weather Service's state climatologist for many years and, more recently, by AEIDC. Surface weather data, summarized by the U.S. Air Force Air Weather Service's Environmental Technical Applications Center, were used for the detailed weather statistics on precipitation, obstructions to vision, snowfall, snow depth, and aviation weather. The National Weather Service, Alaska Regional Forecast Center supplied most of the data on storm surges along the Bering, Chukchi, and Beaufort Sea coasts.

We would like to give special thanks to the AEIDC graphics staff who worked many hours preparing maps and graphic presentations and organizing the material for printing.

The maps, graphs, and tables in the second section are the result of efforts by many people (aided by modern data processing equipment) at NOAA's National Climatic Center (NCC) in Asheville, NC. Special acknowledgement is given to members of the Computer Support Branch, who performed the voluminous data processing, to Joe E. Elms and Albert W.Y. Chen of the Applied Climatology Branch for their editorial evaluation of the analyses, and to Dr. Harold L. Crutcher and M. Lawrence Nicodemus of the Science Advisory Staff for the statistical presentation of return periods for maximum sustained winds for selected coastal stations.

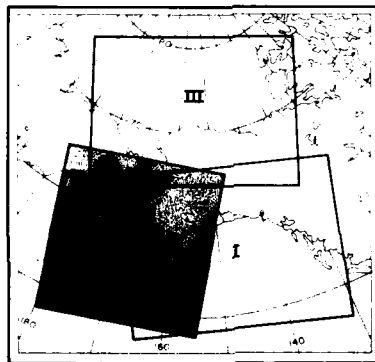
Observations processed for the coastal stations were collected by the National Weather Service (NOAA), the Federal Aviation Administration, and the U.S. Navy and Air Force weather services and routinely sent to NCC for archiving. Data summaries were made possible through programs designed at NCC and funded primarily by the Director, Naval Oceanography and Meteorology (formerly Commander, Naval Weather Service Command) in support of the Marine Atlas Revision program. The Naval Weather Service also provided major support for acquisition of basic marine data.

This was supported (under AEIDC contract no. 03-5-022-56 with NOAA) by the Bureau of Land Management through interagency agreement with the National Oceanic and Atmospheric Administration, under which a multiyear program responding to needs of petroleum development of the Alaskan outer continental shelf is managed by the Outer Continental Shelf Environmental Assessment Program (OCSEAP) office.

## Abstract

This project attempts to establish the present knowledge of climatological conditions in three Alaskan marine and near coastal areas that are important to resource development of the outer continental shelf—The Gulf of Alaska (Vol. I), The Bering Sea (Vol. II), and The Chukchi and Beaufort Seas (Vol. III) as shown on the map below.

The maps, graphs, and tables in the atlas present a detailed climatic profile of the marine and coastal regions of Alaska. Statistics detail means, extremes, and percent frequency of occurrence of threshold values for these elements: wind, visibility, present weather, sea level pressure, temperature, clouds, and waves and such supplemental information as storm surges, tides, sea ice, surface currents, bathymetry, detailed weather, and aviation weather. Data came from 600,000 surface marine observations and 2 million observations for 49 coastal land stations and provide the best possible climatological picture of the outer continental shelf waters and coastal regions of Alaska.



## Introduction

The nature of man's offshore activities depends to a large extent on weather conditions. Knowledge of these conditions can help insure efficient and safe operations. Extreme weather conditions that may be encountered in a given location largely determine the design, construction, and operation of permanent platforms and structures in the ocean as well as onshore support activities. Weather information also aids in assessing the onshore impact of offshore activities.

This atlas is the result of a joint effort by Arctic Environmental Information and Data Center (AEIDC), University of Alaska, and the National Climatic Center/National Oceanic Atmospheric Administration (NCC/NOAA) to present descriptive climatology and data analyses of surface marine and atmospheric parameters for those waters and coastal regions of the Alaskan outer continental shelf important to resource development. It is designed to serve as a climatological reference in the assessment of potential impact by oil and gas exploration and development and of leasing and operating regulations and monitoring programs that will permit resource development and insure environmental protection.

The evaluation is in the form of a climatic atlas for each of three marine and coastal areas: The Gulf of Alaska (Vol. I), The Bering Sea (Vol. II), and The Chukchi and Beaufort Seas (Vol. III).

The first section in each volume contains information on such hazards as storm surges, superstructure icing, hypothermia, and wind chill; extremes data on winds, temperature, and precipitation; and planning information on surface currents, bathymetry, sea ice, and aviation weather. The second section presents a detailed climatic profile in the form of isopleth analyses, graphs, and tables.



## Selected Topics in Marine and Coastal Climatology

James L. Wise  
Harold W. Searby

### Storm Surges

Whenever an intense storm crosses or approaches a coastline, some portion of the shore will experience an increase in sea level and another will experience a decrease. Storm surges are the difference—positive or negative—between observed sea level and the sea level that would have occurred without a storm. Storm surges are usually estimated by subtracting normal astronomical tide from the observed tide. Negative surges can affect shipping by grounding ships in harbors or shallow shipping lanes during low tide. However, the combination of a positive storm surge and high tide often damages beaches and man-made installations far beyond the normal tidelands level.

Several processes may combine to cause storm surges (Pore and Barreness 1975). These include the direct wind effect, the atmospheric pressure effect, the transport of water by waves and swell, the effect of the earth's rotation, the rainfall effect, and the effects of coastline configuration and bathymetric conditions.

**Direct Wind Effect**—The rise of water from the wind consists of a component caused by the onshore wind and one caused by wind oblique to the shore. An onshore wind will cause water to move in the direction of the wind due to the drag exerted on the water

by the movement of air. Its effects are directly proportional to the wind stress and inversely proportional to water depth. The effect of wind oblique to the shore comes from a wind-generated current which is parallel to the shore and has a higher level to the right of the flow.

**Atmospheric Pressure Effect**—The rise of the surface of the ocean in an area of low atmospheric pressure has been called the inverted barometer effect. This amounts to a rise in sea level of about 13.16 inches for an atmospheric pressure fall of 1 inch of mercury, or 30 millibars pressure change for each 0.305-meter (1-foot) change in sea level.

**Transport of Water by Waves and Swell**—The maximum contribution of waves and swell to the storm surge may occur at times other than the peak intensity of the storm. Swell generated over open water some distance from shore may arrive at the shoreline at a different time than the storm itself. A long fetch allows more time for waves to form and move as swell along with the winds of the storm, thus producing a higher storm surge overall.

**Effect of the Earth's Rotation**—The earth's rotation accelerates any current in the Northern Hemisphere to the right. This deflection force, called the Coriolis effect, depends on the speed of the current and the latitude. Winds parallel to a coast will generate a current in the same direction. The resulting acceleration to the right creates water motion that can increase water level.

**Rainfall Effect**—Hurricanes and extratropical storms usually bring heavy precipitation to large geographic areas. The resulting runoff can increase sea level near the mouths of tidal estuaries.

**Effect of Coastline Configuration and Bathymetric Conditions**—Bottom topography near shore is an important determinant of the amplitude of a storm surge. Gently sloping offshore bottom topography on the continental shelf promotes higher storm surges than a steep continental shelf.

The configuration of the coast also affects the resulting storm surge. Wave energy will diverge at coastal indentations such as coves and converge at coastal headlands or points, so stronger surges occur where land juts out into the sea.

Tidal gauges probably do not record the highest water levels of major storms because tide gauges are usually spaced so far apart that the highest levels most likely occur between the gauges.

The shape of the Bering Sea floor west of 165 degrees west, see Figure 1, is not conducive to the development of storm surges. Storm surges are rare along the north coast of the Alaskan Peninsula east of this longitude because the fetch necessary to generate high seas is seldom sufficient to develop a significant storm surge. From the east end of Bristol Bay northward, the coast is subject to storm surges only when little or no sea and shore ice are present, varying from about the end of April to mid-December in the south to mid-June to mid-November in the north. During the

remainder of the year the sea is normally more than half covered with ice and shore ice is present.

The graph and map set No. 18, low pressure center movement roses and storm track maps for May through December, shows a primary or secondary storm track in the south Bering for six of the eight months. October is the month with most frequent storms. Five of six storms which were documented to have caused high damage came from the southwest (Figure 2); only one came from the northwest, causing flooding in the Nome and Unalakleet areas.

The most recent and well-known major storm occurred in the Nome area during the period of November 11-13, 1974. The storm was estimated to be a once-in-30-years occurrence. Damage to public and private property was estimated at 12 million dollars. Flooding extended from Unalakleet on the south to Deering on the north shore of the Seward Peninsula. Total rise of water was estimated at 7.6 meters (25 feet) where the normal tide range is 1.2 meters (4 feet). Some parts of Nome were under 3.1 meters (10 feet) of water.

This storm was actually a series of three storms from the 8th to the 12th of November (No. 5 in Figure 2). The first became nearly stationary just south of the Chukotski Peninsula on the 10th and was followed immediately by two developing waves on a front on the 11th and 12th with almost no break in between. This allowed a long fetch to be set up in the south Bering which generated the high seas which eventually struck the coast. The first flooding occurred on the 11th and continued on through the 12th and early 13th. Maximum sustained winds of 38 knots and gusts to 69 or 70 knots were recorded at the height of the storm. The October 2-4, 1960 storm at Unalakleet, which caused damage estimated at 100 thousand dollars, had combined sea and swell of 6.2 meters (20 feet), sustained winds of 40 knots, and maximum gusts to 60 knots.

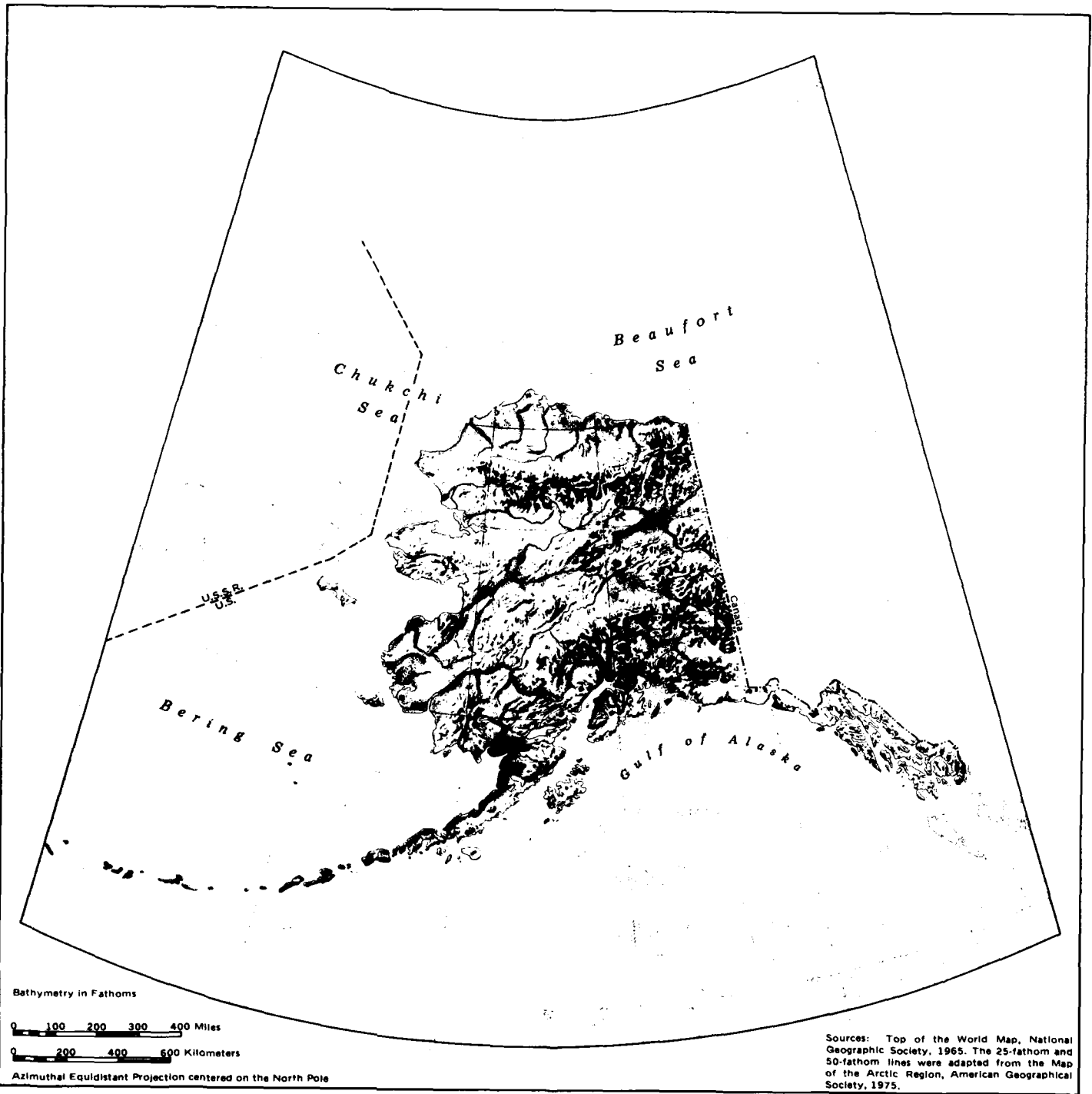


Figure 1 Bathymetry and topography

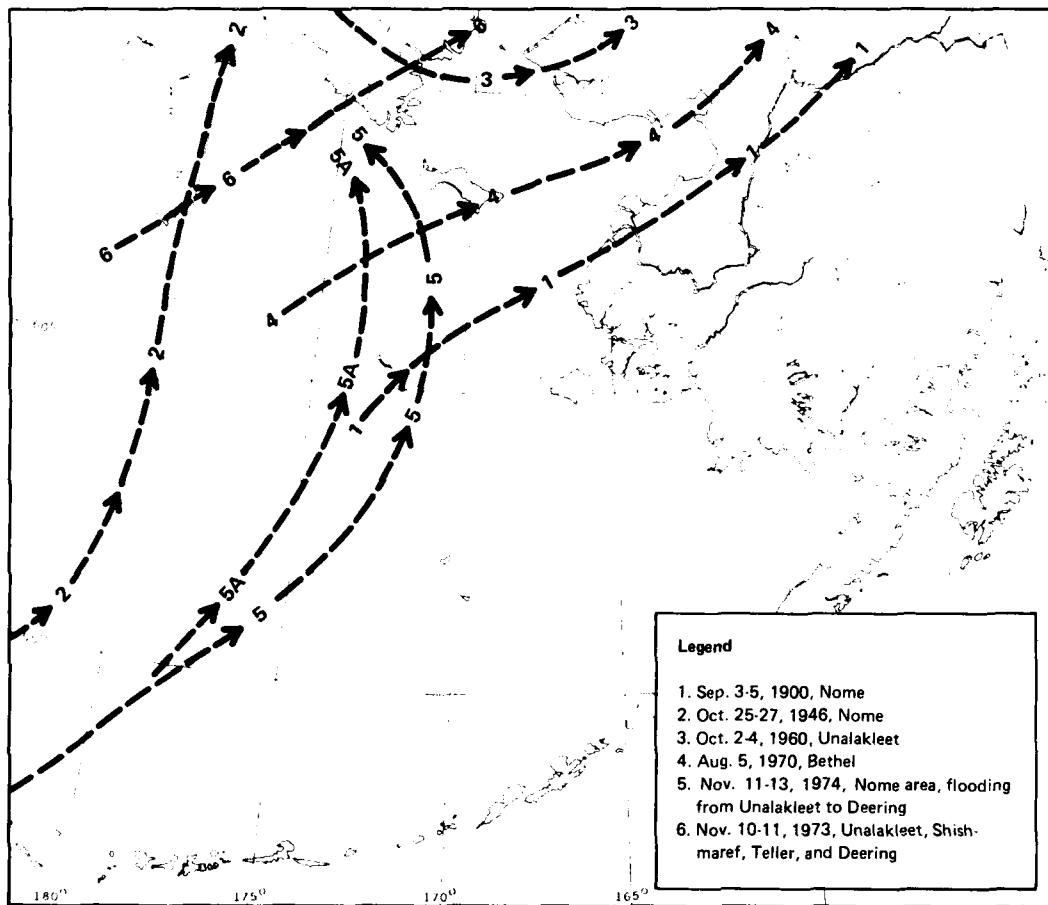
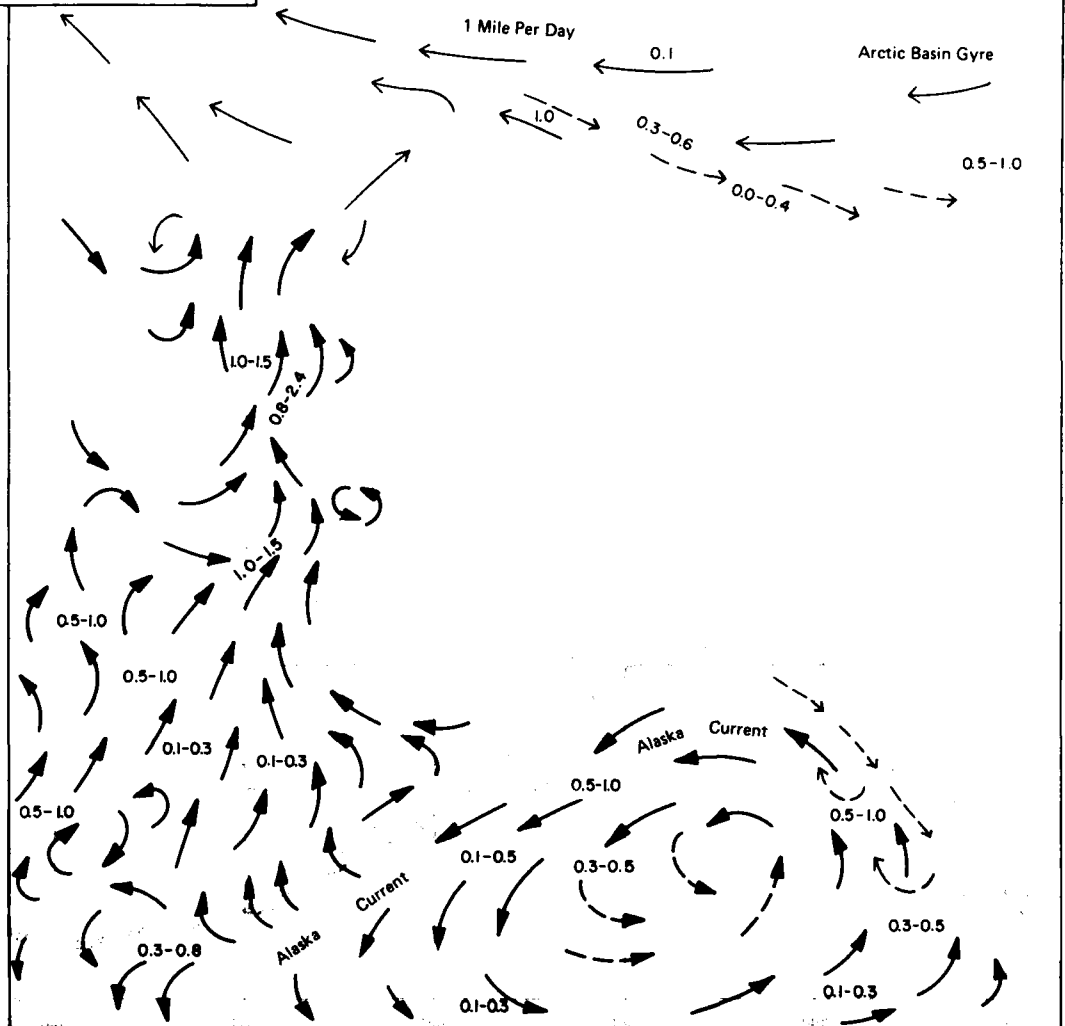


Figure 2 Storm surge occurrences

**Legend**

**Surface Currents**

Surface currents information is from the *U.S. Navy Marine Climatic Atlas of the World Vol II, North Pacific*, which is currently being revised. Mean speeds and directions of surface currents are derived from random ships' observations, specific scientific cruise studies, and theoretical considerations. More recent studies have differed with these depictions somewhat, especially in the Gulf of Alaska and the Bering Strait in summer. Royer (1975) and Ingraham (1976) found evidence of currents flowing east and south along the north and east coasts of the gulf with a weak closed anticyclonic (clockwise) circulation in the northeast Gulf of Alaska. The strength of this circulation varies from year to year in the weak summer flows. When this closed circulation develops, the northward flowing Alaska Current is displaced to the west. Coachman and Aagaard (1966) found a weak sporadic current flowing southward along the west coast of the Bering Strait. They also noted that strength of flow through the strait varied by a factor of five within a week.



**Figure 3 Summer sea surface currents**

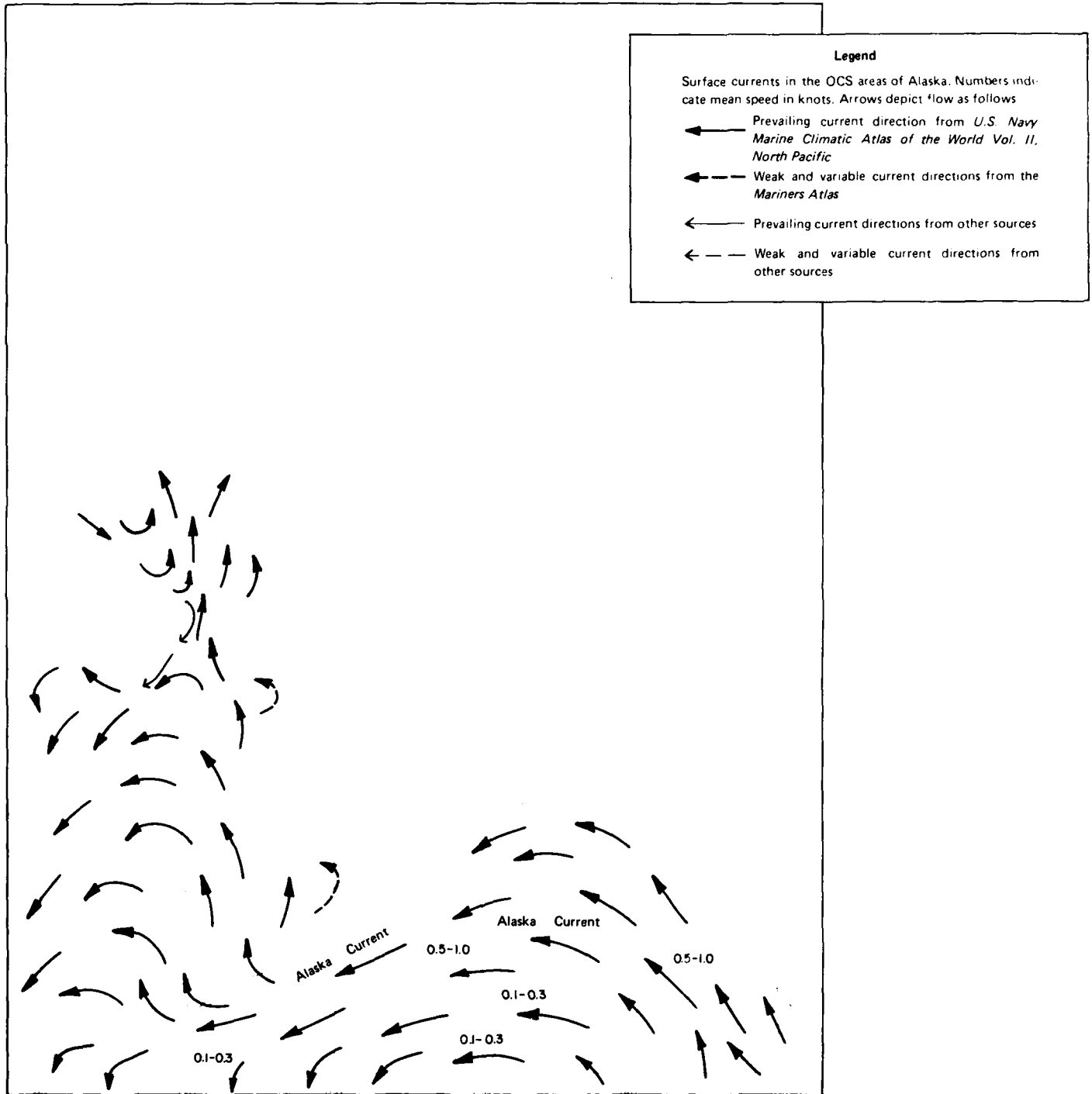


Figure 4 Winter sea surface currents

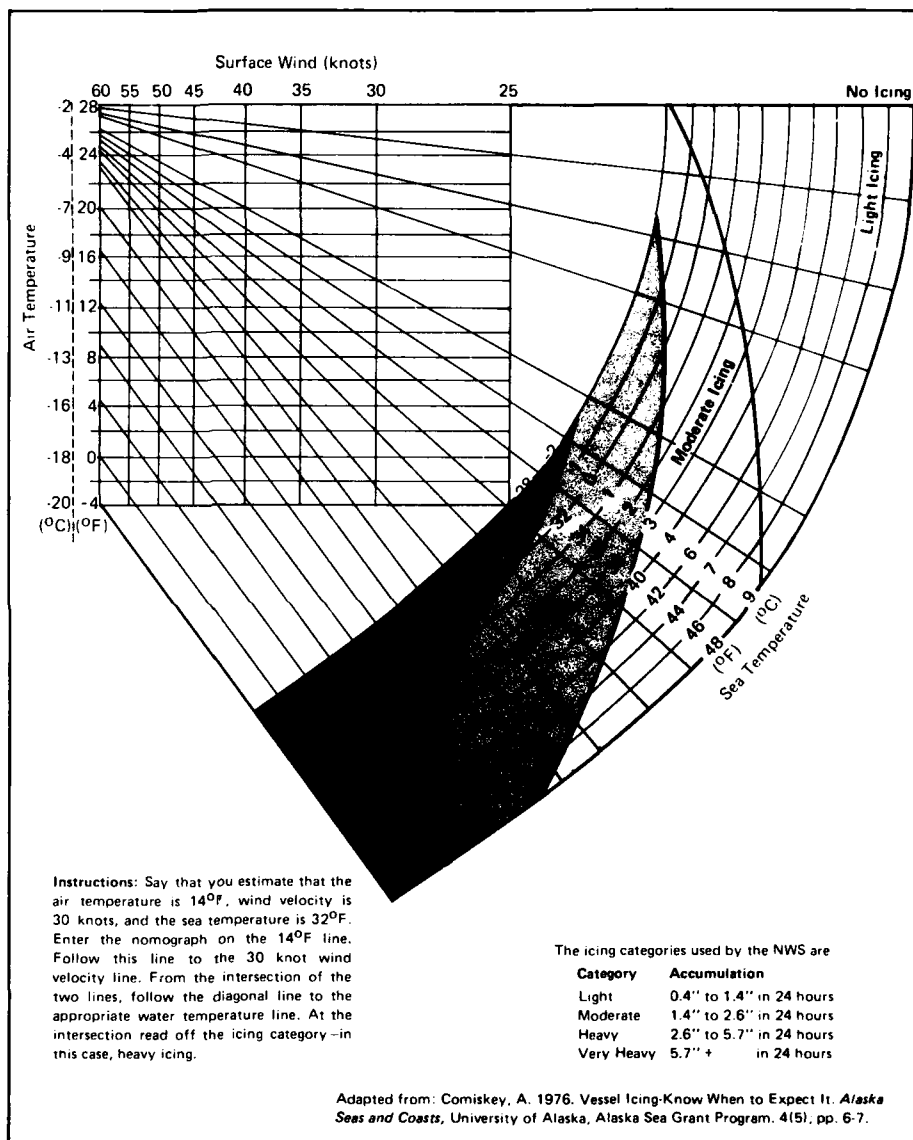
## Superstructure Icing

Ice accretion is a complex process that depends on sea conditions, atmospheric conditions, and the ship's size and behavior. Icing can be caused by heavy sea spray, freezing rain, or fog. It can mean no more than slippery decks on large merchant vessels since they often pass quickly through icing conditions and experience less wave wash in rough seas because of their high freeboard. At other times, even large vessels may experience problems. Smaller ships with relatively lower freeboard, such as fishing vessels, small merchant ships, and coast guard cutters, are susceptible to wave wash in rough seas. Icing can greatly increase a vessel's weight and elevate the center of gravity making it top heavy. Ice may increase the sail area and heeling moment due to wind action, and trim can be changed because of nonuniform ice distribution. Icing also hampers steerability and lowers ship speed. Similar, potentially dangerous stresses can occur on oil-drilling and other stationary platforms.

Freezing spray is the most common and dangerous form of icing. It can occur when the air temperature falls below the freezing temperature of sea water (usually about  $-2^{\circ}\text{C}$ ) and when sea surface temperatures are below about  $5^{\circ}\text{C}$ . If the air temperature falls below about  $-18^{\circ}\text{C}$ , wind-induced spray may freeze before striking the ship and not adhere. The lower the temperature and the stronger the wind, the more rapidly ice accumulates. Freezing spray may deposit thick layers of ice on rigging or on deck areas, rapidly increasing the vessel's weight, which can cause it to sink.

The National Weather Service's regional offices at Anchorage and Fairbanks routinely issue structural icing forecasts as part of their marine forecasting program. Figure 5 is a nomograph used by the NWS in forecasting spray icing. Data from sets Nos. 5, 14, and 15 can be used with this nomograph to estimate the severity of spray icing for any month of the year. The nomograph does not apply when sea ice reduces the amount of wind-generated spray.

**Figure 5**  
Nomograph for forecasting  
spray ice accumulation



**Legend**

Diurnal Range	
Max diurnal	Min diurnal
Max tide	Min tide

Diurnal range is the average difference in height between mean higher high water and mean lower low water in feet on a single day.

Max diurnal and Min diurnal are the maximum and minimum differences in feet respectively between the higher high water and lower low water that are predicted to occur during the year.

Max tide is the highest tide predicted to occur at the location in feet above mean sea level.

Min tide is the lowest tide predicted to occur at the location in feet above mean sea level. A negative number indicates a level below mean sea level.

Prepared by AEIDC from Tide Tables, High and Low Water Predictions 1974, West Coast of North and South America, NOS/NOAA, 1973.

1 Sweeper Cove 3.7 6.7   0.1 5.5   -1.7	2 Martin Harbor 3.2 5.8   0.1 4.8   -1.5	3 Inanudak Bay 3.7 5.9   0.0 4.7   -1.5	4 Chernofski Harbor 3.8 5.9   0.0 4.9   -1.3
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5 Koshega Bay 4.0 6.0   0.0 5.1   -1.1	6 Dutch Harbor 3.7 5.9   0.0 4.9   -1.4	7 Port Moller 10.8 16.5   5.7 12.9   -3.9	8 Port Heiden 12.3 18.3   1.5 14.3   -4.3
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9 Egegik River, Entrance 18.2 24.7   6.1 21.2   -3.4	10 Naknek River, Entrance 22.6 30.0   9.8 26.0   -4.4	11 Naknek Air Base 3.2 3.3   2.2 3.0   -0.3	12 Kvichak 16.5 20.4   8.6 19.2   -1.5
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13 Nushagak 19.5 26.8   6.6 23.1   -4.1	14 Goodnews Bay 8.9 10.3   1.0 11.3   -1.0
--	---

15 Kuskokwak Creek 12.2 17.3   0.8 16.8   -0.8	16 Bethel 4.0 4.5   0.7 4.3   -0.2
---	---

17 Village Cove 3.2 5.1   0.0 4.1   -1.2	18 St. Matthew Island 2.1 3.4   0.0 2.7   -0.8
---	---

19 Northeast Cape 2.4 3.0   1.1 2.8   -0.3	20 Moghoweyik River 1.7 2.7   0.2 2.1   -0.6
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21 Cape Romanzof 6.8 10.8   0.9 8.6   -2.2	22 Kwikluak Pass 2.3 2.4   0.6 2.1   -0.3
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23 Apoonmouth 4.0 6.5   0.2 5.3   -0.6	24 St. Michael 3.9 5.8   0.1 5.2   -0.6
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25 Carolyn Island 1.8 2.7   0.0 2.4   -0.3	26 Nome 1.6 2.4   0.0 2.0   -0.5
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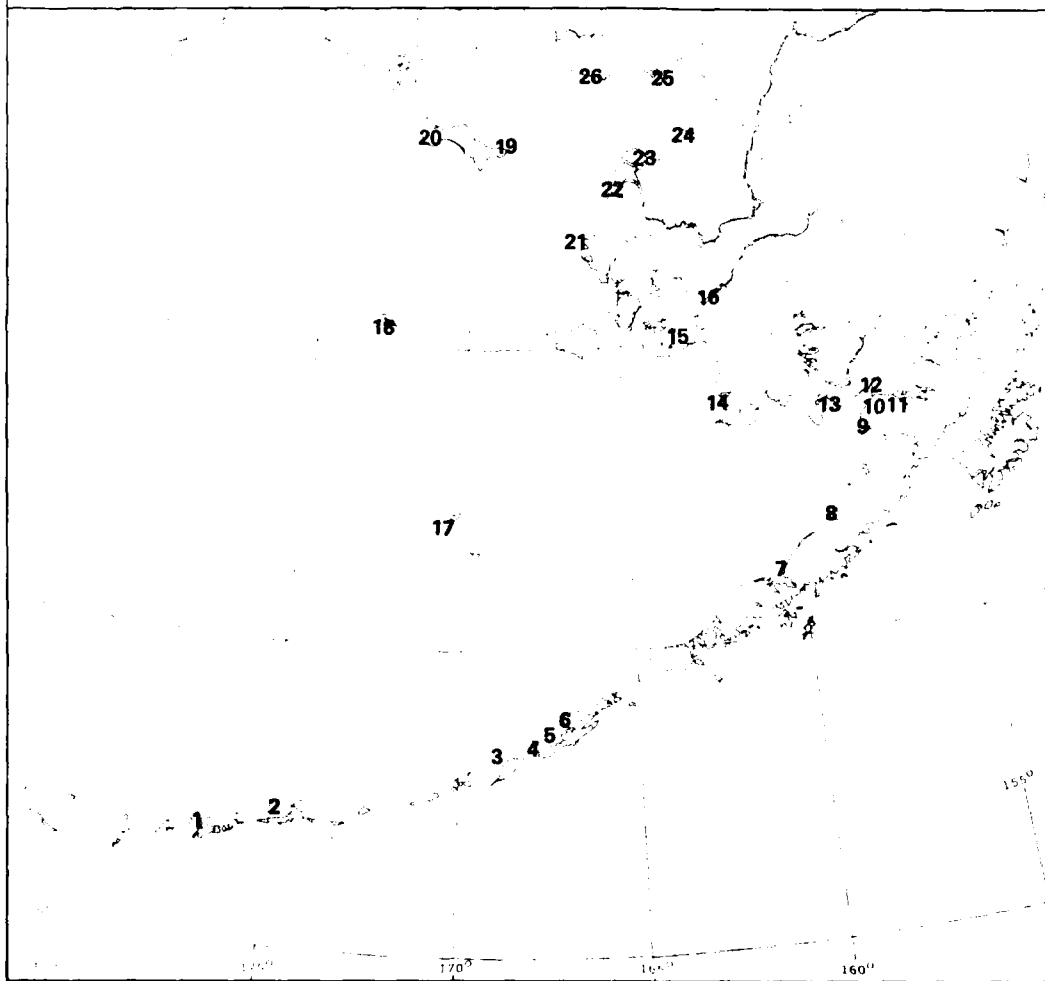


Figure 6 Tide data

### Semimonthly Positions and Ranges of Pack Ice Edge

The mean, median, and ranges of the 15-day means and extreme southern and northern positions of the pack ice were computed for each semi-monthly period from 1954 through 1970. Data were provided by aerial, ship, and satellite observations of the pack edge contained in Naval Oceanographic Office annual reports that show ice conditions by six-day periods. The mean ice edge was computed from the three six-day periods in each semi-monthly period (the 13th to 18th days are included in both semi-monthly computations). An ice concentration of one-eighth (1 okta) or more defines the pack edge. Total ice coverage is eight-eighths or eight oktas. By international agreement the okta system is used to describe the extent of ice cover.

The southernmost position of the 15-day mean pack edge in the Bering Sea is in mid-March. It begins to move north in early May and by mid to late June has moved through the Bering Strait. Mean and median values indicate that the pack edge does not retreat northward along each meridian at a uniform rate. Generally, the greatest 15-day mean meridional range of the ice edge is during mid-June. This large range may be related to adjacent landmass configuration. Differences between mean and median values during retreat of the ice edge are generally less than 15 nautical miles (28 km) during the latter half of May. Similar conditions exist during the southward advance of the pack edge. Differences between mean and median values during advance of the pack edge are also generally less than 15 nautical miles (28 km); however, the greatest difference is 110 nautical miles (209 km) in December. The greatest rate of movement for both retreat and advance occurs between the northern Bering and the southern Chukchi Sea during freezeup and breakup periods. More rapid recession of the ice edge during May and

June results from disintegration closely related to the location and extent of large water openings within the main body of the pack ice. Two such openings occur in Kotzebue and Norton Sounds. These are shown on the May, June, and November maps.

### Sea Ice Distribution

During winter and spring, ice covers nearly the entire northeast half of the Bering Sea. The southern portion of the covered area of the Bering Sea contains thin first-year ice 12 to 28 inch (30-71 cm) thick near the end of its growth cycle, whereas the northern portion and immediate coastal areas north of 62 degrees north latitude attain medium first-year growth of from 28 to 48 inches (71 to 122 cm). The Bering Strait is covered throughout the growth cycle with predominantly thin and medium first-year ice.

Normally, the Bering Sea is essentially free of sea ice by early summer. Ice concentrations in areas north of the Bering Strait continue to decrease as the summer progresses. Beginning in October the pack edge reverses direction and begins to move southward. It reaches its maximum southward position during late March, probably more because of wind drift than freezing.

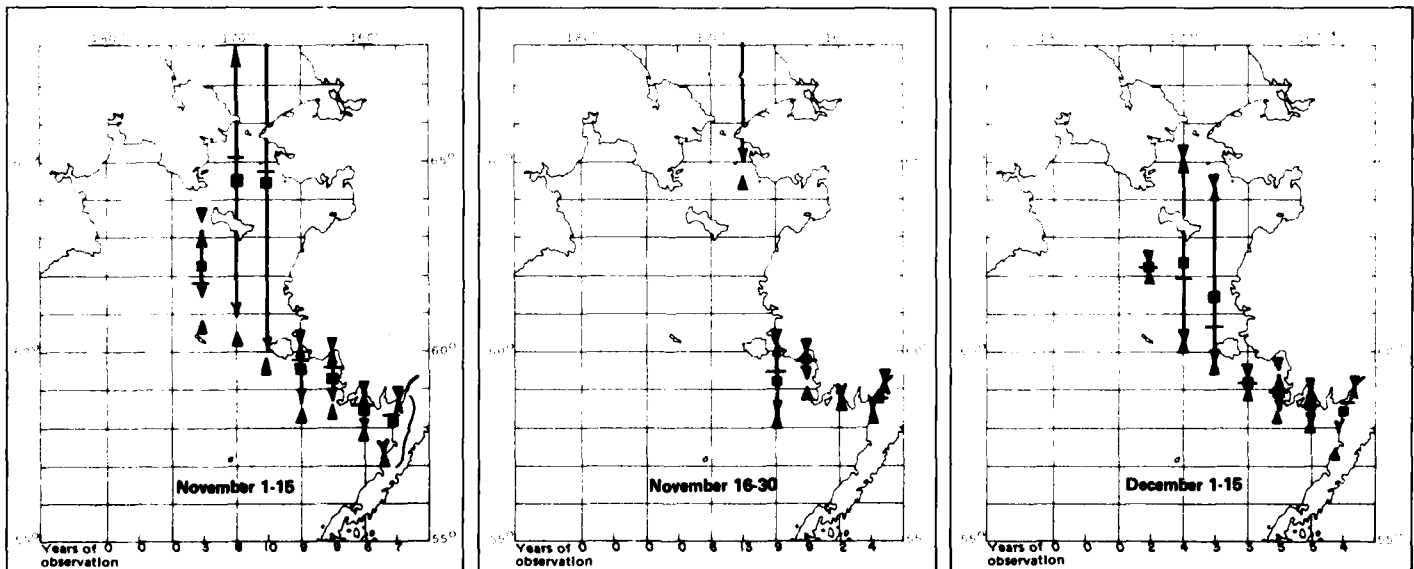
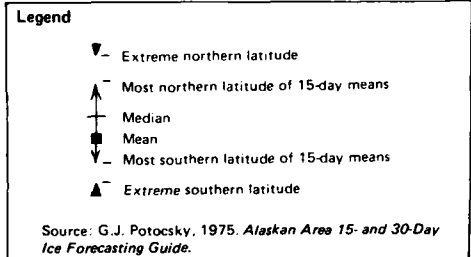


Figure 7 Sea ice distribution



**Legend**

- ▼ - Extreme northern latitude
- ↑ - Most northern latitude of 15-day means
- ⊕ - Median
- - Mean
- ▽ - Most southern latitude of 15-day means
- ▲ - Extreme southern latitude

Source: G.J. Potocsky, 1975. *Alaskan Area 15- and 30-Day Ice Forecasting Guide*.

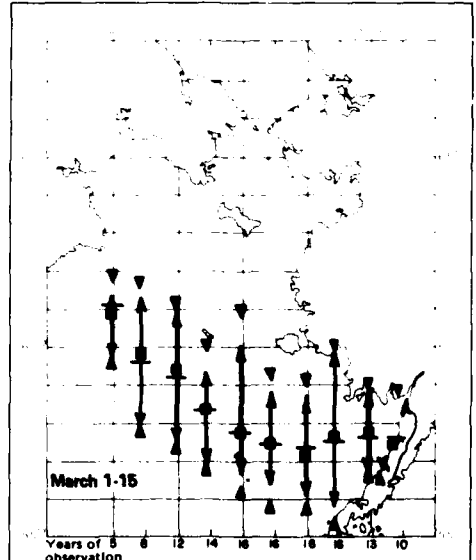
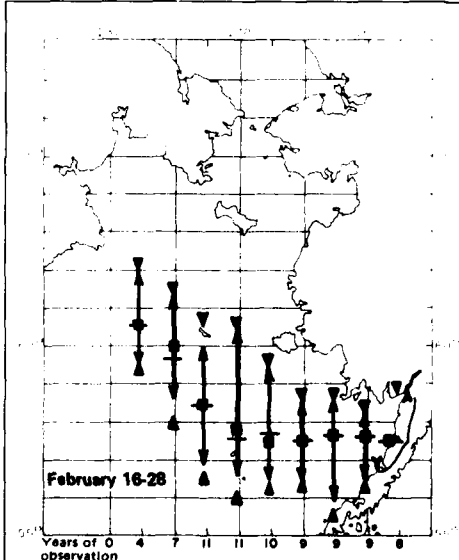
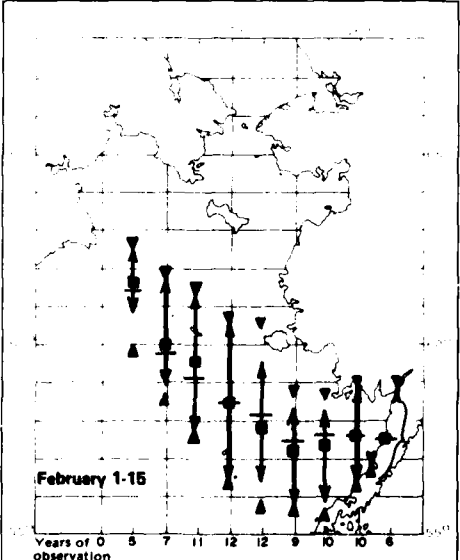
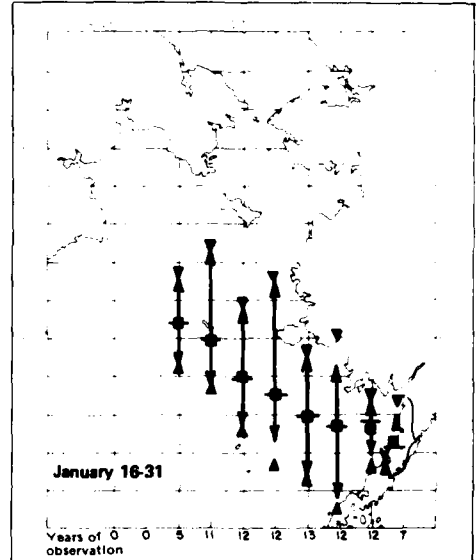
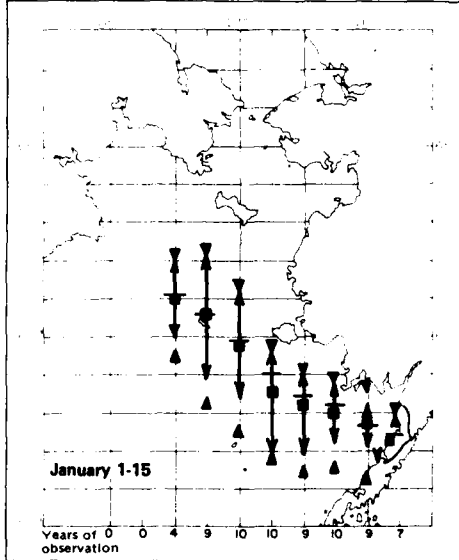
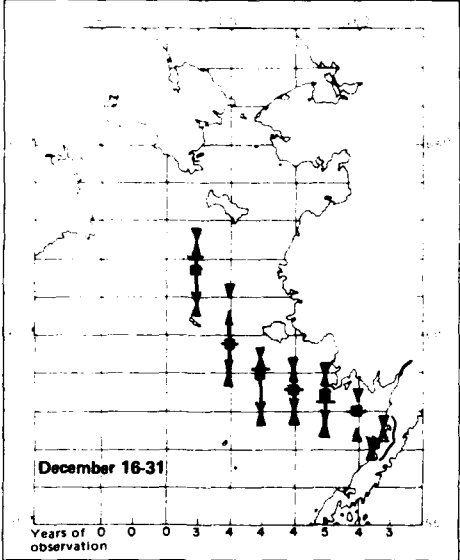


Figure 7 Sea ice distribution (cont.)

**Legend**

- ▽ Extreme northern latitude
- ↑ Most northern latitude of 15-day means
- Median
- Mean
- ↓ Most southern latitude of 15-day means
- ▲ Extreme southern latitude

Source: G.J. Potocsky, 1975. *Alaskan Area 15- and 30-Day Ice Forecasting Guide*.

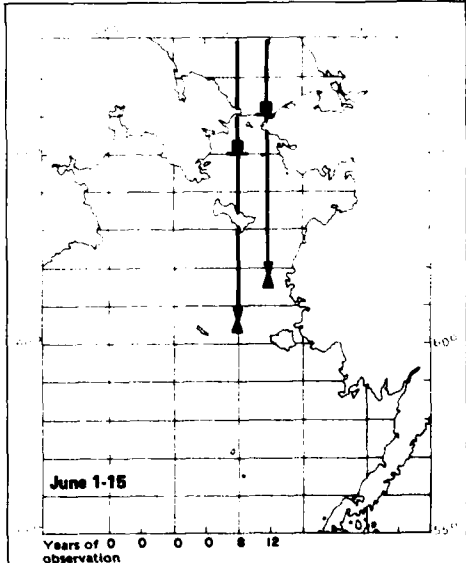
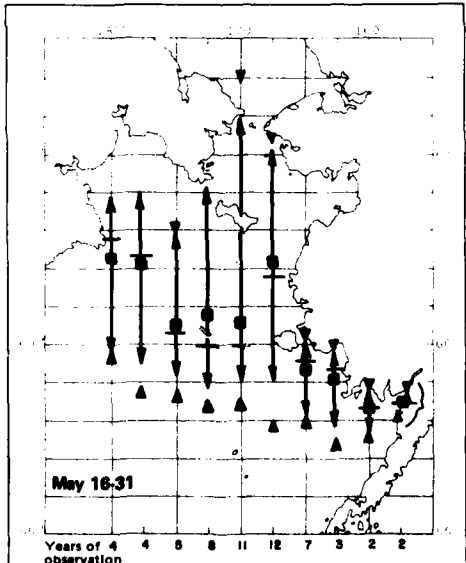
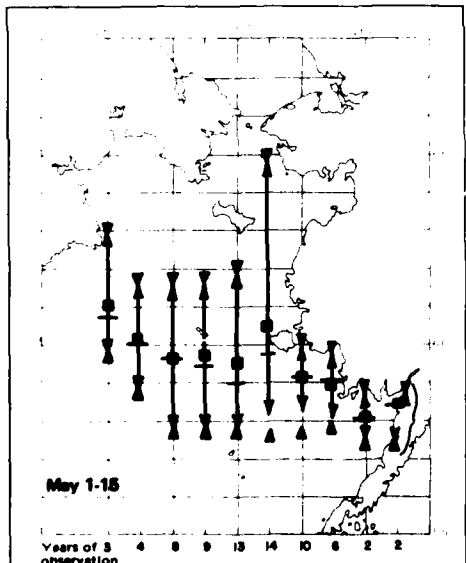
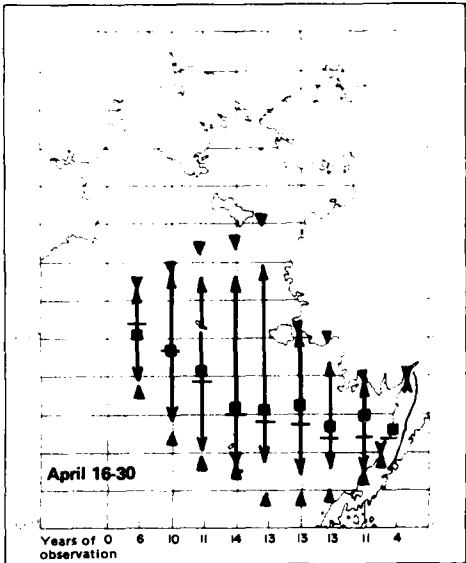
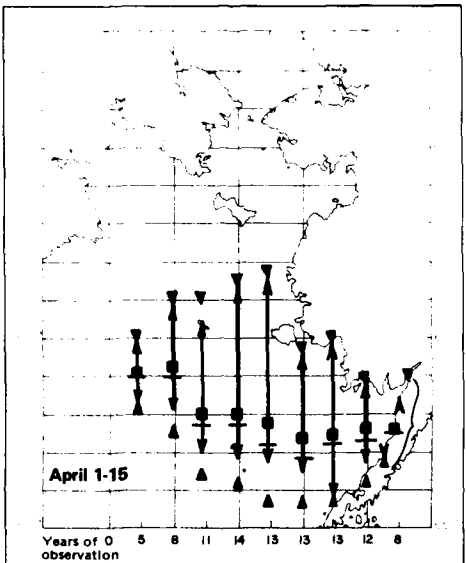
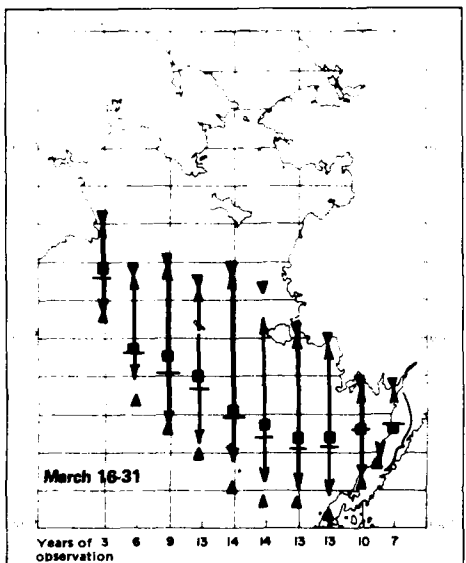
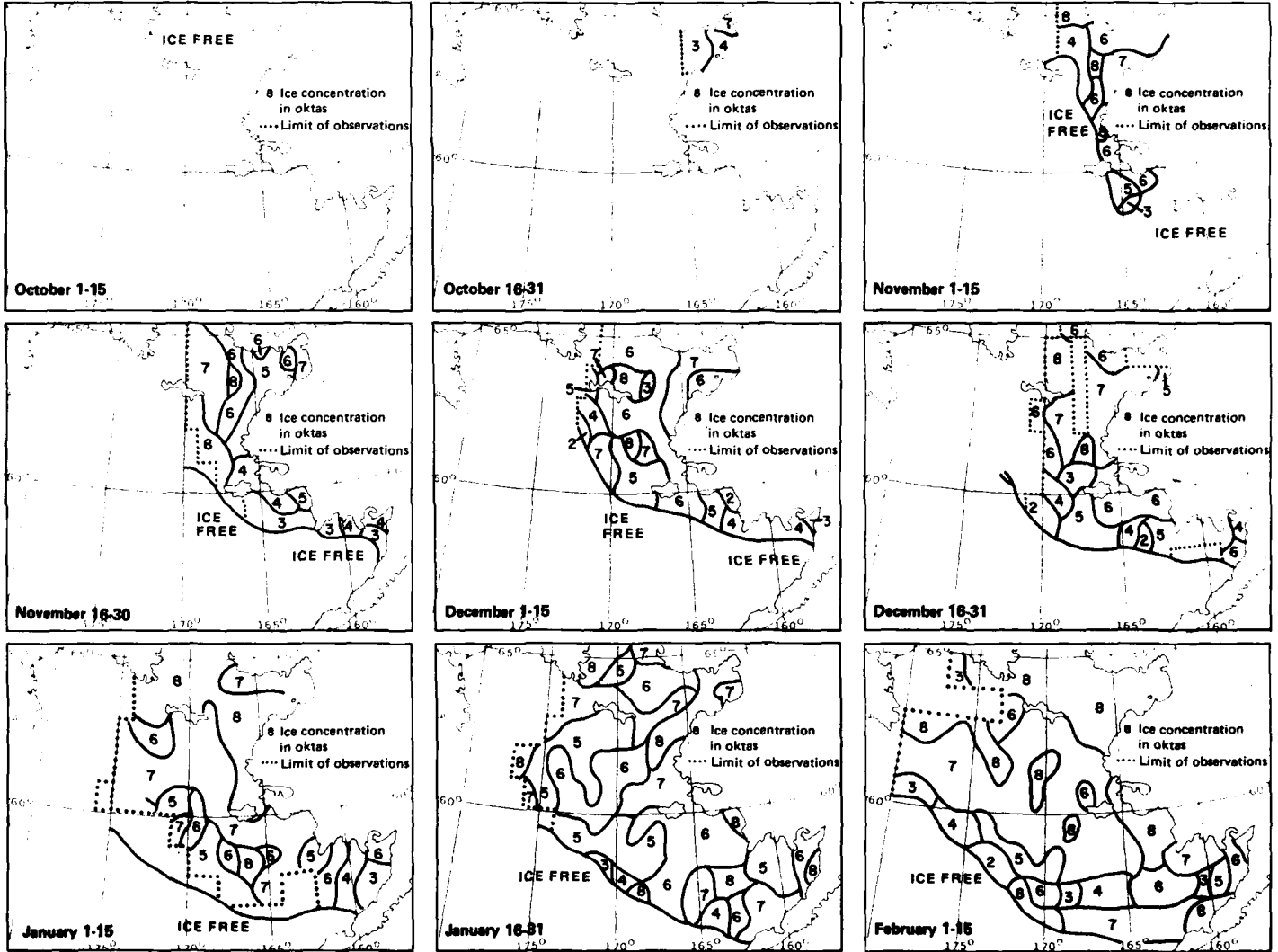


Figure 7 Sea ice distribution (cont.)



Source: G.J. Potocsky, 1975. *Alaskan Area 15- and 30-Day Ice Forecasting Guide*.

Figure 8 Sea ice coverage

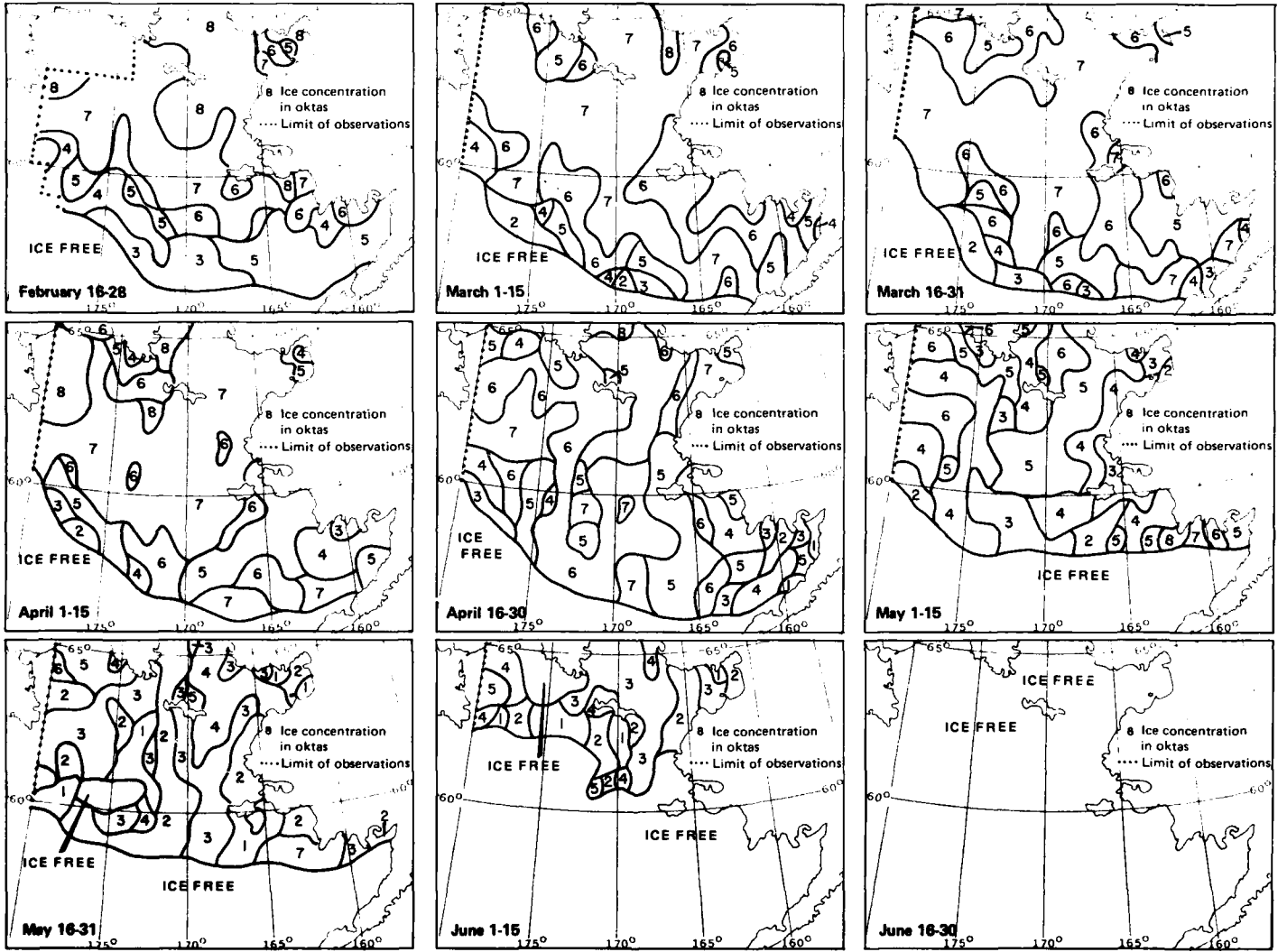


Figure 8 Sea ice coverage (cont.)

## Immersion Hypothermia

Immersion hypothermia is the loss of heat when a body is immersed in water. With few exceptions, humans die if their normal rectal temperature of approximately 37.6°C drops below 25.9°C. Cardiac arrest is the most common direct cause of death. Except in tropical waters warmer than 20° to 25°C, the main threat to life during prolonged immersion is cold or cold and drowning combined.

Cold lowers body temperature, which in turn slows the heart beat, lowers the rate of metabolism, and increases the amount of carbon dioxide in the blood. Resulting impaired mental capacity is a major factor in death by hypothermia. Numerous reports from shipwrecks and accidents in cold water indicate that people can become confused and even delirious, further decreasing their chances of survival.

The length of time that a human survives in water depends on the water surface temperature and, to a lesser extent, on the person's behavior. Figure 9 shows the approximate human survival time in the sea. Body type can cause deviations. For example, thin people become hypothermic more rapidly than fat people. Extremely fat people may survive almost indefinitely in water near 0°C if they are warmly clothed.

The cooling rate can be slowed by the person's behavior and insulated gear. Wilson (1976) closely monitored more than 500 immersions in the waters around Victoria B.C. with temperatures ranging from 4° to 16°C. Using the information obtained from his research, Wilson reasoned that if the critical heat loss areas could be protected, survival time would increase. The Heat Escape Lessening Posture (HELP) was developed for those in the water alone and the Huddle for small groups. Both require a life preserver. HELP involves holding the upper arms firmly against the sides of the chest, keeping the thighs together, and raising the knees to protect the groin area. In the Huddle, people face each other and keep their bodies as close together as possible. These positions improve survival time in 9°C water to four hours, approximately two times that of a swimmer and one and one-half times that of a person in the passive position.

**Figure 9**  
Survival time versus water temperature

Water Temperature	Exhaustion or Unconsciousness	Expected time of Survival
0°C	15 min	15-45 min
0°-5°C	15-30 min	30-90 min
5°-10°C	30-60 min	1-3 hrs
10°-15°C	1-2 hrs	1-6 hrs
15°-20°C	2-7 hrs	2-40 hrs
20°-25°C	3-12 hrs	3-indefinite hrs
25°C	Indefinite	Indefinite

## Sensible Climate Elements

Extremes data were gathered through a search of all available records deemed reliable, some dating back to the 1800s. Weather records of the U.S. Army Signal Corps and, more recently, those of the National Weather Service and the weather services of the U.S. Air Force and Navy were included, as were data tabulations prepared by the National Climatic Center.

Figure 10 presents annual means and extremes of temperatures, precipitation, snowfall, and wind for island and coastal locations for which data are available. These data are useful in planning for average as well as least favorable conditions. Figure 11 (Precipitation intensities) data indicate the percent frequency of occurrence of precipitation amounts based on daily observations for the wettest month, the driest month, and annually. These data are useful in the design of storm drainage systems, culverts, and shore-based support facilities. Figures 12 and 13 (Snowfall and snow depth) statistics show the month with the greatest snowfall and snow depth and annual statistics. Percentages shown in the annual column are averaged over 12 months. If, as in some cases, several months of the year have no snowfall or snow depth, this condition is indicated by showing the actual number of months with snow. Figure 14 (Type of precipitation) shows the percent frequency of occurrence of precipitation by type, based on hourly observations with no regard to intensity. These data are useful in planning surface transportation systems, construction schedules, and recreational activities. Figures 15 and 16 (Visibility obstructions and Ceiling and visibility data) are especially useful for pilots and others planning flying activity. AEIDC and NCC can provide more detailed monthly and daily statistics.

Maps in set No. 17 (Wave height thresholds and hazardous sea conditions) show maximum wave heights. These were taken from tabulated reports of maximum wave heights supplied by the National Climatic Center and were supplemented by observations from various volumes of the *Mariners' Weather Log*, a publication of NOAA's Environmental Data Service.

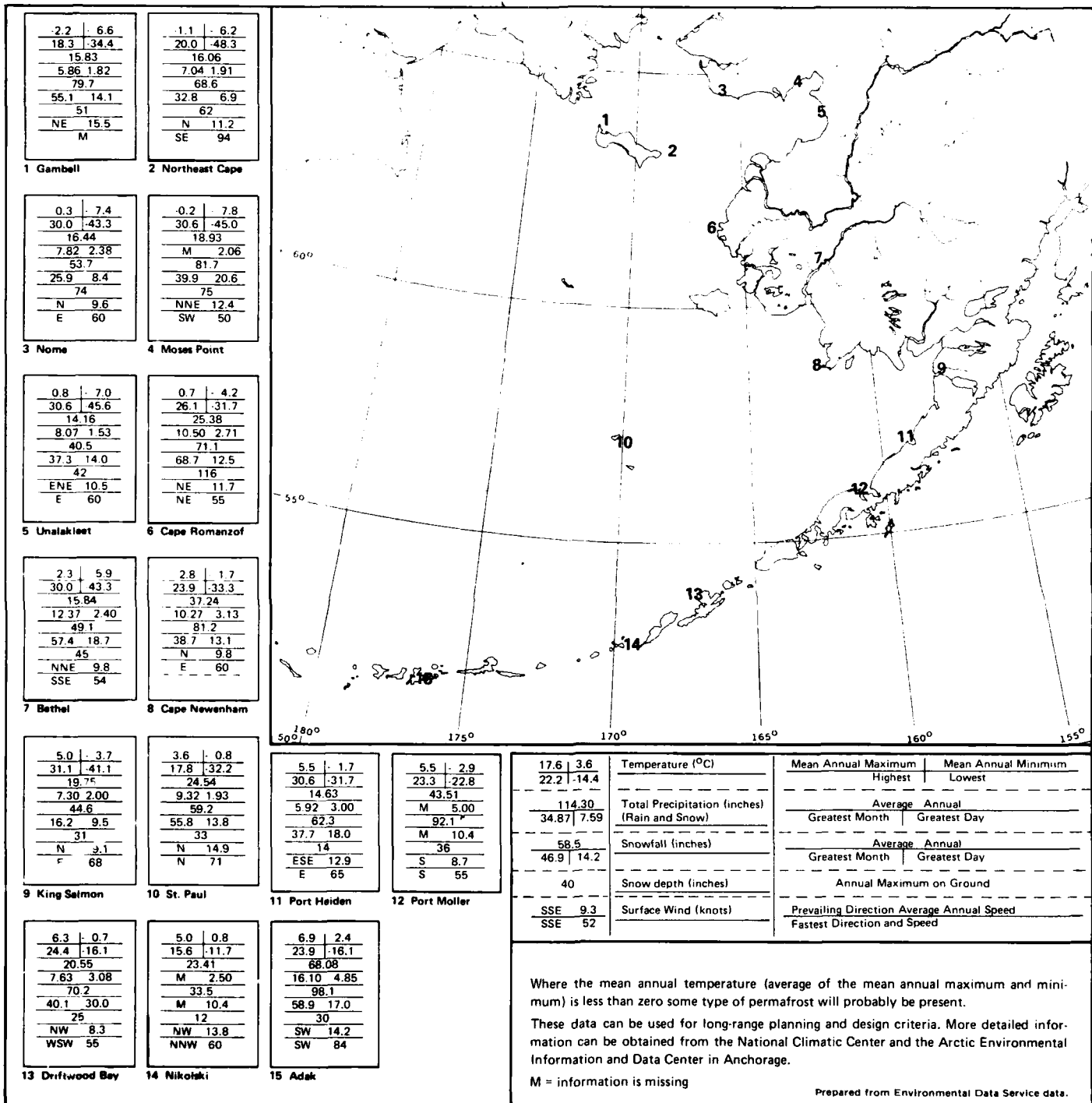


Figure 10 Climatic means and extremes

**Legend**

Percent frequency of occurrence of precipitation is based on daily observations. Total is the percent of days with measurable precipitation, a trace is not included.

\* less than 0.05%

Prepared from USAF Air Weather Service data, various dates.

**2 Northeast Cape**

Inches	Least Apr	Most Sep	Annual
Trace	48.0	27.5	35.3
0.01-0.10	10.7	26.2	22.7
0.11-0.25	2.0	11.7	6.7
0.26-0.50	1.3	8.3	2.9
0.51-1.00	0.0	6.2	1.7
1.01-2.50	0.0	0.4	0.3
2.51-5.00	0.0	1.2	0.1
5.01-10.00	0.0	0.0	*
<b>TOTAL</b>	<b>14.0</b>	<b>54.0</b>	<b>34.4</b>

**3 Nome**

Inches	Least Feb	Most Aug	Annual
Trace	20.8	21.4	25.1
0.01-0.10	29.0	25.2	24.1
0.11-0.25	4.1	10.6	6.7
0.26-0.50	1.0	8.6	3.4
0.51-1.00	0.3	5.4	1.3
1.01-2.50	0.0	1.9	0.3
2.51-5.00	0.0	0.0	0.0
5.01-10.00	0.0	0.0	0.0
<b>TOTAL</b>	<b>34.4</b>	<b>51.7</b>	<b>35.8</b>

**4 Moses Point**

Inches	Least Jun	Most Aug	Annual
Trace	23.7	21.6	24.2
0.01-0.10	17.7	19.4	18.7
0.11-0.25	5.7	10.3	7.3
0.26-0.50	0.1	11.9	4.1
0.51-1.00	0.0	6.5	1.8
1.01-2.50	0.0	2.6	0.4
2.51-5.00	0.0	0.0	0.0
5.01-10.00	0.0	0.0	0.0
<b>TOTAL</b>	<b>23.5</b>	<b>50.7</b>	<b>32.3</b>

**5 Unalakleet**

Inches	Least Dec	Most Aug	Annual
Trace	30.9	18.3	29.1
0.01-0.10	18.1	25.9	21.1
0.11-0.25	2.6	15.1	6.3
0.26-0.50	0.8	10.8	3.0
0.51-1.00	0.0	5.8	1.1
1.01-2.50	0.0	1.2	0.2
2.51-5.00	0.0	0.0	0.0
5.01-10.00	0.0	0.0	0.0
<b>TOTAL</b>	<b>21.5</b>	<b>58.8</b>	<b>31.7</b>

**6 Cape Romanzof**

Inches	Least Apr	Most Aug	Annual
Trace	28.5	21.3	24.1
0.01-0.10	23.0	27.4	22.8
0.11-0.25	3.9	12.6	8.1
0.26-0.50	1.5	12.9	5.1
0.51-1.00	0.9	7.7	3.0
1.01-2.50	0.0	3.2	0.9
2.51-5.00	0.0	0.3	*
5.01-10.00	0.0	0.0	0.0
<b>TOTAL</b>	<b>29.3</b>	<b>64.1</b>	<b>39.9</b>

**7 Bethel**

Inches	Least Apr	Most Aug	Annual
Trace	29.8	18.9	26.4
0.01-0.10	27.7	31.0	27.5
0.11-0.25	4.4	17.7	8.8
0.26-0.50	1.6	7.9	3.6
0.51-1.00	0.0	6.0	1.3
1.01-2.50	0.0	1.3	0.2
2.51-5.00	0.0	0.0	*
5.01-10.00	0.0	0.0	0.0
<b>TOTAL</b>	<b>33.7</b>	<b>63.9</b>	<b>41.5</b>

**8 Cape Newenham**

Inches	Least Apr	Most Aug	Annual
Trace	21.7	17.6	25.8
0.01-0.10	31.6	24.6	24.1
0.11-0.25	7.0	14.1	13.6
0.26-0.50	4.0	14.1	5.0
0.51-1.00	1.0	9.4	2.5
1.01-2.50	0.3	6.2	0.4
2.51-5.00	0.0	0.6	0.0
5.01-10.00	0.0	0.0	0.0
<b>TOTAL</b>	<b>43.7</b>	<b>69.0</b>	<b>45.6</b>

**9 King Salmon**

Inches	Least Apr	Most Aug	Annual
Trace	27.0	18.8	23.8
0.01-0.10	21.6	29.0	25.1
0.11-0.25	5.7	15.7	9.8
0.26-0.50	1.9	10.8	4.5
0.51-1.00	0.5	3.2	1.5
1.01-2.50	0.2	0.7	0.2
2.51-5.00	0.0	0.0	0.0
5.01-10.00	0.0	0.0	0.0
<b>TOTAL</b>	<b>29.9</b>	<b>59.4</b>	<b>41.1</b>

**10 St. Paul**

Inches	Least Apr	Most Aug	Annual
Trace	32.2	25.1	27.6
0.01-0.10	39.6	36.0	39.0
0.11-0.25	7.5	13.9	11.9
0.26-0.50	2.0	7.9	4.7
0.51-1.00	0.6	4.1	1.6
1.01-2.50	0.0	1.6	0.4
2.51-5.00	0.0	0.0	0.0
5.01-10.00	0.0	0.0	0.0
<b>TOTAL</b>	<b>49.7</b>	<b>63.5</b>	<b>57.6</b>

**11 Port Heiden**

Inches	Least Apr	Most Aug	Annual
Trace	51.1	19.4	33.2
0.01-0.10	22.2	29.1	27.9
0.11-0.25	1.1	16.1	8.9
0.26-0.50	1.1	1.6	3.3
0.51-1.00	0.0	9.7	1.4
1.01-2.50	0.0	0.0	0.0
2.51-5.00	0.0	0.0	0.0
5.01-10.00	0.0	0.0	0.0
<b>TOTAL</b>	<b>24.4</b>	<b>56.5</b>	<b>41.5</b>

**12 Port Moller**

Inches	Least Feb	Most Aug	Annual
Trace	23.9	11.3	17.9
0.01-0.10	24.8	30.6	30.0
0.11-0.25	10.6	18.1	14.4
0.26-0.50	2.7	17.7	8.2
0.51-1.00	0.9	8.1	3.6
1.01-2.50	0.0	4.0	1.6
2.51-5.00	0.0	0.8	0.2
5.01-10.00	0.0	0.0	0.0
<b>TOTAL</b>	<b>39.0</b>	<b>77.3</b>	<b>58.6</b>

**13 Driftwood Bay**

Inches	Least Apr	Most Jul	Annual
Trace	33.3	17.1	28.0
0.01-0.10	32.7	35.5	31.0
0.11-0.25	3.3	10.1	7.0
0.26-0.50	0.0	6.0	3.2
0.51-1.00	0.7	2.3	1.2
1.01-2.50	0.0	1.6	0.8
2.51-5.00	0.0	0.0	0.1
5.01-10.00	0.0	0.0	0.0
<b>TOTAL</b>	<b>36.7</b>	<b>72.6</b>	<b>43.3</b>

**14 Nikolski**

Inches	Least Apr	Most Aug	Annual
Trace	37.8	15.0	22.1
0.01-0.10	38.9	32.5	39.8
0.11-0.25	2.2	10.0	7.1
0.26-0.50	3.3	4.2	3.1
0.51-1.00	0.0	5.8	2.2
1.01-2.50	0.0	2.5	0.8
2.51-5.00	0.0	0.0	0.0
5.01-10.00	0.0	0.0	0.0
<b>TOTAL</b>	<b>44.4</b>	<b>55.0</b>	<b>53.0</b>

**15 Adak**

Inches	Least Ju	Most Dec	Annual
Trace	40.1	17.2	22.2
0.01-0.10	24.3	34.2	34.0
0.11-0.25	12.4	18.9	16.4
0.26-0.50	7.7	11.2	10.6
0.51-1.00	2.3	7.5	6.0
1.01-2.50	1.4	5.5	3.1
2.51-5.00	0.0	0.6	0.3
5.01-10.00	0.0	0.0	0.0
<b>TOTAL</b>	<b>48.1</b>	<b>77.9</b>	<b>70.4</b>

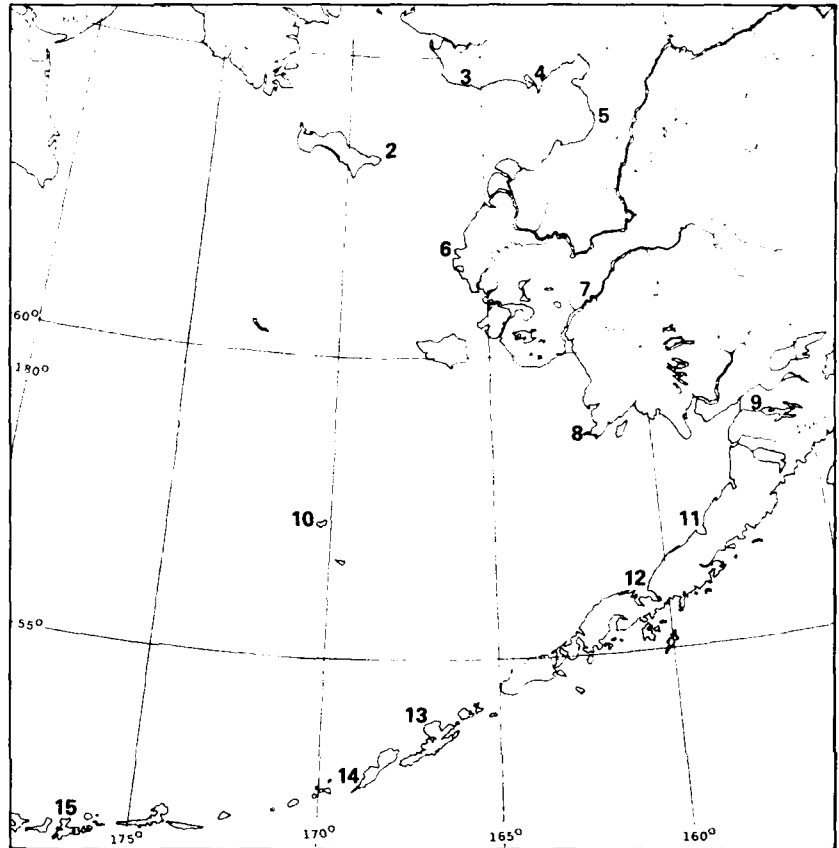


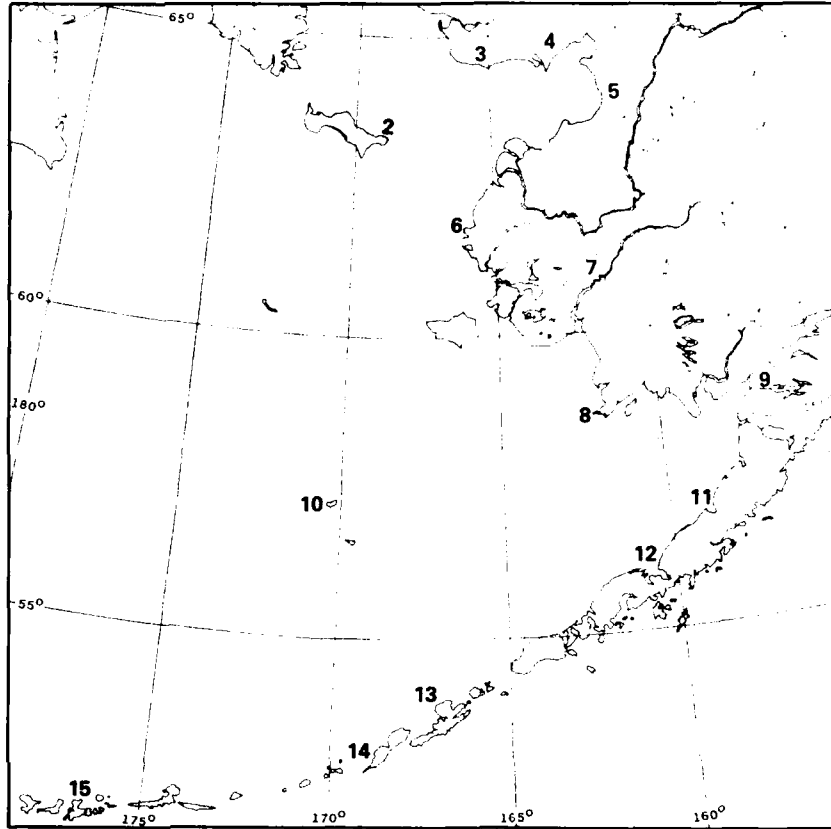
Figure 11 Precipitation intensities

**Legend**

Percentage frequency of occurrence of snowfall is based on daily observations. In each table column 2 is the month of the year that averages the most, and column 3 is annual percent averaged over 12 months. Column 3 shows the number of months of the year with any snowfall. The total at the bottom of each box is the percent of days with measurable snowfall.

\* less than 0.05%

Prepared from USAF Air Weather Service data, various dates.



**2 Northeast Cape**

Inches	Max Month Nov	Annual Based on 10 Months
≤Trace	47.1	81.7
0.1-2.4	50.0	17.4
2.5-4.4	2.5	0.8
4.5-6.4	0.4	0.1
6.5-10.4	0.0	0.0
10.5-15.4	0.0	0.0
15.5-25.4	0.0	0.0
25.5-50.4	0.0	0.0
TOTAL	52.9	18.3

**3 Nome**

Inches	Max Month Nov	Annual Based on 11 Months
≤Trace	62.0	80.4
0.1-2.4	35.3	18.4
2.5-4.4	2.0	0.9
4.5-6.4	0.4	0.2
6.5-10.4	0.3	0.1
10.5-15.4	0.0	0.0
15.5-25.4	0.0	0.0
25.5-50.4	0.0	0.0
TOTAL	38.0	19.6

**4 Moss Point**

Inches	Max Month Dec	Annual Based on 10 Months
≤Trace	65.5	83.3
0.1-2.4	28.7	14.3
2.5-4.4	3.9	1.7
4.5-6.4	1.3	0.5
6.5-10.4	0.3	0.2
10.5-15.4	0.3	*
15.5-25.4	0.0	0.0
25.5-50.4	0.0	0.0
TOTAL	34.5	16.7

**5 Unalakleet**

Inches	Max Month Nov	Annual Based on 9 Months
≤Trace	76.8	88.0
0.1-2.4	20.4	11.2
2.5-4.4	2.2	0.6
4.5-6.4	0.4	0.2
6.5-10.4	0.2	*
10.5-15.4	0.0	0.0
15.5-25.4	0.0	0.0
25.5-50.4	0.0	0.0
TOTAL	23.2	12.0

**6 Cape Romanzof**

Inches	Max Month Mar	Annual Based on 11 Months
≤Trace	66.9	80.1
0.1-2.4	27.0	17.9
2.5-4.4	3.8	1.4
4.5-6.4	0.6	0.3
6.5-10.4	1.2	0.2
10.5-15.4	0.6	0.1
15.5-25.4	0.0	0.0
25.5-50.4	0.0	0.0
TOTAL	33.1	19.9

**7 Bethel**

Inches	Max Month Mar	Annual Based on 10 Months
≤Trace	60.6	80.6
0.1-2.4	36.4	18.1
2.5-4.4	2.0	0.8
4.5-6.4	0.5	0.3
6.5-10.4	0.3	0.2
10.5-15.4	0.2	0.0
15.5-25.4	0.0	*
25.5-50.4	0.0	0.0
TOTAL	39.3	19.3

**8 Cape Newenham**

Inches	Max Month Mar	Annual Based on 10 Months
≤Trace	56.7	75.9
0.1-2.4	18.0	21.6
2.5-4.4	2.2	1.8
4.5-6.4	0.4	0.4
6.5-10.4	1.0	0.1
10.5-15.4	0.7	0.1
15.5-25.4	0.0	0.0
25.5-50.4	0.0	0.0
TOTAL	43.3	24.1

**9 King Salmon**

Inches	Max Month Mar	Annual Based on 8 Months
≤Trace	70.0	86.0
0.1-2.4	28.4	13.1
2.5-4.4	1.0	0.7
4.5-6.4	0.3	0.2
6.5-10.4	0.3	*
10.5-15.4	0.0	0.0
15.5-25.4	0.0	0.0
25.5-50.4	0.0	0.0
TOTAL	30.0	14.0

**10 St. Paul**

Inches	Max Month Jan	Annual Based on 10 Months
≤Trace	57.2	75.3
0.1-2.4	40.0	23.9
2.5-4.4	1.8	0.6
4.5-6.4	0.3	0.1
6.5-10.4	0.6	0.1
10.5-15.4	0.1	*
15.5-25.4	0.0	0.0
25.5-50.4	0.0	0.0
TOTAL	42.8	24.7

**11 Port Heiden**

Inches	Max Month Dec	Annual Based on 6 Months
≤Trace	82.2	89.7
0.1-2.4	16.1	9.9
2.5-4.4	0.0	0.1
4.5-6.4	1.6	0.3
6.5-10.4	0.0	0.0
10.5-15.4	0.0	0.0
15.5-25.4	0.0	0.0
25.5-50.4	0.0	0.0
TOTAL	17.8	10.3

**12 Port Moller**

Inches	Max Month Jan	Annual Based on 10 Months
≤Trace	60.2	80.6
0.1-2.4	31.2	16.7
2.5-4.4	4.3	1.9
4.5-6.4	1.1	0.4
6.5-10.4	3.2	0.4
10.5-15.4	0.0	0.0
15.5-25.4	0.0	0.0
25.5-50.4	0.0	0.0
TOTAL	39.8	19.4

**13 Driftwood Bay**

Inches	Max Month Jan	Annual Based on 10 Months
≤Trace	73.1	84.7
0.1-2.4	23.2	13.7
2.5-4.4	1.6	1.0
4.5-6.4	0.0	0.3
6.5-10.4	0.5	*
10.5-15.4	1.1	0.1
15.5-25.4	0.0	0.0
25.5-50.4	0.5	*
TOTAL	26.9	15.3

**14 Nikolski**

Inches	Max Month Feb	Annual Based on 8 Months
≤Trace	54.1	87.7
0.1-2.4	43.5	11.5
2.5-4.4	1.2	0.5
4.5-6.4	0.0	0.2
6.5-10.4	1.2	0.1
10.5-15.4	0.0	0.0
15.5-25.4	0.0	0.0
25.5-50.4	0.0	0.0
TOTAL	45.9	12.3

**15 Adak**

Inches	Max Month Feb	Annual Based on 11 Months
≤Trace	47.4	77.8
0.1-2.4	44.4	19.1
2.5-4.4	5.5	2.2
4.5-6.4	2.5	0.6
6.5-10.4	0.2	0.1
10.5-15.4	0.0	*
15.5-25.4	0.0	0.0
25.5-50.4	0.0	0.0
TOTAL	52.6	22.2

**Figure 12 Snowfall**

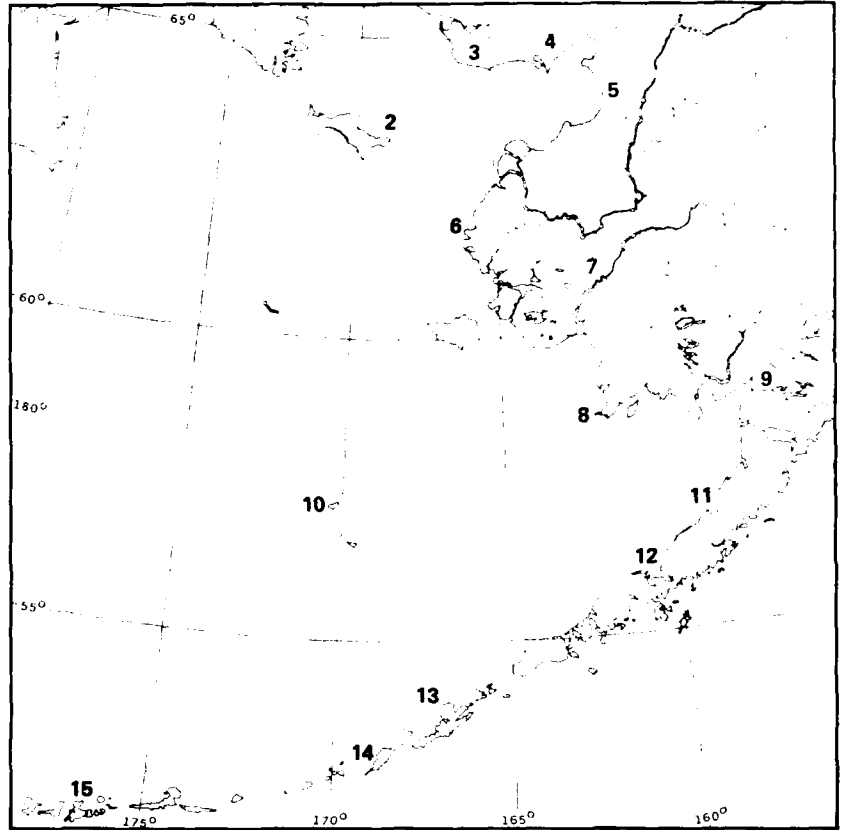


**Legend**

Percentage frequency of occurrence of snow depth is based on daily observations. In each table column 2 is the month of the year that averages the most, and column 3 is annual percent averaged over 12 months. Column 3 shows the number of months of the year with any snow depth. The total at the bottom of each box is the percent of days with measurable snow depth.

\* less than 0.05%

Prepared from USAF Air Weather Service data, various dates.



**2 Northeast Cape**

Inches	Max Month Feb	Annual Based on 10 Months
≤Trace	0.0	40.9
1-3	0.0	9.2
4-6	0.0	8.7
7-12	32.7	15.4
13-24	54.3	17.0
25-36	7.6	8.2
37-48	5.4	0.6
49-60	0.0	0.0
TOTAL	100.0	49.1

**3 Nome**

Inches	Max Month Feb	Annual Based on 10 Months
≤Trace	2.7	44.6
1-3	4.8	9.0
4-6	4.4	6.9
7-12	14.3	12.0
13-24	40.8	15.1
25-36	23.4	8.5
37-48	3.0	2.6
≥49	6.7	1.3
TOTAL	97.3	55.4

**4 Moses Point**

Inches	Max Month Apr	Annual Based on 10 Months
≤Trace	0.0	44.8
1-3	0.0	5.8
4-6	0.7	5.8
7-12	18.3	11.5
13-24	38.6	14.8
25-36	8.8	5.6
37-48	9.1	4.4
≥49	24.5	7.3
TOTAL	100.0	55.2

**5 Unalakleet**

Inches	Max Month Feb	Annual Based on 9 Months
≤Trace	1.4	50.5
1-3	18.4	15.9
4-6	17.9	10.7
7-12	32.0	12.3
13-24	22.8	9.0
25-36	6.2	1.5
37-48	1.2	0.1
49-60	0.0	0.0
TOTAL	98.6	49.5

**6 Cape Romanzof**

Inches	Max Month Mar	Annual Based on 10 Months
≤Trace	0.0	39.2
1-3	8.0	14.9
4-6	7.7	12.8
7-12	23.4	12.5
13-24	37.2	15.6
25-36	15.9	2.6
37-48	1.1	1.1
≥49	6.6	1.3
TOTAL	100.0	60.8

**7 Bethel**

Inches	Max Month Mar	Annual Based on 9 Months
≤Trace	0.8	52.9
1-3	14.8	14.1
4-6	19.2	11.5
7-12	25.3	9.6
13-24	28.0	9.2
25-36	10.0	2.4
37-48	2.0	0.3
49-60	0.0	0.0
TOTAL	99.2	47.1

**8 Cape Newenham**

Inches	Max Month Apr	Annual Based on 11 Months
≤Trace	12.9	53.3
1-3	23.8	17.3
4-6	17.8	8.3
7-12	11.6	9.0
13-24	9.6	6.7
25-36	14.9	3.5
37-48	9.0	1.7
49-60	0.4	0.1
TOTAL	87.1	46.7

**9 King Salmon**

Inches	Max Month Feb	Annual Based on 7 Months
≤Trace	18.8	69.1
1-3	37.8	16.1
4-6	24.4	8.2
7-12	10.1	5.1
13-24	8.9	1.5
25-36	0.0	0.0
37-48	0.0	0.0
49-60	0.0	0.0
TOTAL	81.2	30.9

**10 St. Paul**

Inches	Max Month Mar	Annual Based on 9 Months
≤Trace	20.0	61.4
1-3	29.4	14.1
4-6	14.0	7.2
7-12	16.0	6.0
13-24	13.2	4.1
25-36	7.3	1.0
37-48	0.0	0.0
49-60	0.1	*
TOTAL	80.0	32.6

**11 Port Heiden**

Inches	Max Month Dec	Annual Based on 8 Months
≤Trace	48.4	82.1
1-3	30.6	15.2
4-6	11.3	1.6
7-12	9.7	1.1
13-24	0.0	0.0
25-36	0.0	0.0
37-48	0.0	0.0
49-60	0.0	0.0
TOTAL	51.6	17.9

**12 Port Moller**

Inches	Max Month Mar	Annual Based on 9 Months
≤Trace	16.9	60.9
1-3	31.5	14.3
4-6	18.5	9.7
7-12	8.0	7.0
13-24	7.4	6.2
25-36	17.7	1.9
37-48	0.0	0.0
49-60	0.0	0.0
TOTAL	83.1	39.1

**13 Driftwood Bay**

Inches	Max Month Apr	Annual Based on 9 Months
≤Trace	31.1	59.6
1-3	24.4	12.3
4-6	10.0	5.6
7-12	1.1	9.9
13-24	0.0	5.2
25-36	0.0	0.4
37-48	0.0	0.9
49-60	33.4	6.1
TOTAL	68.9	40.4

**14 Nikolski**

Inches	Max Month Mar	Annual Based on 7 Months
≤Trace	84.7	93.1
1-3	10.5	6.2
4-6	5.8	0.5
7-12	0.0	0.1
13-24	0.0	0.0
25-36	0.0	0.0
37-48	0.0	0.0
49-60	0.0	0.0
TOTAL	15.3	6.9

**15 Adak**

Inches	Max Month Mar	Annual Based on 8 Months
≤Trace	70.5	84.7
1-3	20.3	9.9
4-6	6.0	2.8
7-12	1.8	1.8
13-24	0.9	0.7
25-36	0.5	0.1
37-48	0.0	0.0
49-60	0.0	0.0
TOTAL	29.5	15.3

Figure 13 Snow depth

**Legend**

Percent frequency of occurrence of precipitation by type is based on hourly observations regardless of intensity

R or L - Rain or drizzle

ZR or ZL - Freezing rain or freezing drizzle

S or E - Snow or sleet

TOT Total percent of observations with precipitation

\* less than 0.05%

Prepared from USAF Air Weather Service data, various dates.

**2 Northeast Cape**

	R or L	ZR or ZL	S or E	TOT
Jan	1.1	0.5	17.0	18.1
Feb	1.1	0.7	17.7	19.4
Mar	0.7	*	21.4	22.0
Apr	1.2	0.2	21.0	22.1
May	7.6	0.1	14.6	21.7
Jun	15.4	0.2	1.1	16.6
Jul	19.8	0.0	*	19.8
Aug	27.0	0.0	0.1	27.0
Sep	25.9	0.0	3.3	29.1
Oct	9.3	0.1	19.5	28.0
Nov	1.9	0.6	34.2	36.5
Dec	1.1	0.2	21.2	22.0
Ann	9.9	0.2	13.9	23.7

**3 Nome**

	R or L	ZR or ZL	S or E	TOT
Jan	1.4	3.7	25.2	28.7
Feb	0.7	2.2	23.2	24.9
Mar	0.6	0.8	27.1	27.8
Apr	2.6	0.8	25.8	28.0
May	10.9	0.2	10.3	20.3
Jun	16.6	0.1	0.7	17.2
Jul	25.0	0.0	0.0	25.0
Aug	31.6	0.0	0.0	31.6
Sep	24.3	0.0	1.6	25.7
Oct	9.4	0.2	13.5	21.9
Nov	2.9	1.8	26.3	29.5
Dec	0.5	2.5	25.0	26.7
Ann	10.5	1.0	14.9	25.6

**4 Moses Point**

	R or L	ZR or ZL	S or E	TOT
Jan	0.0	1.1	17.9	18.8
Feb	0.3	0.7	18.3	19.1
Mar	0.2	0.0	23.4	23.5
Apr	1.9	0.0	18.8	20.3
May	8.1	0.0	5.9	13.7
Jun	11.5	0.0	0.0	11.5
Jul	18.4	0.0	0.0	18.4
Aug	27.9	0.0	0.0	27.9
Sep	22.0	0.0	0.7	22.5
Oct	8.3	0.1	12.9	20.8
Nov	2.2	0.8	21.6	24.1
Dec	0.5	0.8	27.2	28.0
Ann	8.5	0.3	12.2	20.7

**5 Unalakleet**

	R or L	ZR or ZL	S or E	TOT
Jan	0.8	2.1	15.9	18.3
Feb	0.3	1.0	18.1	19.2
Mar	0.6	0.3	19.2	19.8
Apr	1.8	0.1	15.6	17.3
May	8.3	0.1	4.6	12.7
Jun	13.4	0.0	0.3	13.5
Jul	18.9	0.0	0.0	18.9
Aug	25.5	0.0	0.0	25.5
Sep	17.7	0.0	1.3	18.9
Oct	4.7	0.2	11.8	16.3
Nov	0.7	0.5	18.3	19.3
Dec	0.2	0.8	17.0	17.7
Ann	7.7	0.4	10.2	18.1

**6 Cape Romanof**

	R or L	ZR or ZL	S or E	TOT
Jan	1.9	0.2	11.8	13.7
Feb	0.9	0.2	14.3	15.2
Mar	0.9	0.3	17.1	18.1
Apr	1.5	0.2	17.7	19.2
May	9.2	0.4	11.8	20.7
Jun	19.8	*	1.2	20.9
Jul	26.9	0.0	*	26.9
Aug	34.4	0.0	0.1	34.4
Sep	27.8	0.0	2.5	30.1
Oct	8.0	0.2	18.1	25.6
Nov	2.9	0.4	21.0	23.7
Dec	1.1	0.5	16.9	18.3
Ann	11.3	0.2	11.0	22.2

**7 Bethel**

	R or L	ZR or ZL	S or E	TOT
Jan	2.9	1.3	19.9	23.5
Feb	2.4	0.9	21.7	24.1
Mar	2.1	0.5	24.3	26.0
Apr	4.7	0.3	19.5	23.6
May	13.9	0.2	6.6	19.9
Jun	19.8	0.0	0.5	20.2
Jul	25.4	0.0	*	25.4
Aug	35.7	0.0	0.0	35.7
Sep	25.6	0.0	0.9	26.3
Oct	10.6	0.5	10.7	21.3
Nov	4.9	1.1	19.8	25.0
Dec	2.0	1.0	25.1	27.5
Ann	12.5	0.5	12.4	24.9

**8 Cape Newenham**

	R or L	ZR or ZL	S or E	TOT
Jan	4.5	0.6	17.5	22.1
Feb	2.8	0.1	23.1	25.5
Mar	3.4	0.5	22.4	25.7
Apr	5.0	0.2	25.1	28.9
May	14.5	0.1	10.8	24.8
Jun	20.5	0.0	0.5	20.9
Jul	29.1	0.0	*	29.1
Aug	36.1	0.0	0.0	36.1
Sep	30.1	*	0.5	30.5
Oct	16.2	0.1	11.0	26.3
Nov	11.7	0.2	19.6	30.0
Dec	4.4	0.3	22.8	26.6
Ann	14.9	0.2	12.8	27.2

**9 King Salmon**

	R or L	ZR or ZL	S or E	TOT
Jan	3.9	0.5	11.9	15.8
Feb	4.4	0.4	14.0	18.0
Mar	3.9	0.2	16.3	19.9
Apr	6.6	0.1	11.4	17.5
May	15.5	*	2.4	17.4
Jun	18.6	0.0	*	18.6
Jul	22.5	0.0	0.0	22.5
Aug	27.2	0.0	0.0	27.2
Sep	21.2	0.0	0.1	21.3
Oct	14.1	0.1	5.8	19.4
Nov	7.0	0.3	9.3	16.0
Dec	3.5	0.7	14.4	18.1
Ann	12.5	0.2	7.0	19.3

**10 St. Paul**

	R or L	ZR or ZL	S or E	TOT
Jan	10.9	0.2	29.8	36.1
Feb	5.9	0.4	34.2	40.0
Mar	5.4	0.4	30.3	35.6
Apr	8.3	0.2	21.9	29.7
May	18.8	0.2	11.8	30.1
Jun	24.8	0.1	0.8	25.5
Jul	31.9	0.0	*	32.0
Aug	33.4	0.0	*	33.4
Sep	27.3	0.0	0.1	27.3
Oct	22.6	*	8.1	30.0
Nov	17.4	0.1	16.0	34.3
Dec	10.3	0.3	26.9	36.7
Ann	18.1	0.2	14.8	32.6

**11 Port Heiden**

	R or L	ZR or ZL	S or E	TOT
Jan	8.8	0.7	14.7	23.4
Feb	3.8	0.6	13.9	17.7
Mar	5.0	0.9	25.9	31.4
Apr	6.6	0.3	16.2	22.4
May	14.2	0.1	4.7	18.6
Jun	18.3	0.0	0.0	18.3
Jul	25.3	0.0	0.0	25.3
Aug	32.0	0.0	0.0	32.0
Sep	22.9	0.0	0.1	23.0
Oct	22.3	0.0	5.9	27.4
Nov	11.2	0.1	11.0	21.8
Dec	7.9	0.8	16.9	24.9
Ann	14.9	0.3	9.1	23.9

**12 Port Moller**

	R or L	ZR or ZL	S or E	TOT
Jan	5.9	0.3	15.8	22.0
Feb	2.4	0.4	13.6	16.3
Mar	3.5	0.1	19.7	23.3
Apr	4.1	0.5	24.5	29.1
May	12.5	0.2	7.5	20.0
Jun	15.6	0.2	1.3	17.1
Jul	25.2	0.0	0.0	25.2
Aug	26.5	0.0	0.0	26.5
Sep	19.9	0.0	0.4	20.3
Oct	12.0	0.0	6.9	18.8
Nov	9.7	0.1	13.8	23.5
Dec	3.5	0.5	17.3	21.3
Ann	11.8	0.2	10.0	22.0

**13 Driftwood Bay**

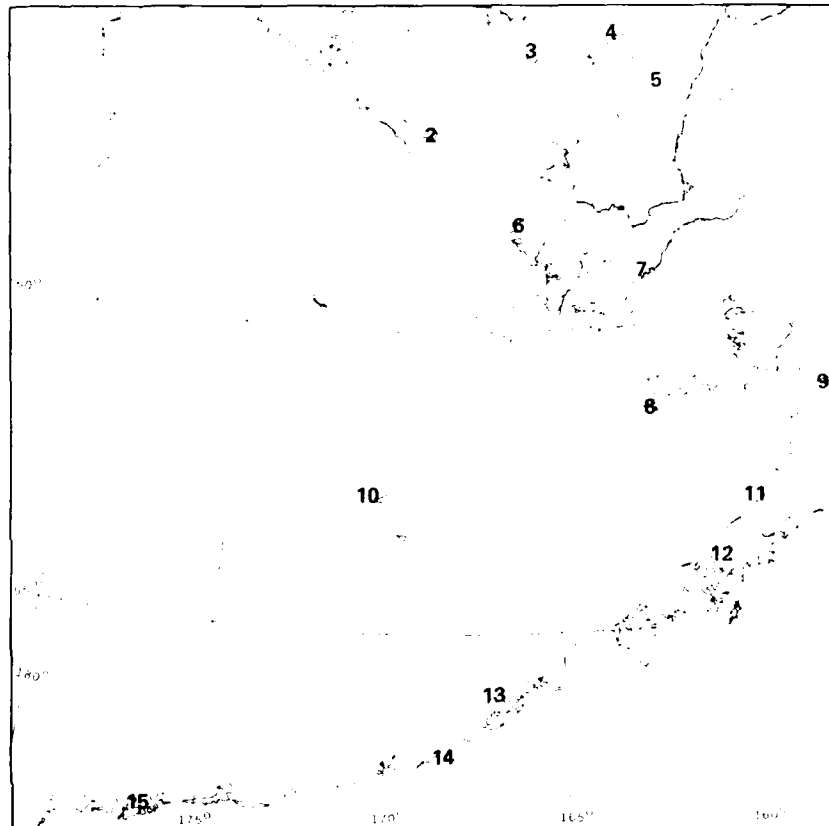
	R or L	ZR or ZL	S or E	TOT
Jan	4.2	*	12.9	17.0
Feb	2.0	0.2	19.5	21.5
Mar	2.3	*	14.3	16.6
Apr	4.1	0.2	12.0	16.3
May	7.9	0.1	5.8	13.7
Jun	12.1	0.0	0.4	12.4
Jul	16.0	0.0	0.0	16.0
Aug	18.2	0.0	0.0	18.2
Sep	19.0	0.0	0.1	19.2
Oct	10.1	0.2	5.9	16.2
Nov	7.4	0.2	10.2	17.8
Dec	3.3	0.3	14.0	17.6
Ann	8.9	0.1	7.9	16.9

**14 Nikolski**

	R or L	ZR or ZL	S or E	TOT
Jan	12.1	0.2	6.9	19.2
Feb	6.5	0.4	13.7	20.6
Mar	11.2	0.0	9.6	20.7
Apr	14.2	0.0	8.8	23.0
May	23.8	0.0	2.2	26.0
Jun	21.9	0.0	0.2	22.1
Jul	18.3	0.0	0.0	18.3
Aug	15.1	0.0	0.0	15.1
Sep	18.6	0.0	0.0	18.6
Oct	18.0	0.0	2.0	20.0
Nov	16.8	0.0	4.5	21.3
Dec	8.0	0.0	9.1	17.0
Ann	15.5	*	4.5	19.9

**15 Adak**

	R or L	ZR or ZL	S or E	TOT
Jan	19.4	0.1	19.1	36.2
Feb	17.7	0.1	23.5	38.5
Mar	20.0	*	21.9	39.1
Apr	24.1	*	14.4	36.2
May	36.0	*	2.8	37.9
Jun	32.7	0.0	*	32.7
Jul	31.0	0.0	0.0	31.0
Aug	34.9	0.0	0.0	34.9
Sep	33.5	*	0.1	33.5
Oct	30.2	*	2.4	32.2
Nov	24.9	*	10.1	33.6
Dec	19.9	0.1	17.1	35.1
Ann	27.0	*	9.3	35.1



**Figure 14 Type of precipitation**

**Legend**

Percent frequency of occurrence of obstructions to vision is based on hourly observations

F Fog  
 K or H Smoke or haze  
 BS Blowing snow  
 TOT Total percent of observations with obstruction to vision  
 \* less than 0.05%  
 Prepared from USAF Air Weather Service data, various dates.

**2 Northeast Cape**

	F	K or H	BS	TOT
Jan	15.7	*	14.3	27.8
Feb	16.3	*	14.6	28.4
Mar	19.7	0.1	11.5	27.9
Apr	25.2	0.0	11.9	31.5
May	24.6	*	0.7	25.2
Jun	26.1	0.3	0.0	26.3
Jul	26.6	0.0	0.0	28.6
Aug	31.8	0.0	0.0	31.8
Sep	23.1	0.0	0.0	23.1
Oct	13.7	*	2.4	15.9
Nov	22.3	*	17.8	35.6
Dec	16.4	0.1	15.9	28.0
Ann	22.2	*	7.0	27.4

**3 Nome**

	F	K or H	BS	TOT
Jan	9.9	*	7.3	17.0
Feb	6.8	*	5.6	12.4
Mar	7.9	*	5.3	13.1
Apr	10.9	0.0	2.5	13.1
May	12.0	0.0	0.2	12.2
Jun	15.4	0.3	0.0	15.7
Jul	20.3	0.4	0.0	20.6
Aug	19.9	0.3	0.0	20.1
Sep	9.5	*	0.0	9.5
Oct	5.4	0.0	1.1	6.6
Nov	6.8	0.0	3.9	10.7
Dec	7.3	0.0	4.7	11.9
Ann	11.0	0.1	2.6	13.6

**4 Moses Point**

	F	K or H	BS	TOT
Jan				24.2
Feb				19.7
Mar				21.2
Apr				18.1
May				9.6
Jun				7.0
Jul				13.8
Aug				17.3
Sep				10.7
Oct				12.5
Nov				20.1
Dec				26.2
Ann				16.7

DATA NOT SUMMARIZED

**5 Unalakleet**

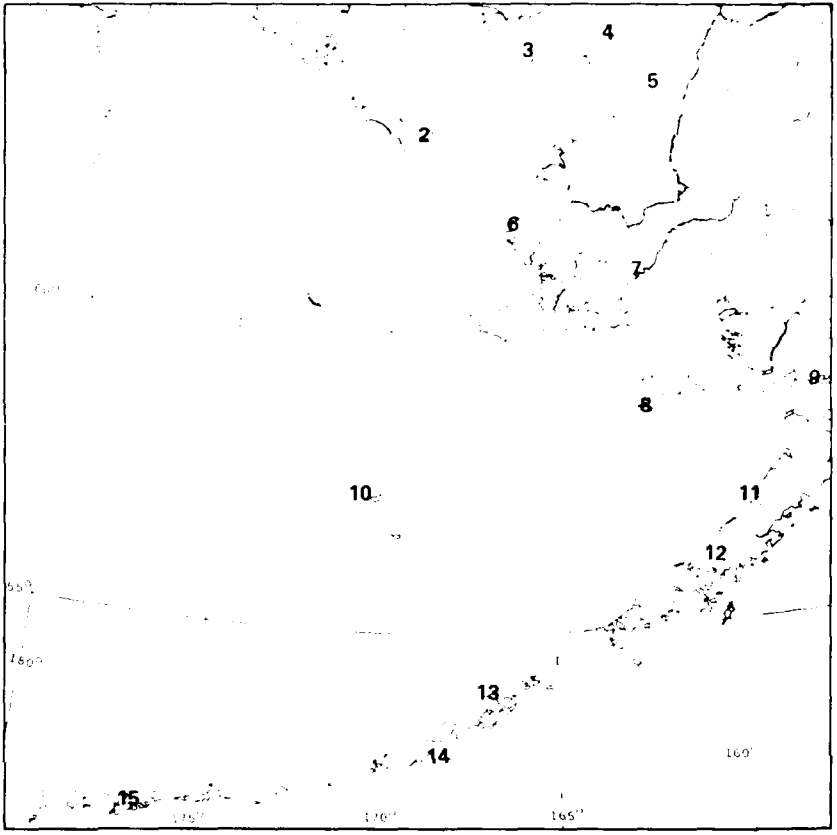
	F	K or H	BS	TOT
Jan	5.4	0.1	6.9	12.2
Feb	5.1	*	6.1	10.8
Mar	5.5	*	3.7	8.7
Apr	6.7	0.0	1.4	7.5
May	6.9	0.0	0.1	6.9
Jun	7.0	0.2	0.0	7.2
Jul	4.9	0.8	0.0	5.7
Aug	5.7	0.3	0.0	5.9
Sep	1.8	0.2	*	2.0
Oct	2.5	*	0.8	3.2
Nov	3.6	0.0	4.1	7.4
Dec	3.8	*	4.4	8.2
Ann	4.9	0.9	2.3	7.1

**6 Cape Romanzof**

	F	K or H	BS	TOT
Jan	19.6	0.0	20.9	35.4
Feb	22.3	0.1	22.6	38.3
Mar	28.3	0.1	17.7	39.7
Apr	31.5	0.3	14.2	38.6
May	26.2	0.0	1.0	26.5
Jun	24.1	0.2	0.0	24.3
Jul	28.6	*	0.0	28.6
Aug	25.9	0.0	0.0	25.9
Sep	17.0	0.1	0.2	17.2
Oct	10.8	0.1	4.0	14.1
Nov	13.0	*	14.5	25.6
Dec	16.4	0.1	18.8	31.2
Ann	22.0	0.1	9.5	28.8

**7 Bethel**

	F	K or H	BS	TOT
Jan	10.9	*	4.4	15.0
Feb	8.0	0.0	4.1	11.5
Mar	8.4	0.1	4.0	11.8
Apr	8.8	0.0	1.5	9.9
May	6.4	0.0	0.2	6.6
Jun	5.6	0.4	0.0	6.0
Jul	10.8	0.5	0.0	11.2
Aug	15.9	0.2	0.0	16.0
Sep	9.7	0.0	0.0	9.7
Oct	7.6	*	0.2	7.8
Nov	8.7	*	1.6	10.1
Dec	8.4	*	3.8	11.8
Ann	9.1	0.1	1.7	10.6



**8 Cape Newenham**

	F	K or H	BS	TOT
Jan	26.0	*	8.7	31.4
Feb	24.4	*	9.0	29.5
Mar	27.0	0.0	8.5	31.9
Apr	29.8	0.0	6.3	33.0
May	28.4	*	0.7	28.7
Jun	29.5	*	0.0	29.5
Jul	37.3	0.5	0.0	37.6
Aug	34.9	*	0.0	34.9
Sep	18.7	0.0	0.0	18.7
Oct	12.8	*	1.0	13.7
Nov	20.1	*	4.9	23.8
Dec	24.3	*	9.4	30.9
Ann	26.1	*	4.0	28.6

**9 King Salmon**

	F	K or H	BS	TOT
Jan	6.7	0.1	2.6	9.4
Feb	5.5	0.0	1.5	7.0
Mar	6.2	*	1.6	7.8
Apr	5.4	0.1	0.2	5.7
May	5.3	0.1	*	5.6
Jun	8.6	0.1	*	9.0
Jul	14.5	0.8	0.0	15.4
Aug	15.9	0.1	0.0	16.0
Sep	6.3	0.0	0.0	6.3
Oct	5.3	*	0.2	5.6
Nov	7.1	*	0.7	7.8
Dec	8.1	0.1	1.4	9.6
Ann	8.0	0.1	0.7	8.8

**10 St. Paul**

	F	K or H	BS	TOT
Jan	17.5	*	7.2	24.2
Feb	17.8	0.2	13.2	27.3
Mar	16.2	*	10.7	25.6
Apr	18.5	*	4.4	22.3
May	30.0	0.0	0.4	30.4
Jun	40.8	*	0.0	40.8
Jul	56.1	0.0	0.0	56.1
Aug	43.6	0.0	0.0	43.6
Sep	23.8	0.1	0.0	23.8
Oct	8.5	*	*	8.5
Nov	10.0	0.1	1.3	12.2
Dec	10.9	0.0	6.3	17.2
Ann	24.6	*	3.6	27.6

**11 Port Heiden**

	F	K or H	BS	TOT
Jan	7.1	*	11.3	18.4
Feb	6.8	0.1	4.5	11.4
Mar	5.2	0.1	7.6	15.5
Apr	7.6	0.3	0.9	9.1
May	6.7	0.1	0.4	7.5
Jun	11.3	0.0	0.0	11.5
Jul	20.3	0.1	0.0	20.6
Aug	23.2	0.1	0.0	23.4
Sep	8.3	0.0	0.0	8.5
Oct	5.0	*	0.2	5.3
Nov	6.6	0.0	1.4	8.1
Dec	5.1	0.1	6.2	11.8
Ann	9.7	0.1	2.7	12.6

**12 Port Moller**

	F	K or H	BS	TOT
Jan	14.5	0.0	4.3	17.7
Feb	18.6	0.0	4.2	20.9
Mar	23.7	0.2	4.7	26.2
Apr	32.4	0.0	4.0	33.6
May	23.5	0.0	0.3	23.5
Jun	35.0	0.0	0.1	35.0
Jul	40.0	0.1	0.0	40.0
Aug	34.9	0.4	0.0	35.2
Sep	17.8	0.3	0.0	18.1
Oct	17.7	0.1	0.9	18.6
Nov	18.7	0.2	4.6	22.4
Dec	15.8	0.0	11.9	24.9
Ann	24.4	0.1	2.9	26.4

**13 Driftwood Bay**

	F	K or H	BS	TOT
Jan	14.1	0.1	7.6	20.1
Feb	18.6	0.4	10.2	27.0
Mar	18.4	0.4	9.4	24.0
Apr	24.9	0.6	6.6	28.6
May	32.0	0.3	2.3	33.5
Jun	41.2	0.1	0.1	41.3
Jul	45.8	0.3	0.0	46.1
Aug	43.0	0.2	0.0	43.2
Sep	33.8	0.8	0.0	34.6
Oct	16.8	0.6	1.5	18.7
Nov	17.1	0.6	3.7	20.4
Dec	15.6	0.7	6.7	21.7
Ann	26.8	0.4	4.0	29.9

**14 Nikolski**

	F	K or H	BS	TOT
Jan	26.1	0.2	1.5	26.9
Feb	17.1	0.1	3.1	19.4
Mar	20.9	0.0	2.5	22.6
Apr	26.0	0.0	1.2	27.2
May	34.7	0.0	0.7	35.4
Jun	57.1	0.0	0.0	57.1
Jul	72.9	0.0	0.0	72.9
Aug	66.3	0.0	0.0	66.3
Sep	40.8	0.1	0.0	40.9
Oct	16.7	0.0	0.0	16.7
Nov	17.4	0.0	0.1	17.4
Dec	15.4	0.0	1.5	16.2
Ann	34.9	*	0.8	35.4

**15 Adak**

	F	K or H	BS	TOT
Jan	5.3	0.2	2.7	8.4
Feb	4.1	0.3	2.9	7.4
Mar	6.1	0.4	1.6	8.3
Apr	7.1	0.3	0.5	8.0
May	11.4	0.6	0.0	12.2
Jun	24.9	0.3	0.0	25.5
Jul	34.2	0.2	0.0	34.7
Aug	32.0	0.3	0.0	32.3
Sep	19.9	0.2	0.0	20.4
Oct	9.4	0.2	0.0	9.6
Nov	7.5	0.3	0.5	8.3
Dec	6.8	0.3	1.9	9.1
Ann	14.1	0.3	0.8	15.3

Figure 15 Visibility obstructions



### Wind Chill

Human and animal bodies, or any physical bodies warmer than their surroundings, lose heat. The rate of loss depends on the barriers to heat loss, such as clothing and insulation, the speed of air movement, and the air temperature. Heat loss in humans increases dramatically in moving air that is colder than skin temperature of 33°C. Even a light wind increases heat loss, while a strong wind can actually lower body temperature if the rate of loss is greater than the body's heat replacement rate.

The relationship between heat loss and the cooling power of different wind and temperature combinations is shown in Figure 17. Equivalent wind chill temperature relates a particular wind and temperature combination to whatever temperature would produce the same loss of heat at about 3 knots (6 km/hr), the normal speed of a person walking vigorously. Loss of body heat can also occur by breathing cold air into the lungs and touching or leaning against cold objects. Heat loss is not as great in bright sunlight where there is some radiant heat gain. The chart in Figure 17 applies to shady areas and cloudy days or nights and represents heat loss by convective cooling, the major source of

body heat loss. Graph set No. 5 relates air temperature and wind speed. When used in conjunction with Figure 17 the percentage frequency of occurrence of various values of equivalent wind chill temperature can be estimated. Map set No. 3 shows the percentage frequency of occurrence of equivalent wind chill temperatures less than -30°C, which represents the equivalent temperature at which exposed flesh can freeze within 1 minute.

Wind Speed		Cooling Power Of Wind Expressed As "Equivalent Chill Temperature"																		
knots	km/hr	Temperature (°C)																		
Calm		12	8	4	0	-4	-8	-12	-16	-20	-24	-28	-32	-36	-40	-44	-48	-52	-56	-60
		Equivalent Chill Temperature																		
3	6	12	8	4	0	-4	-8	-12	-16	-20	-24	-28	-32	-36	-40	-44	-48	-52	-56	-60
5	10	9	5	0	-4	-8	-13	-17	-22	-26	-31	-35	-40	-44	-49	-53	-58			
11	20	5	0	-5	-10	-15	-21	-26	-31	-36	-42	-47	-52	-57						
16	30	3	-3	-8	-14	-20	-25	-31	-37	-43	-49	-54								
22	40	1	-5	-11	-17	-23	-29	-35	-41	-47	-53	-59								
27	50	0	-6	-12	-18	-25	-31	-37	-43	-49	-55	-61								
32	60	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64								
38	70	-1	-7	-14	-20	-27	-33	-40	-46	-52	-59	-65								
43	80	-1	-8	-14	-21	-27	-34	-40	-47	-53	-60	-66								
49	90	-1	-8	-14	-21	-27	-34	-40	-47	-53	-60	-66								
54	100	-1	-8	-14	-21	-27	-34	-40	-47	-53	-60	-66								
		Little Danger					Increasing Danger													
							(Flesh May Freeze Within 1 Minute)													
		Danger Of Freezing Exposed Flesh For Properly Clothed Individuals																		

Adapted from NWS/NOAA Technical Procedures Bulletin No. 165 Effective Temperature (Wind Chill Index) 1976

Figure 17 Equivalent wind chill temperature

# Marine and Coastal Climatic Atlas

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The marine observations used in computing the statistics for the maps, graphs, and tables in this atlas were taken from the National Climatic Center's (NCC) Tape Data Family 11 (TDF-11), Surface Marine Observations containing data collected by ships of various registry traveling through the study area (50° - 80°N, 130° - 180°W). Because relatively little data exist for the near-coastal zone, observations for 49 coastal land stations were combined with the marine data to present the best possible climatological picture of the outer continental shelf waters and coastal regions of Alaska.

The stations' data were taken from the edited digital files of NCC and the U.S. Air Force's Environmental Technical Applications Center in Asheville, N.C. Marine data were subjected to thorough computer and visual quality control before processing to eliminate duplicate observations and exclude or adjust elements detected during internal consistency and extreme value checks.

The percentages of the 600,000 marine and 2 million land observations that contained basic weather elements are:

	Marine	Coastal Stations
Wind	98.5	98.2
Visibility	97.8	97.4
Present weather	96.9	98.2
Sea level pressure	96.2	97.2
Air temperature	99.1	99.4
Wet bulb temperature	64.9	96.6
Sea surface temperature	86.1	-
Total cloud amount	95.6	97.8
Low cloud amount	79.1	70.1
Waves	70.8	-

With a TDF-11 inventory of the number of ships' observations by 1.0° squares, a polar projection grid was defined to give an approximate equal geographic area coverage: 1° latitude by 2° longitude for the latitude belt 50° - 61°N; 1° by 3° for 61° - 70°N; and 1° by 4° for 70° - 80°N. Element statistics (with observation counts) for each of 445 marine squares and 49 coastal stations for each month were then computed and plotted on maps. Meteorologists drew isopleths (lines connecting points of equal magnitude) on 324 element maps, making subjective adjustments when data biases or insufficient observations were evident. They also performed consistency checks in monthly patterns for each element and between elements as well as comparative checks with other marine atlases and publications (see References).

To supplement the isopleth analyses, more than 10,000 statistical graphs were produced for 39 of the coastal stations and 14 representative marine areas. The graphs represent the objective compilation of available data; they were not adjusted for suspected biases, and differences may be found when comparing the graphic data with the isopleth analyses.

The legends explain the data content of the graphs and maps, contain detailed instructions on how to read the graphs, and provide remarks to aid in interpreting the data. The following paragraphs contain additional remarks likely to be of interest to those called upon to interpret the data and provide answers to specific operational questions.

**Standard deviation**—Most of the graphs allow approximation of the empirical probability of occurrence of selected criteria. This is a major factor in assessing the risk involved in operational planning. For certain elements, unbiased estimates of population standard deviations are given on the graphs to provide a measure of variability. The standard deviation on these graphs is denoted by  $s$  and was computed using the expression:

$$s = \left[ \frac{N \sum x_i^2 - (\sum x_i)^2}{N(N-1)} \right]^{1/2} \quad (1)$$

where  $N$  is the number of observations in the sample and  $x_i$  is the  $i$ th realization of the random variable  $x$ .

**Low-pressure centers**—The roses and tracks of the low-pressure center movement maps are based on 9 years of track charts (January 1966-December 1974) prepared by the National Weather Service's National Meteorological Center. These charts show cyclone tracks based on six hourly positions of closed centers.

Frequencies of cyclone centers passing through 2½-degree "squares" were analyzed for the north Pacific Ocean to obtain the mean tracks. Primary tracks were selected along axes of maximum cyclone center frequency and secondary tracks along axes of moderate frequency. The origins (first reported closed position) were also plotted by 2½-degree "squares" and analyzed

to find regions of cyclogenesis (only formation, not intensification). However, no regions of cyclogenesis were defined within the Alaskan area.

**Return Periods for Maximum Sustained Winds (Coastal Stations)**—Estimated maximum sustained winds speeds for selected return periods are presented in graphic and tabular form. Following the method outlined by Lieblein (1954, 1974a, 1974b), these estimates were obtained by initially fitting the extreme value distribution to each station sample containing  $N$  maximum annual wind speed values, then inverting the distribution and computing extreme values for selected probabilities. Confidence bands were then computed following the techniques of Gumbel (1958) and Gumbel and Lieblein (1954).

The extreme value distribution approaches the form:

$$F(x) = F(x; \mu, \beta) = \exp \left[ -\exp \left( -\frac{x-\mu}{\beta} \right) \right] \quad (2)$$

where  $F(x)$  is the probability that an observation is equal to or less than the specified value  $x$ ,  $\mu$  is the mode and  $\beta$  is the scale parameter. Since the wind speed data were transformed logarithmically,  $\mu$  and  $\beta$  refer to the transformed data not the wind speed maxima. The values given on each graph for  $\mu$  and  $\beta$  are not identical to the  $\mu$  and  $\beta$  in equation (2) but rather are the result of exponentiating the mode and scale parameter for the distribution of the logarithms of the extreme wind speed values.

The graphic presentations, in addition to allowing determination of extremes for probabilities other than those given in the tables, also provide an indication of the "goodness of fit" of the model to the data. To analytically quantify the "goodness of fit," a Kolmogorov-Smirnov (K-S) test was performed under the null hypothesis,  $H_0$ , that there is no difference between the model and the data with a type 1 error probability ( $\alpha$ ) of 0.05. Data samples for which  $H_0$  was not accepted are from Annette and Bethel.

The confidence limits shown by the envelope of lines about the line of "best fit" represent the level of uncertainty in the extreme value corresponding to a given probability. For this study 68 percent confidence limits were computed. This means that in 68 percent of repeated samples the true extreme value will be contained within these limits.

**Sea Ice**—The ice limits shown on the monthly maps of sets 14-17 reflect midmonth conditions of mean ice concentrations for different threshold values. The ice limits were derived from weekly analyses of sea ice conditions (1972-75) based on satellite imagery supplemented by conventional observations and from previously published atlases (see References). Actual concentration boundaries, under the influence of changing synoptic meteorological and oceanographic situations, may vary widely from the averages.

The following stations and representative marine areas have data plotted for analysis and graphs.

Land Stations	Lat. (°N)	Long. (°W)	Data Processed	No. of Obs.	Avg. No. Obs./Day
Adak	51.9	176.6	Jan 1949-Dec 1974	75,956	8
Bethel	60.8	161.8	Jul 1948-Dec 1971	66,789	8
Buhta Providenija	64.4	173.2	Jan 1959-Jun 1971	27,320	4-8
Cape Newenham	58.7	162.1	Jul 1953-Dec 1970	46,471	6-8
Cape Romanzof	61.8	166.0	Mar 1953-Nov 1968	44,624	8
Driftwood Bay	54.0	166.9	Jul 1959-May 1969	28,896	8
Gambell	63.8	171.8	Jul 1949-Jun 1953	14,588	8
King Salmon	58.7	156.7	Jan 1949-Dec 1974	75,919	8
Moses Point	64.2	162.1	Jul 1948-Jun 1967	51,723	8
Nikolski	52.9	168.8	Jun 1959-Nov 1968	27,453	8
Nome	64.5	165.4	Jan 1945-Dec 1974	87,331	8
Northeast Cape	63.3	160.5	Jun 1959-Nov 1968	27,466	8
St. Paul Island	57.2	170.2	Jan 1956-Dec 1974	51,606	8
Unalakleet	63.9	160.8	Jul 1948-Dec 1964 Apr 1968-Dec 1974	44,624	8

Representative Marine Areas

A	60-65	Coast-175	1872-1974	8,526
B	55-60	167-175	1872-1974	31,892
C	55-60	Coast-167	1872-1974	46,971
D	50-55	172-180	1872-1974	62,391
E	50-55	165-172	1872-1974	68,020

Note: The isopleth analyses northward of 61° latitude should be considered only as a best estimate of the actual climatology; data sparsity in this ocean area did not permit a detailed analysis.

The land and marine data used in producing the maps and graphs are at the NCC in a separate file designated the Alaskan Waters Atlas Work Tapes. Also on file are computer tabulations of monthly statistical tables for the above stations and marine areas.

The duration-of-daylight chart for the Northern Hemisphere defines daylight as the period from sunrise to sunset. The upper scale at the bottom of the chart is for the Northern Hemisphere; the lower scale is for the Southern Hemisphere. For example, daylight on July 20 of any year at 48°N is about 15 hours and 30 minutes for any longitude. The data source was the U.S. Naval Observatory (1945) and is accurate for the entire twentieth century. Further details may be obtained from *The Daylighter* of the Navy Weather Research Facility (1960). Additional light (during twilight) may be usable for many purposes. Duration of daylight in high latitudes (poleward of about 60°) becomes increasingly dependent upon atmospheric conditions and refraction, and there may be some departure from the values depicted on the charts.

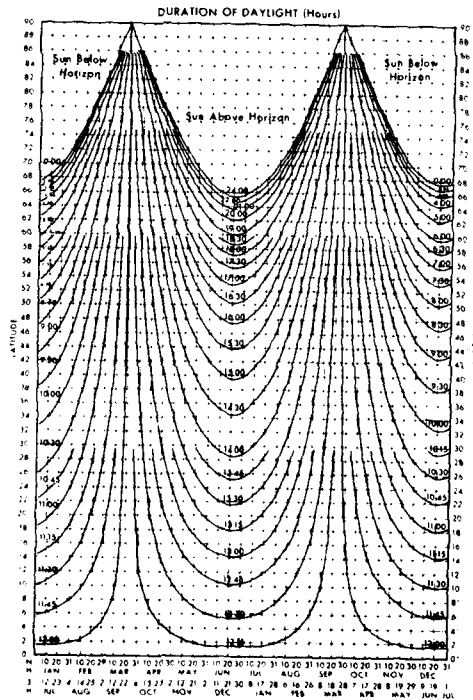
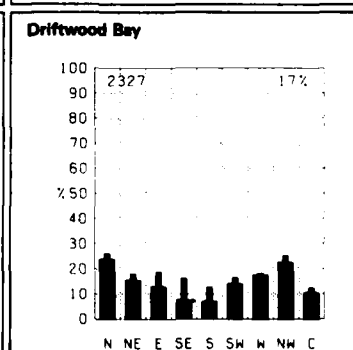
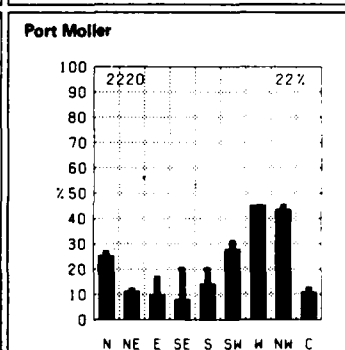
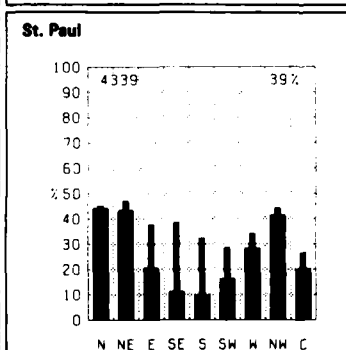
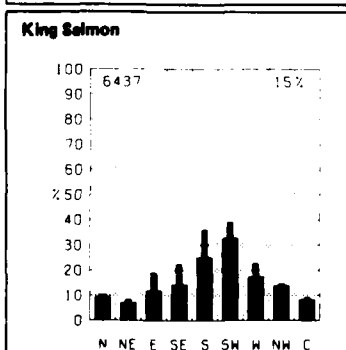
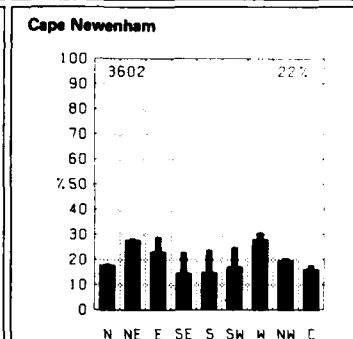
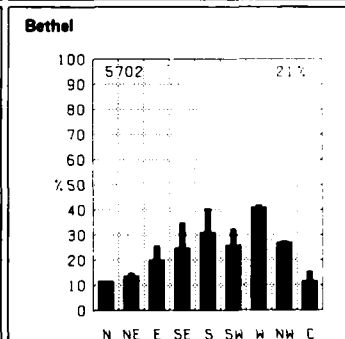
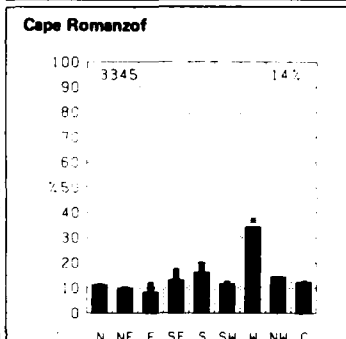
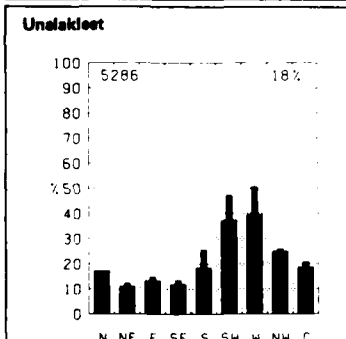
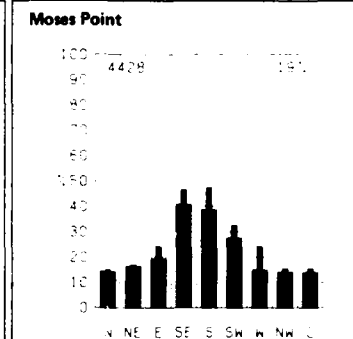
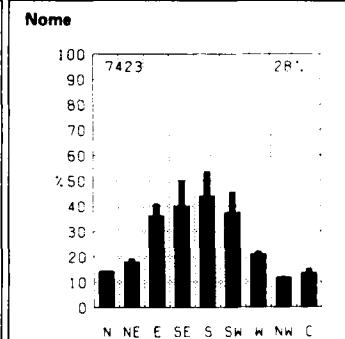
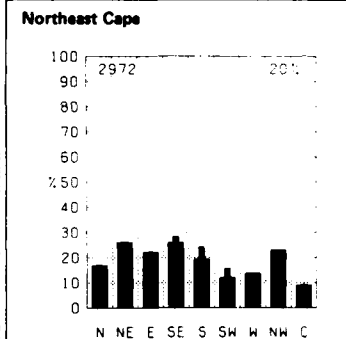
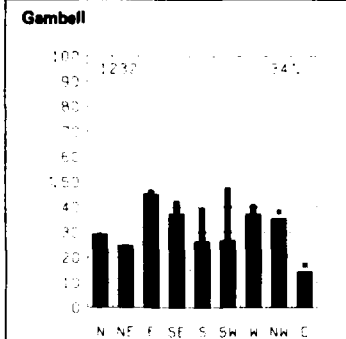
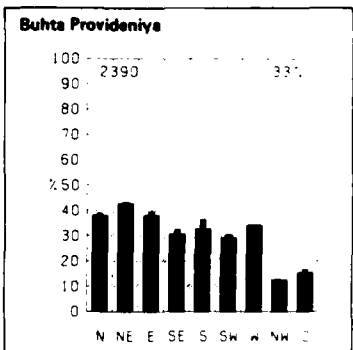
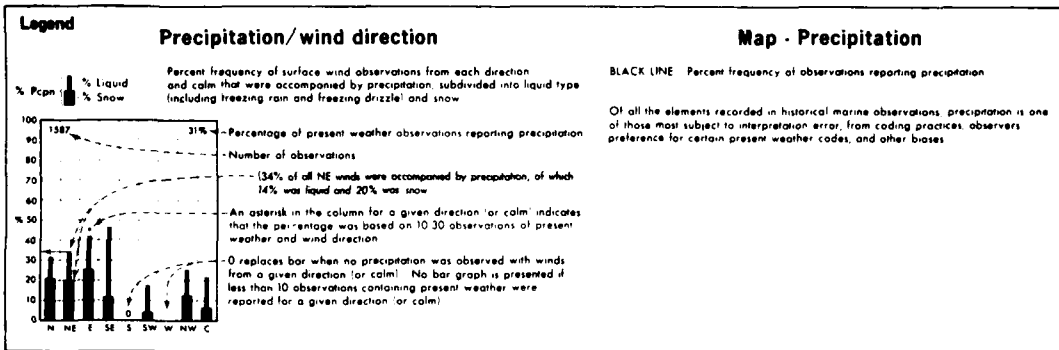
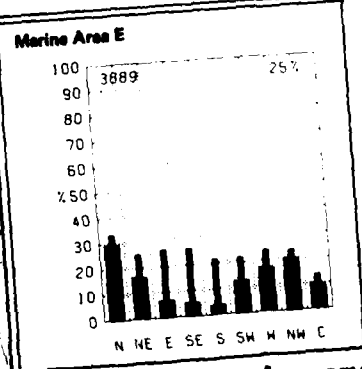
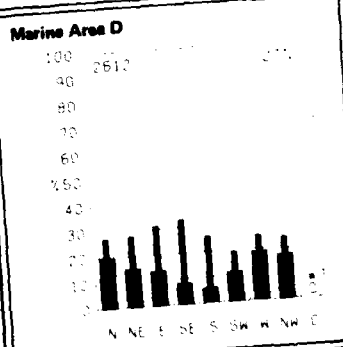
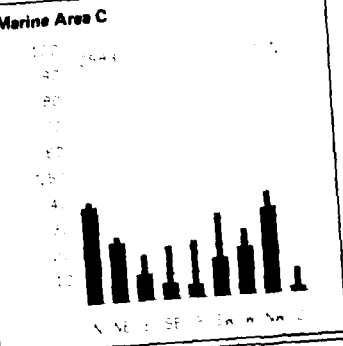
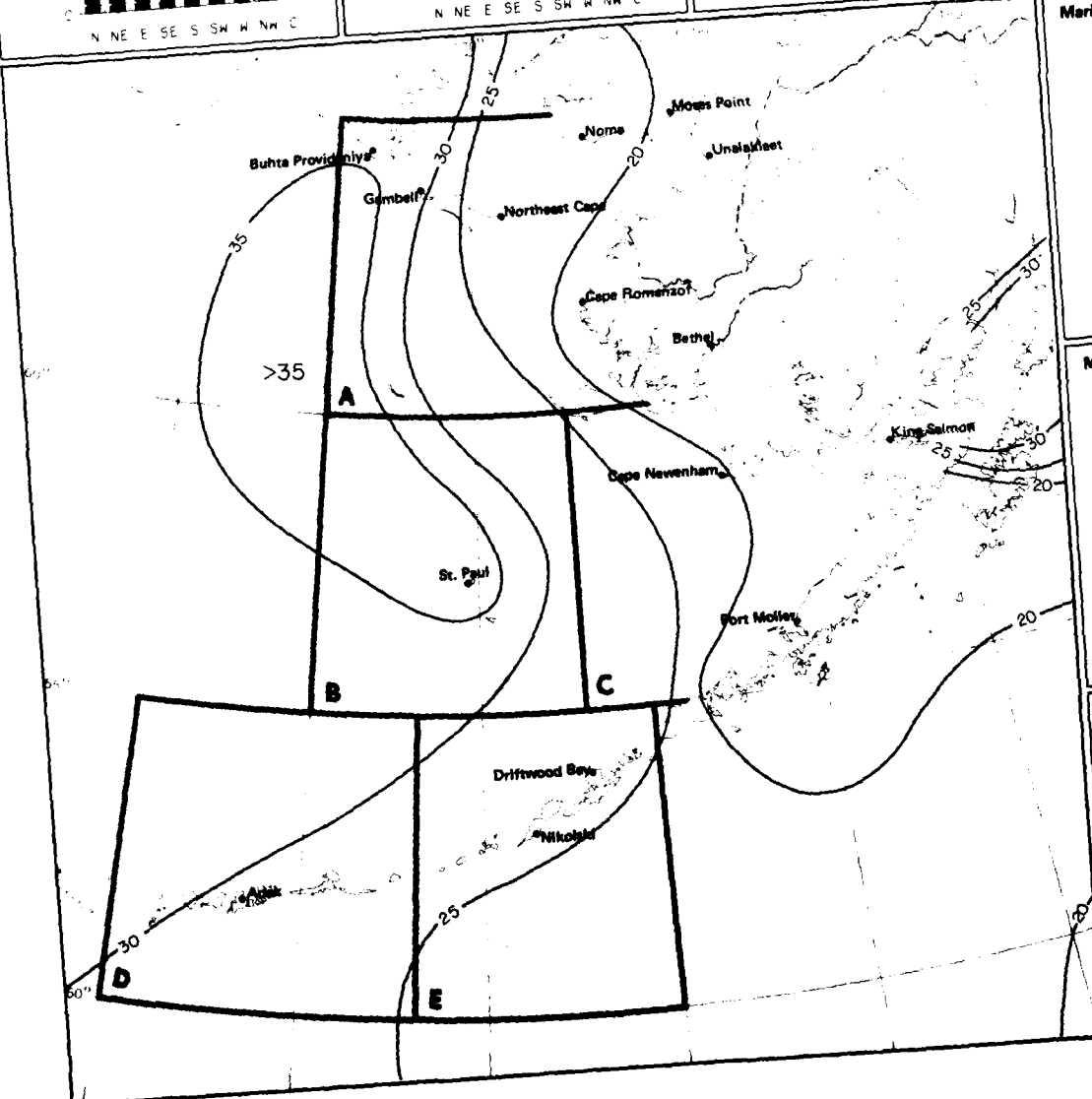
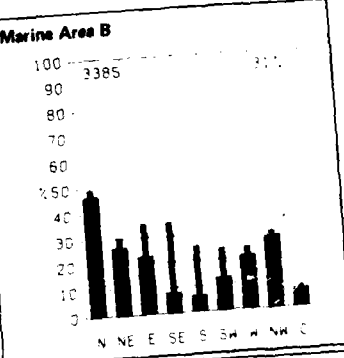
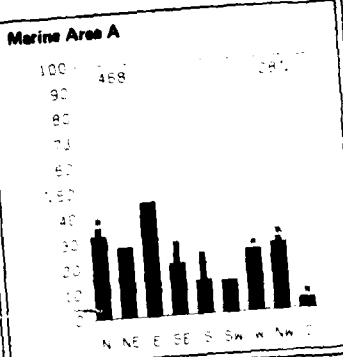
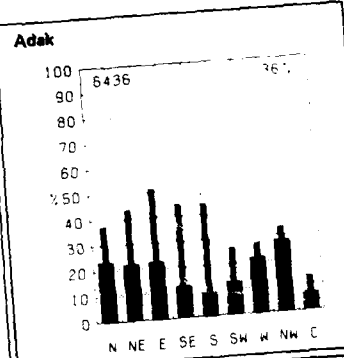
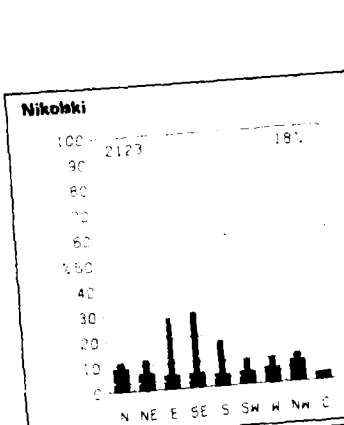


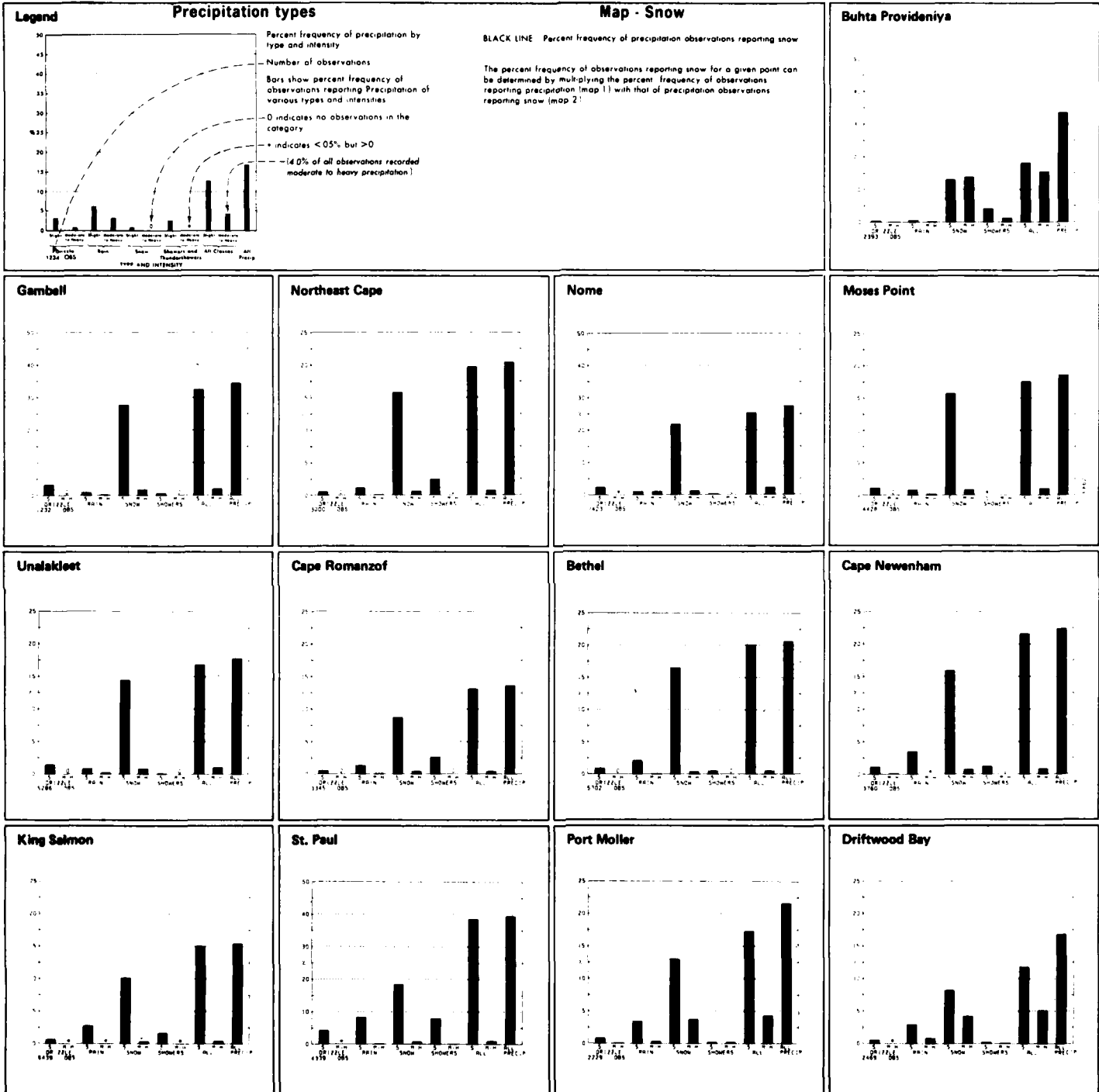
Figure 18 Duration of daylight

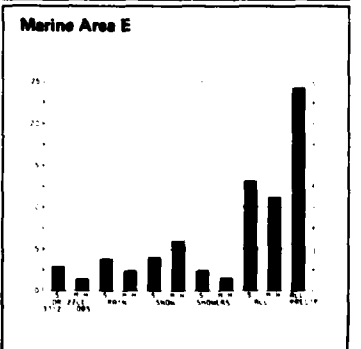
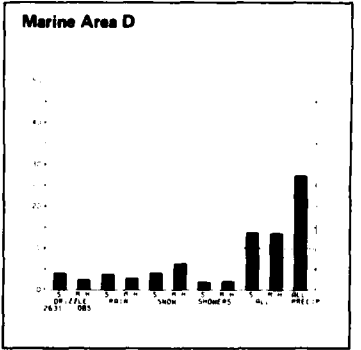
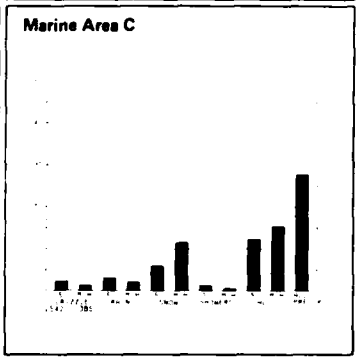
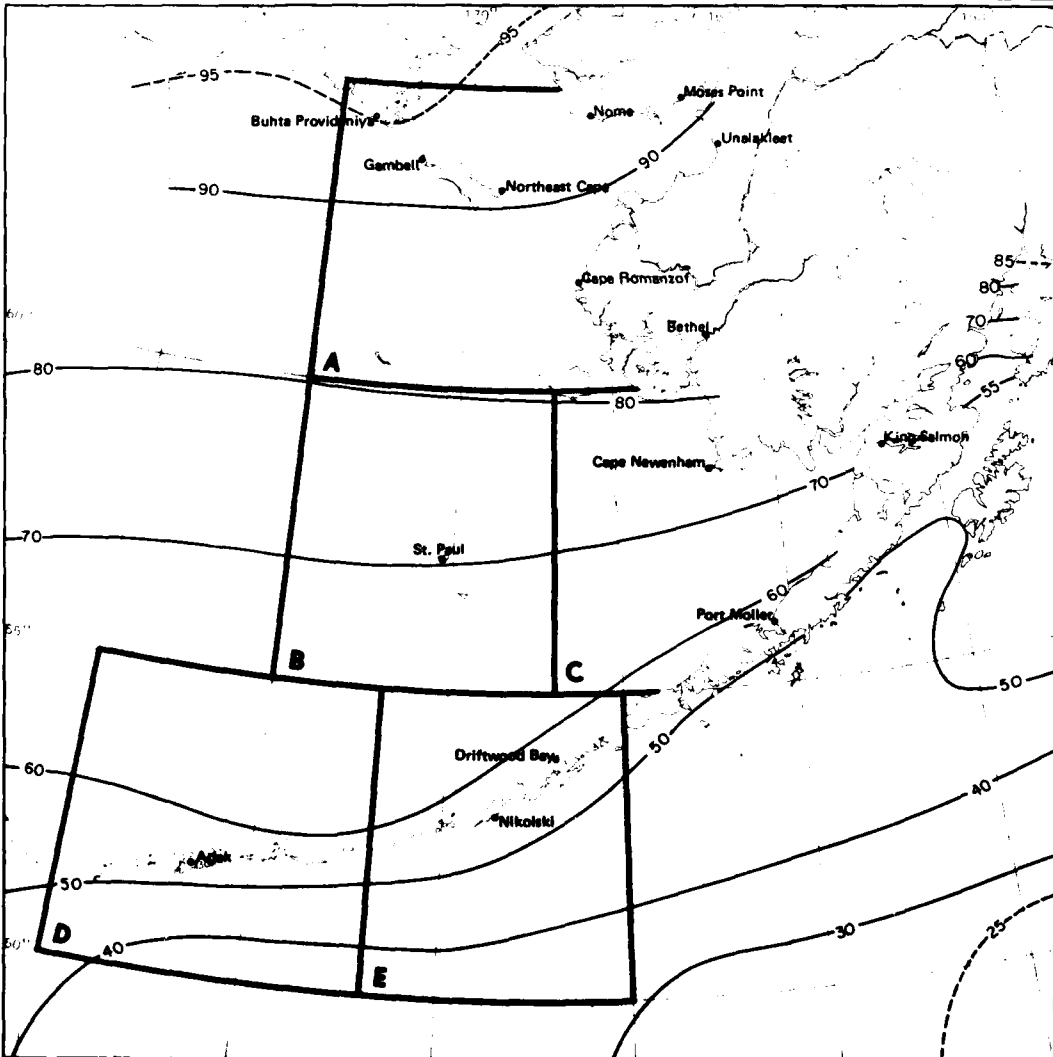
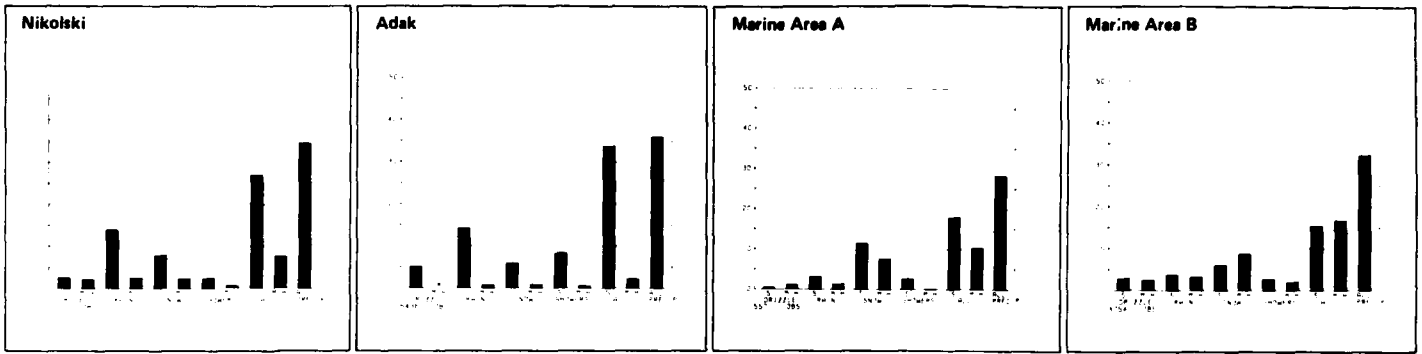






1 Precipitation



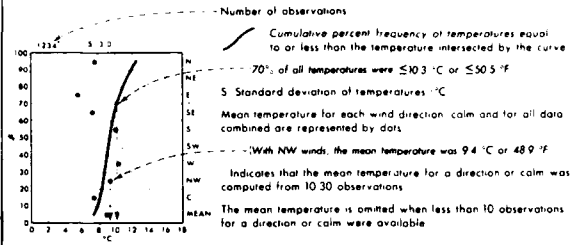


2 Snow

January

**Legend**

**Air temperature/wind direction**



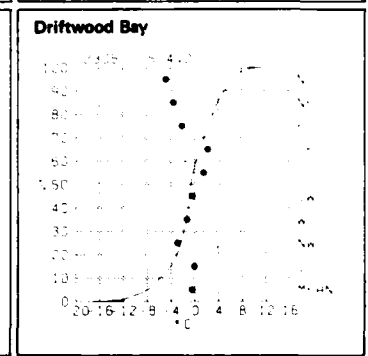
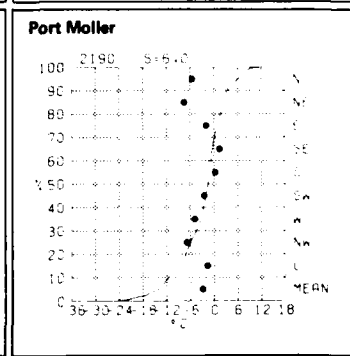
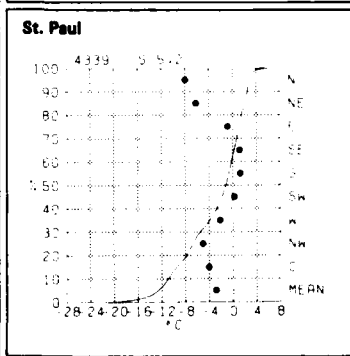
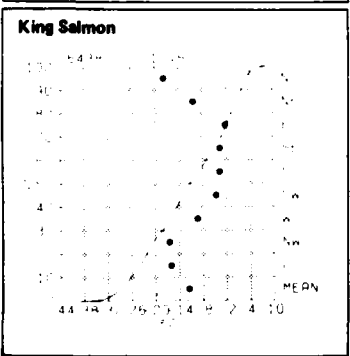
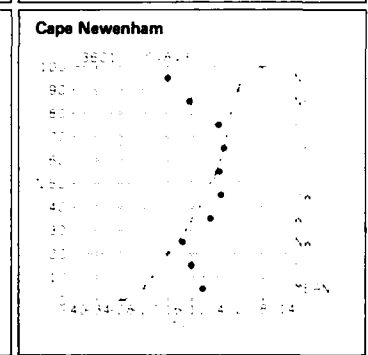
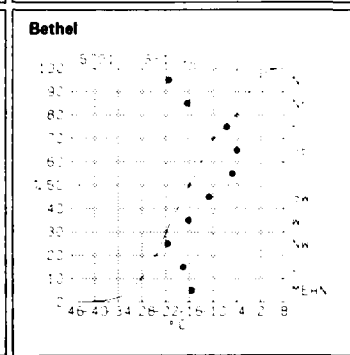
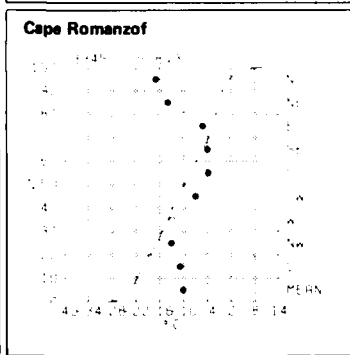
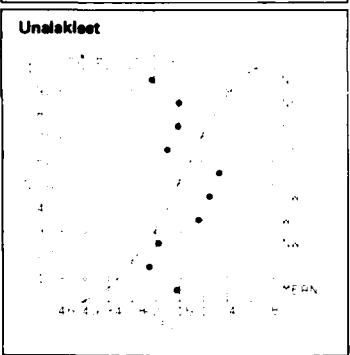
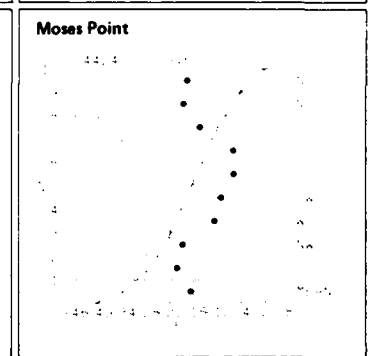
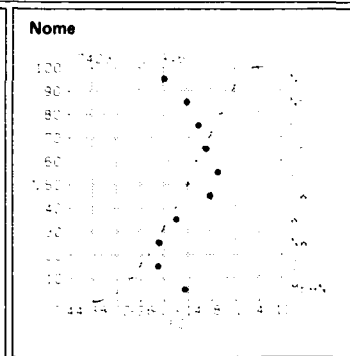
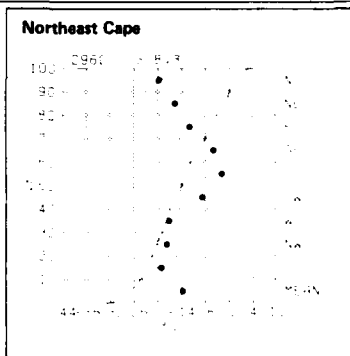
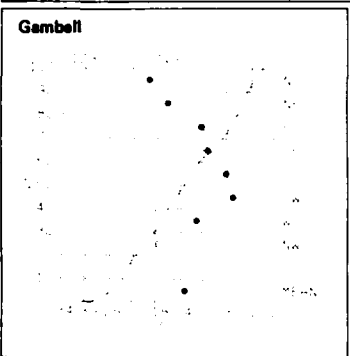
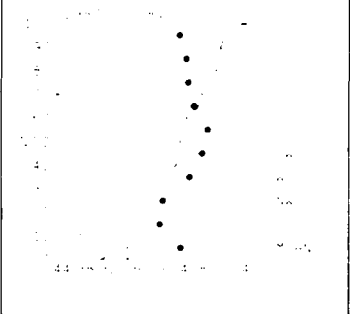
**Map - Air temperature mean and thresholds**

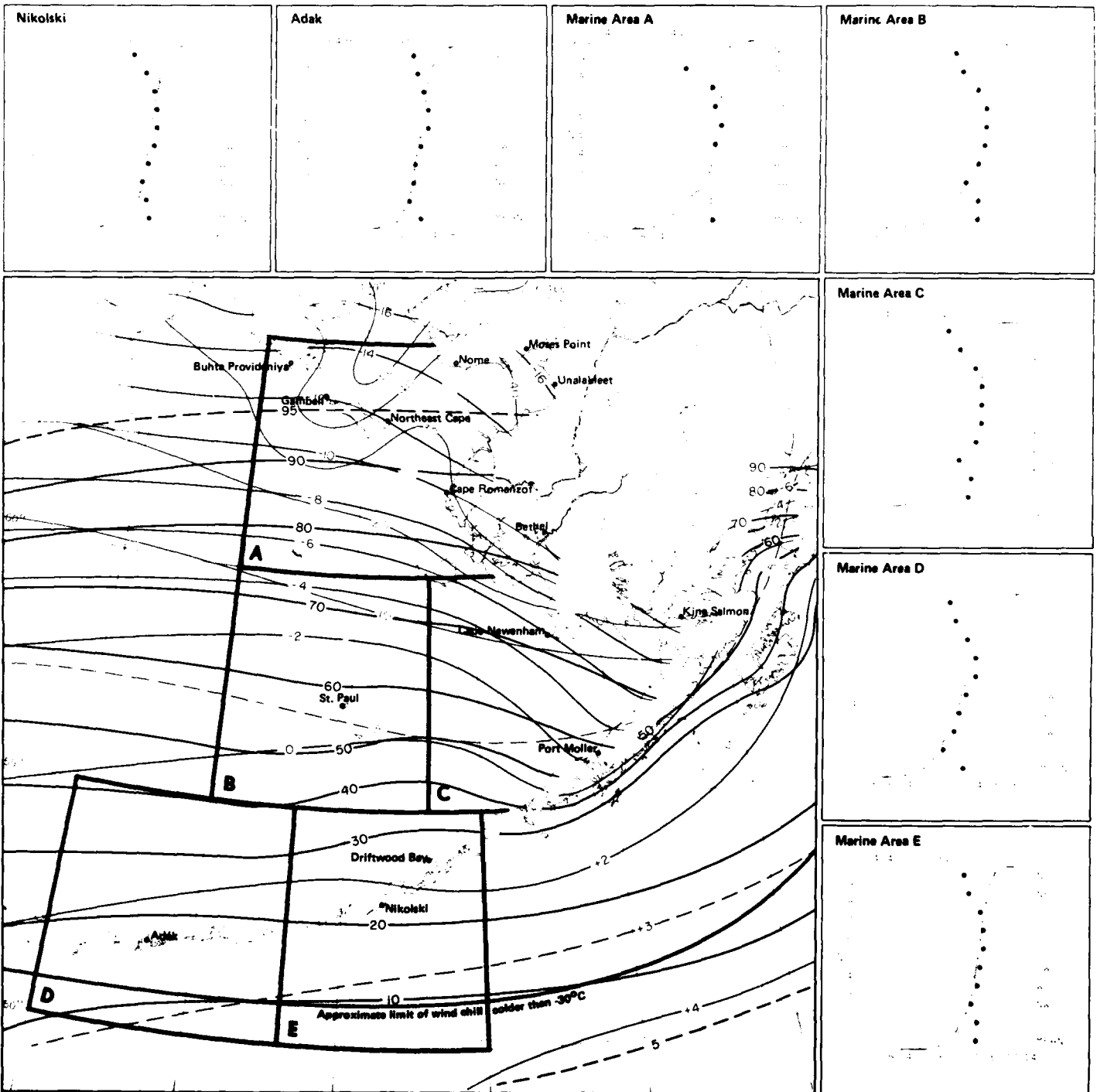
- BLACK LINE Percent frequency of temperature  $\leq 0^{\circ}\text{C}$   $\leq 32^{\circ}\text{F}$
- RED LINE Mean air temperature  $^{\circ}\text{C}$
- BLUE LINE Percent frequency of wind chill temperature  $\leq 30^{\circ}\text{C}$   $\leq 22^{\circ}\text{F}$

Air temperature readings recorded on transient ships in warm, sunny weather appear biased toward high temperatures, apparently because of improper instrument exposure and ventilation. Despite the inaccuracies, the large-scale patterns and mean gradients of the isopleth analyses are relatively accurate.

The temperature scale of the graph may vary in both range and class interval. The percentage of temperature observations greater than a given value can be obtained by subtracting the cumulative percent frequency of that value from 100%. The number of observations and the standard deviation plus the plotted points on the graphs are based on those observations reporting both temperature and wind direction. The cumulative curve is based on all observations reporting temperature with or without wind direction.

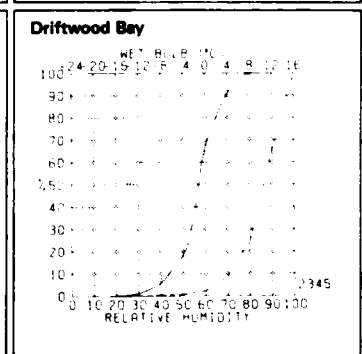
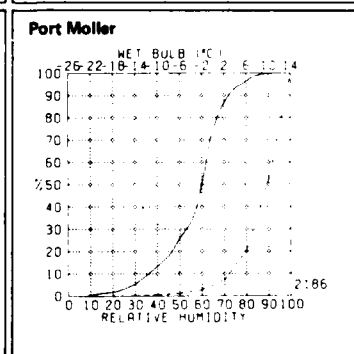
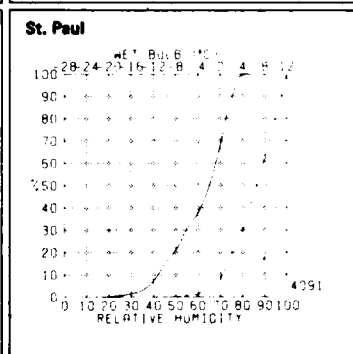
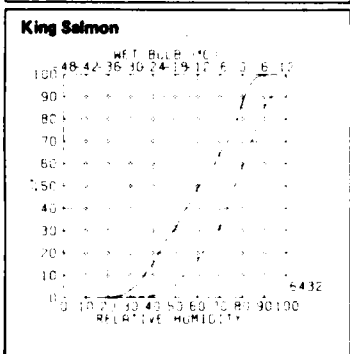
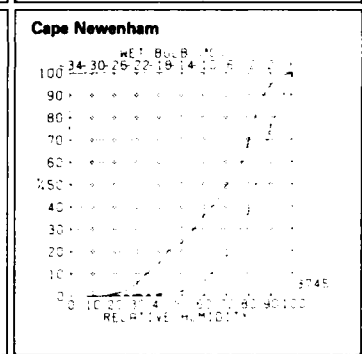
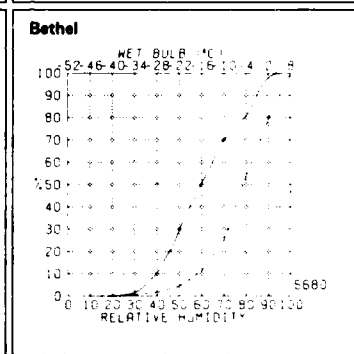
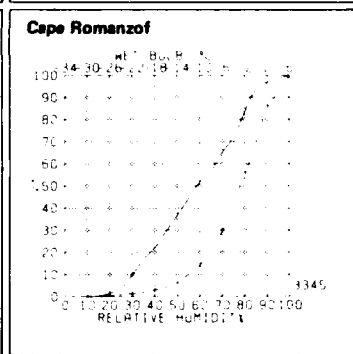
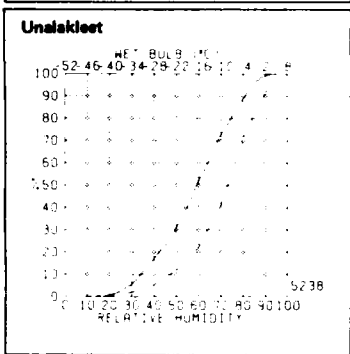
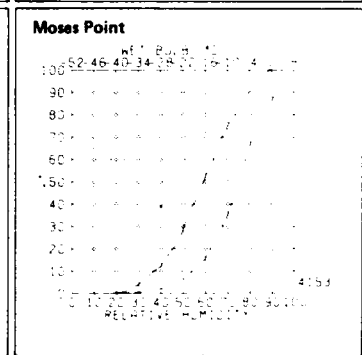
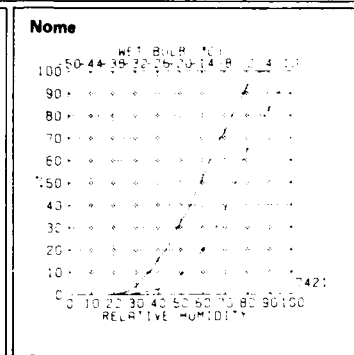
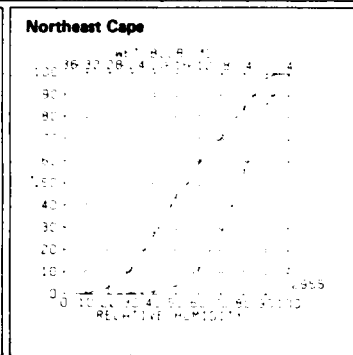
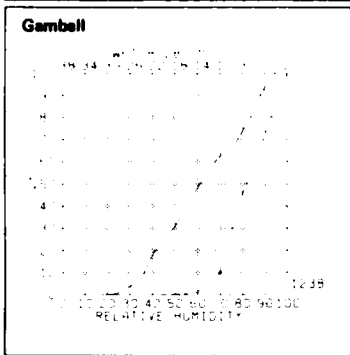
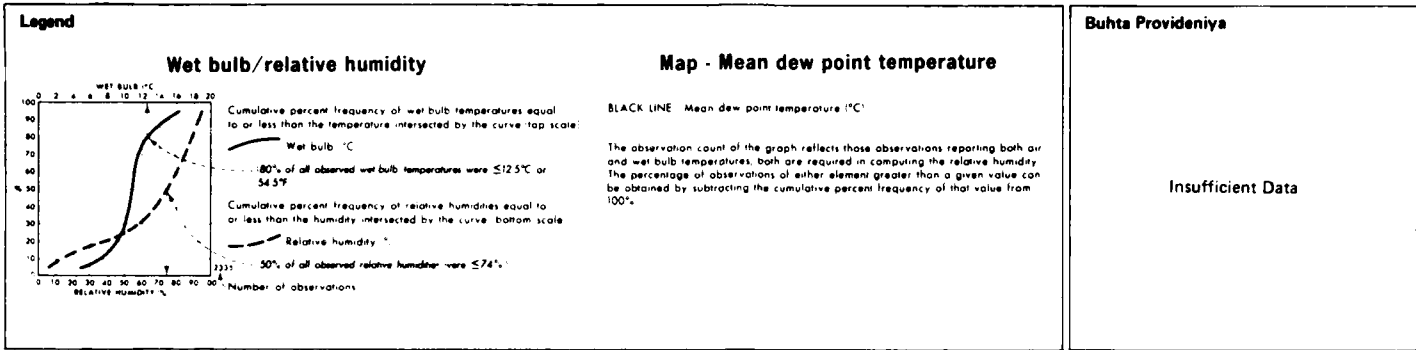
**Buhta Provideniya**

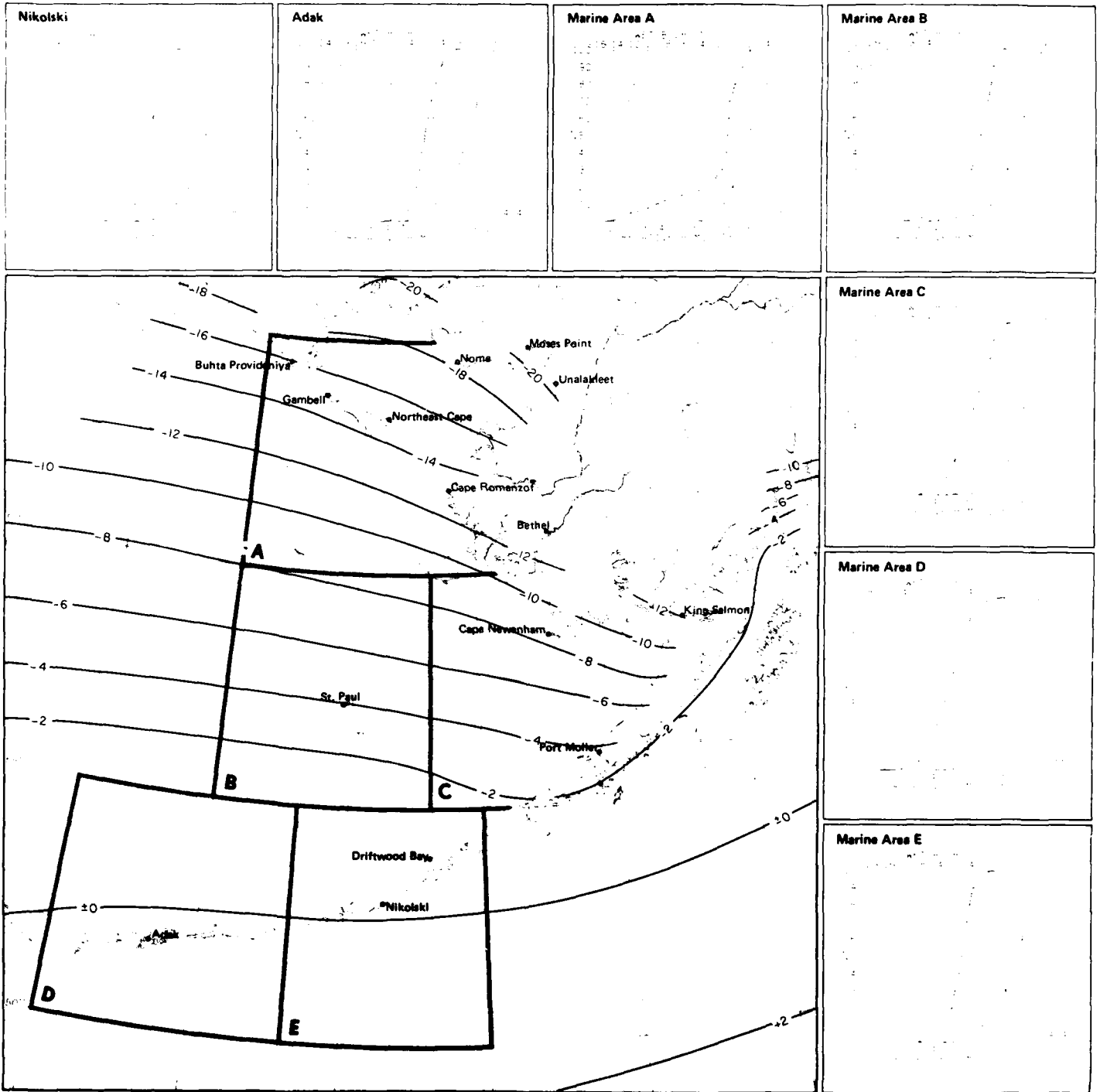




3 Air temperature mean and thresholds

January





4 Mean dew point temperature

January

**Legend**

**Air temperature/wind speed**

WIND SPEED (KTS)

Temp (°C)	0-3	4-10	11-21	22-33	≥ 34
12.13	0	+	0	0	0
10.11	0	0	0	0	0
8.9	0	+	+	+	0
6.7	0	+	+	+	0
4.5	0	+	+	+	0
2.3	+	+	+	+	+
0.1	+	+	+	+	+
-2.1	+	1	3	1	+
-4.3	+	1	2	1	+
-6.5	+	1	2	1	+
-8.7	+	1	2	1	+
-10.9	+	1	3	2	+
Σ-11	9	27	21	12	1

Percent frequency of simultaneous occurrence of specified temperature (°C) and wind speed (knots)

---1% of all observations reported temperature 2.3°C simultaneously with wind speed of 22-33 kts

---Indicates < 5% but > 0

---Number of observations

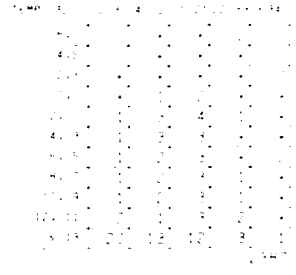
**Map - Air temperature extremes (°C)**

BLACK LINE Maximum (99%) air temperature (1% of temperatures were greater than the given value)

BLUE LINE Minimum (1%) air temperature (1% of temperatures were equal to or less than the given value)

The graph can be used to determine the extent of human discomfort from the combined effects of extreme heat or cold and winds or to estimate the likelihood of superstructure icing (long potential increases as the air temperature drops below freezing and the winds increase above 10 knots (12 mph) and may become quite severe with temperatures equal to or less than 9°C (16°F) and winds equal to or greater than 34 knots (39 mph)

**Buhta Provideniya**



**Gambell**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
0.1	0	0	+	1	+
2.3	+	2	4	2	+
4.5	1	3	5	3	+
6.5	+	2	3	2	1
8.7	+	1	3	2	+
10.9	0	+	2	2	1
12.13	0	1	2	4	1
14.13	+	1	3	3	1
16.15	+	1	3	4	+
18.17	+	+	2	5	1
Σ-19	1	5	11	9	2

1237

**Northeast Cape**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
2.3	0	+	+	1	+
0.1	+	+	1	2	+
-2.1	+	1	3	2	+
-4.3	1	1	3	1	+
-6.5	1	2	3	+	+
-8.7	1	2	3	1	+
-10.9	1	1	3	1	+
-12.11	1	2	4	+	+
-14.13	2	3	3	1	+
-16.15	1	1	3	1	+
Σ-17	14	14	10	2	+

2960

**Nome**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
6.7	0	0	0	+	0
4.5	0	0	+	+	0
2.3	0	+	1	+	0
0.1	+	1	2	+	+
-2.1	+	1	3	1	+
-4.3	+	2	4	1	+
-6.5	1	2	2	1	+
-8.7	1	2	3	1	+
-10.9	1	2	2	1	+
-12.11	1	2	3	1	+
Σ-13	21	20	12	3	+

7423

**Moses Point**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
4.5	0	+	0	0	0
2.3	+	+	+	+	0
0.1	+	1	1	+	+
-2.1	+	1	2	+	+
-4.3	+	2	2	+	0
-6.5	1	2	2	+	+
-8.7	1	2	3	+	0
-10.9	1	1	2	+	+
-12.11	1	2	4	1	0
-14.13	1	2	5	1	0
Σ-15	11	19	19	7	+

4402

**Unalakleet**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
8.9	0	+	0	0	0
6.7	0	0	+	+	0
4.5	0	+	+	+	0
2.3	0	+	1	+	0
0.1	0	+	1	+	0
-2.1	+	1	3	1	+
-4.3	+	1	2	1	+
-6.5	+	1	2	1	+
-8.7	+	1	2	2	+
-10.9	+	1	3	2	+
Σ-11	9	27	21	12	1

5253

**Cape Romanzof**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
8.9	+	+	+	0	0
6.7	+	+	1	+	0
4.5	+	+	1	0	0
2.3	+	1	2	+	0
0.1	+	1	4	1	+
-2.1	1	2	6	2	+
-4.3	2	2	4	2	+
-6.5	1	1	2	1	+
-8.7	2	2	3	1	+
-10.9	2	1	1	1	+
Σ-11	10	8	14	12	3

3345

**Bethel**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
8.9	0	0	+	0	0
6.7	0	+	+	0	0
4.5	0	+	1	+	0
2.3	+	1	2	+	+
0.1	+	2	2	+	+
-2.1	+	3	3	1	+
-4.3	+	2	2	+	0
-6.5	+	1	1	+	0
-8.7	1	2	1	+	0
-10.9	+	2	1	+	+
Σ-11	8	27	30	3	+

5692

**Cape Newenham**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
10.11	0	0	0	+	0
8.9	0	+	+	+	+
6.7	0	+	1	1	+
4.5	+	+	1	1	+
2.3	+	1	4	3	+
0.1	1	3	6	1	+
-2.1	2	4	6	2	+
-4.3	3	3	3	1	+
-6.5	2	1	1	1	+
-8.7	3	2	2	1	+
Σ-9	15	12	10	2	+

3601

**King Salmon**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
12.13	0	+	0	0	0
10.11	0	0	0	0	0
8.9	0	+	+	+	0
6.7	0	+	1	+	+
4.5	+	1	1	1	+
2.3	+	2	4	2	+
0.1	+	3	3	1	+
-2.1	1	4	3	1	+
-4.3	1	4	2	+	0
-6.5	1	3	1	+	0
Σ-7	17	28	15	2	+

6438

**St. Paul**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
6.7	0	0	0	+	+
4.5	0	+	1	1	+
2.3	+	3	12	7	1
0.1	1	4	9	5	1
-2.1	1	3	6	4	1
-4.3	+	2	4	2	+
-6.5	1	1	2	1	+
-8.7	+	2	4	3	+
-10.9	+	1	3	2	+
-12.11	+	1	3	2	+
Σ-17	+	1	2	2	+

4339

**Port Moller**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
12.13	0	+	0	0	0
10.11	0	+	+	0	0
8.9	+	1	1	+	0
6.7	1	2	1	+	0
4.5	1	2	1	0	0
2.3	2	5	4	1	+
0.1	3	6	3	1	0
-2.1	7	12	3	+	0
-4.3	4	6	1	+	0
-6.5	2	3	2	0	0
Σ-7	2	13	8	1	0

2190

**Driftwood Bay**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
10.11	+	+	+	0	0
8.9	+	1	1	+	0
6.7	1	3	3	+	0
4.5	1	3	3	+	+
2.3	2	6	5	1	+
0.1	6	8	5	+	+
-2.1	6	13	6	+	0
-4.3	2	6	3	+	0
-6.5	1	2	2	+	0
-8.7	1	2	2	+	0
Σ-9	+	1	3	+	0

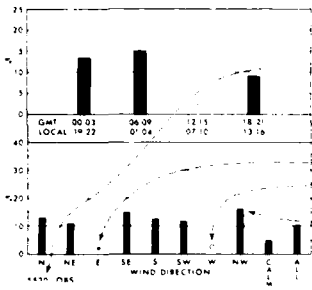
2305





**Legend**

**Fog/time and fog/wind direction**

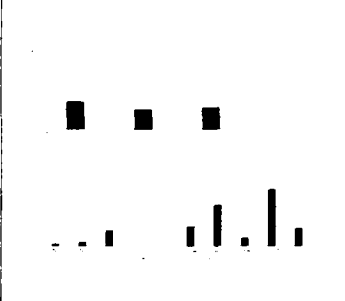


Number of observations  
 Bar graphs represent percent frequency of fog without precipitation for various hour groupings and wind directions. Data are based on 100% for each hour group and direction category.  
 \* indicates < 0.5 but > 0  
 0 indicates no fog occurred with the wind direction  
 Data show that 17% of all NW winds were accompanied by fog without precipitation.

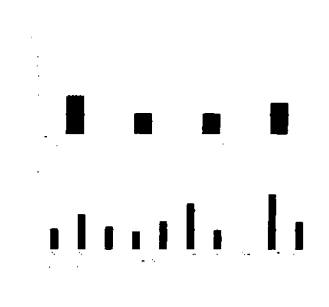
**Map - Fog**

BLACK LINE Percent frequency of occurrence of all fog  
 BLUE LINE Percent frequency of fog occurring without precipitation  
 The percent frequency of observations reporting fog with precipitation for a given point can be determined by computing the difference between the two analyses.

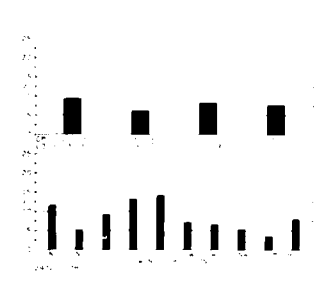
**Buhta Provideniya**



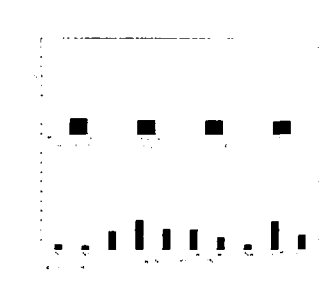
**Gambell**



**Northeast Cape**



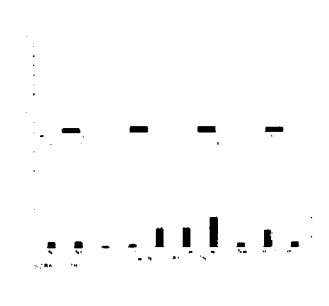
**Nome**



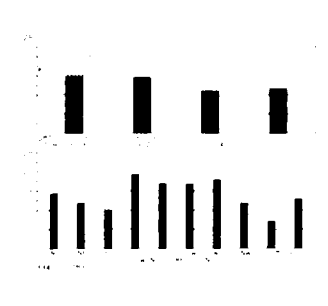
**Moses Point**



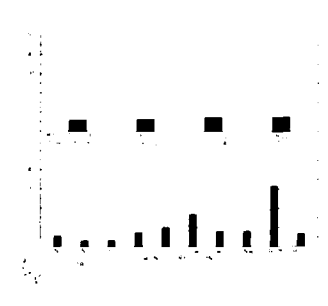
**Unalakleet**



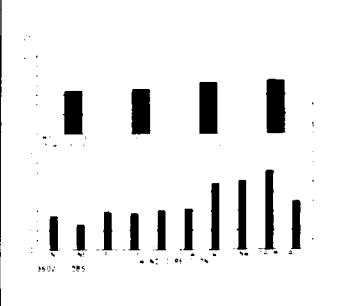
**Cape Romanzof**



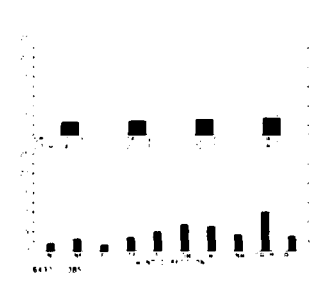
**Bethel**



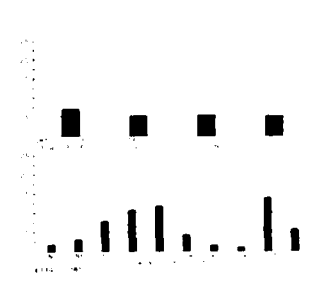
**Cape Newenham**



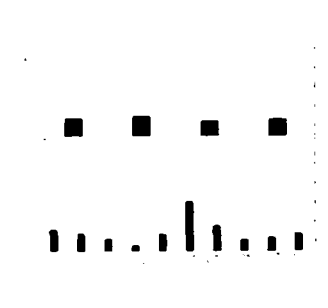
**King Salmon**



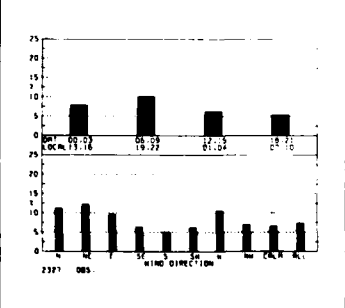
**St. Paul**



**Port Moller**

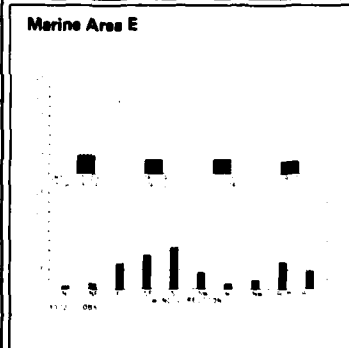
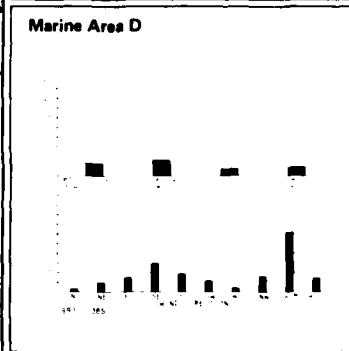
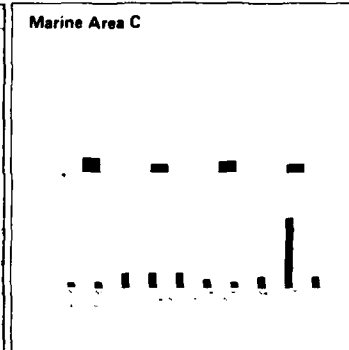
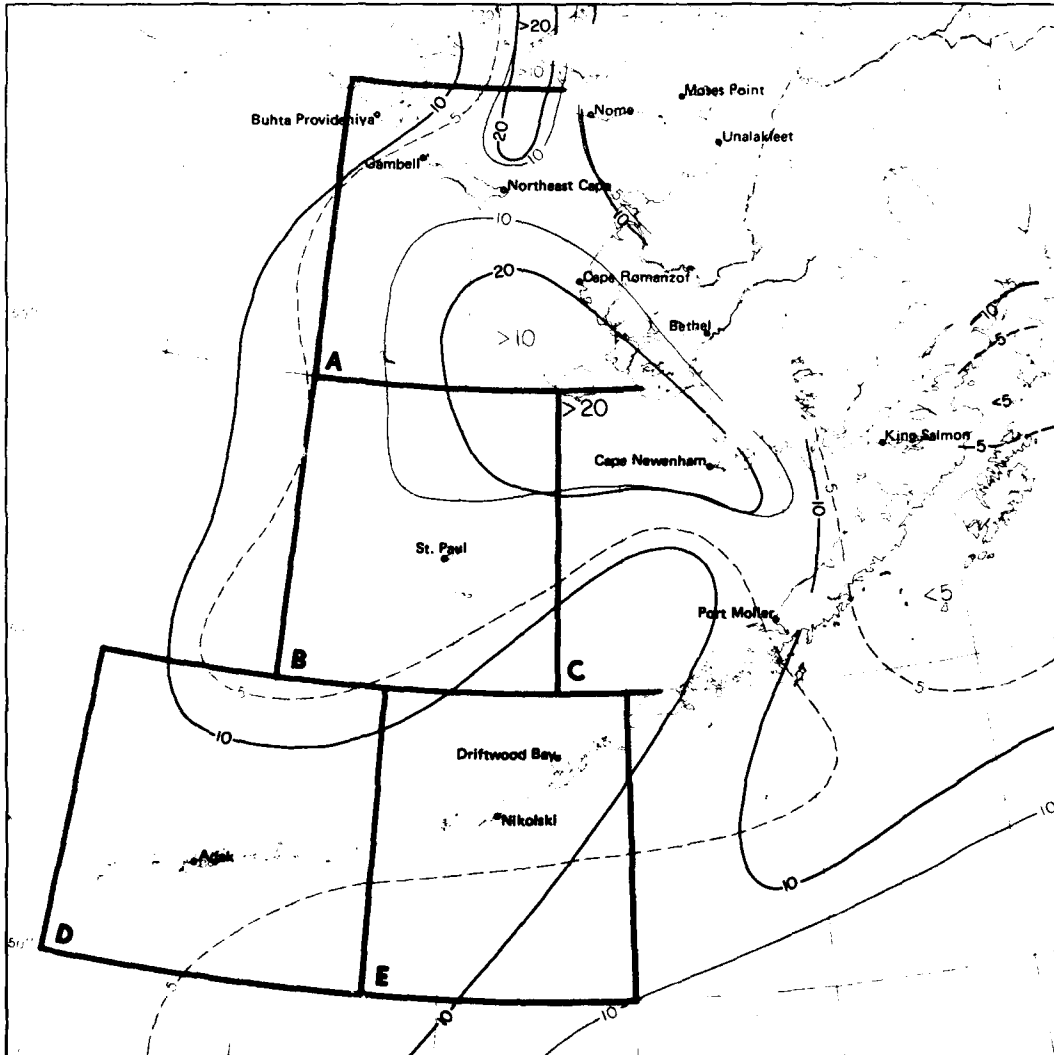
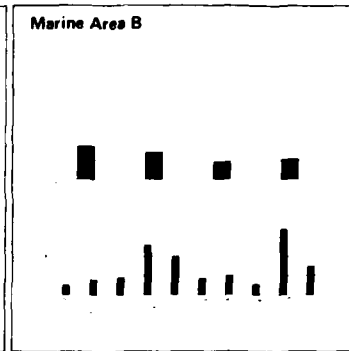
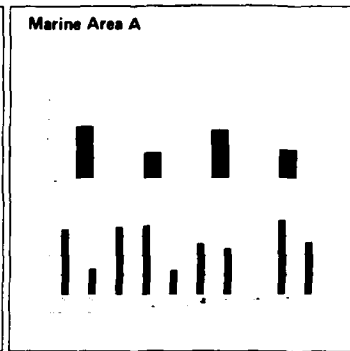
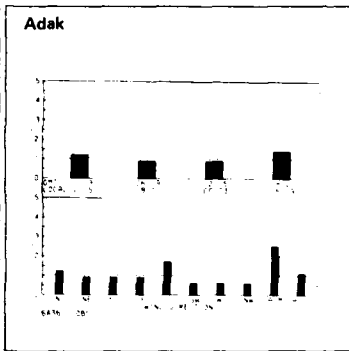
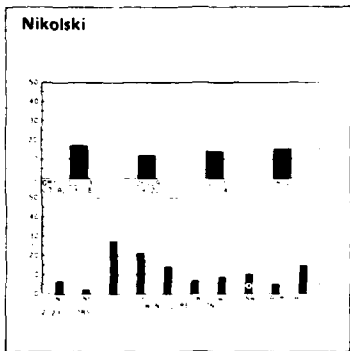


**Driftwood Bay**



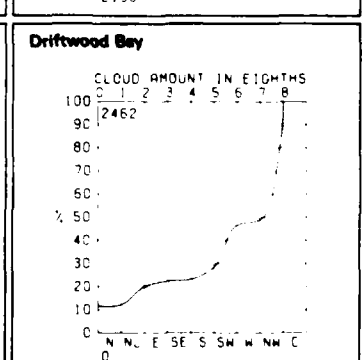
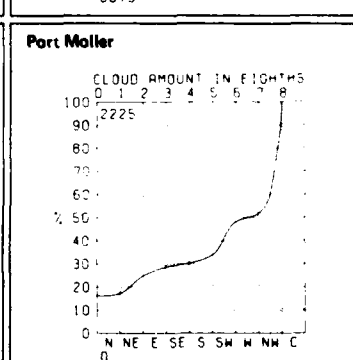
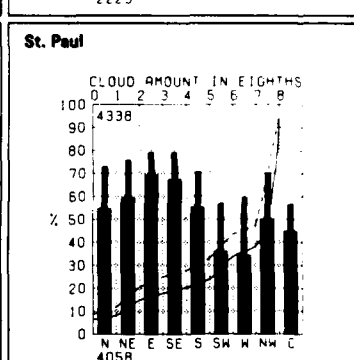
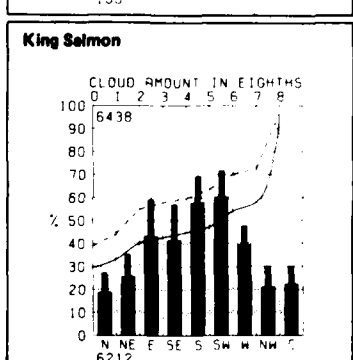
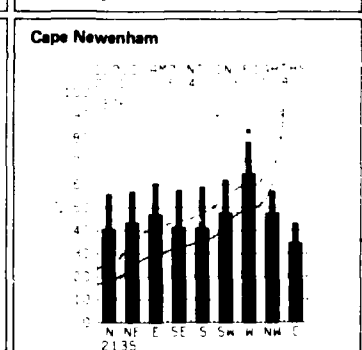
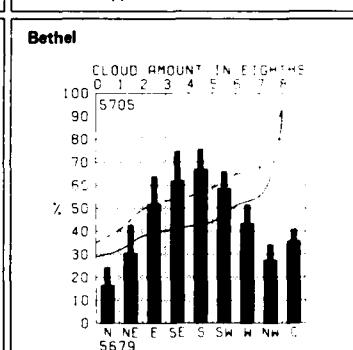
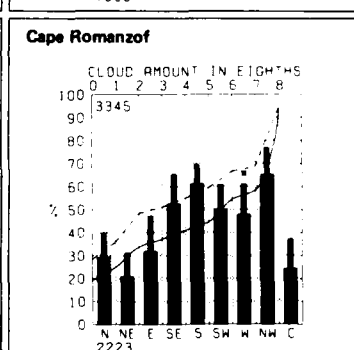
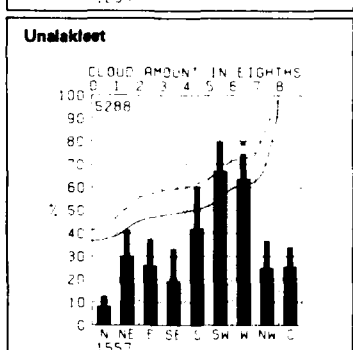
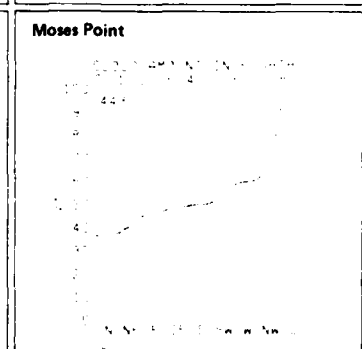
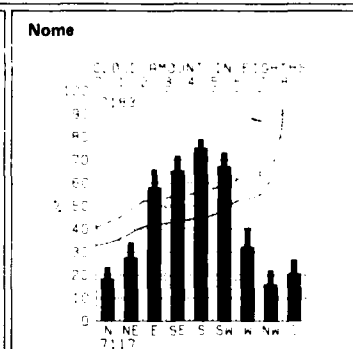
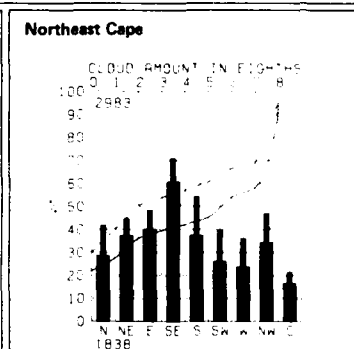
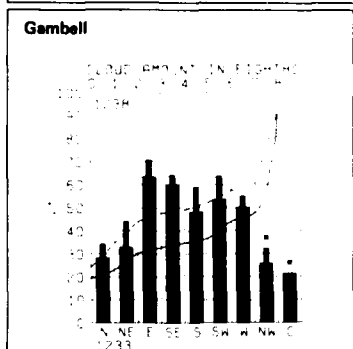
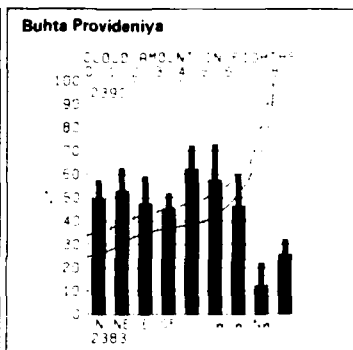
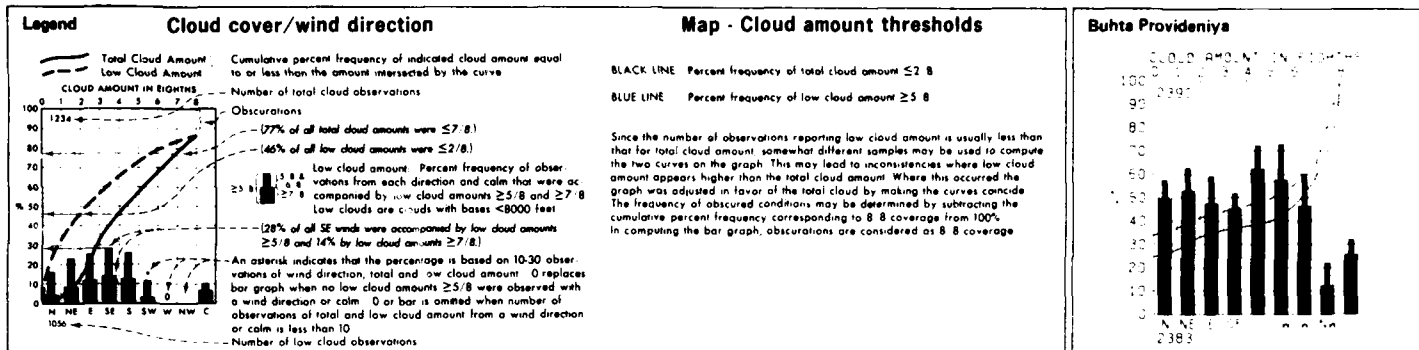
January

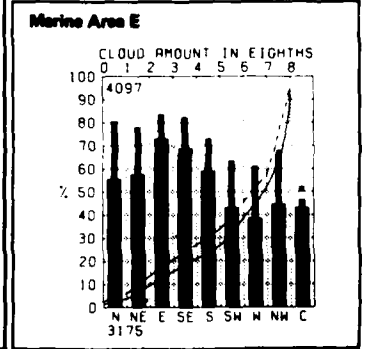
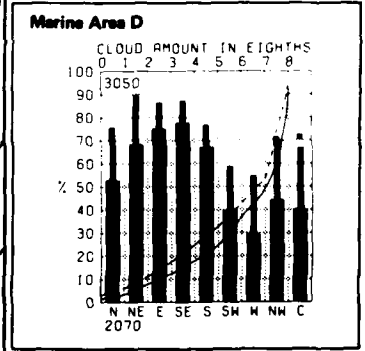
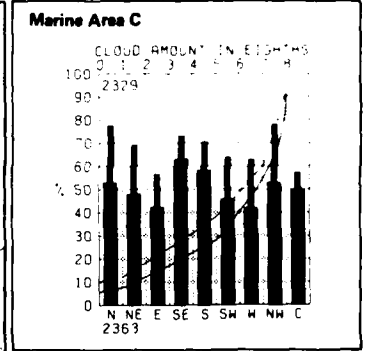
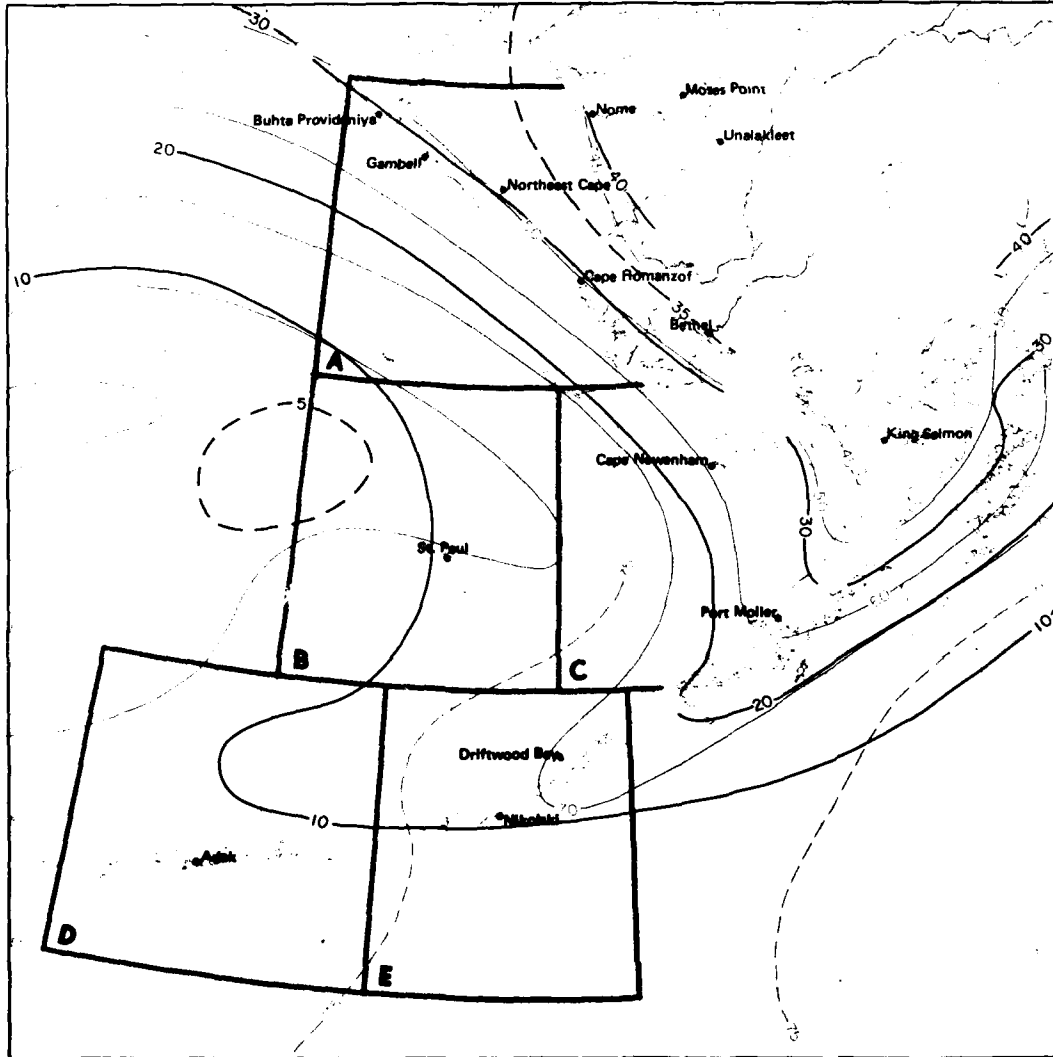
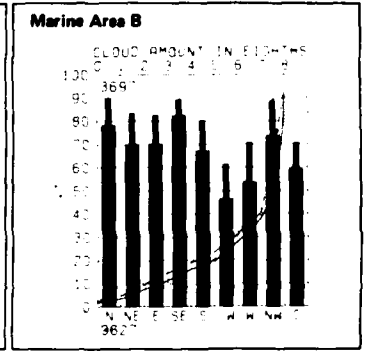
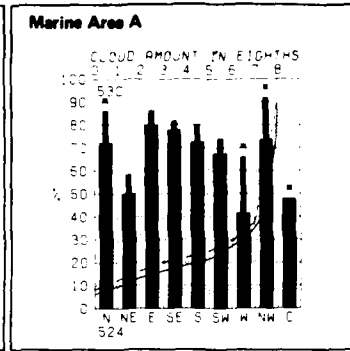
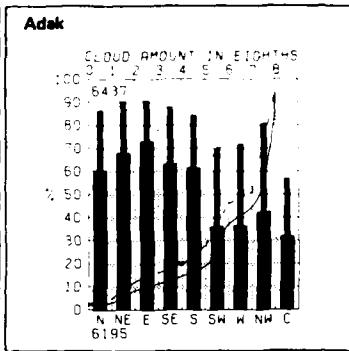
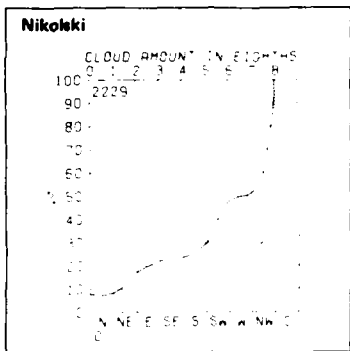
6 Fog/time and fog/wind direction



6 Fog

January



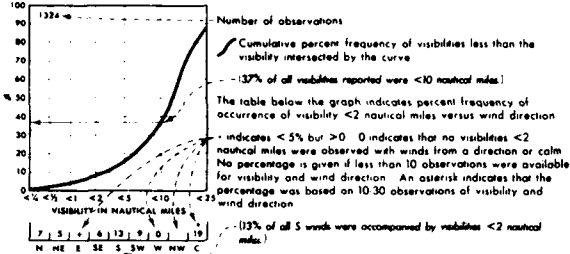


7 Cloud amount thresholds

January

**Legend**

**Visibility/wind direction**



**Map - Visibility thresholds**

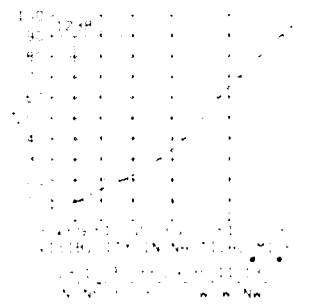
BLACK LINE Percent frequency of visibilities  $\geq 5$  nautical miles  
 BLUE LINE Percent frequency of visibilities <2 nautical miles

The percentage of visibility equal to or greater than a given value can be obtained from the graph by subtracting the cumulative percent frequency of that value from 100%. Visibility at sea is difficult to measure because of the lack of reference points. Also, some observers seem to report reduced visibilities at night because of darkness, though this tendency has abated in recent years. The coarseness of the coding intervals, however, tends to minimize serious biases in the summarized data. Visibilities greater than 25 nm should be interpreted cautiously because the earth's curvature makes it impossible to see 25 nm horizontally from the bridges of most ships.

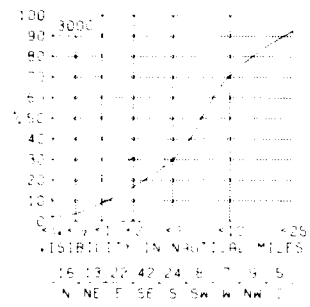
**Buhta Provideniya**



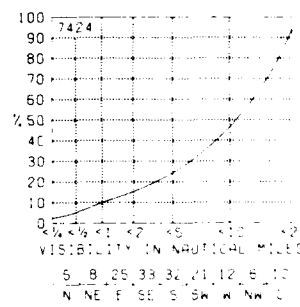
**Gambell**



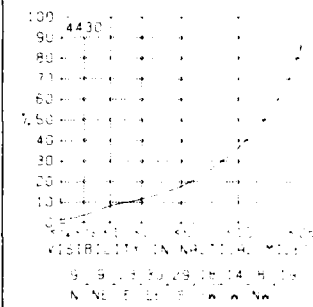
**Northeast Cape**



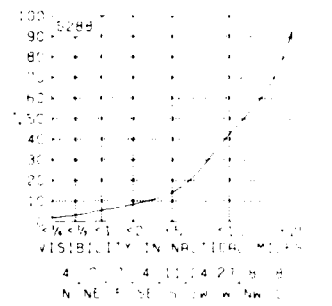
**Nome**



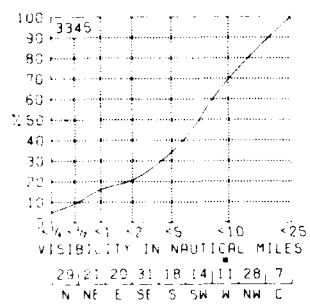
**Moses Point**



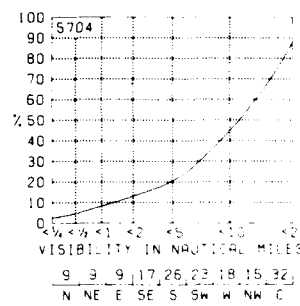
**Unalakleet**



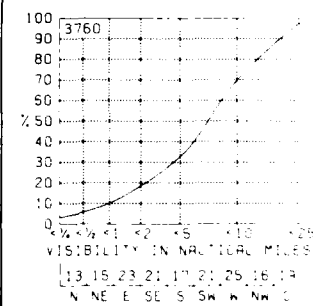
**Cape Romanzof**



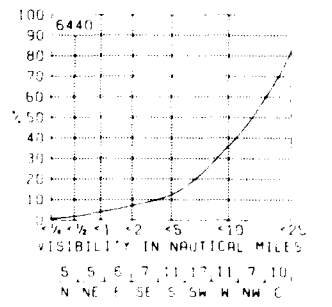
**Bethel**



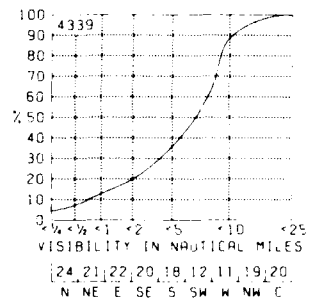
**Cape Newenham**



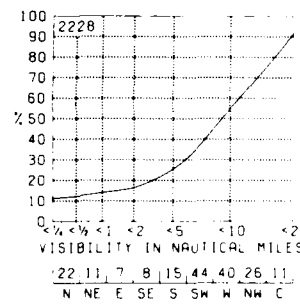
**King Salmon**



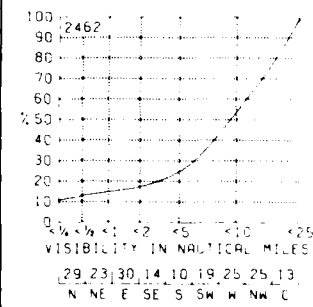
**St. Paul**

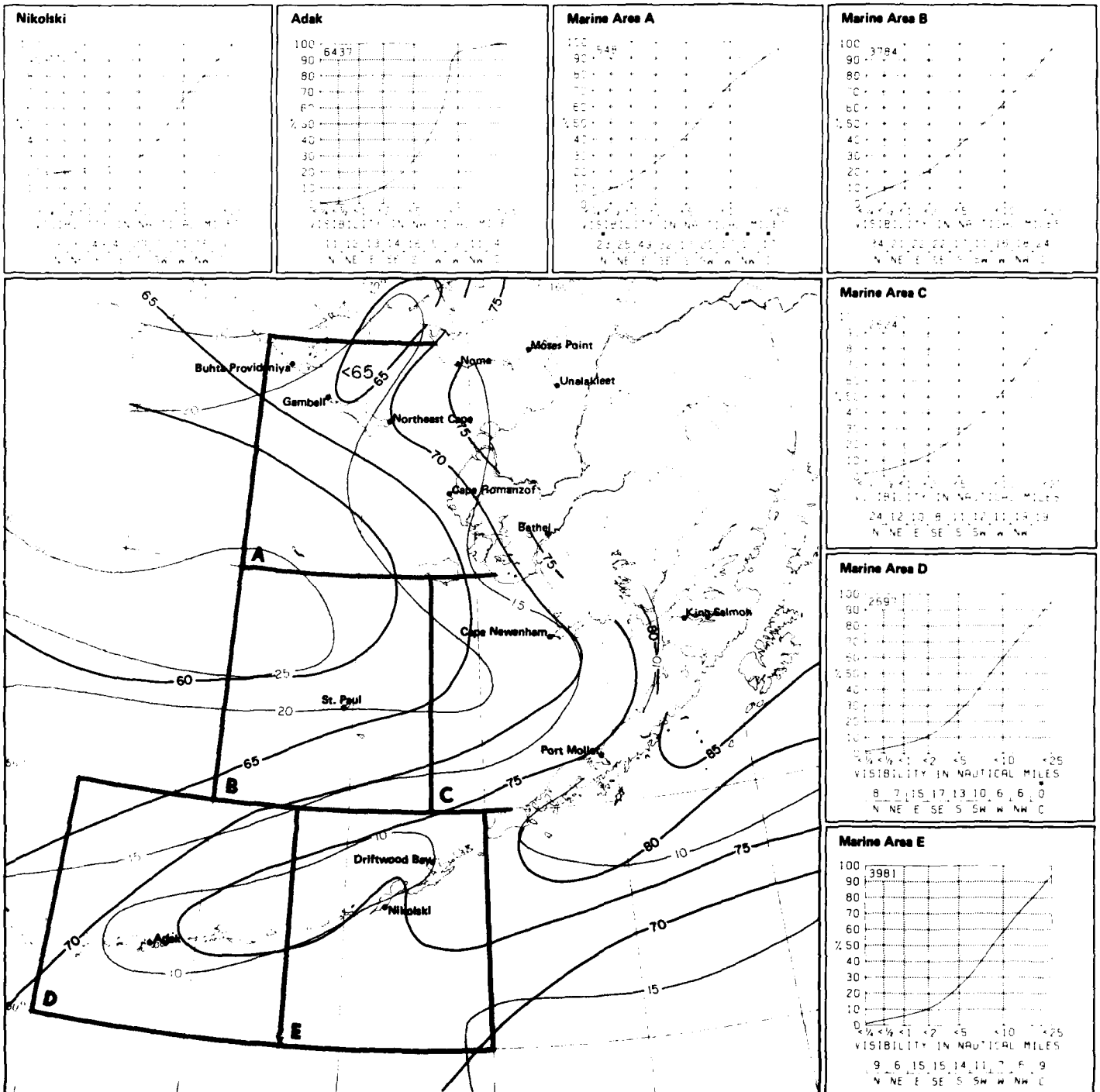


**Port Moller**



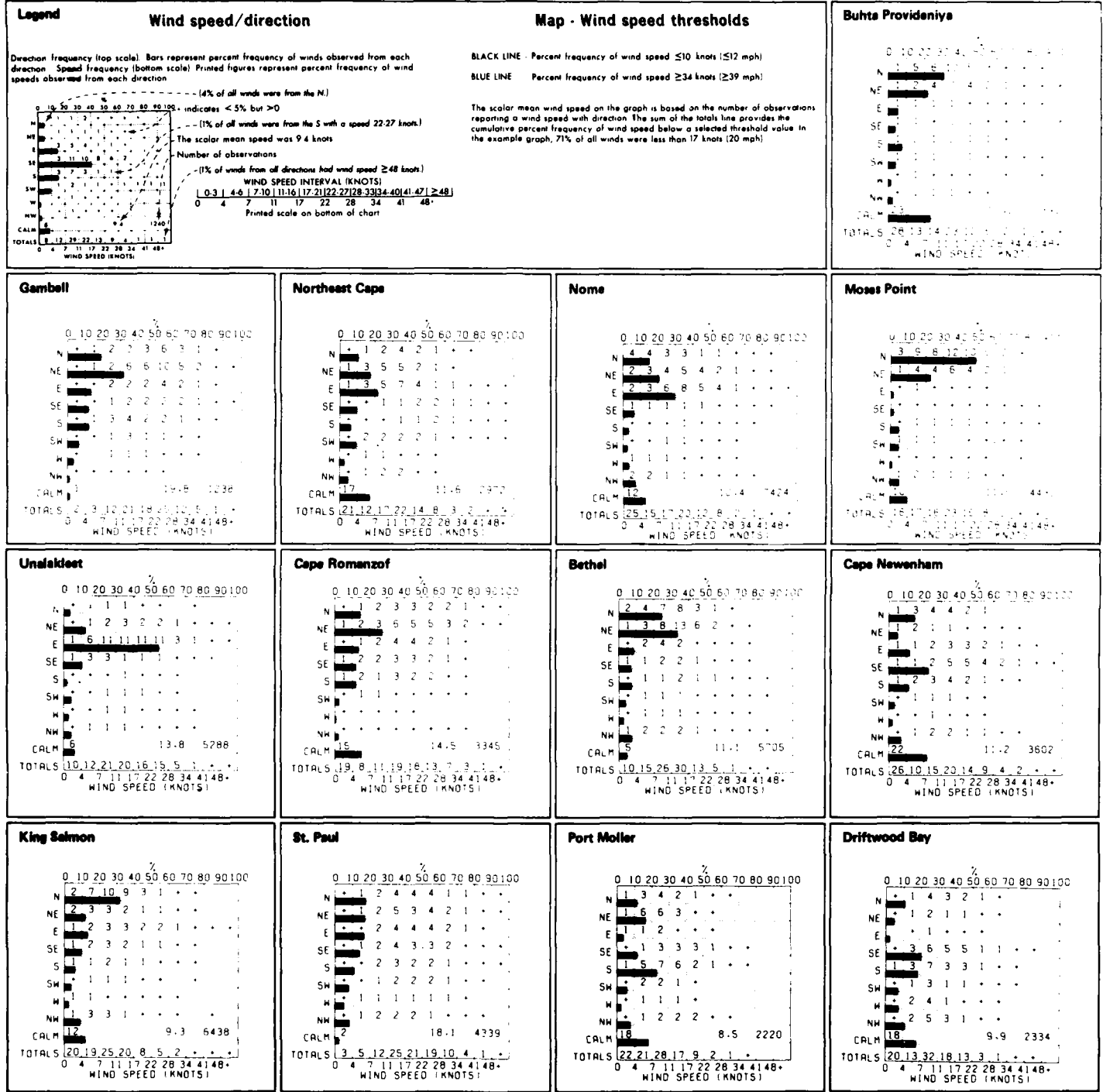
**Driftwood Bay**





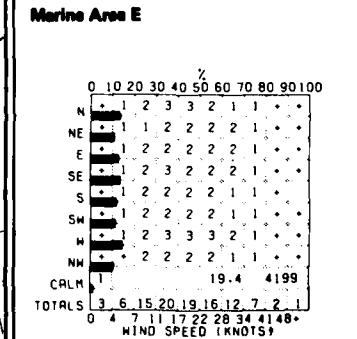
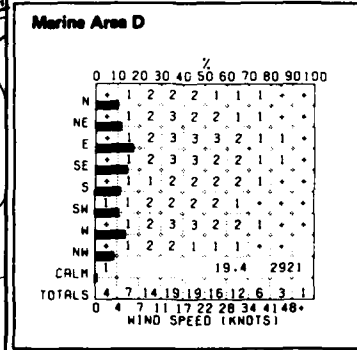
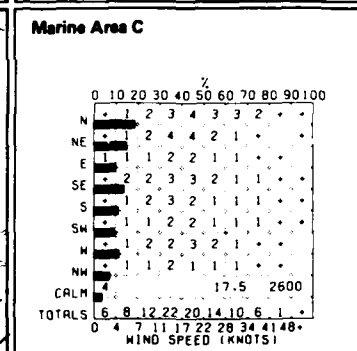
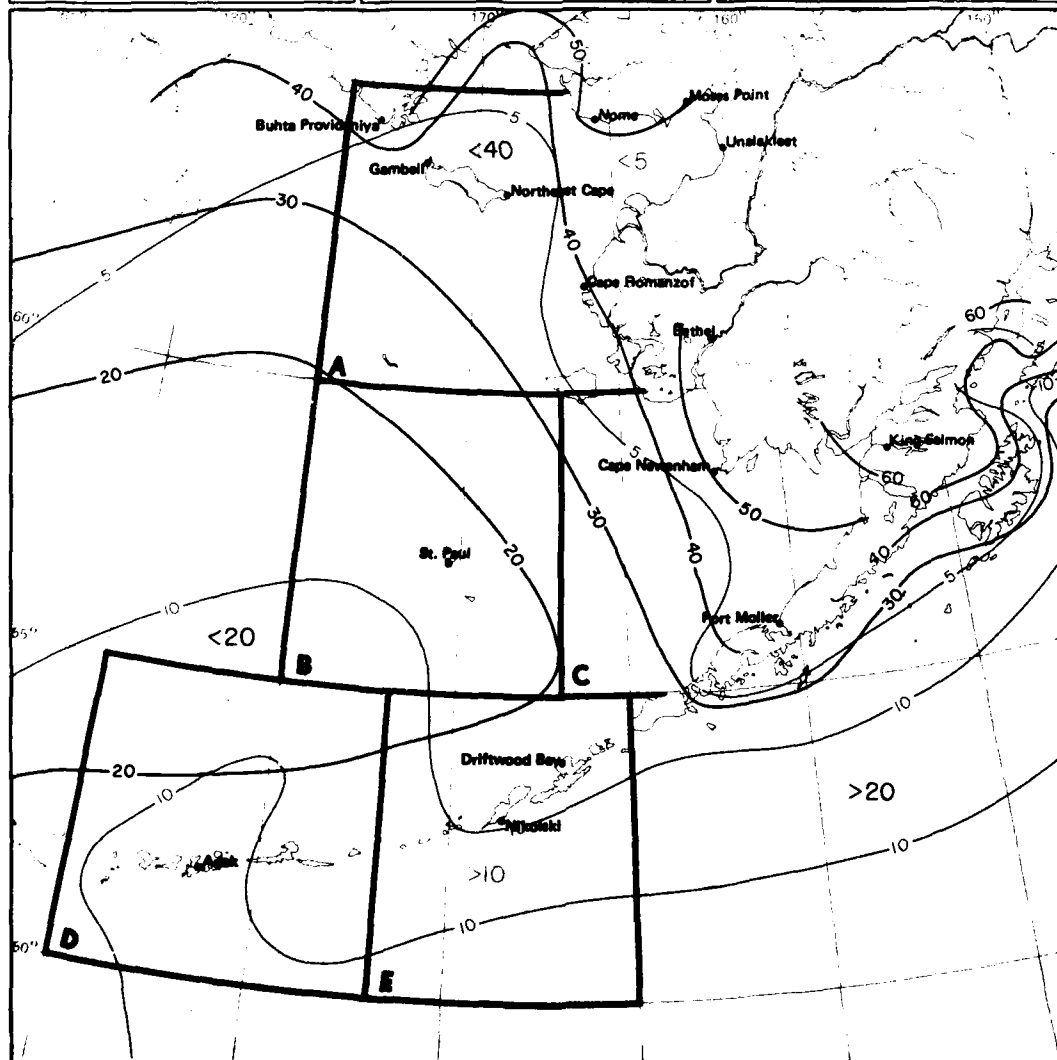
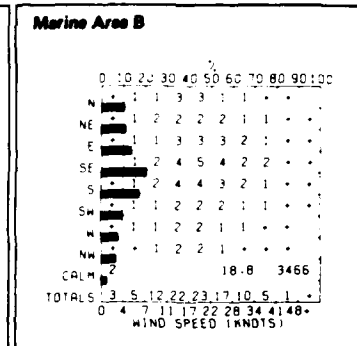
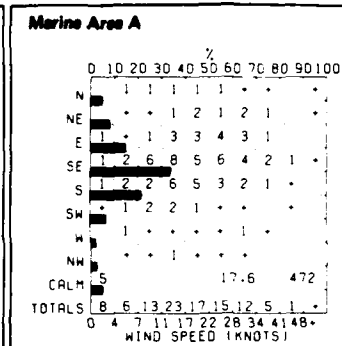
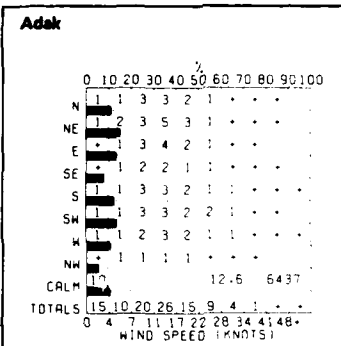
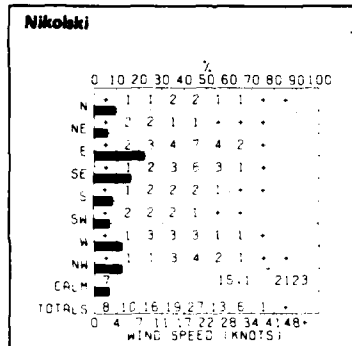
8 Visibility thresholds

January

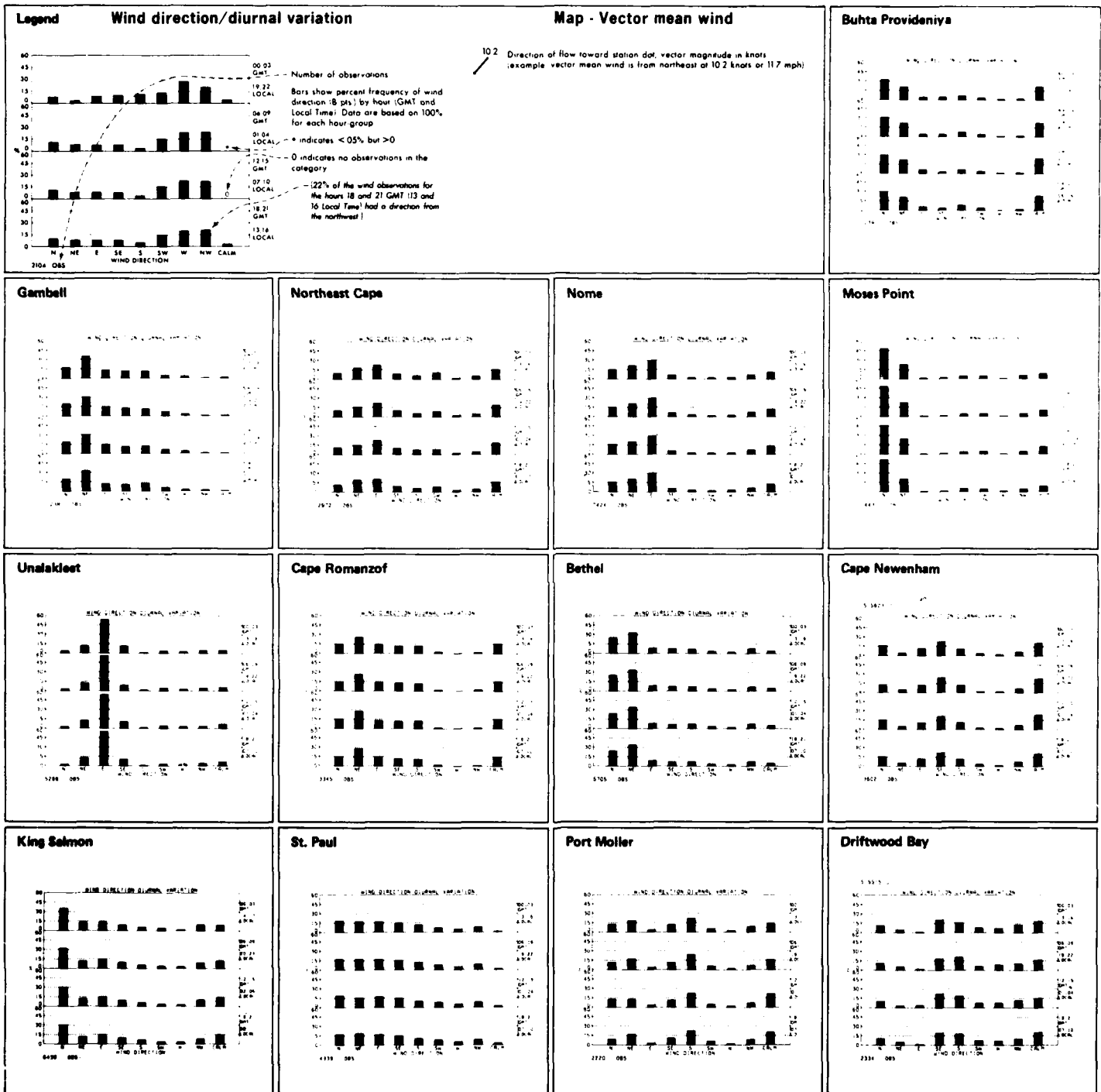


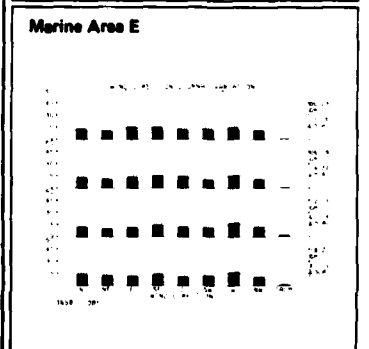
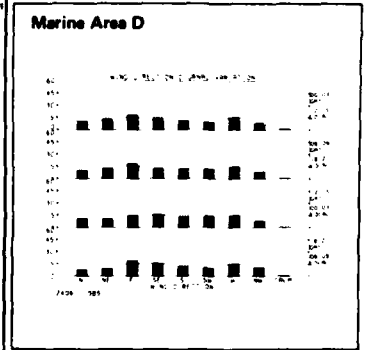
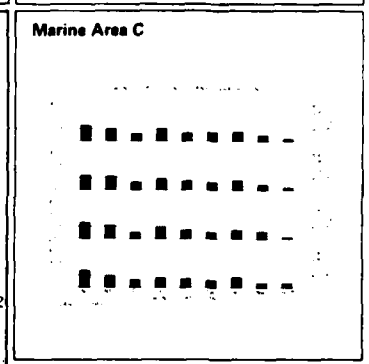
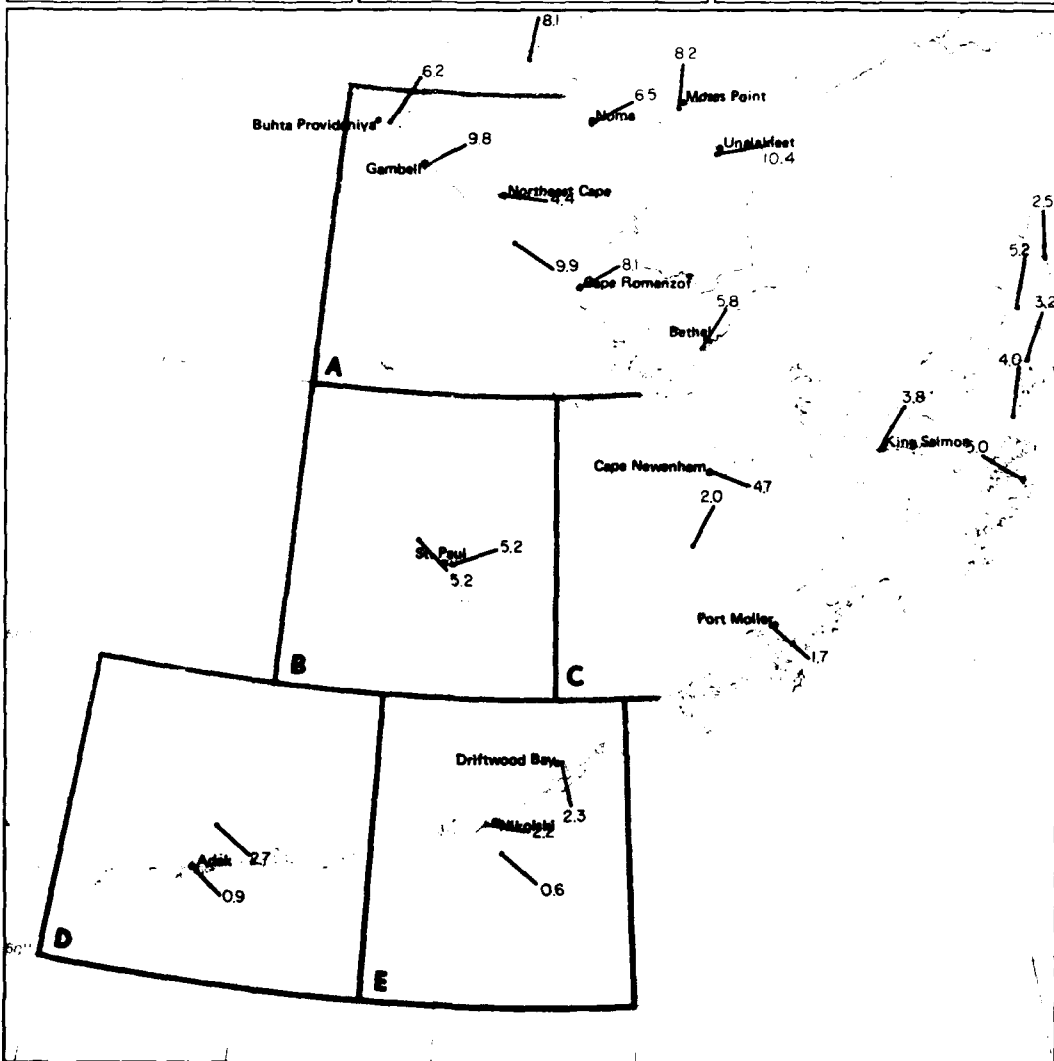
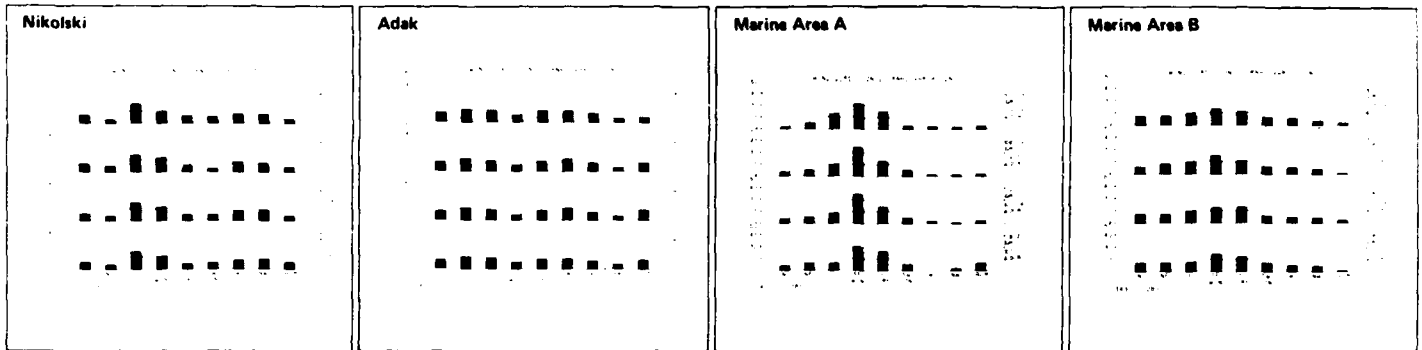
January





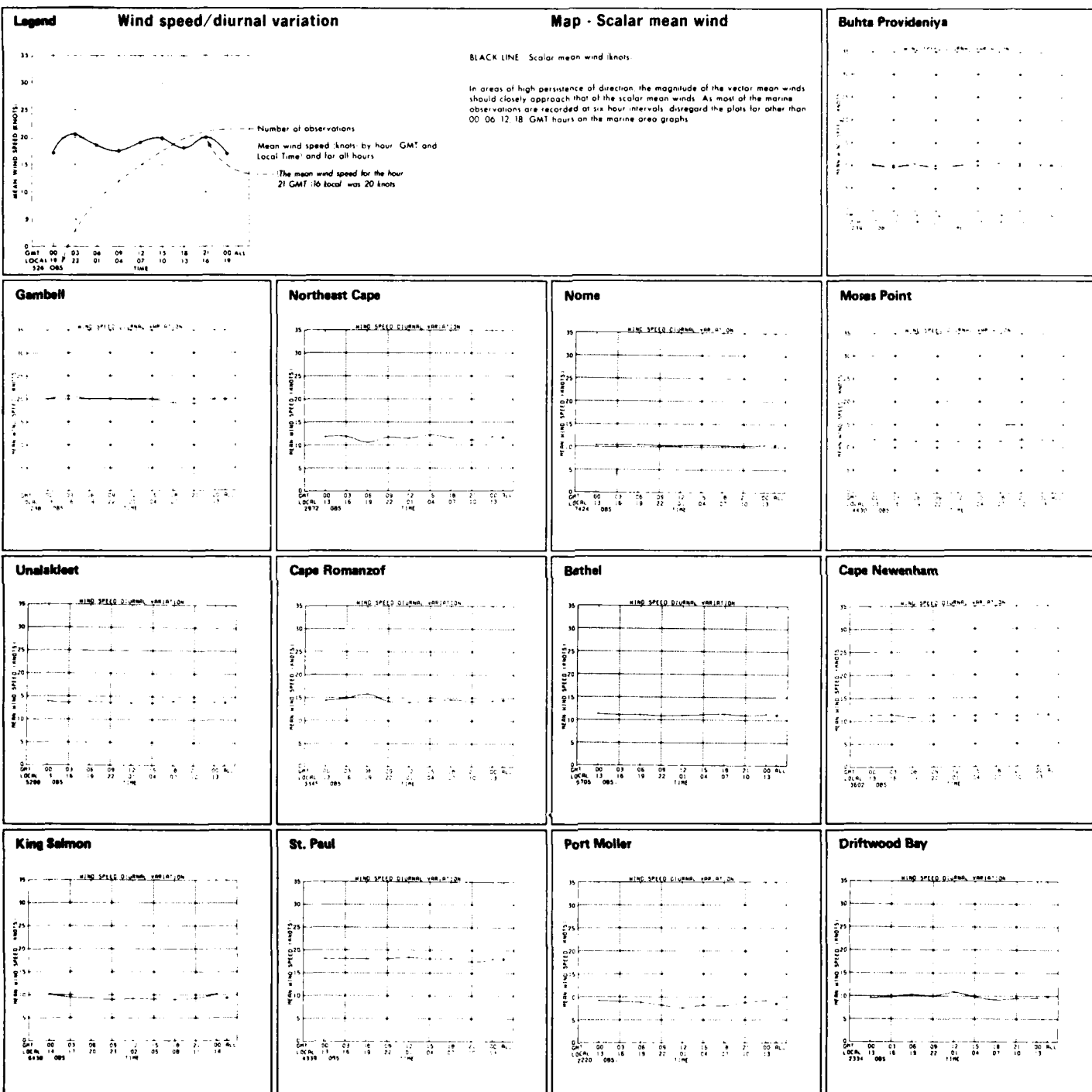
9 Wind speed thresholds

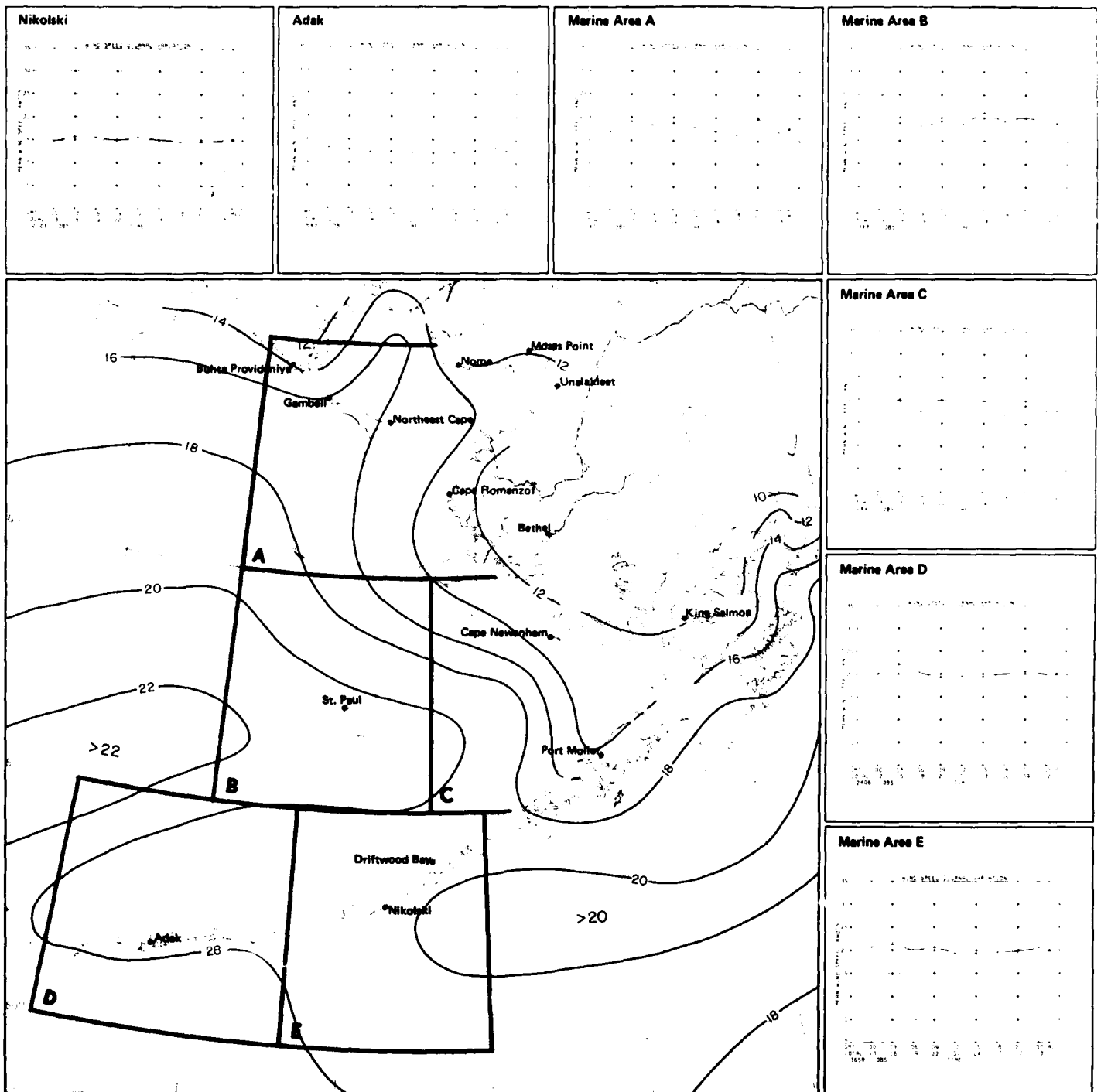




10 Vector mean wind

January





11 Scalar mean wind

January

**Legend** **Low cloud ceiling/visibility**

Percent frequency of simultaneous occurrence of specified low cloud ceilings (hundreds of feet) and visibilities (nautical miles).  
 Low cloud ceiling heights are estimated from the height of low clouds (N) when low cloud amount (NK) is  $\geq 8$ .  
 Observations are included under ceiling 0 < 15.  
 N C: no ceiling; includes bases of clouds  $\geq 8000$  feet as well as occurrences of NK  $< 5$ .  
 2% of all observations reported ceiling  $\geq 1000$  but  $< 2000$  feet simultaneously with visibility  $\geq 5$  but  $< 10$  nautical miles.  
 - indicates  $< 5\%$  but  $> 0$ .  
 - - - Number of observations.

**Map - Low cloud ceiling and visibility thresholds**

BLACK LINE: Percent frequency of low cloud ceiling  $\geq 1000$  feet and/or low cloud ceiling and visibility  $\geq 5$  nautical miles.  
 BLUE LINE: Percent frequency of low cloud ceiling  $< 600$  feet and/or visibility  $< 2$  nautical miles.

**Buhta Provideniya**

**Gambell**

VISIBILITY  
 1/2 1 2 5 10  $\geq 10$

NC	+	+	+	1	12	51
50*80	0	0	+	+	1	4
35*50	0	0	+	+	2	3
20*35	+	0	+	1	3	4
10*20	+	+	+	1	3	1
6*10	+	+	+	1	2	1
3*6	+	+	+	+	1	+
1.5*3	+	+	+	+	+	+
0*1.5	1	1	1	+	+	0

1233

**Northeast Cape**

VISIBILITY  
 1/2 1 2 5 10  $\geq 10$

NC	+	+	+	1	19	35
50*80	+	+	+	+	+	+
35*50	+	+	+	+	+	+
20*35	+	+	+	+	+	+
10*20	+	+	+	+	+	+
6*10	+	+	+	+	+	+
3*6	+	+	+	+	+	+
1.5*3	+	+	+	+	+	+
0*1.5	4	3	1	+	+	0

1838

**Nome**

VISIBILITY  
 1/2 1 2 5 10  $\geq 10$

NC	+	+	+	1	11	46
50*80	+	+	+	+	+	+
35*50	+	+	+	+	+	+
20*35	+	+	+	+	+	+
10*20	+	+	+	+	+	+
6*10	+	+	+	+	+	+
3*6	+	+	+	+	+	+
1.5*3	+	+	+	+	+	+
0*1.5	4	3	1	+	+	0

7117

**Moses Point**

VISIBILITY  
 1/2 1 2 5 10  $\geq 10$

NC	+	+	+	1	9	32
50*80	+	+	+	+	+	+
35*50	+	+	+	+	+	+
20*35	+	+	+	+	+	+
10*20	+	+	+	+	+	+
6*10	+	+	+	+	+	+
3*6	+	+	+	+	+	+
1.5*3	+	+	+	+	+	+
0*1.5	1	3	2	5	0	0

244

**Unalakleet**

VISIBILITY  
 1/2 1 2 5 10  $\geq 10$

NC	+	+	+	1	12	51
50*80	0	0	+	+	1	4
35*50	0	0	+	+	2	3
20*35	+	0	+	1	3	4
10*20	+	+	+	1	3	1
6*10	+	+	+	1	2	1
3*6	+	+	+	+	1	+
1.5*3	+	+	+	+	+	+
0*1.5	1	1	1	+	+	0

1557

**Cape Romanzof**

VISIBILITY  
 1/2 1 2 5 10  $\geq 10$

NC	3	2	1	6	25	20
50*80	0	0	+	+	1	2
35*50	0	0	+	+	1	+
20*35	+	+	+	1	4	1
10*20	1	1	1	3	4	1
6*10	+	2	1	4	3	+
3*6	+	1	1	1	+	0
1.5*3	+	0	0	0	0	0
0*1.5	6	3	1	+	0	0

2223

**Bethel**

VISIBILITY  
 1/2 1 2 5 10  $\geq 10$

NC	1	1	1	2	13	43
50*80	+	+	+	+	1	3
35*50	+	+	+	+	2	3
20*35	+	+	+	+	3	4
10*20	+	+	1	2	3	2
6*10	+	+	1	2	1	1
3*6	+	+	1	+	+	+
1.5*3	+	+	+	+	+	+
0*1.5	3	2	1	1	+	+

5678

**Cape Newenham**

VISIBILITY  
 1/2 1 2 5 10  $\geq 10$

NC	+	+	+	1	2	18	24
50*80	+	+	+	+	+	+	+
35*50	+	+	+	+	+	+	+
20*35	+	+	+	+	+	+	+
10*20	+	+	+	+	+	+	+
6*10	+	+	+	+	+	6	2
3*6	+	+	+	+	+	+	+
1.5*3	+	+	+	+	+	+	+
0*1.5	4	2	2	1	0	0	0

2135

**King Salmon**

VISIBILITY  
 1/2 1 2 5 10  $\geq 10$

NC	+	+	+	1	12	51
50*80	0	0	+	+	1	4
35*50	0	0	+	+	2	3
20*35	+	0	+	1	3	4
10*20	+	+	+	1	3	1
6*10	+	+	+	1	2	1
3*6	+	+	+	+	1	+
1.5*3	+	+	+	+	+	+
0*1.5	1	1	1	+	+	0

6212

**St. Paul**

VISIBILITY  
 1/2 1 2 5 10  $\geq 10$

NC	+	+	1	1	19	7
50*80	0	+	0	+	+	+
35*50	0	+	+	+	1	+
20*35	1	+	1	2	11	2
10*20	2	1	2	6	18	2
6*10	+	+	1	3	3	+
3*6	+	1	2	2	1	+
1.5*3	+	+	+	0	+	0
0*1.5	4	2	1	+	0	0

4058

**Port Moller**

Insufficient Data

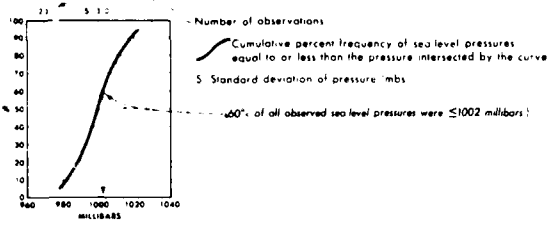
**Driftwood Bay**

Insufficient Data



**Legend**

**Sea level pressure**



**Map - Mean sea level pressure**

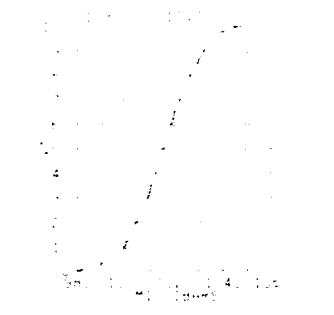
BLACK LINE Mean sea level pressure (millibars)

Sea level pressure is one of the most frequently recorded elements but one of the least accurate because of instrument and coding errors. Despite the inaccuracies of the individual readings, however, the large scale patterns and mean gradients of the isopleth analyses are relatively accurate.

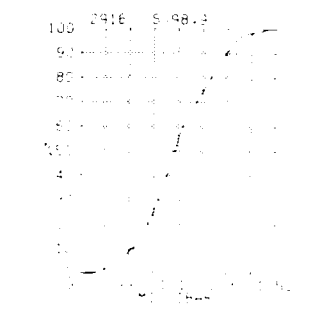
**Buhta Provideniya**



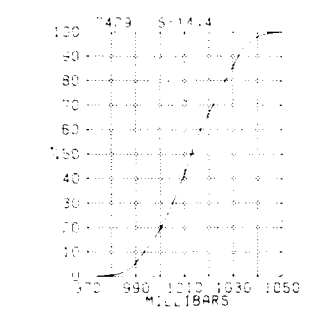
**Gambell**



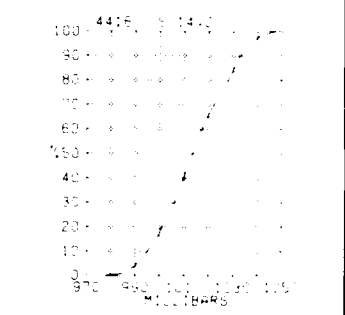
**Northeast Cape**



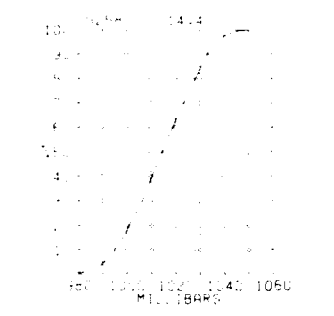
**Nome**



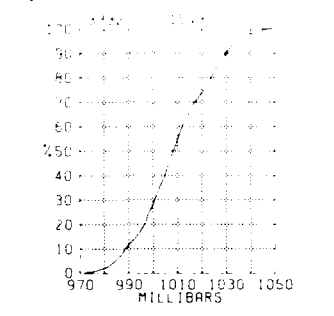
**Moses Point**



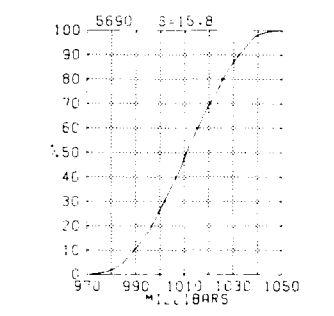
**Unalakleet**



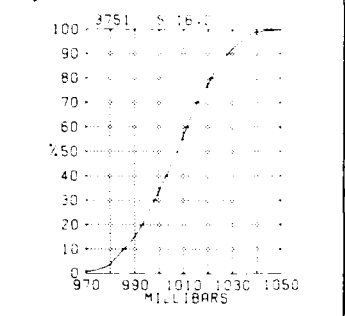
**Cape Romanzof**



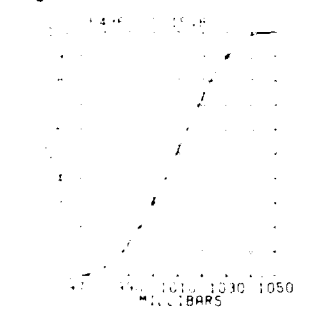
**Bethel**



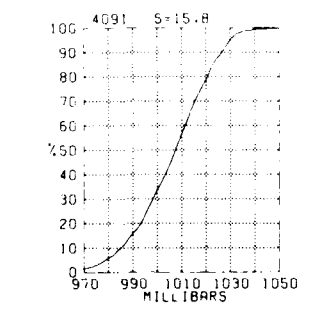
**Cape Newenham**



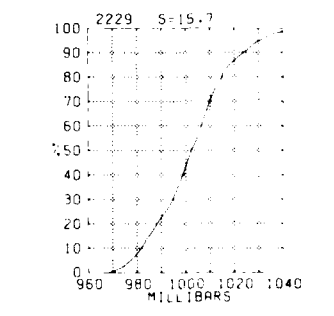
**King Salmon**



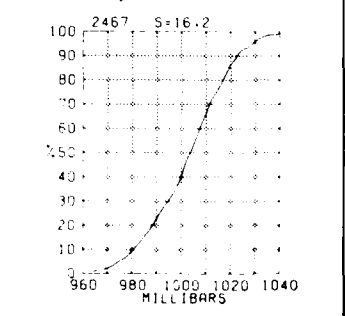
**St. Paul**



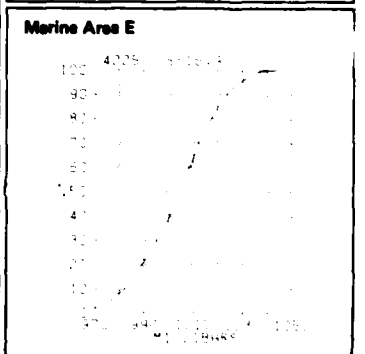
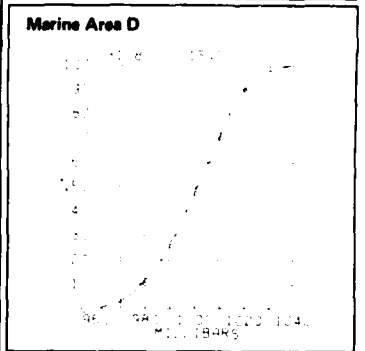
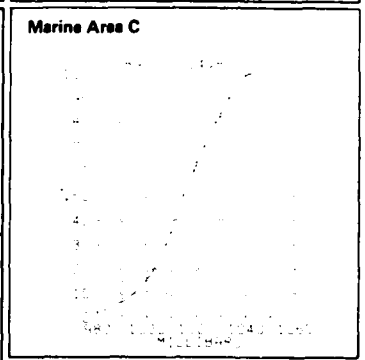
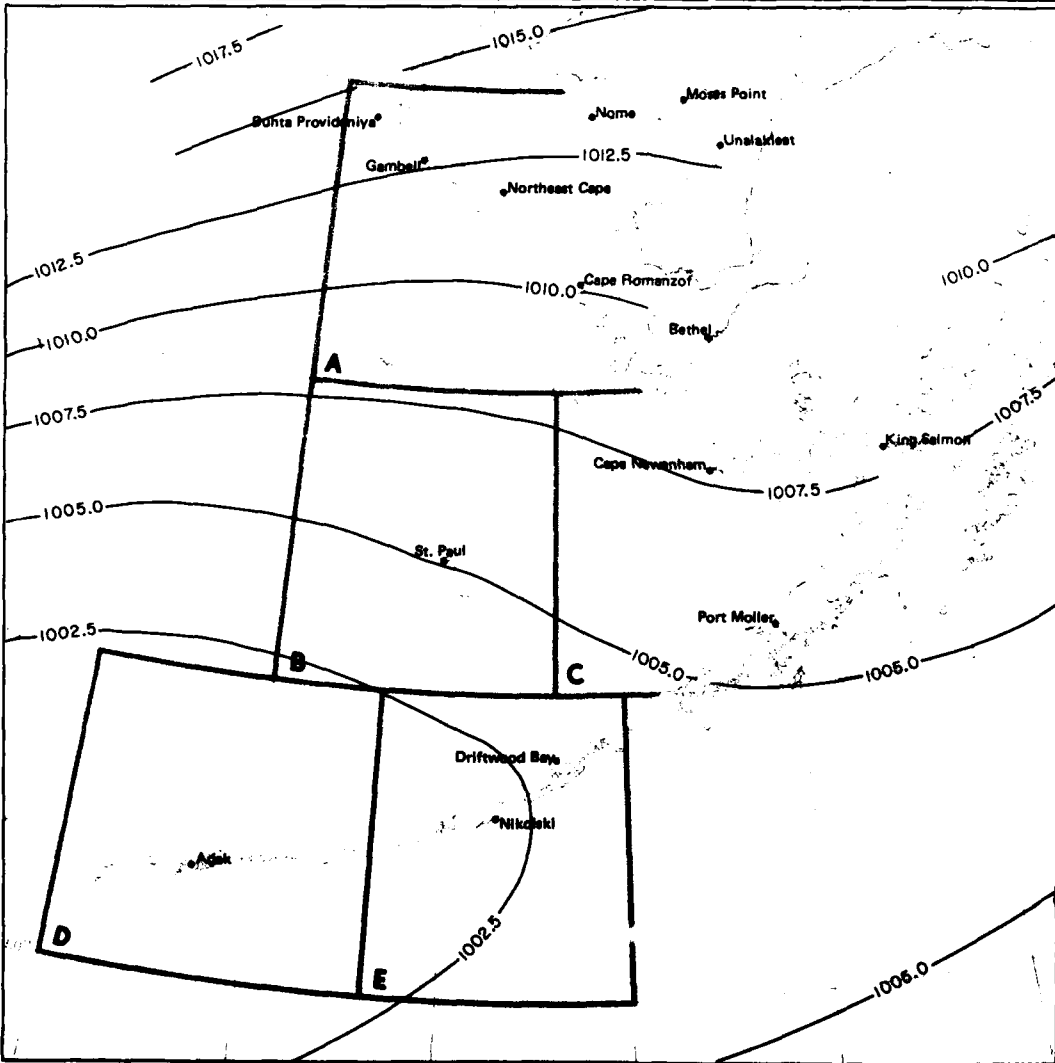
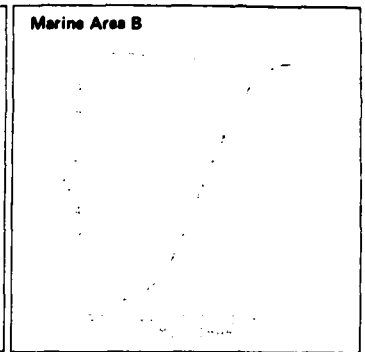
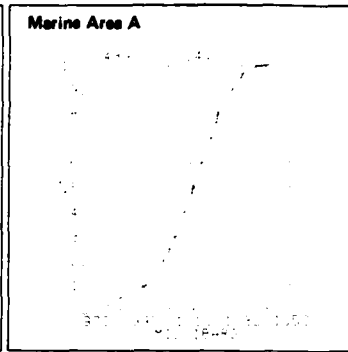
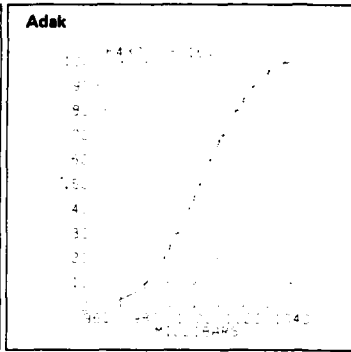
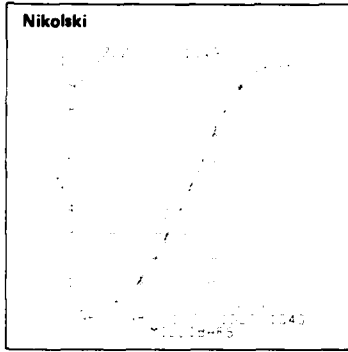
**Port Moller**



**Driftwood Bay**

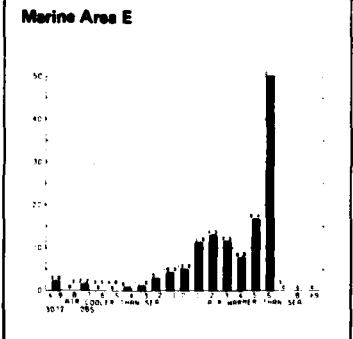
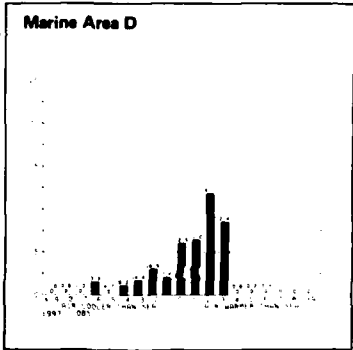
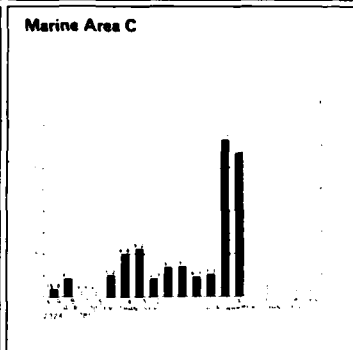
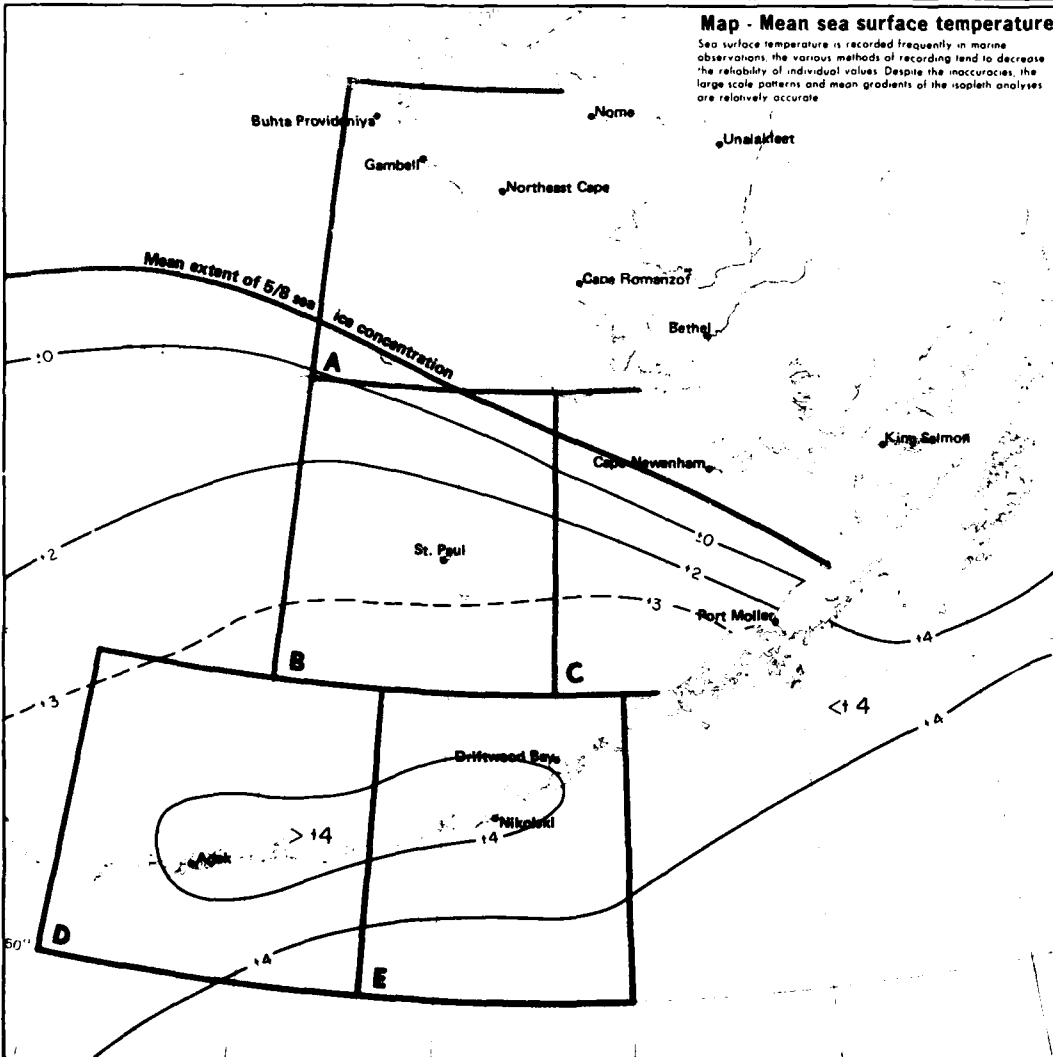
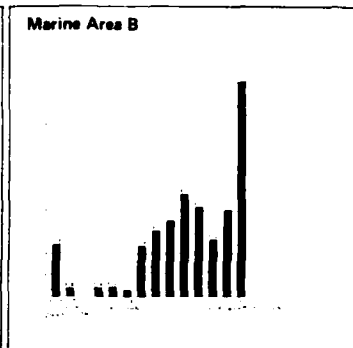
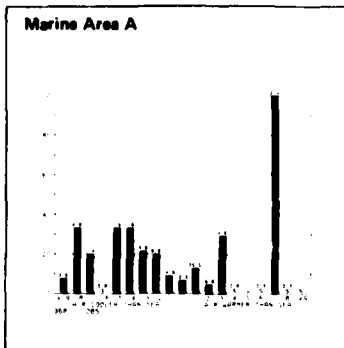
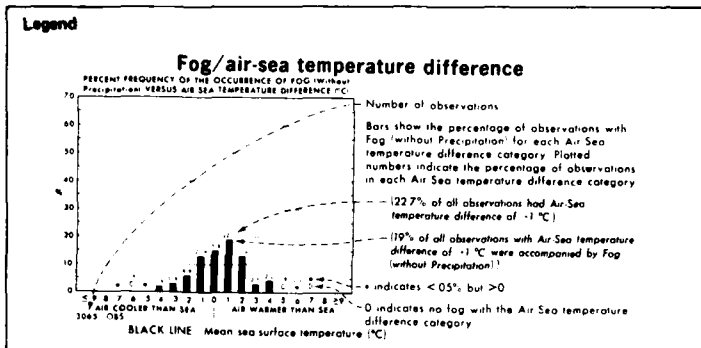


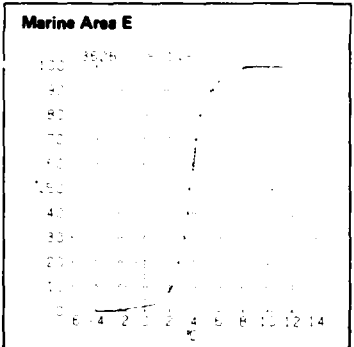
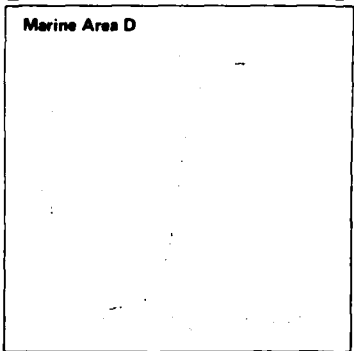
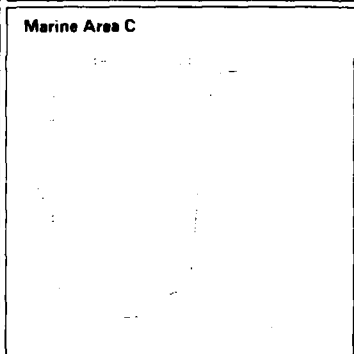
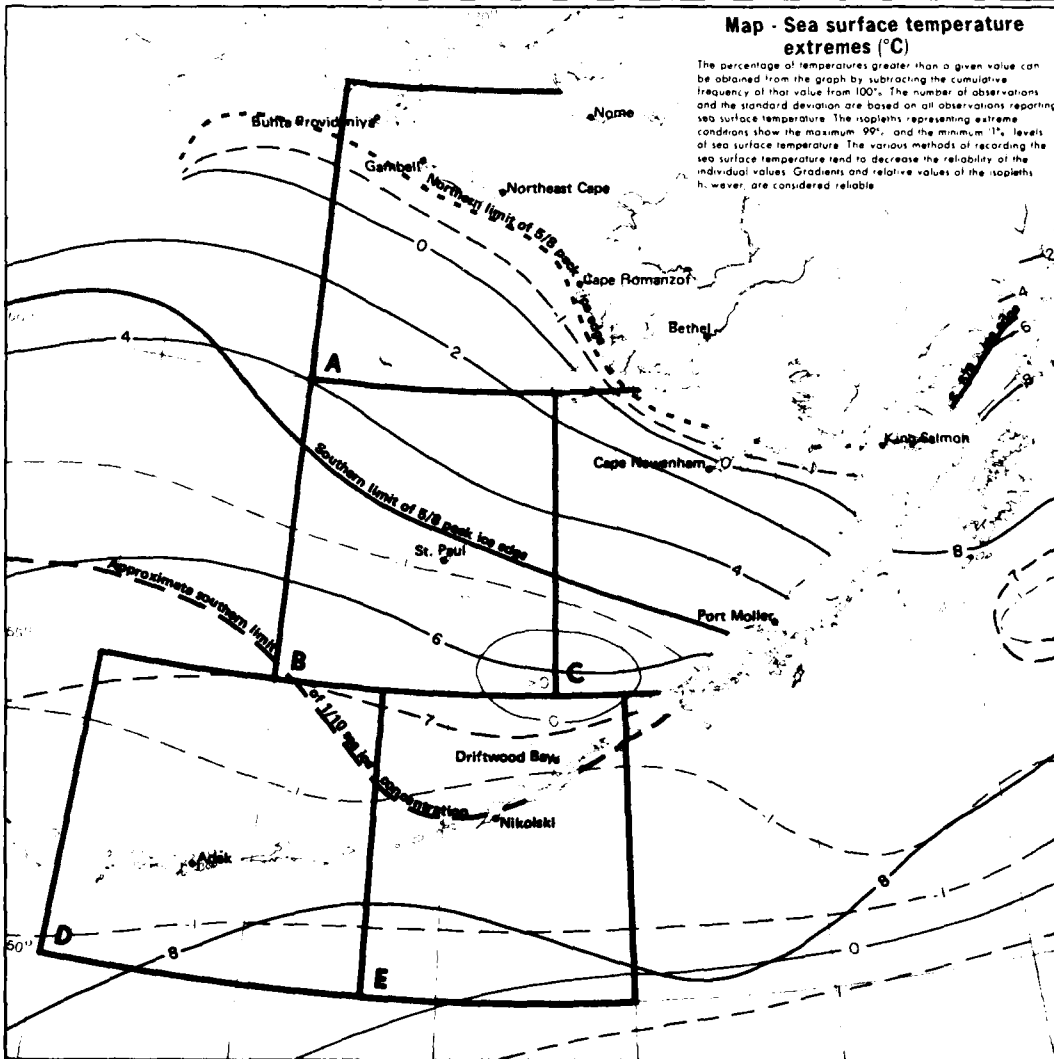
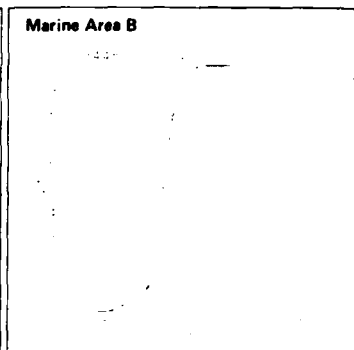
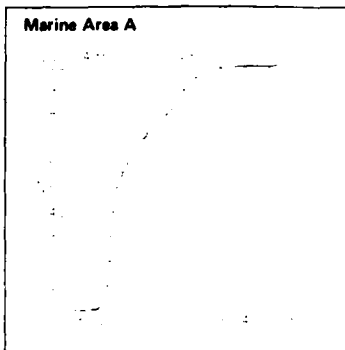
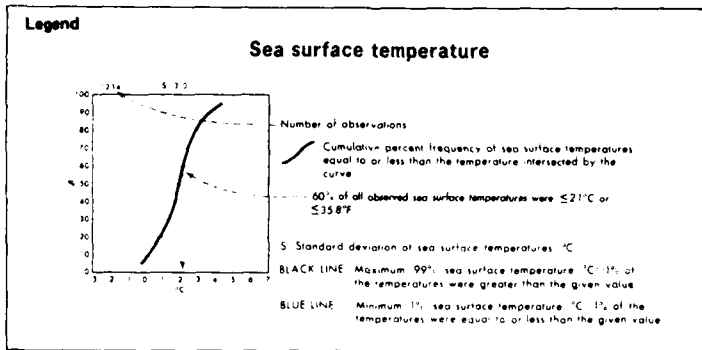




13 Mean sea level pressure

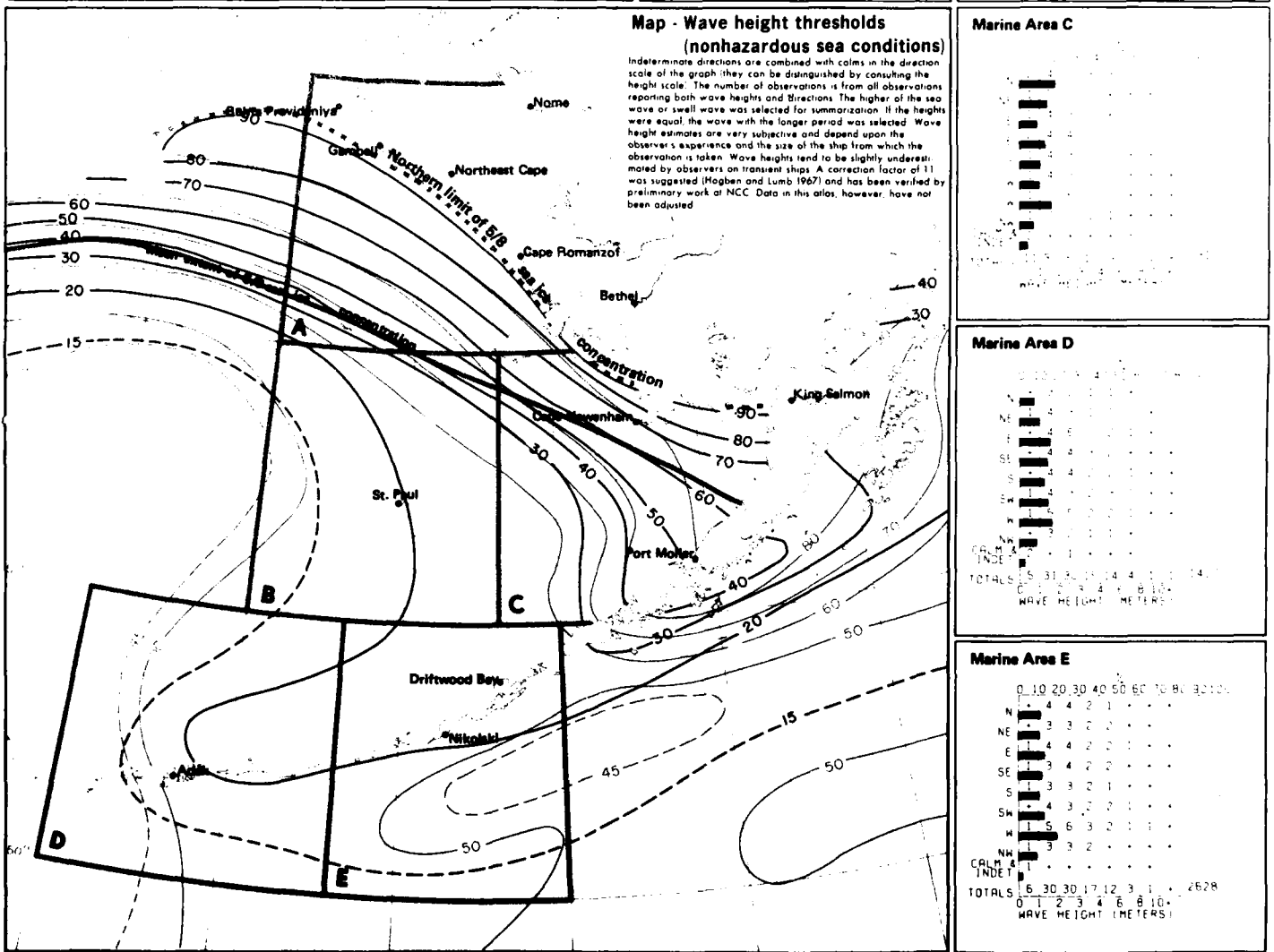
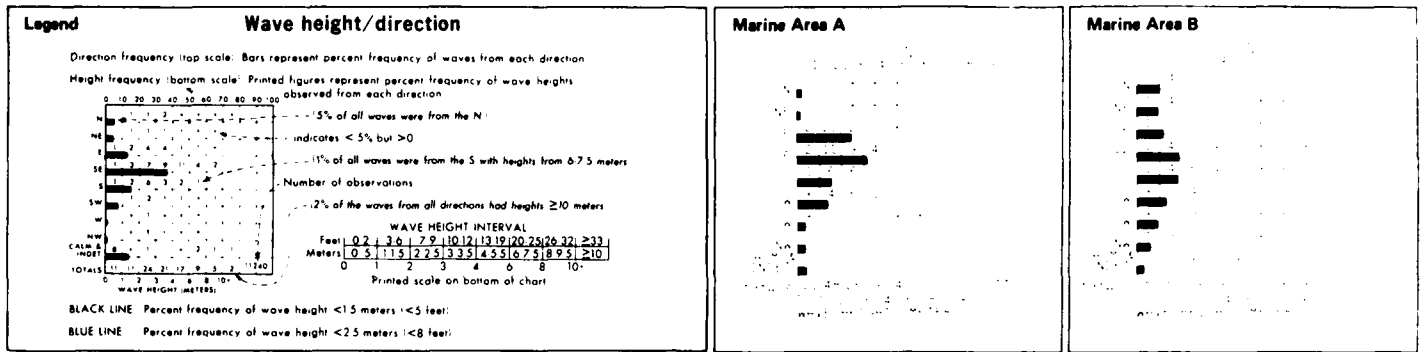
January





**15 Sea surface temperature extremes**

**January**



**Legend**

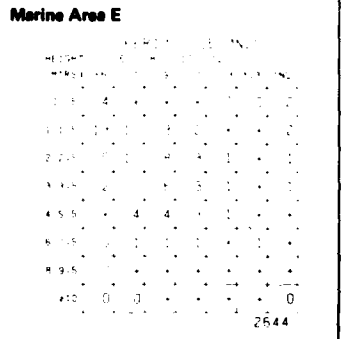
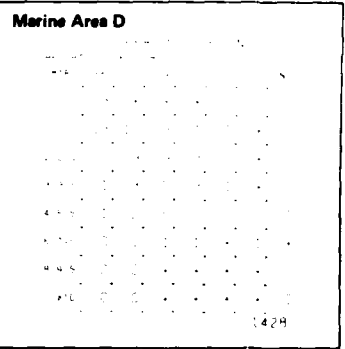
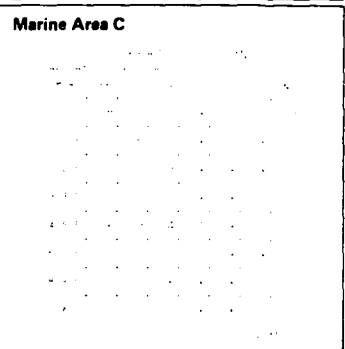
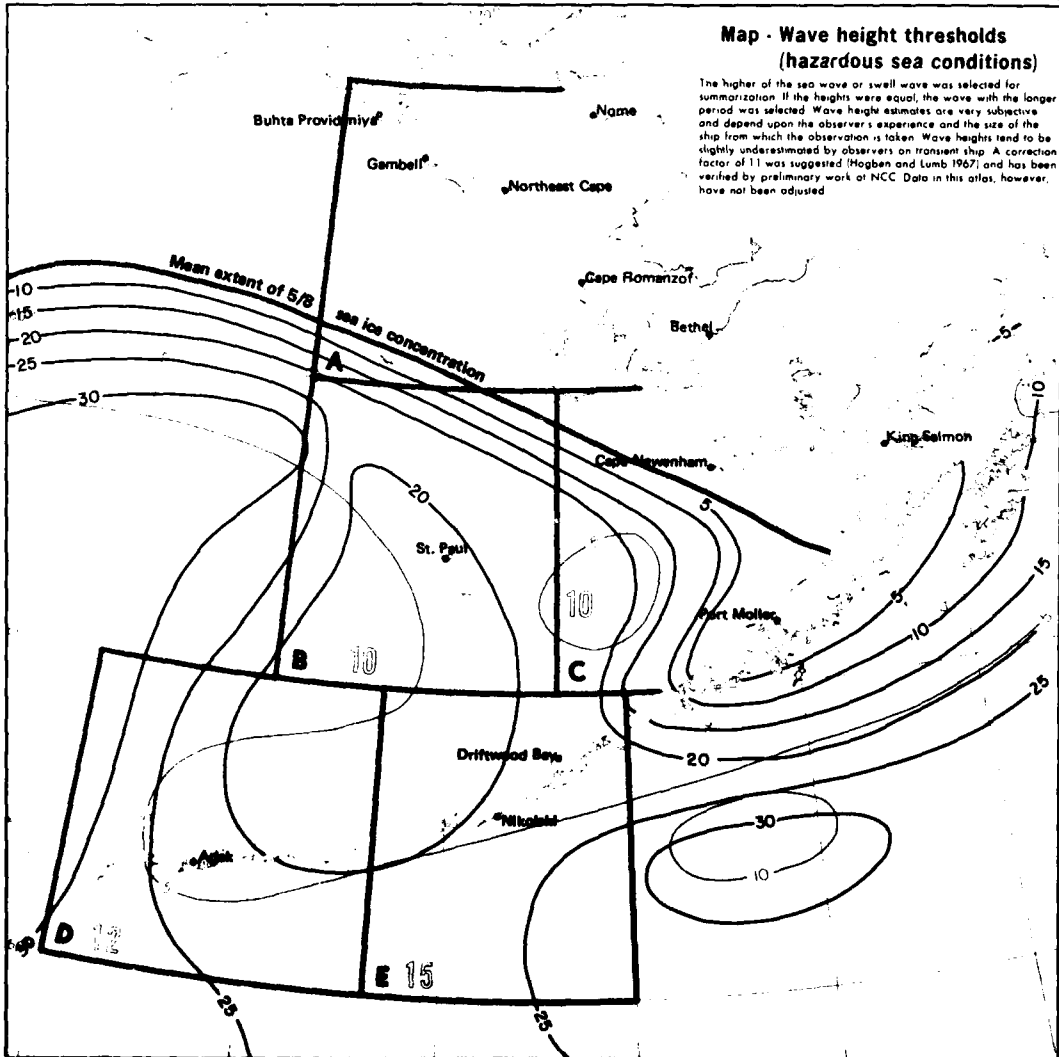
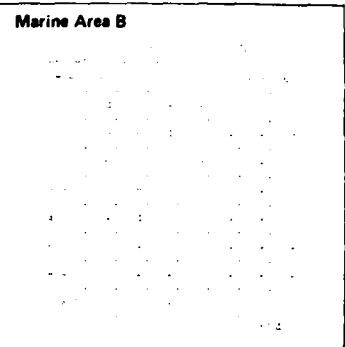
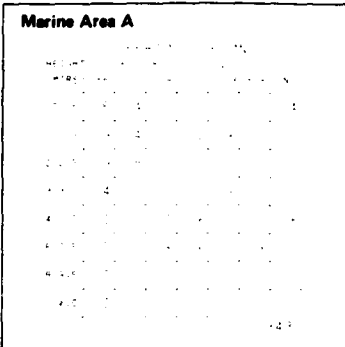
**Wave height/period**

PERIOD - Seconds

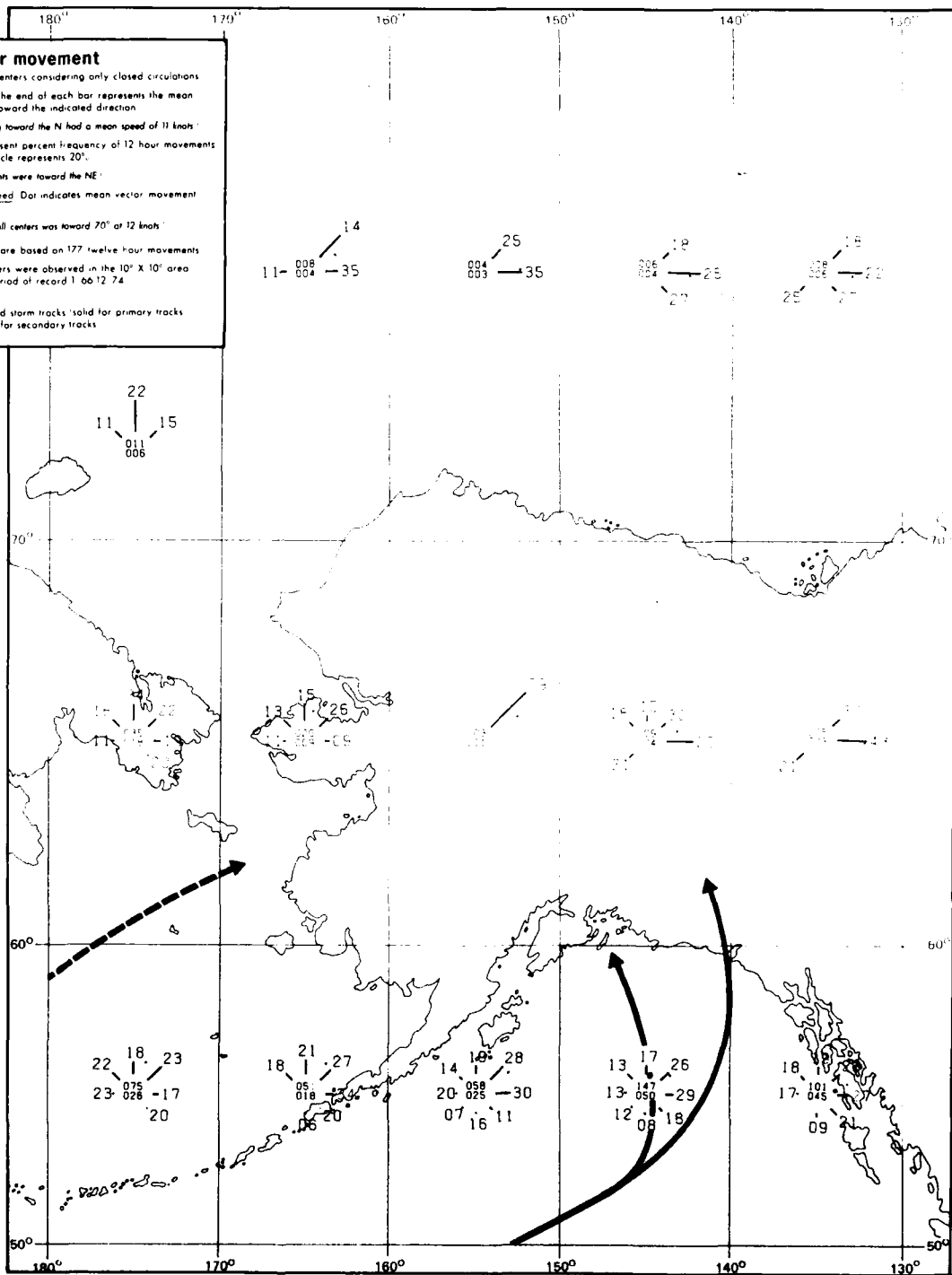
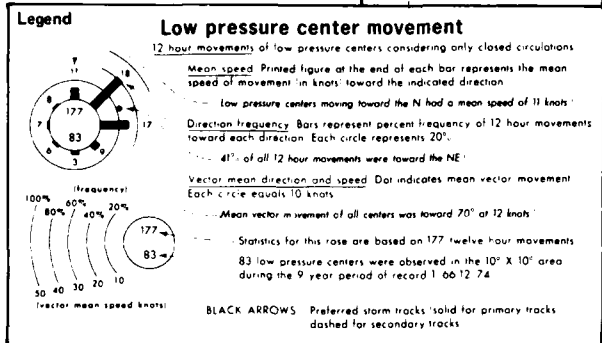
10	15	20	25	30	35	40
1	1	1	1	1	1	1
2	2	2	2	2	2	2
3	3	3	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9
10	10	10	10	10	10	10
11	11	11	11	11	11	11
12	12	12	12	12	12	12
13	13	13	13	13	13	13
14	14	14	14	14	14	14
15	15	15	15	15	15	15
16	16	16	16	16	16	16
17	17	17	17	17	17	17
18	18	18	18	18	18	18
19	19	19	19	19	19	19
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21	21	21	21	21	21	21
22	22	22	22	22	22	22
23	23	23	23	23	23	23
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26	26	26	26	26	26	26
27	27	27	27	27	27	27
28	28	28	28	28	28	28
29	29	29	29	29	29	29
30	30	30	30	30	30	30
31	31	31	31	31	31	31
32	32	32	32	32	32	32
33	33	33	33	33	33	33
34	34	34	34	34	34	34
35	35	35	35	35	35	35
36	36	36	36	36	36	36
37	37	37	37	37	37	37
38	38	38	38	38	38	38
39	39	39	39	39	39	39
40	40	40	40	40	40	40

Percent frequency of occurrence of wave period and height  
 --- 2% of observed waves had a height of 11.5 meters and a period of 10.11 seconds  
 --- indicates < 5% but > 0  
 --- Number of observations  
 Waves are selected on the basis of the higher of sea and swell when both are reported; if both heights are equal, the wave with the longer period is selected

BLACK LINE Percent frequency of wave height  $\geq 3.5$  meters ( $\geq 12$  feet)  
 BLUE LINE Percent frequency of wave height  $\geq 6$  meters ( $\geq 20$  feet)  
 BLUE NUMBER Maximum observed wave height (meters)



17 Wave height thresholds (hazardous)

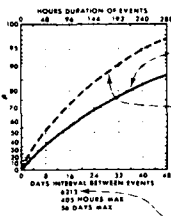


January

18 Low pressure center movement

**Legend**

**Persistence of visibility <2 n. mi.**



Hours duration of events - Days interval between events  
 Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve  
 --- (80% of the events had a duration ≤ 216 hours.)

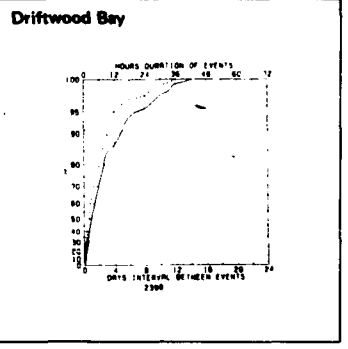
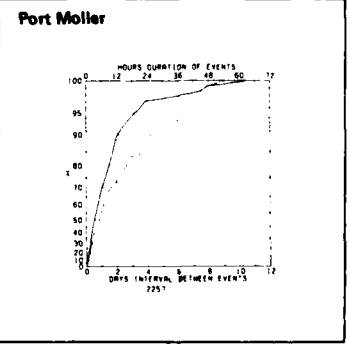
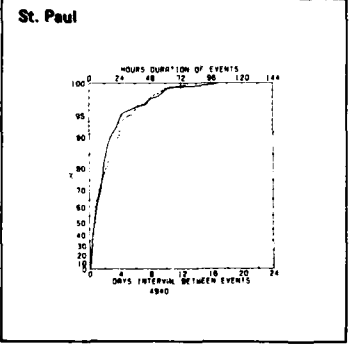
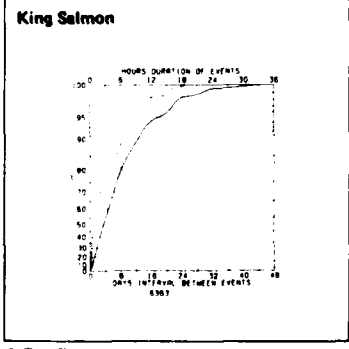
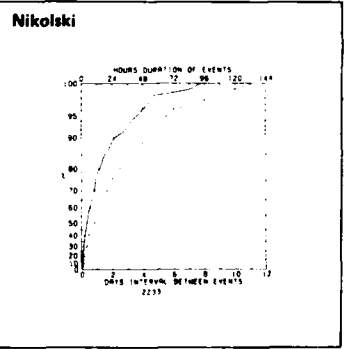
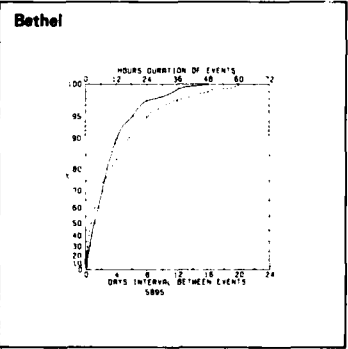
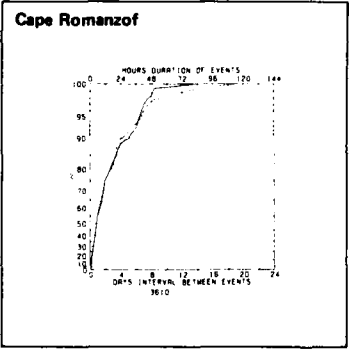
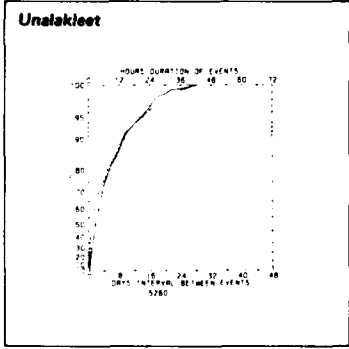
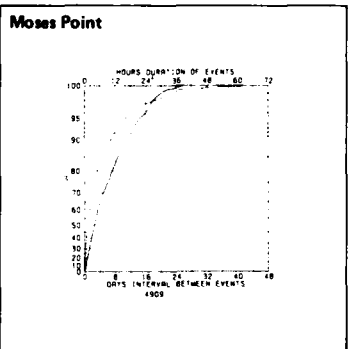
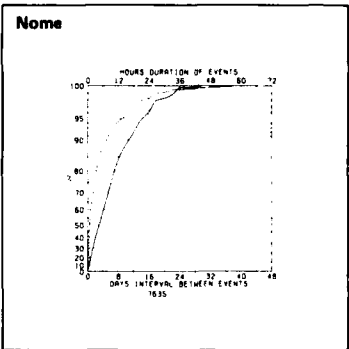
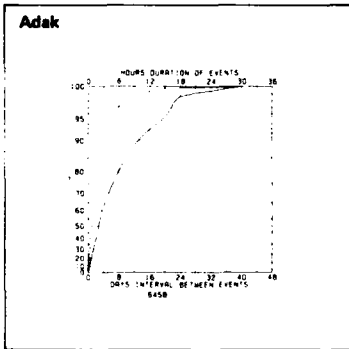
Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve  
 --- (88% of the events were followed by another event in 28 days or less.)

The maximum value(s) of hours duration and/or the days interval will be displayed when the graph limits are exceeded.

Durations and intervals for a particular month extend from the time they begin (or the first of the month if already in progress) and are terminated at the actual ending time, regardless of what month that may be.

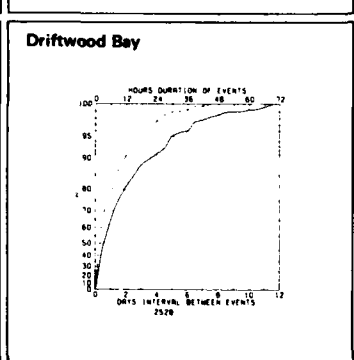
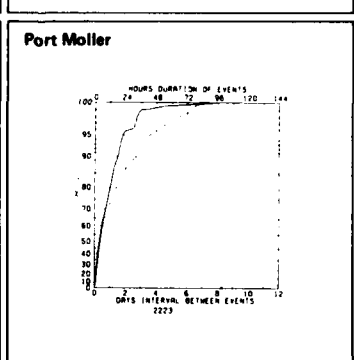
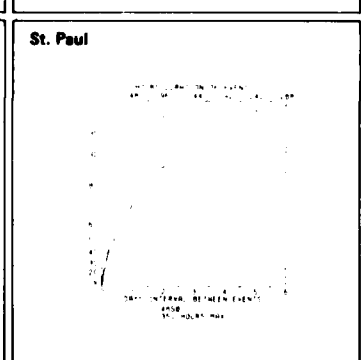
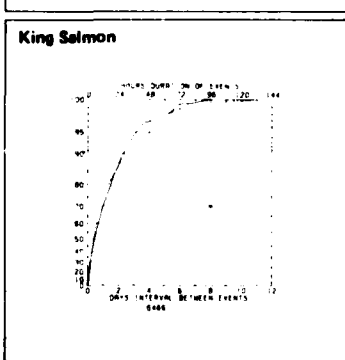
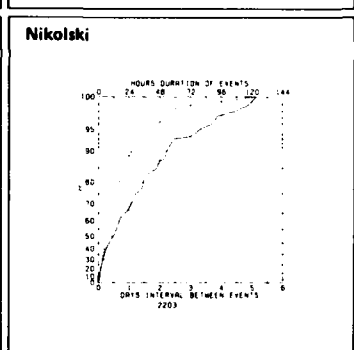
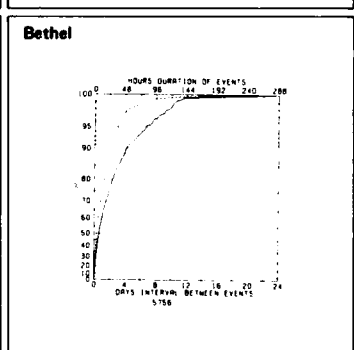
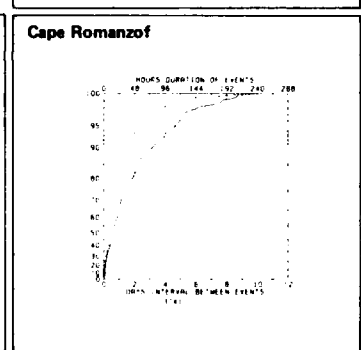
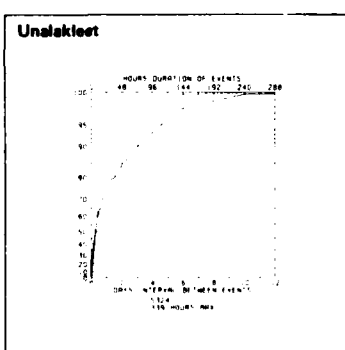
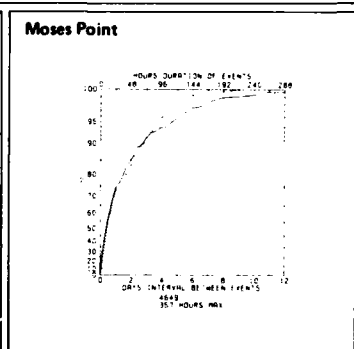
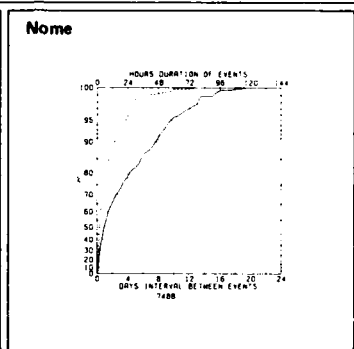
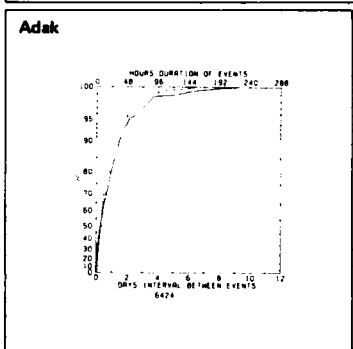
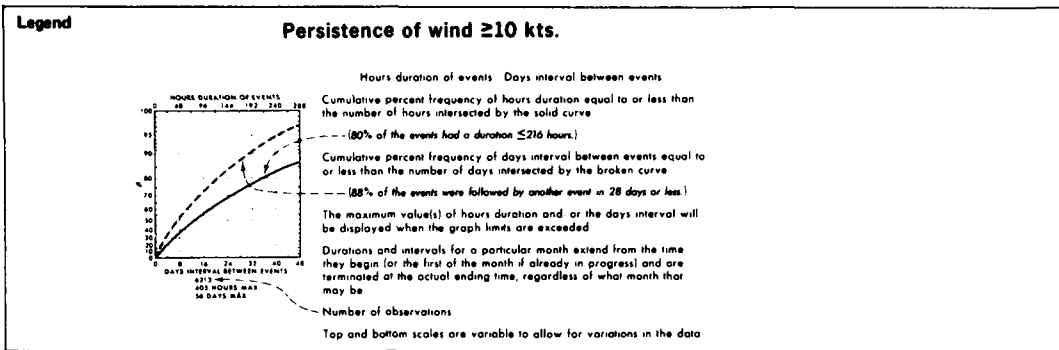
Number of observations

Top and bottom scales are variable to allow for variations in the data



**19 Persistence of visibility <2 n. mi.**

**January**

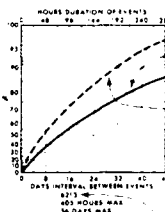


**January** **20 Persistence of wind  $\geq 10$  kts.**



**Legend**

**Persistence of wind  $\geq 20$  kts.**



Hours duration of events Days interval between events  
 Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve

(80% of the events had a duration  $\leq 216$  hours.)

Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve

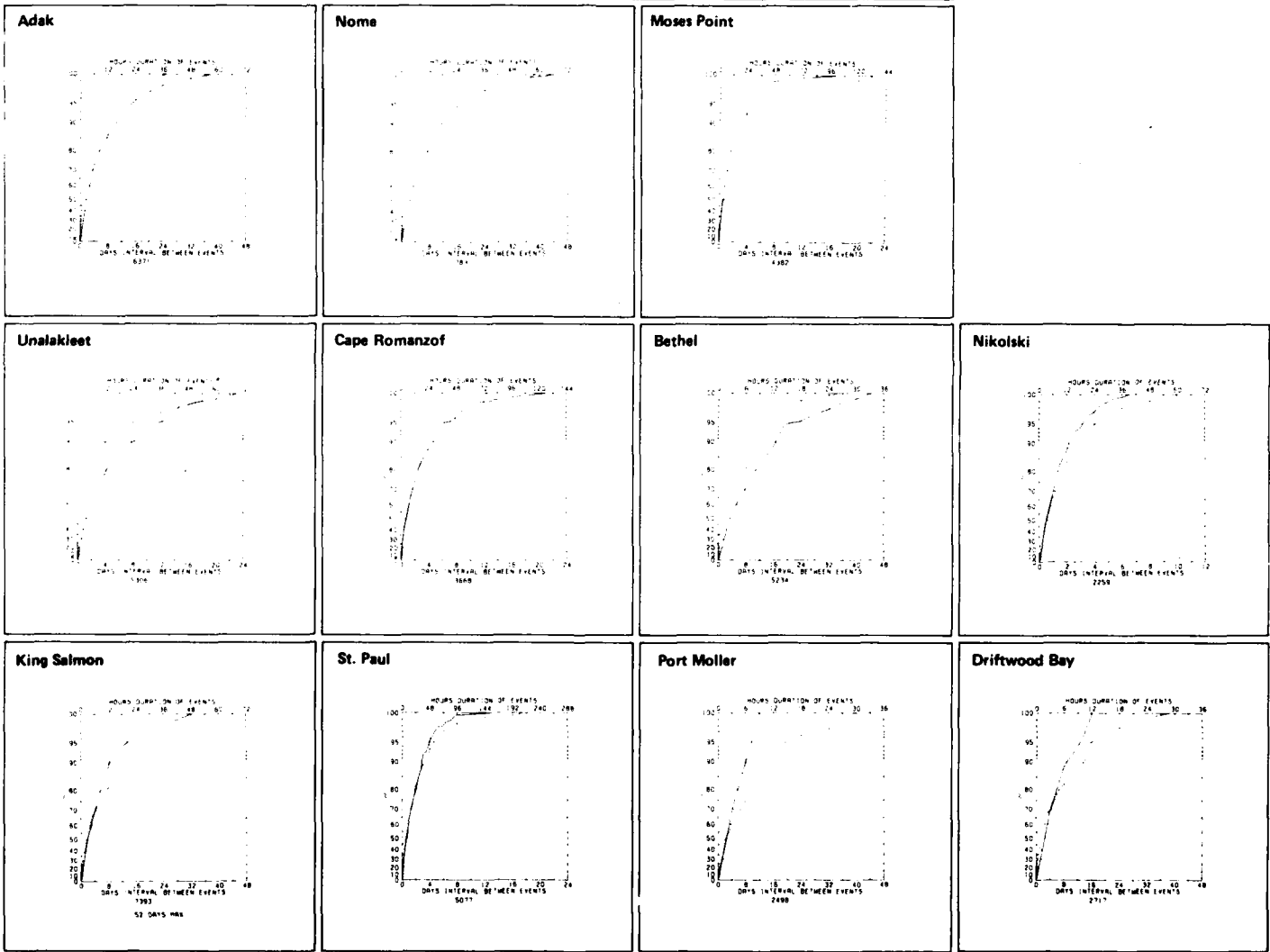
(88% of the events were followed by another event in 28 days or less.)

The maximum values of hours duration and/or the days interval will be displayed when the graph limits are exceeded

Durations and intervals for a particular month extend from the time they begin (or the first of the month if already in progress) and are terminated at the actual ending time regardless of what month that may be

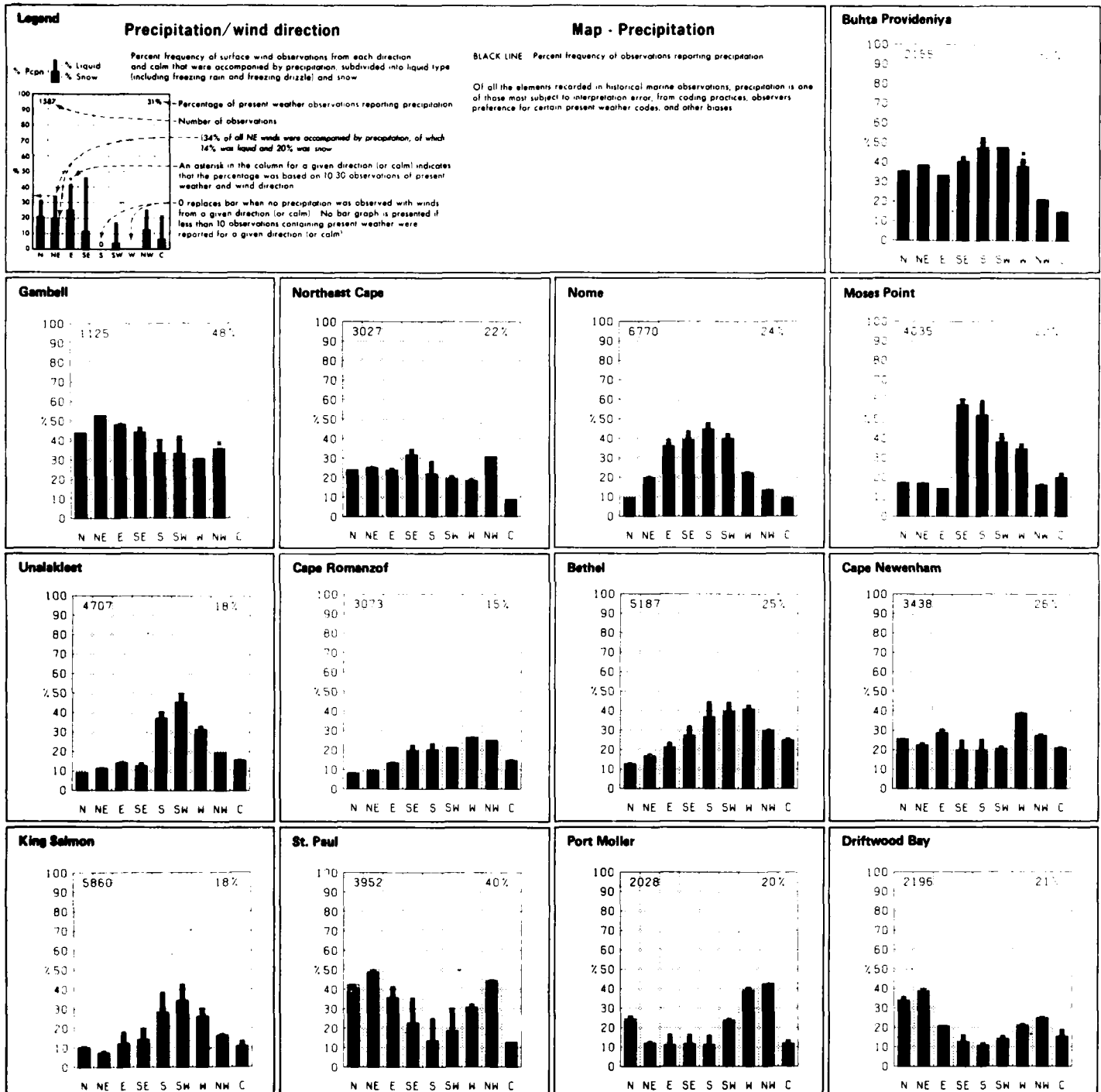
Number of observations

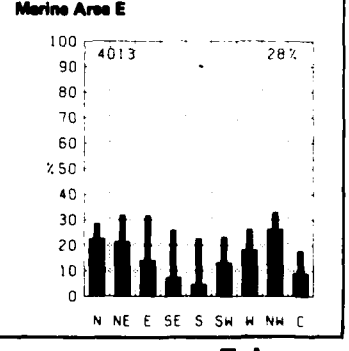
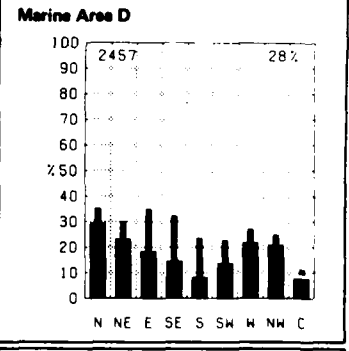
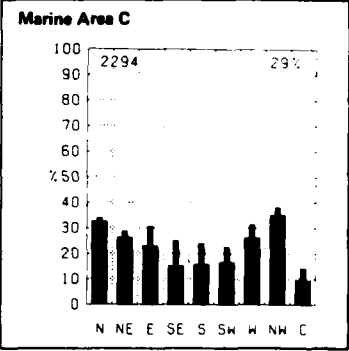
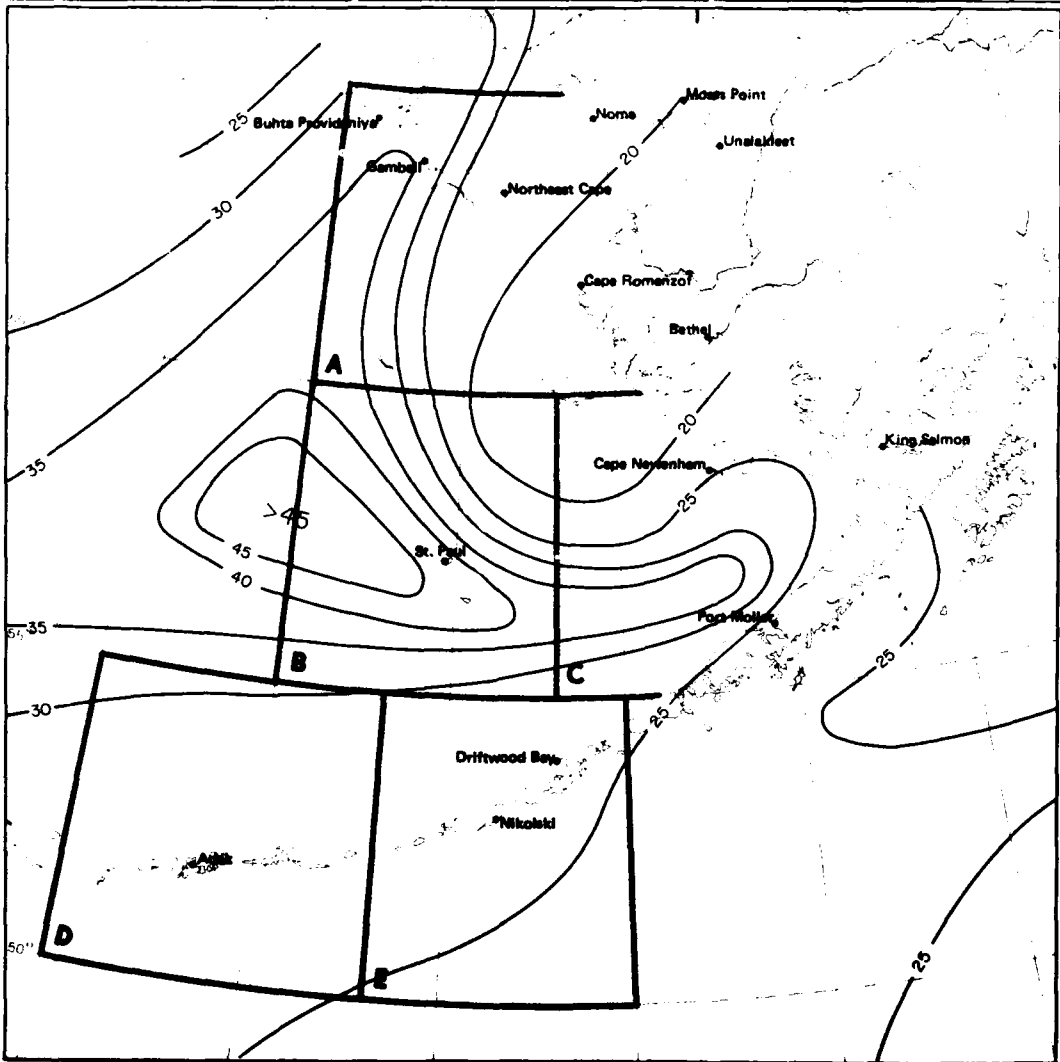
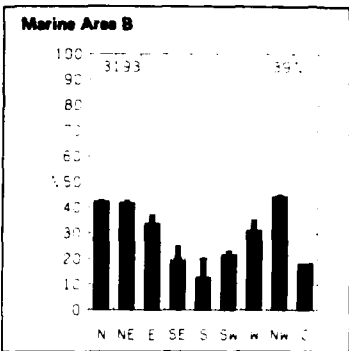
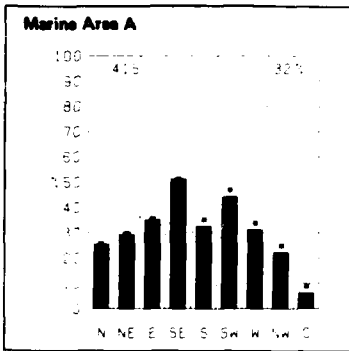
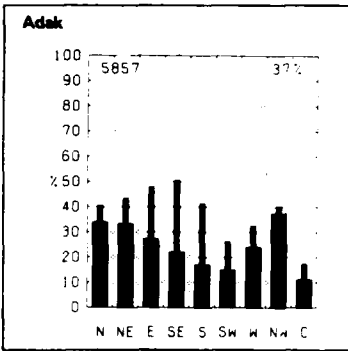
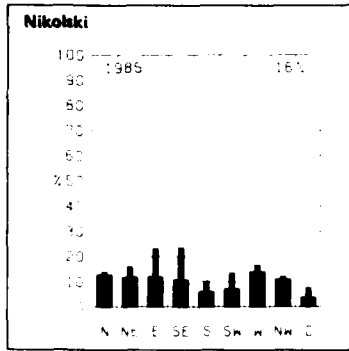
Top and bottom scales are variable to allow for variations in the data



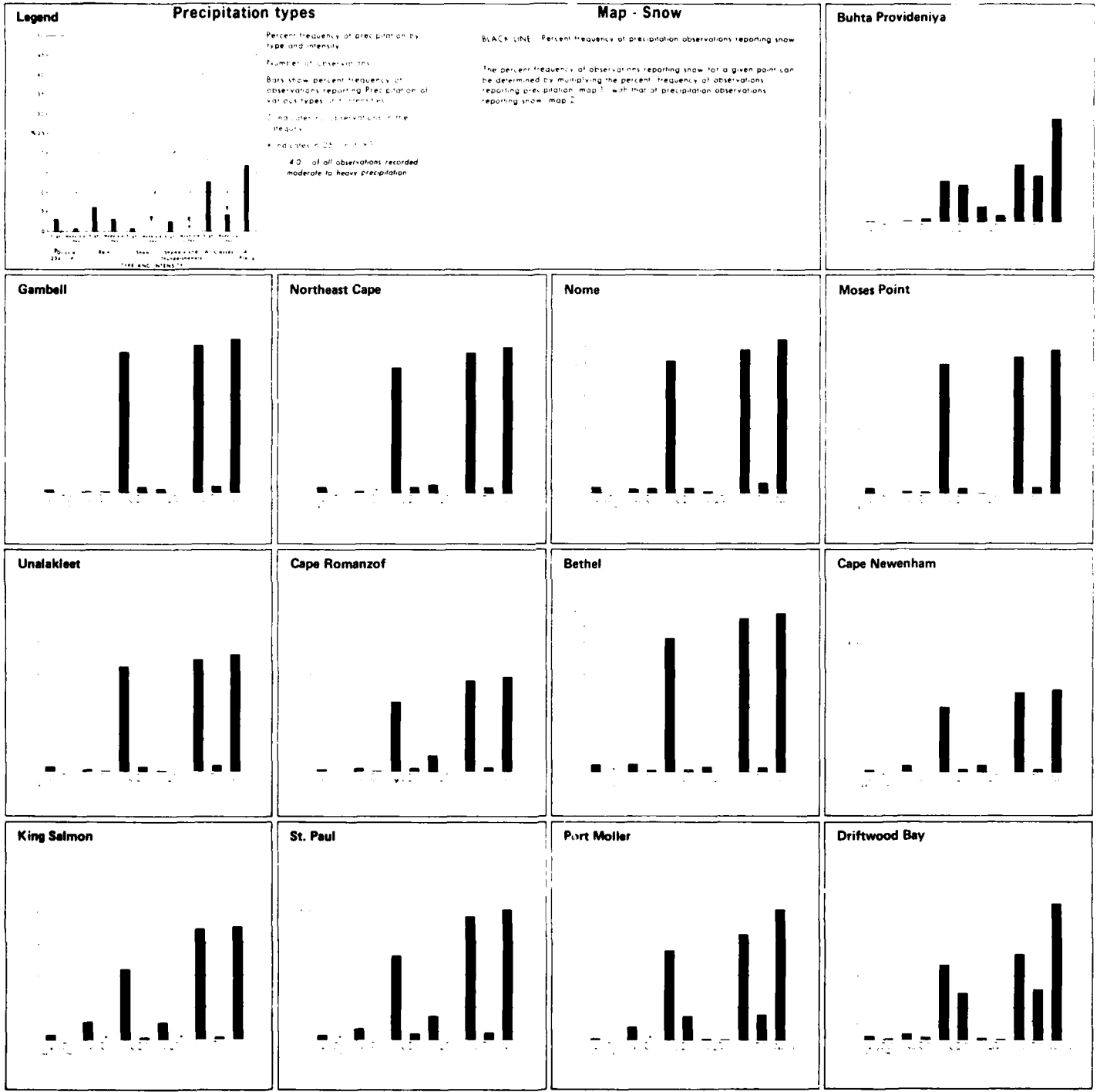
**21 Persistence of wind  $\geq 20$  kts.**

**January**



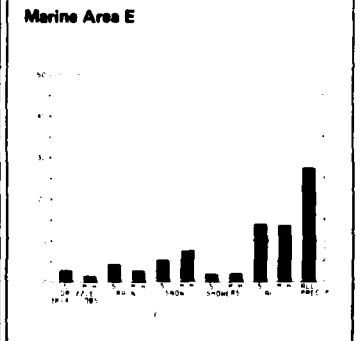
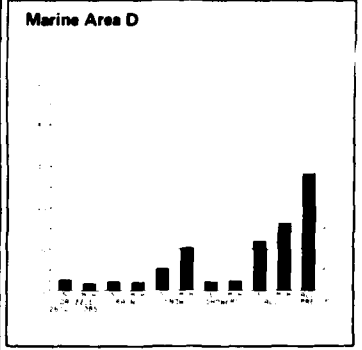
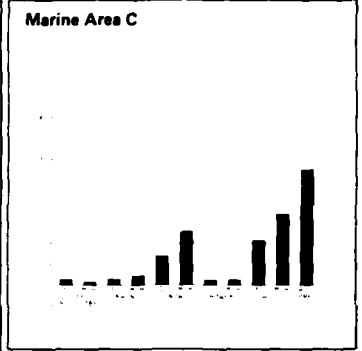
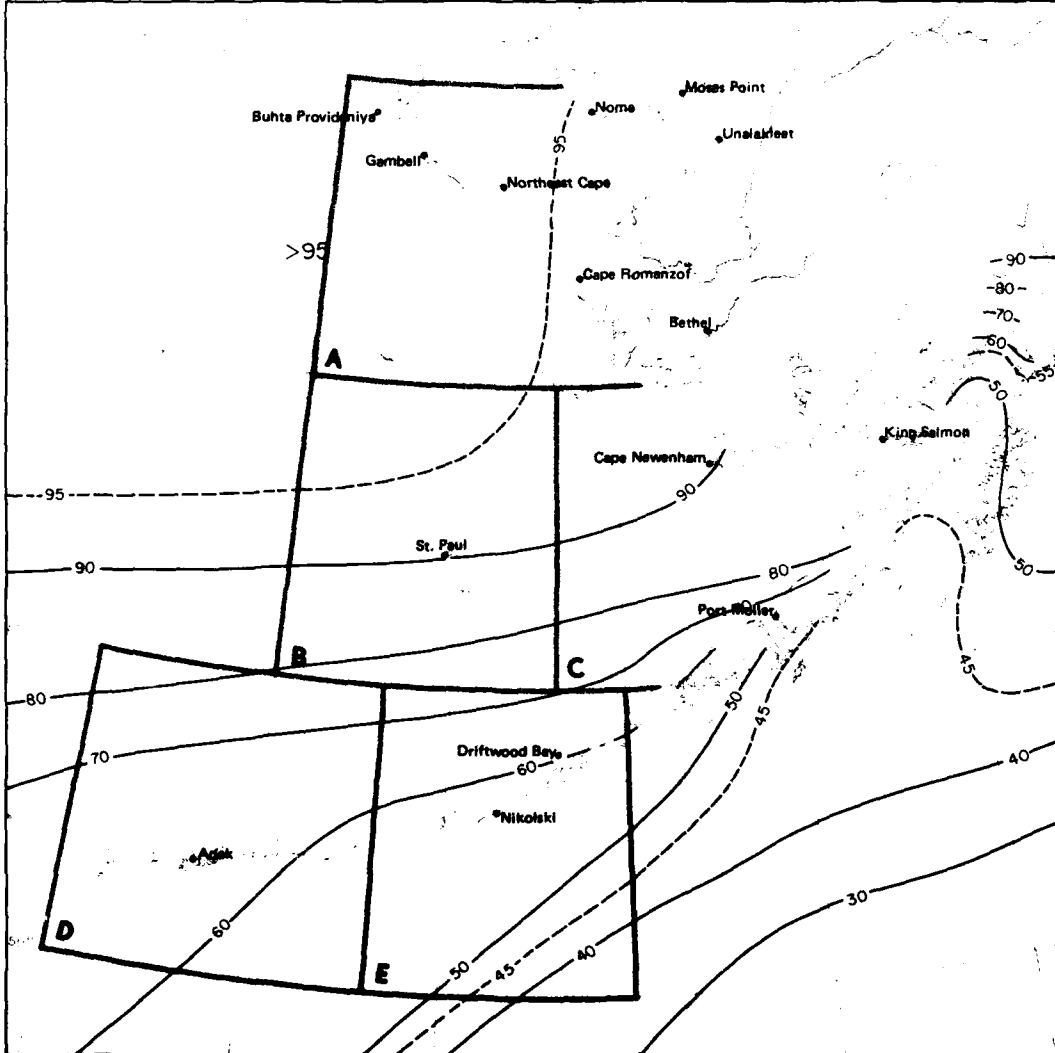
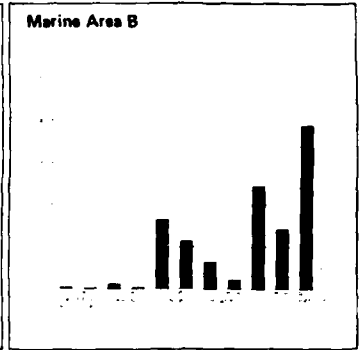
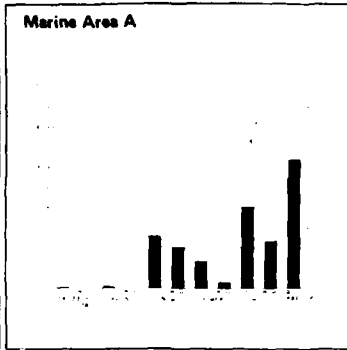
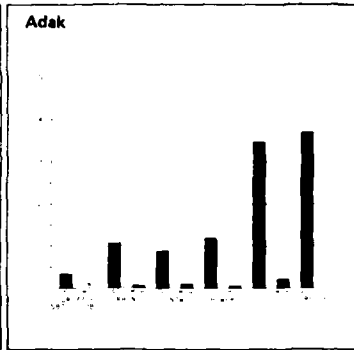
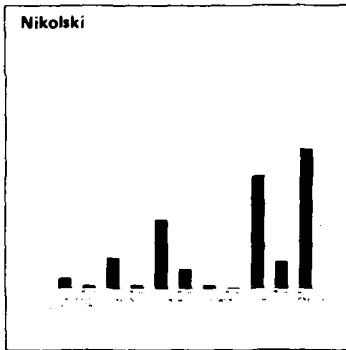


**1 Precipitation**



February  
66

2 Precipitation types

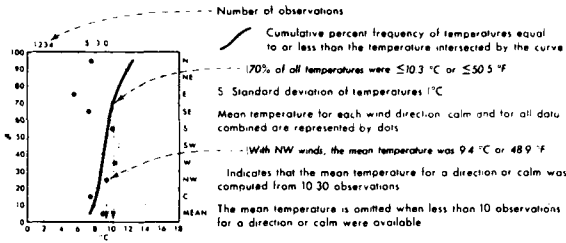


2 Snow

February

**Legend**

**Air temperature/wind direction**



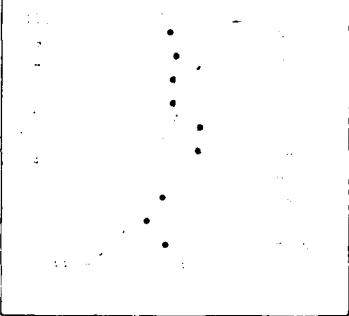
**Map - Air temperature mean and thresholds**

- BLACK LINE Percent frequency of temperature  $\leq 0^{\circ}\text{C}$  ( $\leq 32^{\circ}\text{F}$ )
- RED LINE Mean air temperature  $^{\circ}\text{C}$
- BLUE LINE Percent frequency of wind chill temperature  $\leq 30^{\circ}\text{C}$  ( $\leq 22^{\circ}\text{F}$ )

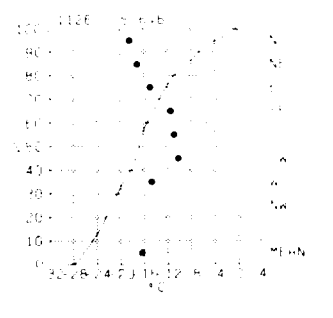
Air temperature readings recorded on transient ships in warm, sunny weather appear biased toward high temperatures, apparently because of improper instrument exposure and ventilation. Despite the inaccuracies, the large scale patterns and mean gradients of the isopleth analyses are relatively accurate.

The temperature scale of the graph may vary in both range and class interval. The percentage of temperature observations greater than a given value can be obtained by subtracting the cumulative percent frequency of that value from 100%. The number of observations and the standard deviation plus the plotted points on the graphs are based on those observations reporting both temperature and wind direction. The cumulative curve is based on all observations reporting temperature with or without wind direction.

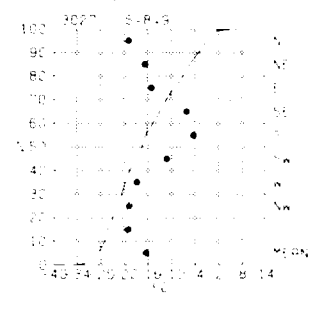
**Buhta Provideniya**



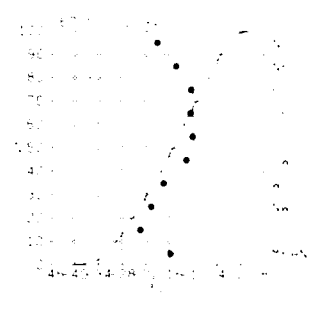
**Gambell**



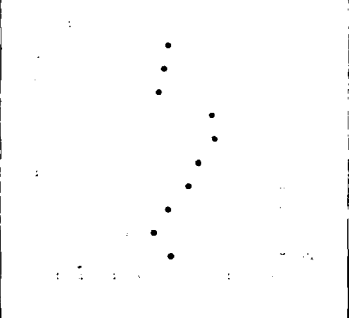
**Northeast Cape**



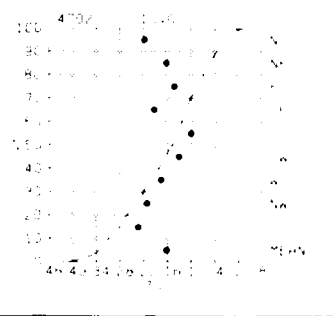
**Nome**



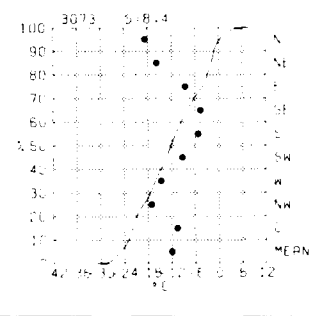
**Moses Point**



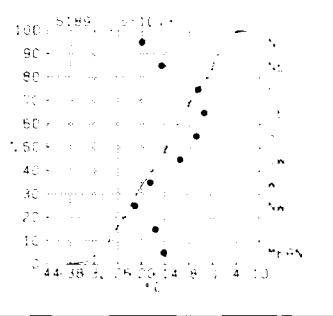
**Unalakleet**



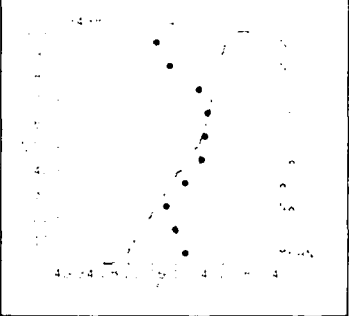
**Cape Romanzof**



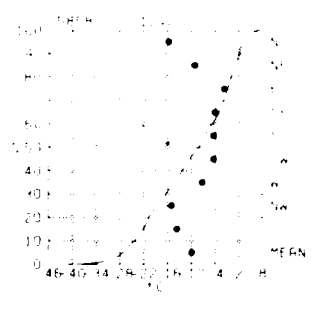
**Bethel**



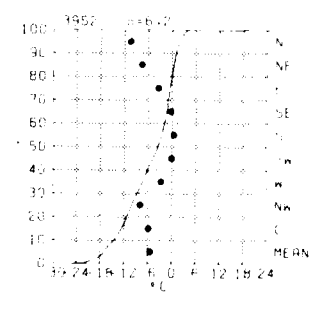
**Cape Newenham**



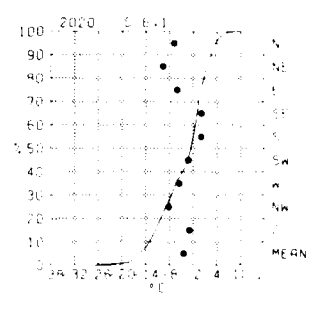
**King Salmon**



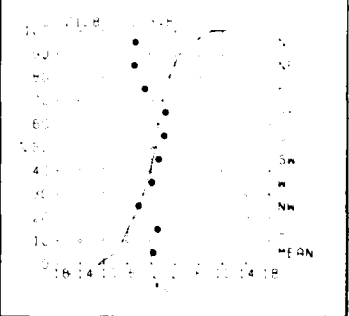
**St. Paul**

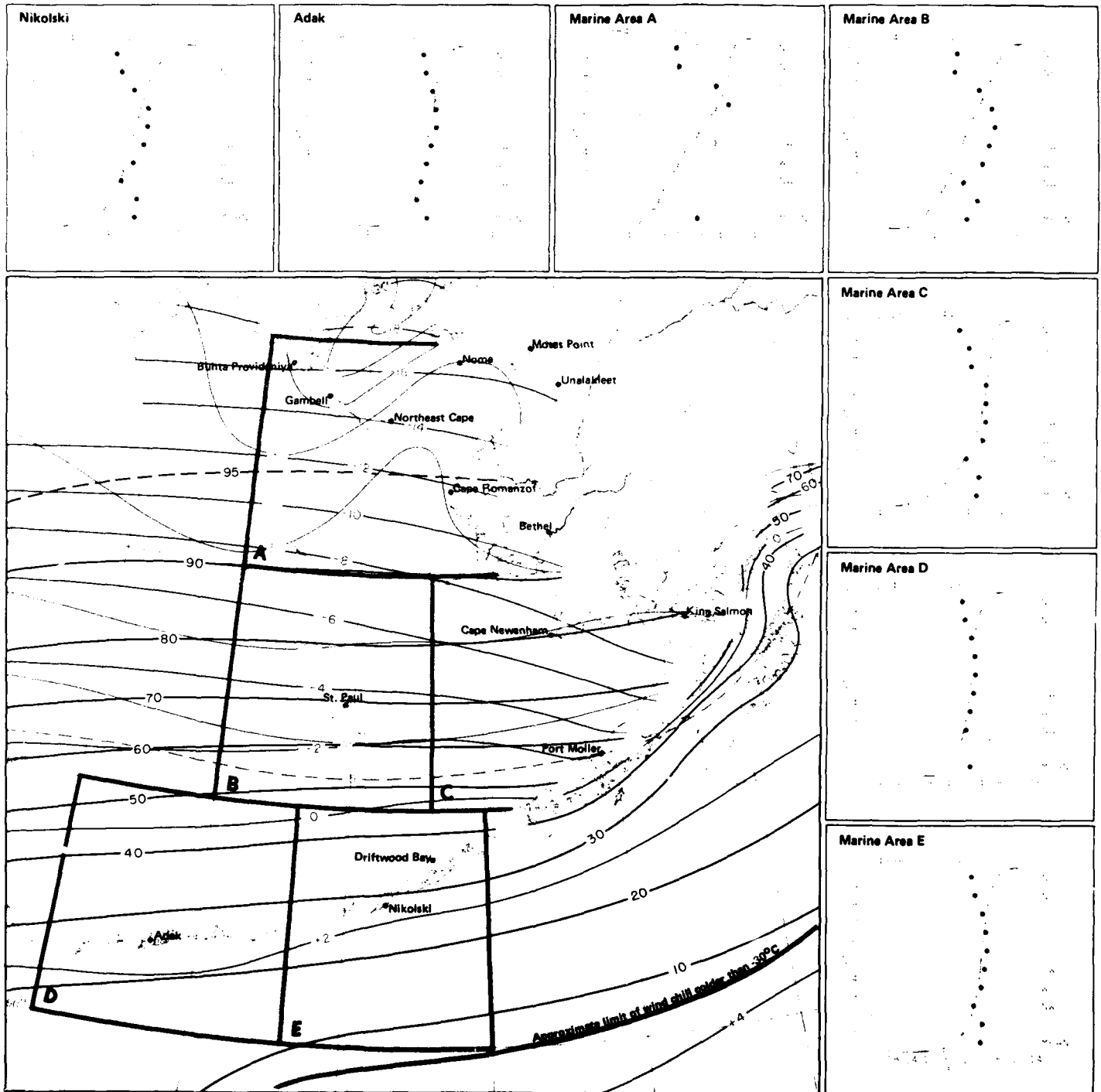


**Port Moller**



**Driftwood Bay**



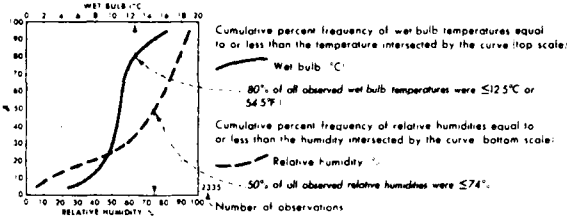


3 Air temperature mean and thresholds

February

**Legend**

**Wet bulb/relative humidity**



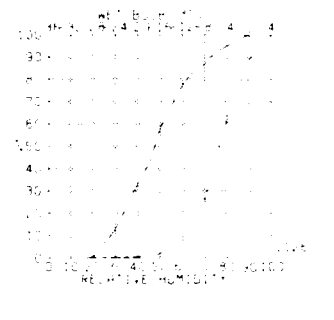
**Map - Mean dew point temperature**

BLACK LINE - Mean dew point temperature, °C  
 The observation count of the graph reflects those observations reporting both air and wet bulb temperatures; both are required in computing the relative humidity. The percentage of observations of either element greater than a given value can be obtained by subtracting the cumulative percent frequency of that value from 100%.

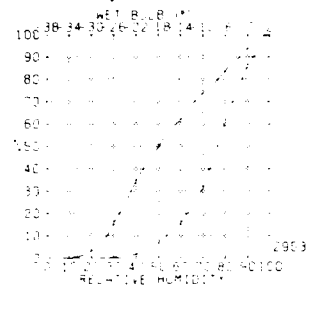
**Buhta Provideniya**

Insufficient Data

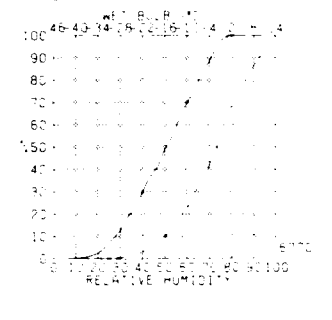
**Gambell**



**Northeast Cape**



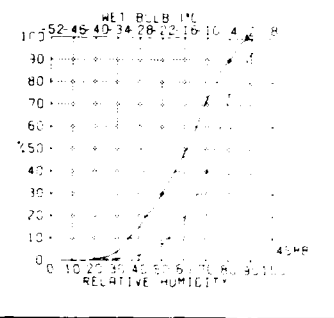
**Nome**



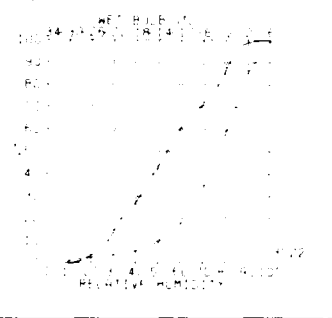
**Moses Point**



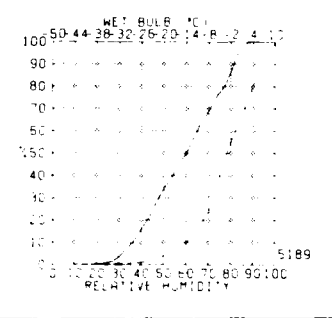
**Unalakleet**



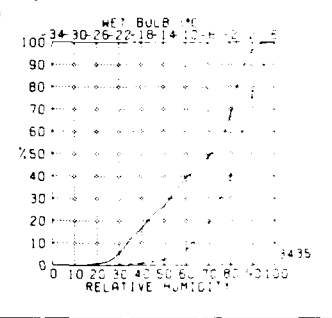
**Cape Romanzof**



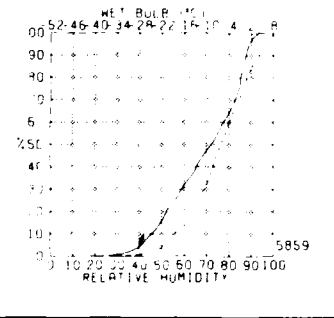
**Bethel**



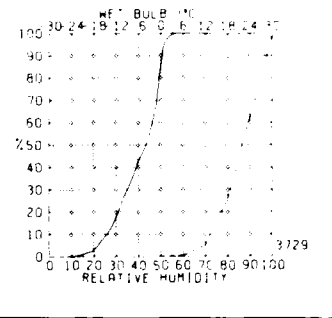
**Cape Newenham**



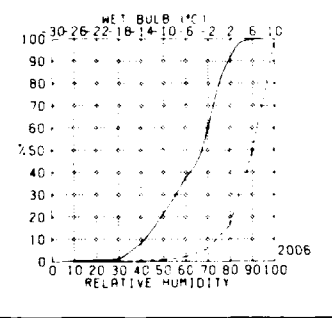
**King Salmon**



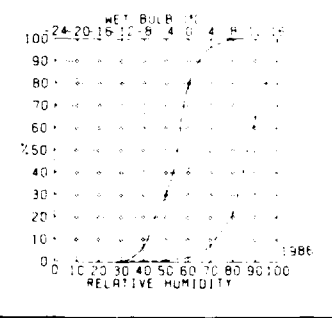
**St. Paul**



**Port Moller**



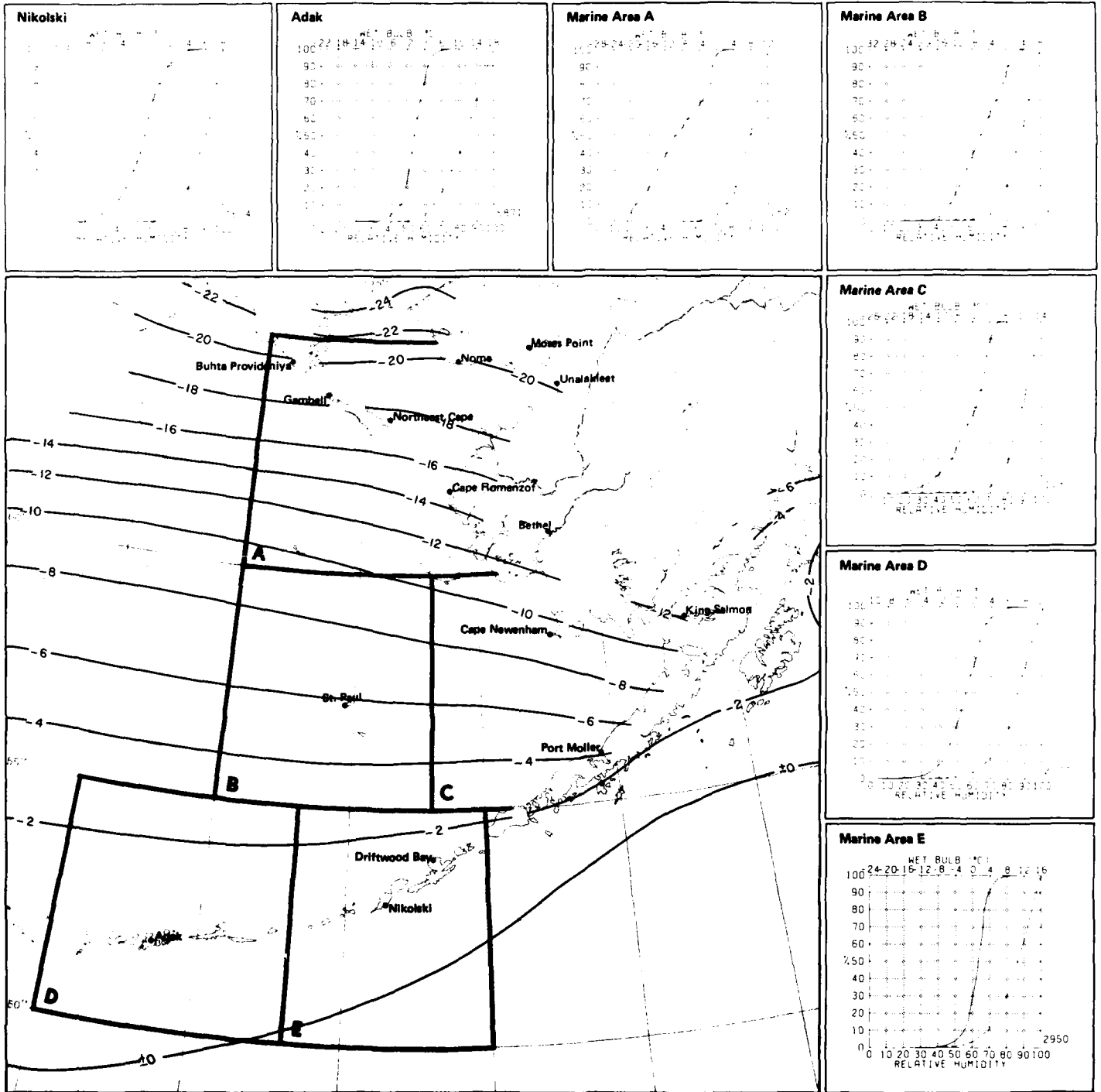
**Driftwood Bay**



**February**

**4 Wet bulb/relative humidity**



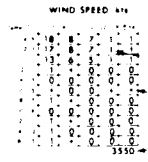


4 Mean dew point temperature

February

**Legend**

**Air temperature/wind speed**



Percent frequency of simultaneous occurrence of specified temperature (°C) and wind speed knots  
 - 1% of all observations reported temperature 2.3 C simultaneously with wind speed of 22.33 kts  
 - Indicates < 5% but > 0  
 - Number of observations

**Map - Air temperature extremes (°C)**

BLACK LINE Maximum 99% air temperature 1% of temperatures were greater than the given value  
 BLUE LINE Minimum 1% air temperature 1% of temperatures were equal to or less than the given value

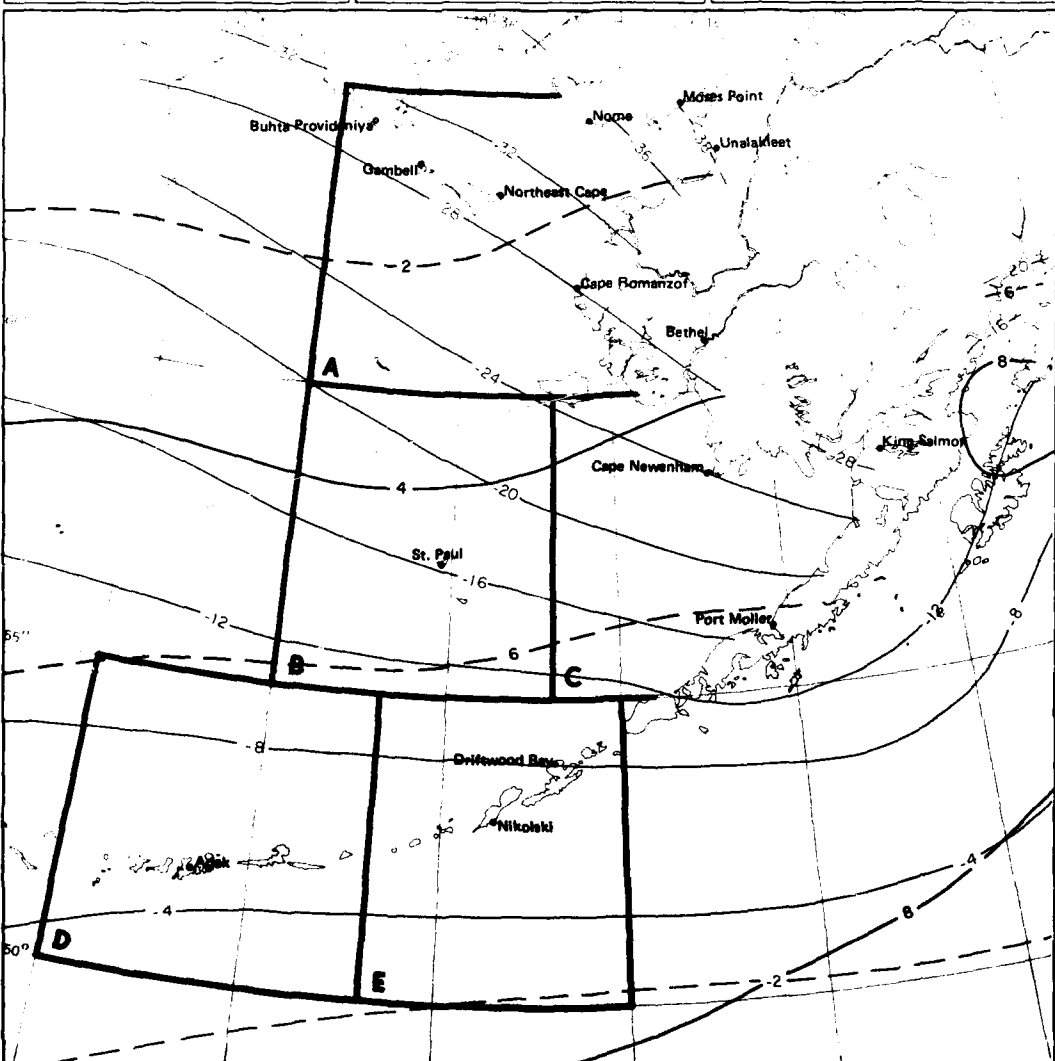
The graph can be used to determine the extent of human discomfort from the combined effects of extreme heat or cold and winds or to estimate the likelihood of superstructure icing (icing potential increases as the air temperature drops below freezing and the winds increase above 10 knots (20 mph) and may become quite severe with temperatures equal to or less than 9°C (16°F) and winds equal to or greater than 34 knots (63 mph)

**Buhta Provideniya**

**Gambell**

WIND SPEED (KTS)	0-3	4-10	11-20	21-33	34+
8.9	0	0	0	0	0
6.7	0	0	0	0	0
4.5	0	0	0	0	0
2.3	0	0	0	0	0
0.1	0	0	0	0	0
2.3	0	0	0	0	0
4.5	0	0	0	0	0
6.7	0	0	0	0	0
8.9	0	0	0	0	0
10.9	0	0	0	0	0
13.1	0	0	0	0	0
15.3	0	0	0	0	0
17.5	0	0	0	0	0
19.7	0	0	0	0	0
21.9	0	0	0	0	0
24.1	0	0	0	0	0
26.3	0	0	0	0	0
28.5	0	0	0	0	0
30.7	0	0	0	0	0
32.9	0	0	0	0	0
35.1	0	0	0	0	0
37.3	0	0	0	0	0
39.5	0	0	0	0	0
41.7	0	0	0	0	0
43.9	0	0	0	0	0
46.1	0	0	0	0	0
48.3	0	0	0	0	0
50.5	0	0	0	0	0
52.7	0	0	0	0	0
54.9	0	0	0	0	0
57.1	0	0	0	0	0
59.3	0	0	0	0	0
61.5	0	0	0	0	0
63.7	0	0	0	0	0
65.9	0	0	0	0	0
68.1	0	0	0	0	0
70.3	0	0	0	0	0
72.5	0	0	0	0	0
74.7	0	0	0	0	0
76.9	0	0	0	0	0
79.1	0	0	0	0	0
81.3	0	0	0	0	0
83.5	0	0	0	0	0
85.7	0	0	0	0	0
87.9	0	0	0	0	0
90.1	0	0	0	0	0
92.3	0	0	0	0	0
94.5	0	0	0	0	0
96.7	0	0	0	0	0
98.9	0	0	0	0	0
101.1	0	0	0	0	0
103.3	0	0	0	0	0
105.5	0	0	0	0	0
107.7	0	0	0	0	0
109.9	0	0	0	0	0
112.1	0	0	0	0	0
114.3	0	0	0	0	0
116.5	0	0	0	0	0
118.7	0	0	0	0	0
120.9	0	0	0	0	0
123.1	0	0	0	0	0
125.3	0	0	0	0	0
127.5	0	0	0	0	0
129.7	0	0	0	0	0
131.9	0	0	0	0	0
134.1	0	0	0	0	0
136.3	0	0	0	0	0
138.5	0	0	0	0	0
140.7	0	0	0	0	0
142.9	0	0	0	0	0
145.1	0	0	0	0	0
147.3	0	0	0	0	0
149.5	0	0	0	0	0
151.7	0	0	0	0	0
153.9	0	0	0	0	0
156.1	0	0	0	0	0
158.3	0	0	0	0	0
160.5	0	0	0	0	0
162.7	0	0	0	0	0
164.9	0	0	0	0	0
167.1	0	0	0	0	0
169.3	0	0	0	0	0
171.5	0	0	0	0	0
173.7	0	0	0	0	0
175.9	0	0	0	0	0
178.1	0	0	0	0	0
180.3	0	0	0	0	0
182.5	0	0	0	0	0
184.7	0	0	0	0	0
186.9	0	0	0	0	0
189.1	0	0	0	0	0
191.3	0	0	0	0	0
193.5	0	0	0	0	0
195.7	0	0	0	0	0
197.9	0	0	0	0	0
200.1	0	0	0	0	0
202.3	0	0	0	0	0
204.5	0	0	0	0	0
206.7	0	0	0	0	0
208.9	0	0	0	0	0
211.1	0	0	0	0	0
213.3	0	0	0	0	0
215.5	0	0	0	0	0
217.7	0	0	0	0	0
219.9	0	0	0	0	0
222.1	0	0	0	0	0
224.3	0	0	0	0	0
226.5	0	0	0	0	0
228.7	0	0	0	0	0
230.9	0	0	0	0	0
233.1	0	0	0	0	0
235.3	0	0	0	0	0
237.5	0	0	0	0	0
239.7	0	0	0	0	0
241.9	0	0	0	0	0
244.1	0	0	0	0	0
246.3	0	0	0	0	0
248.5	0	0	0	0	0
250.7	0	0	0	0	0
252.9	0	0	0	0	0
255.1	0	0	0	0	0
257.3	0	0	0	0	0
259.5	0	0	0	0	0
261.7	0	0	0	0	0
263.9	0	0	0	0	0
266.1	0	0	0	0	0
268.3	0	0	0	0	0
270.5	0	0	0	0	0
272.7	0	0	0	0	0
274.9	0	0	0	0	0
277.1	0	0	0	0	0
279.3	0	0	0	0	0
281.5	0	0	0	0	0
283.7	0	0	0	0	0
285.9	0	0	0	0	0
288.1	0	0	0	0	0
290.3	0	0	0	0	0
292.5	0	0	0	0	0
294.7	0	0	0	0	0
296.9	0	0	0	0	0
299.1	0	0	0	0	0
301.3	0	0	0	0	0
303.5	0	0	0	0	0
305.7	0	0	0	0	0
307.9	0	0	0	0	0
310.1	0	0	0	0	0
312.3	0	0	0	0	0
314.5	0	0	0	0	0
316.7	0	0	0	0	0
318.9	0	0	0	0	0
321.1	0	0	0	0	0
323.3	0	0	0	0	0
325.5	0	0	0	0	0
327.7	0	0	0	0	0
329.9	0	0	0	0	0
332.1	0	0	0	0	0
334.3	0	0	0	0	0
336.5	0	0	0	0	0
338.7	0	0	0	0	0
340.9	0	0	0	0	0
343.1	0	0	0	0	0
345.3	0	0	0	0	0
347.5	0	0	0	0	0
349.7	0	0	0	0	0
351.9	0	0	0	0	0
354.1	0	0	0	0	0
356.3	0	0	0	0	0
358.5	0	0	0	0	0
360.7	0	0	0	0	0
362.9	0	0	0	0	0
365.1	0	0	0	0	0
367.3	0	0	0	0	0
369.5	0	0	0	0	0
371.7	0	0	0	0	0
373.9	0	0	0	0	0
376.1	0	0	0	0	0
378.3	0	0	0	0	0
380.5	0	0	0	0	0
382.7	0	0	0	0	0
384.9	0	0	0	0	0
387.1	0	0	0	0	0
389.3	0	0	0	0	0
391.5	0	0	0	0	0
393.7	0	0	0	0	0
395.9	0	0	0	0	0
398.1	0	0	0	0	0
400.3	0	0	0	0	0
402.5	0	0	0	0	0
404.7	0	0	0	0	0
406.9	0	0	0	0	0
409.1	0	0	0	0	0
411.3	0	0	0	0	0
413.5	0	0	0	0	0
415.7	0	0	0	0	0
417.9	0	0	0	0	0
420.1	0	0	0	0	0
422.3	0	0	0	0	0
424.5	0	0	0	0	0
426.7	0	0	0	0	0
428.9	0	0	0	0	0
431.1	0	0	0	0	0
433.3	0	0	0	0	0
435.5	0	0	0	0	0
437.7	0	0	0	0	0
439.9	0	0	0	0	0
442.1	0	0	0	0	0
444.3	0	0	0	0	0
446.5	0	0	0	0	0
448.7	0	0	0	0	0
450.9	0	0	0	0	0
453.1	0	0	0	0	0
455.3	0	0	0	0	0
457.5	0	0	0	0	0
459.7	0	0	0	0	0
461.9	0	0	0	0	0
464.1	0	0	0	0	0
466.3	0	0	0	0	0
468.5	0	0	0	0	0
470.7	0	0	0	0	0
472.9	0	0	0	0	0
475.1	0	0	0	0	0
477.3	0	0	0	0	0
479.5	0	0	0	0	0
481.7	0	0	0	0	0
483.9	0	0	0	0	0
486.1	0	0	0	0	0
488.3	0	0	0	0	0
490.5	0	0	0	0	0
492.7	0	0	0	0	0
494.9	0	0	0	0	0
497.1	0	0	0	0	0
499.3	0	0	0	0	0
501.5	0	0	0	0	0
503.7	0	0	0	0	0
505.9	0	0	0	0	0
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510.3	0	0	0	0	0
512.5	0	0	0	0	0
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516.9	0	0	0	0	0
519.1	0	0	0	0	0
521.3	0	0	0	0	0
523.5	0	0	0	0	0
525.7	0	0	0	0	0
527.9	0	0	0	0	0
530.1	0	0	0	0	0
532.3	0	0	0	0	0
534.5	0	0	0	0	0
536.7	0	0	0	0	0
538.9	0	0	0	0	0
541.1	0	0	0	0	0
543.3	0	0	0	0	0
545.5	0	0	0	0	0
547.7	0	0	0	0	0
549.9	0	0	0	0	0
552.1	0	0	0	0	0
554.3	0	0	0	0	0
556.5	0	0	0	0	0
558.7	0	0	0	0	0
560.9	0	0	0	0	0
563.					

Nikolski	Adak	Marine Area A	Marine Area B
<p>Observation data for Nikolski station.</p>	<p>Observation data for Adak station.</p>	<p>Observation data for Marine Area A.</p>	<p>Observation data for Marine Area B.</p>

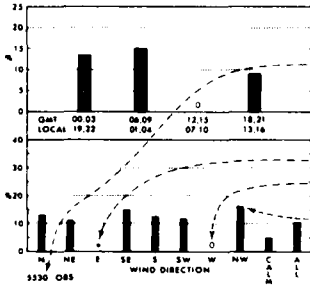


Marine Area C
<p>Observation data for Marine Area C.</p>
Marine Area D
<p>Observation data for Marine Area D.</p>
Marine Area E
<p>Observation data for Marine Area E.</p>

5 Air temperature extremes (°C)

February

**Legend Fog/time and fog/wind direction**

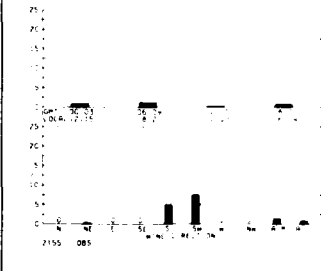


Number of observations  
 Bar graphs represent percent frequency of Fog (without precipitation) for various hour groupings and wind directions. Data are based on 100% for each hour-group and direction category.  
 \* indicates <05% but >0  
 0 indicates no fog occurred with the wind direction  
 --- (Data show that 17% of all NW winds were accompanied by Fog (without precipitation))

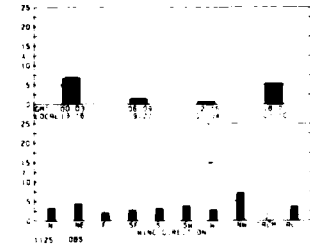
**Map - Fog**

BLACK LINE - Percent frequency of occurrence of all fog  
 BLUE LINE - Percent frequency of fog occurring without precipitation  
 The percent frequency of observations reporting fog with precipitation for a given point can be determined by computing the difference between the two analyses

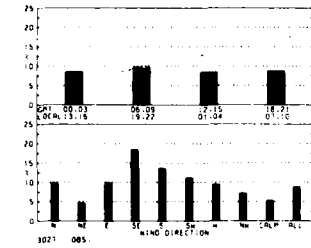
**Buhta Provideniya**



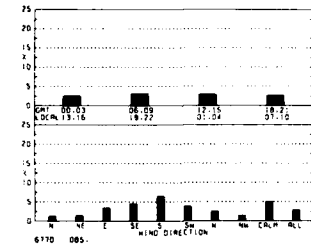
**Gambell**



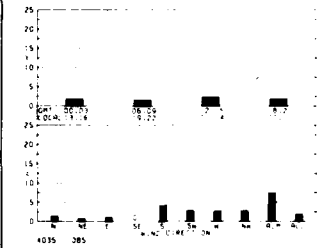
**Northeast Cape**



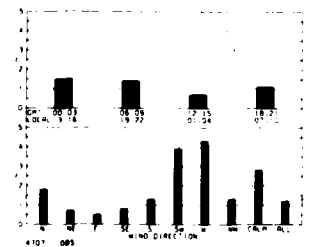
**Nome**



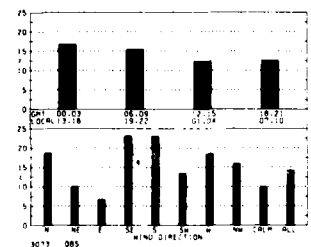
**Moses Point**



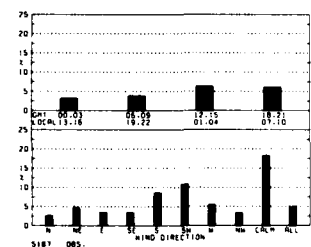
**Unalakleet**



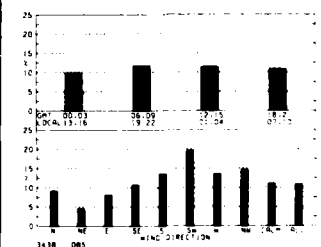
**Cape Romanzof**



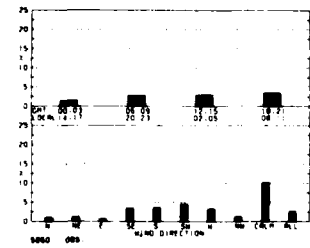
**Bethel**



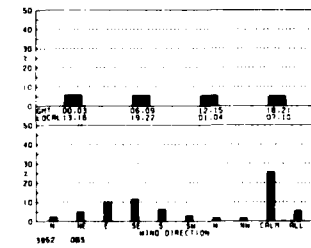
**Cape Newenham**



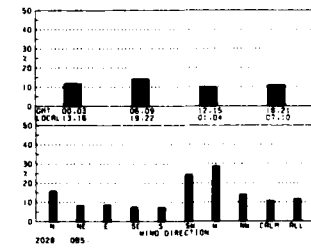
**King Salmon**



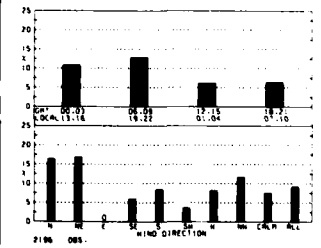
**St. Paul**

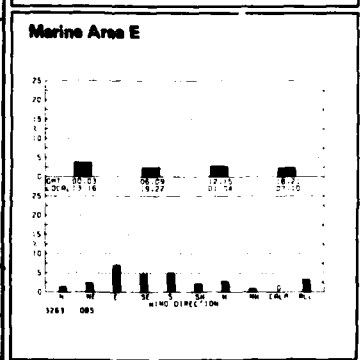
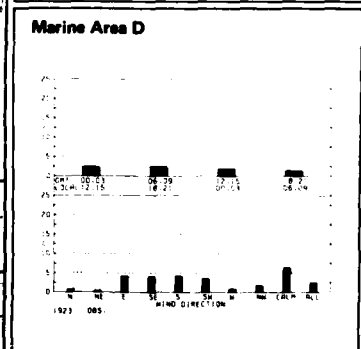
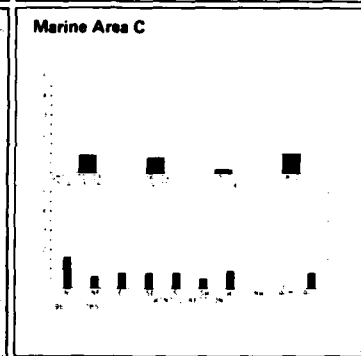
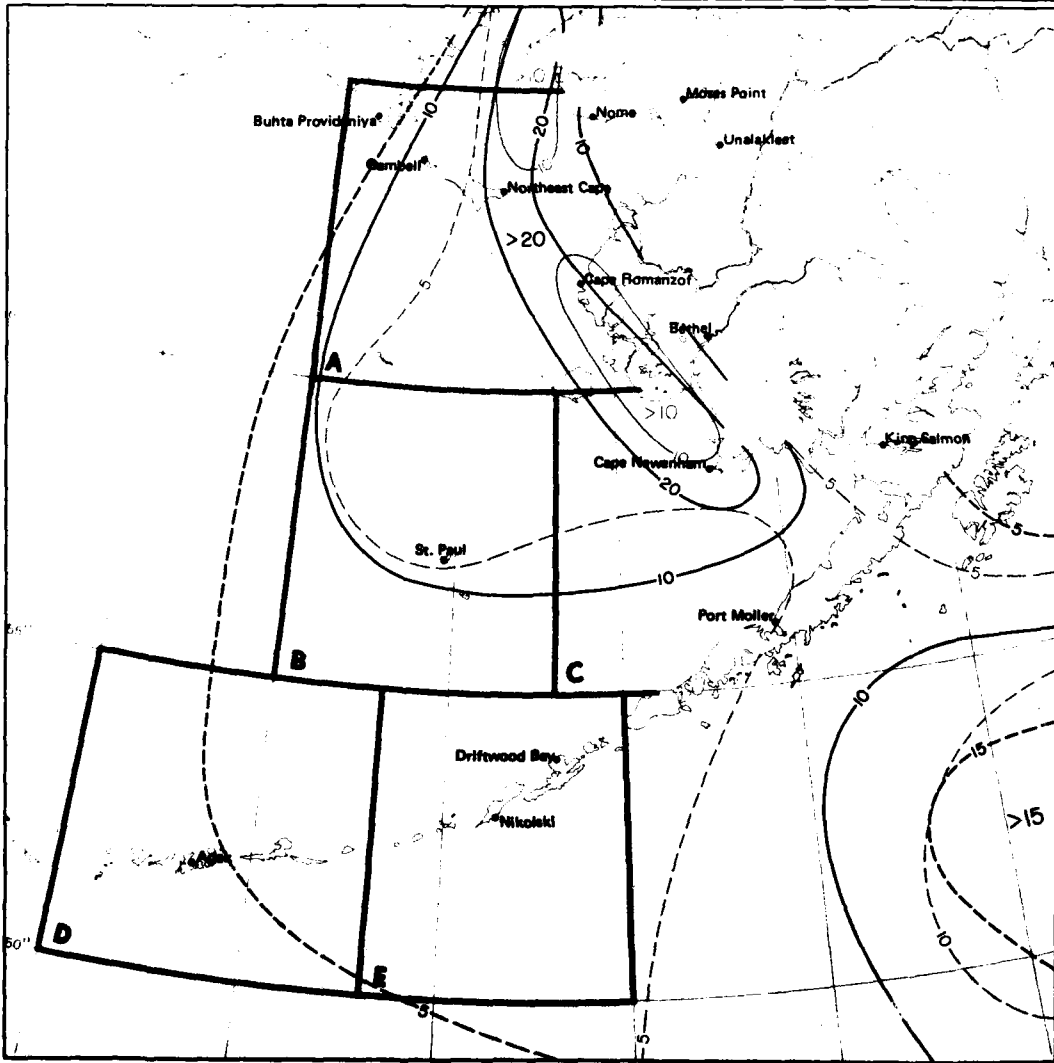
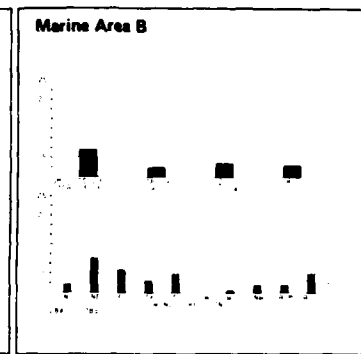
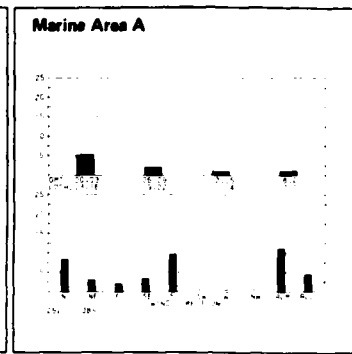
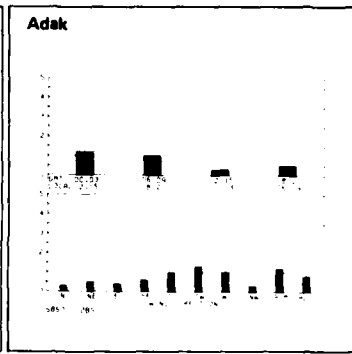
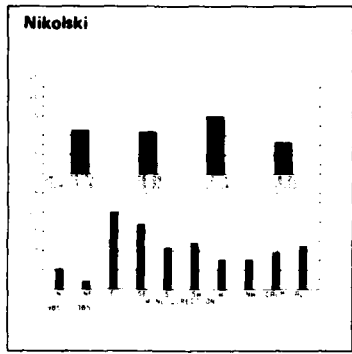


**Port Moller**



**Driftwood Bay**



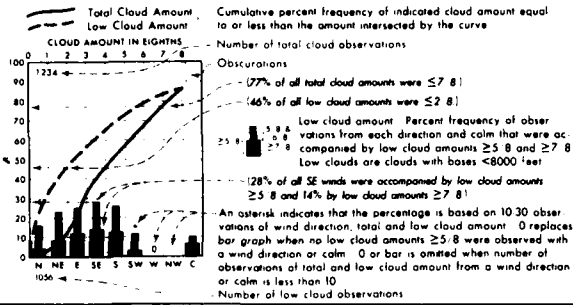


6 Fog

February

**Legend**

**Cloud cover/wind direction**

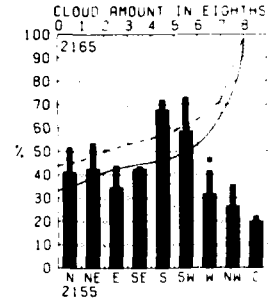


**Map - Cloud amount thresholds**

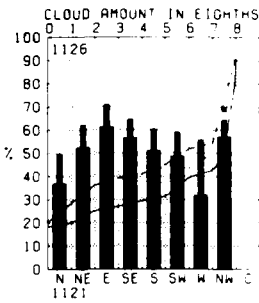
BLACK LINE Percent frequency of total cloud amount  $\leq 8$   
 BLUE LINE Percent frequency of low cloud amount  $\geq 8$

Since the number of observations reporting low cloud amount is usually less than that for total cloud amount, somewhat different samples may be used to compute the two curves on the graph. This may lead to inconsistencies where low cloud amount appears higher than the total cloud amount. Where this occurred the graph was adjusted in favor of the total cloud by making the curves coincide. The frequency of obscured conditions may be determined by subtracting the cumulative percent frequency corresponding to 8.8 coverage from 100%. In computing the bar graph, observations are considered as 8.8 coverage.

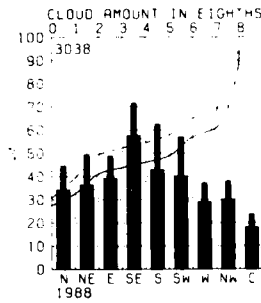
**Buhta Provideniya**



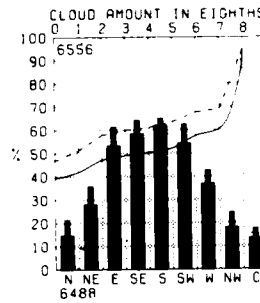
**Gambell**



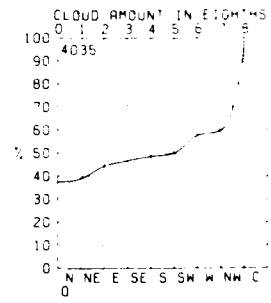
**Northeast Cape**



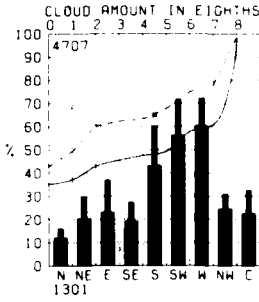
**Nome**



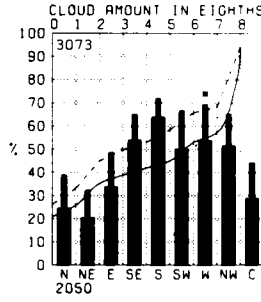
**Moses Point**



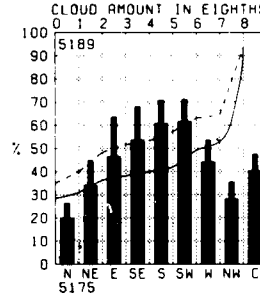
**Unalakleet**



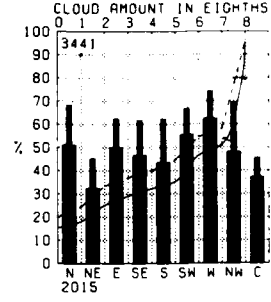
**Cape Romanzof**



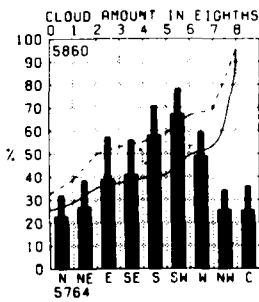
**Bethel**



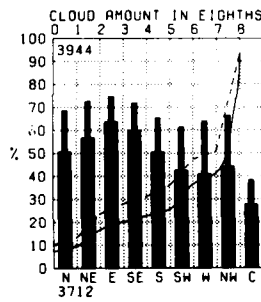
**Cape Newenham**



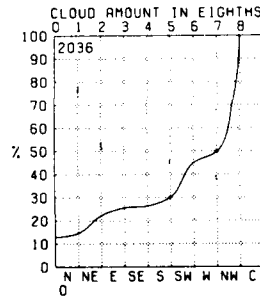
**King Salmon**



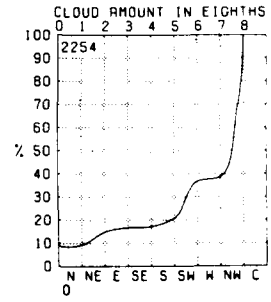
**St. Paul**



**Port Moller**

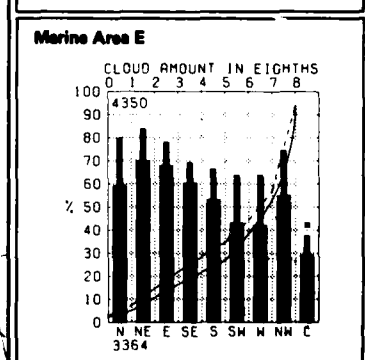
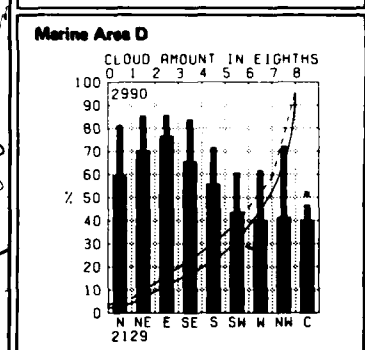
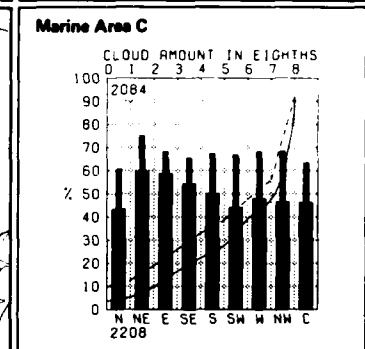
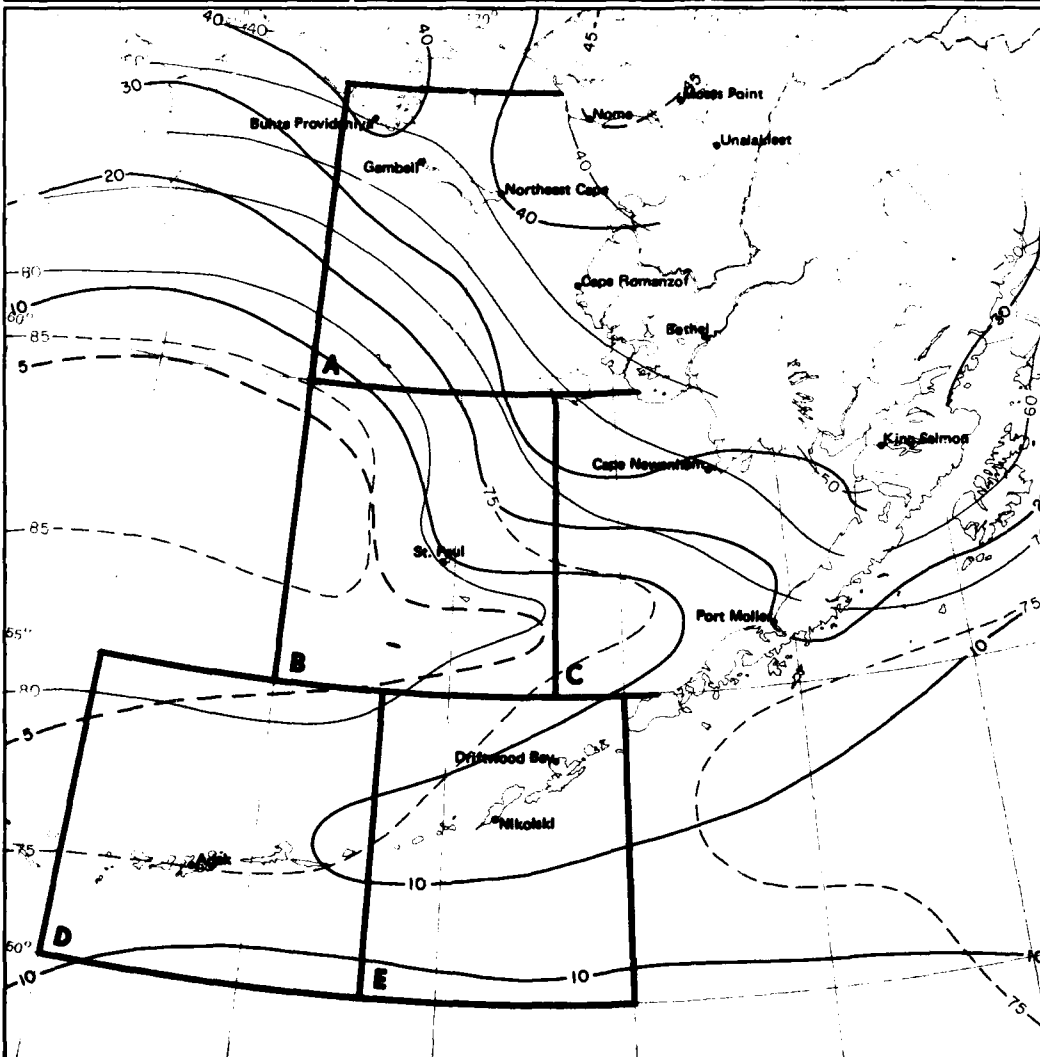
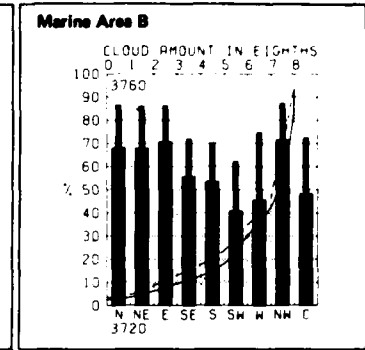
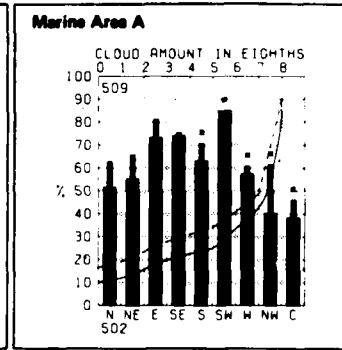
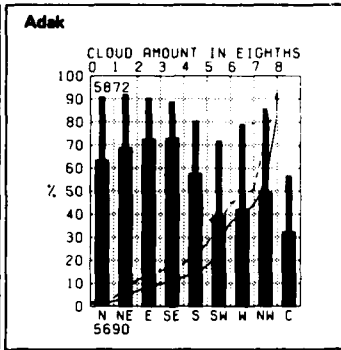
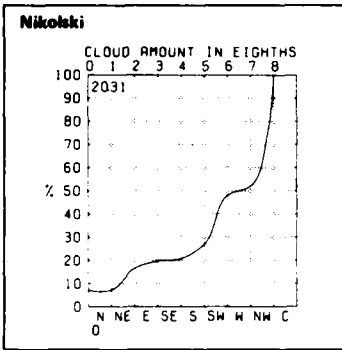


**Driftwood Bay**



**February**

**7 Cloud cover/wind direction**

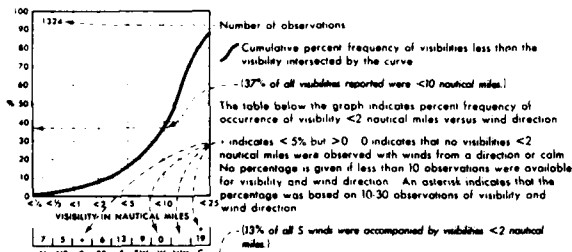


7 Cloud amount thresholds

February

**Legend**

**Visibility/wind direction**

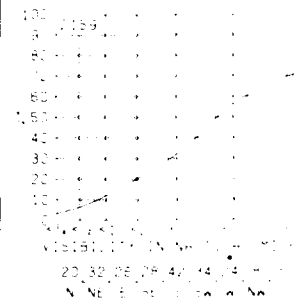


**Map - Visibility thresholds**

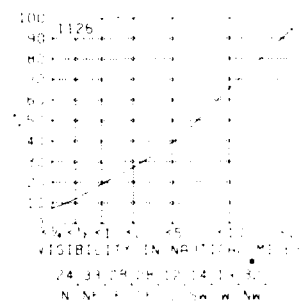
BLACK LINE Percent frequency of visibilities  $\geq 5$  nautical miles  
BLUE LINE Percent frequency of visibilities <math>< 2</math> nautical miles

The percentage of visibility equal to or greater than a given value can be obtained from the graph by subtracting the cumulative percent frequency of that value from 100%. Visibility at sea is difficult to measure because of the lack of reference points. Also, some observers seem to report reduced visibilities at night because of darkness, though this tendency has abated in recent years. The coarseness of the coding intervals, however, tends to minimize serious biases in the summarized data. Visibilities greater than 25 nm should be interpreted cautiously because the earth's curvature makes it impossible to see 25 nm horizontally from the bridges of most ships

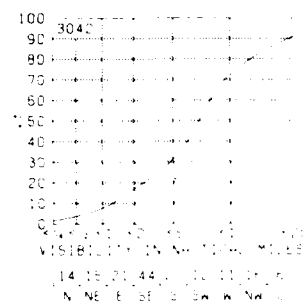
**Buhta Provideniya**



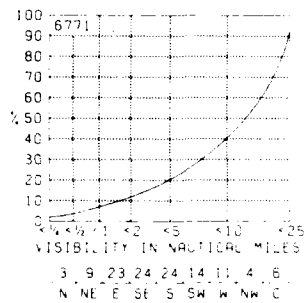
**Gambell**



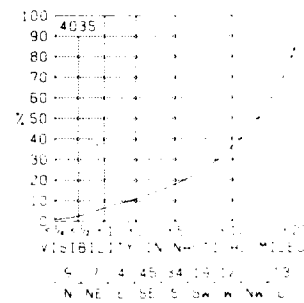
**Northeast Cape**



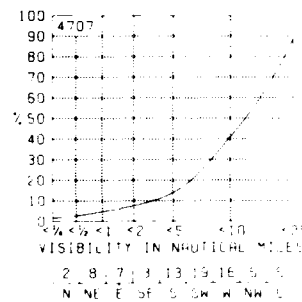
**Nome**



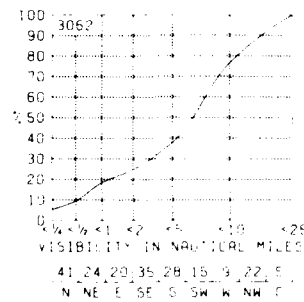
**Moses Point**



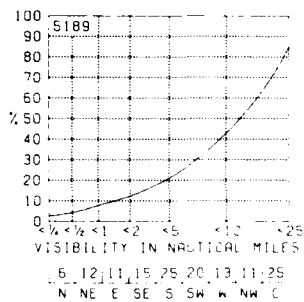
**Unalakleet**



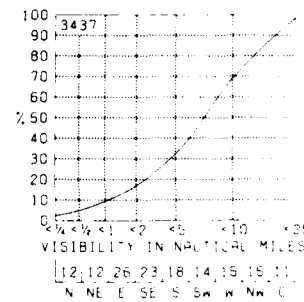
**Cape Romanzof**



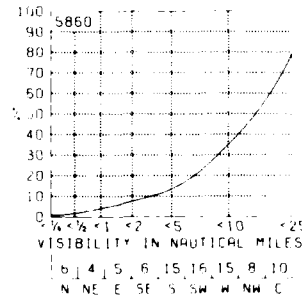
**Bethel**



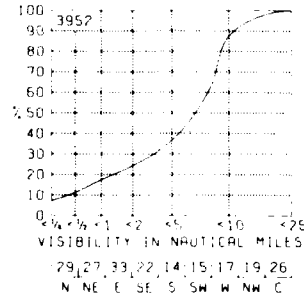
**Cape Newenham**



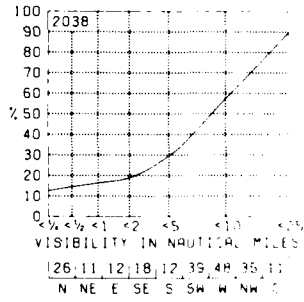
**King Salmon**



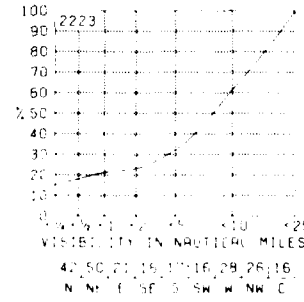
**St. Paul**



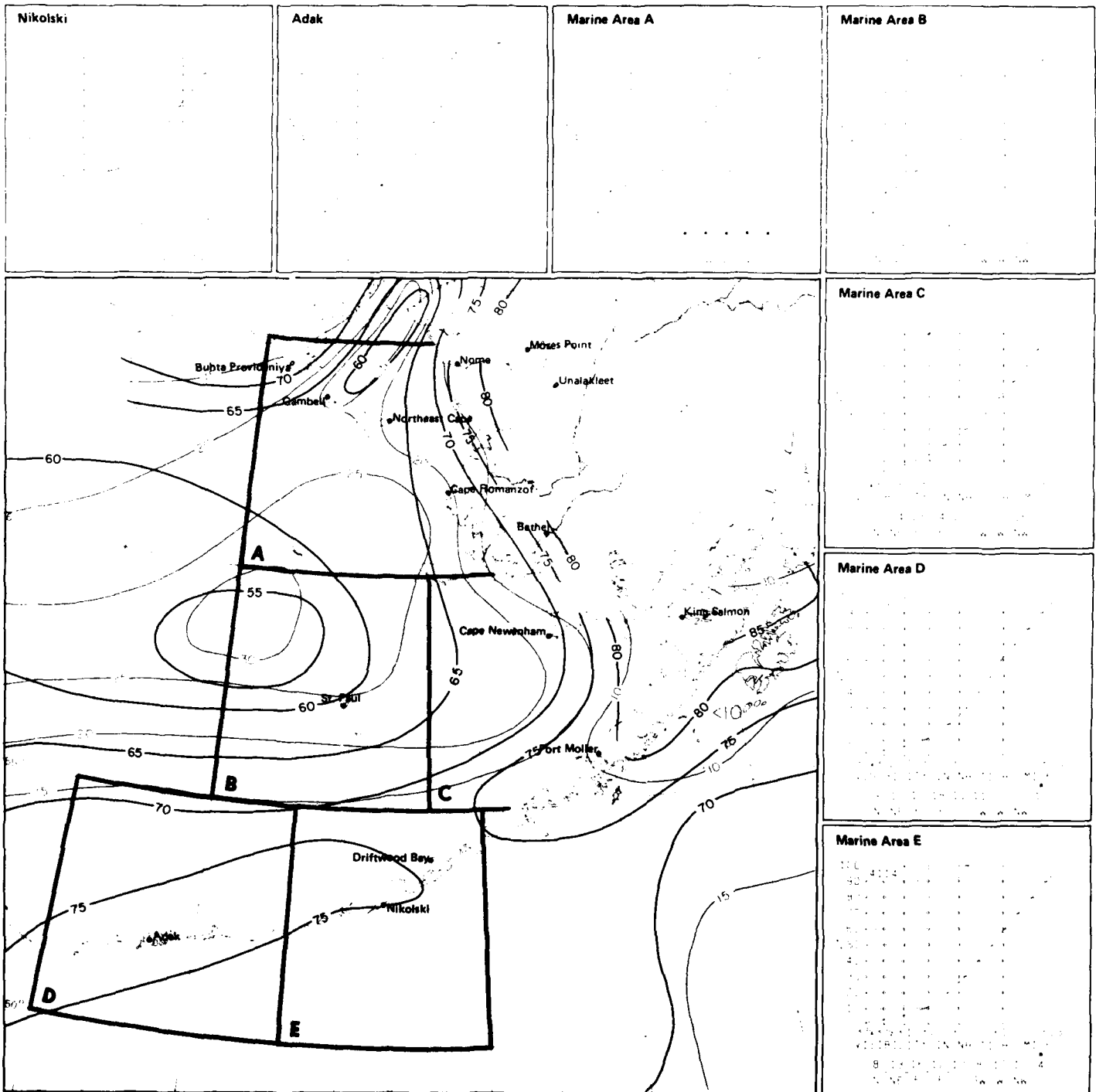
**Port Moller**



**Driftwood Bay**







8 Visibility thresholds

February

**Legend**

**Wind speed/direction**

Direction frequency (top scale) Bars represent percent frequency of winds observed from each direction. Speed frequency (bottom scale) Printed figures represent percent frequency of wind speeds observed from each direction.

0 10 20 30 40 50 60 70 80 90 100

(4% of all winds were from the N)

(1% of all winds were from the S with a speed  $\geq 27$  knots)

The scalar mean speed was 9.4 knots

Number of observations

(1% of winds from all directions had wind speed  $\geq 48$  knots)

WIND SPEED INTERVAL (KNOTS)

0 3 | 4 6 | 7 10 | 11 16 | 17 21 | 22 27 | 28 33 | 34 40 | 41 47 | 48

Printed scale on bottom of chart

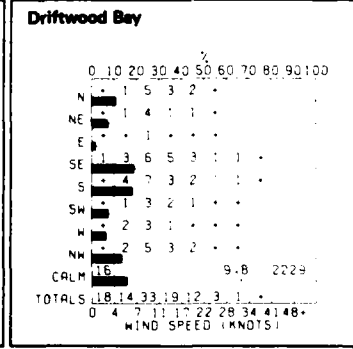
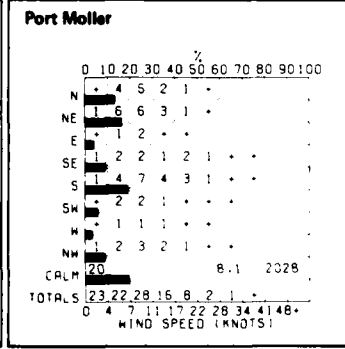
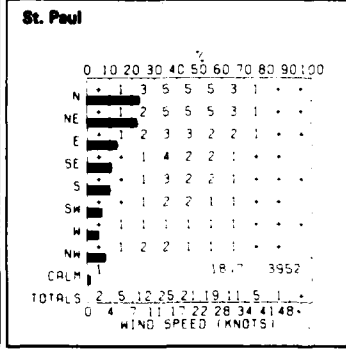
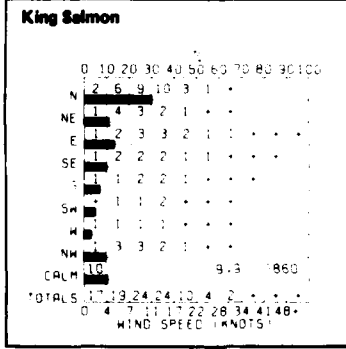
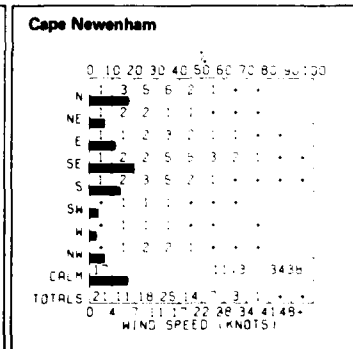
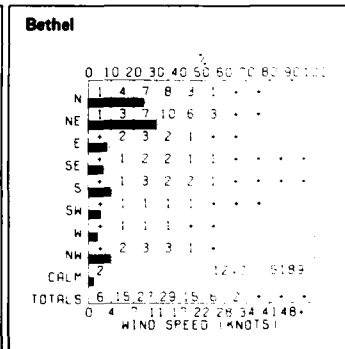
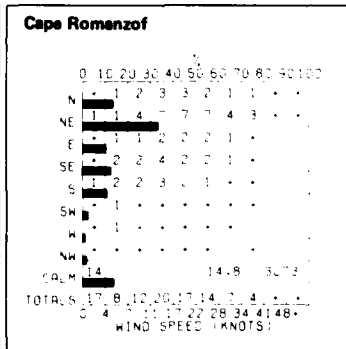
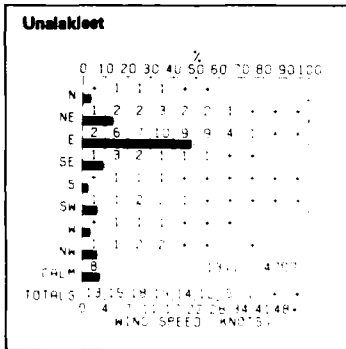
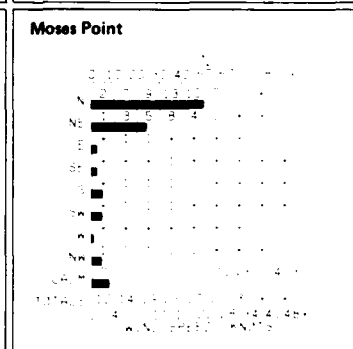
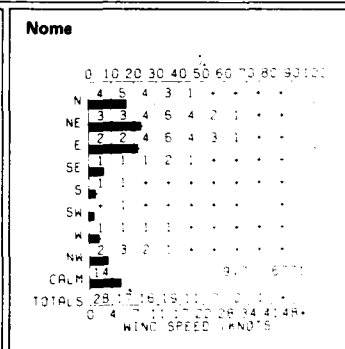
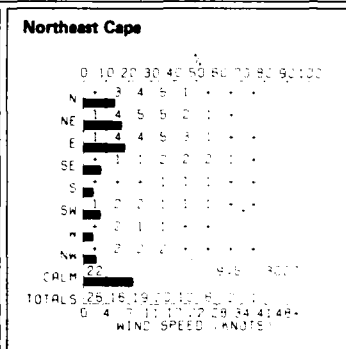
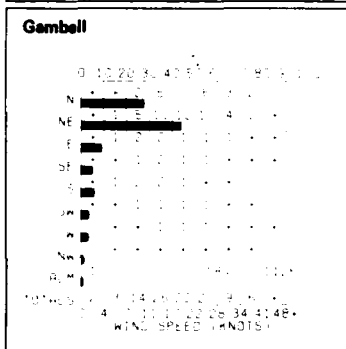
**Map - Wind speed thresholds**

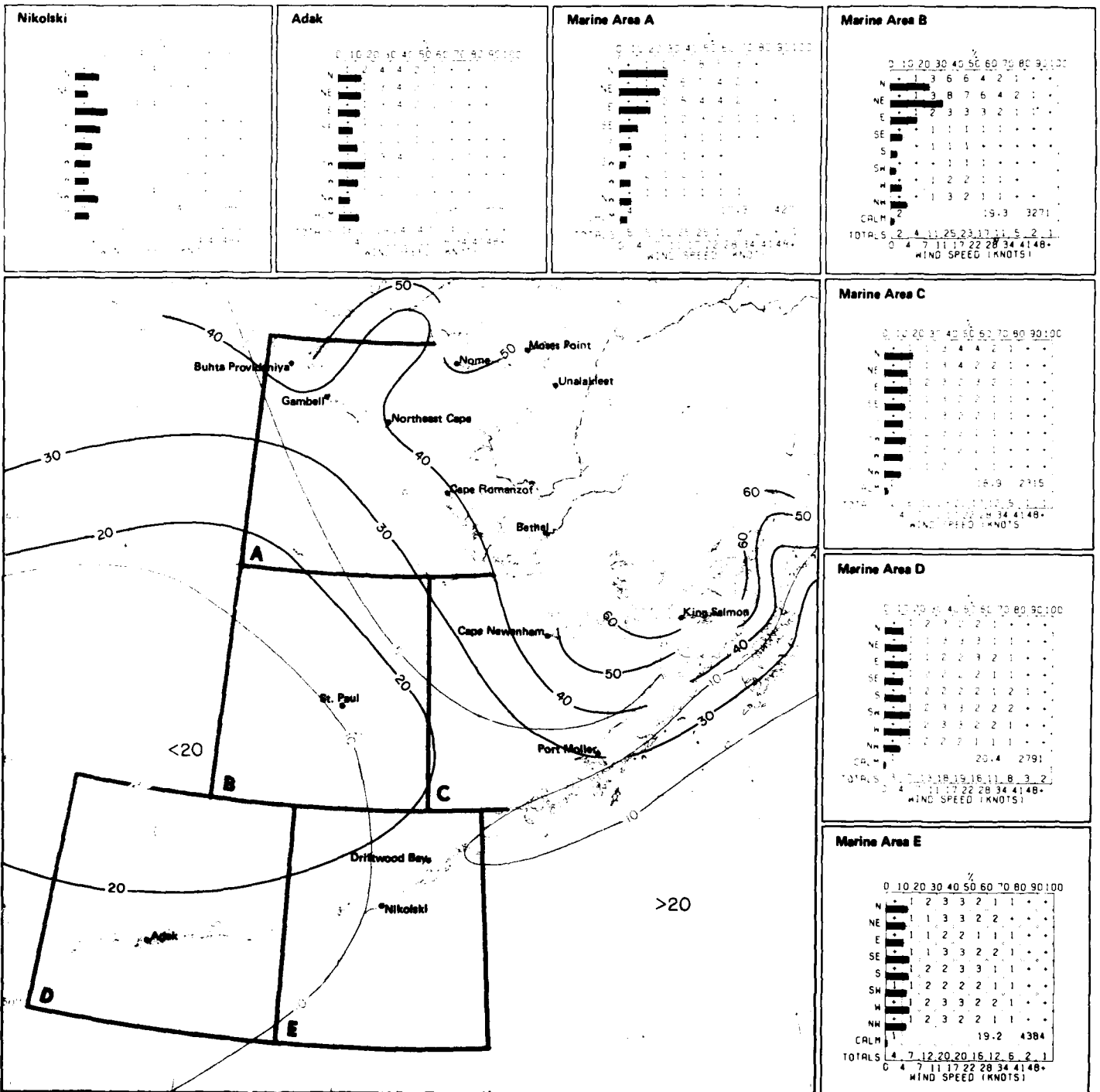
BLACK LINE - Percent frequency of wind speed  $\leq 10$  knots ( $\leq 12$  mph)

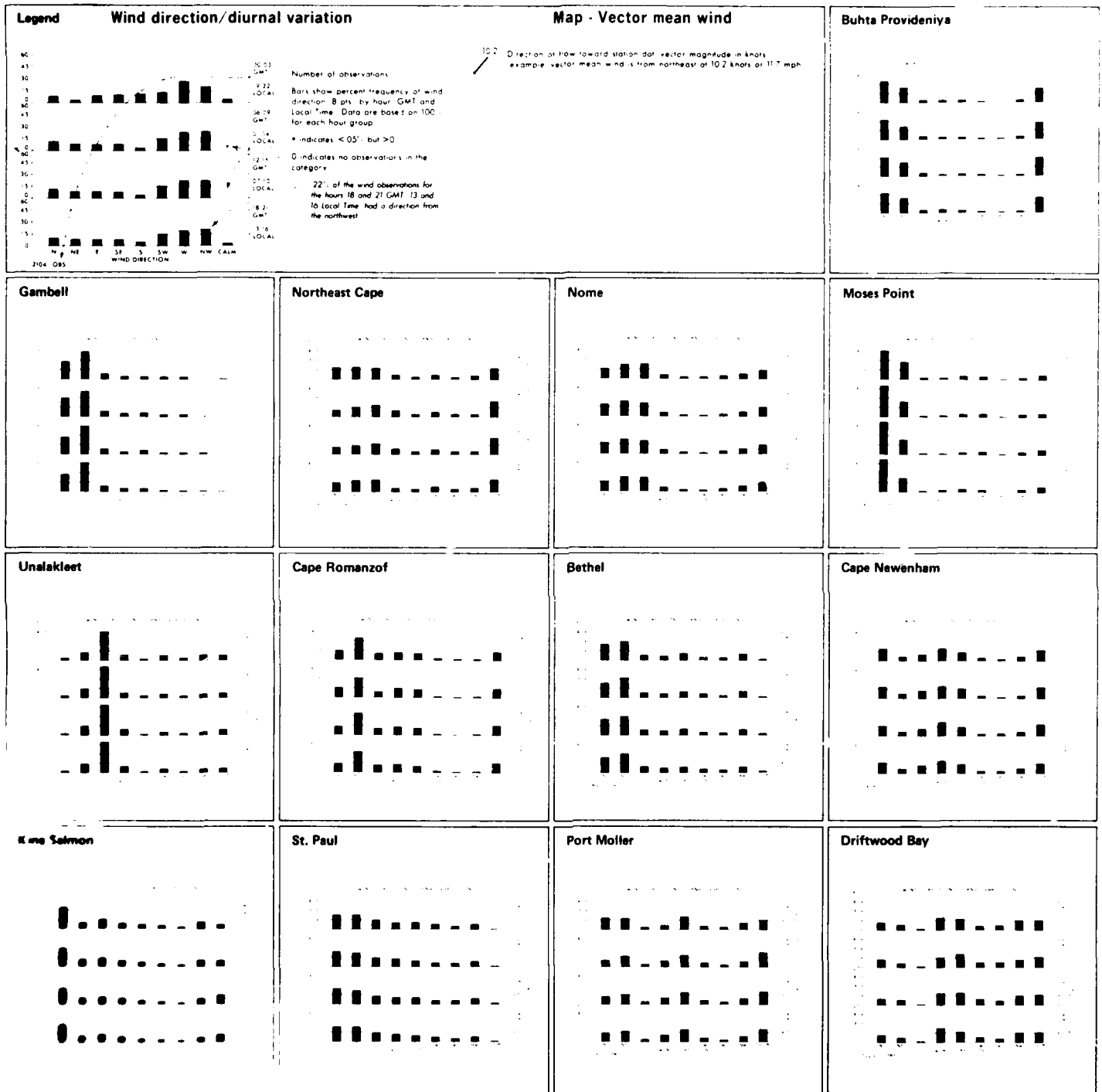
BLUE LINE - Percent frequency of wind speed  $\geq 34$  knots ( $\geq 39$  mph)

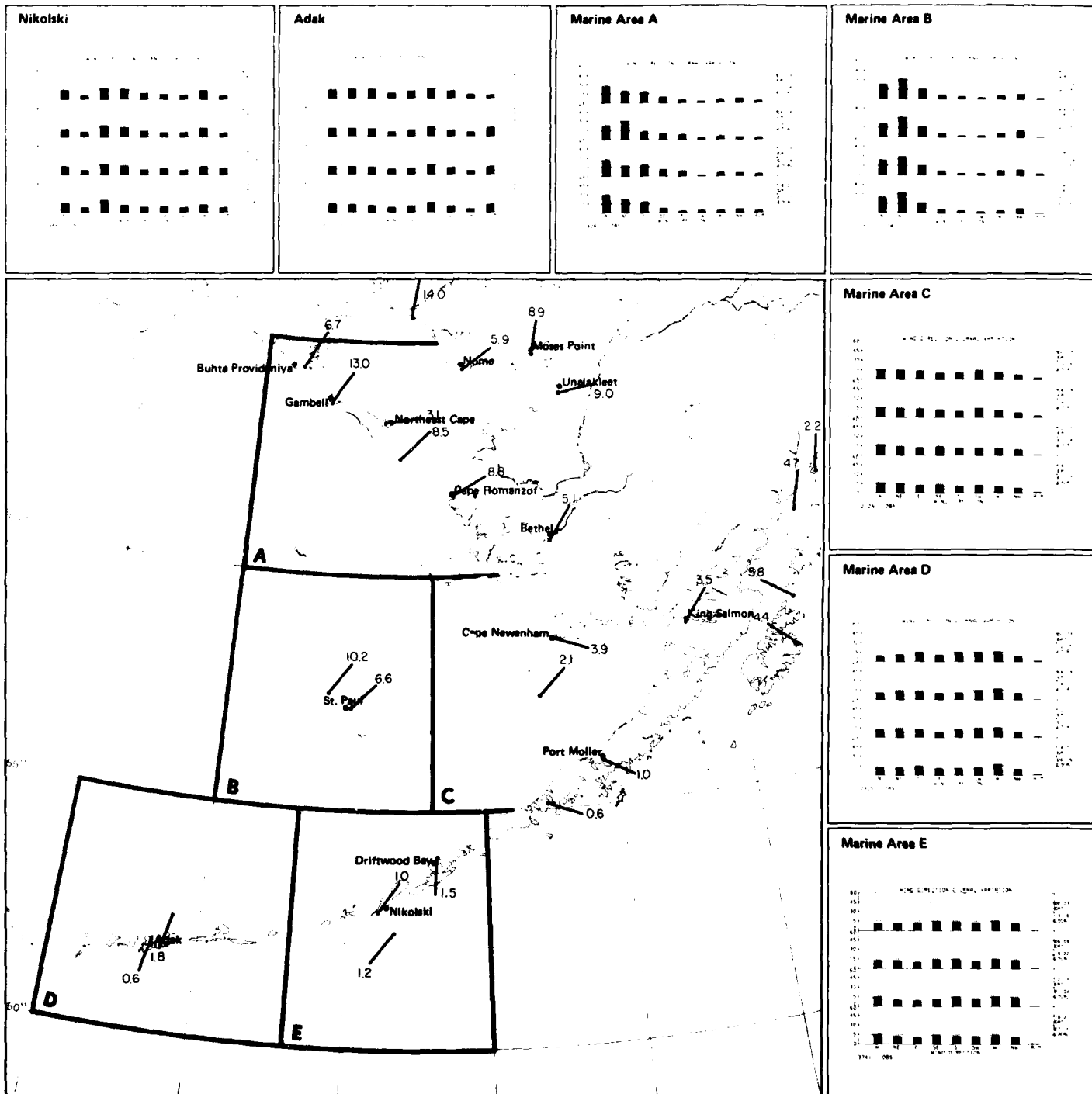
The scalar mean wind speed on the graph is based on the number of observations reporting a wind speed with direction. The sum of the totals line provides the cumulative percent frequency of wind speed below a selected threshold value. In the example graph, 71% of all winds were less than 17 knots (20 mph).

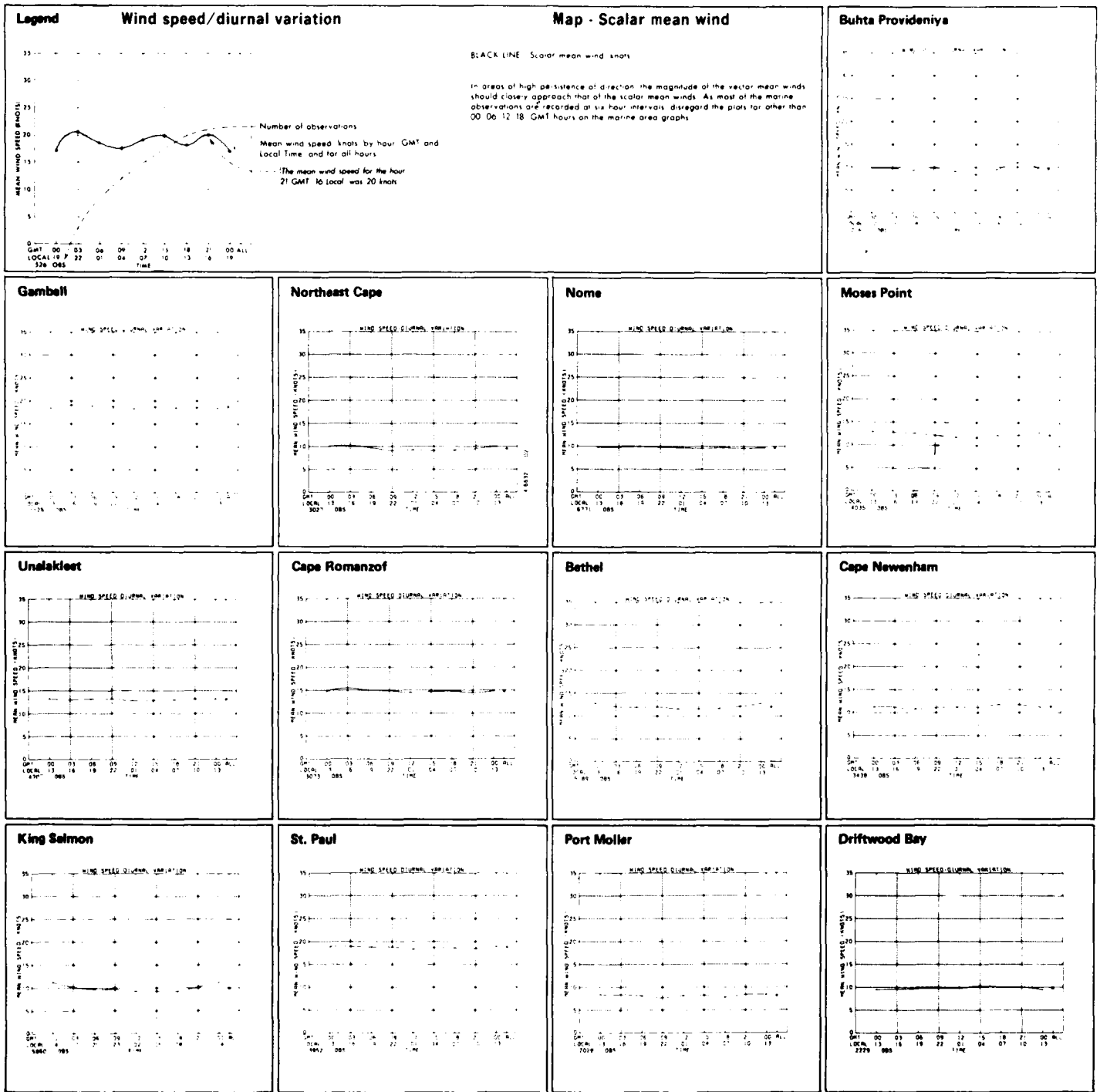
**Buhta Provideniya**

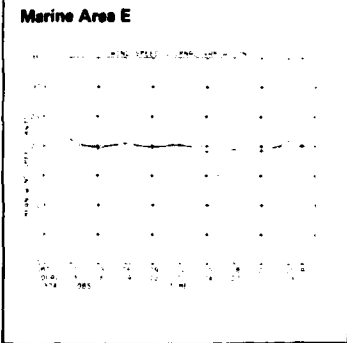
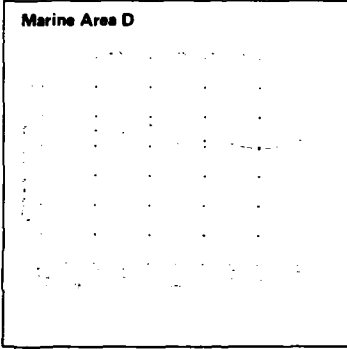
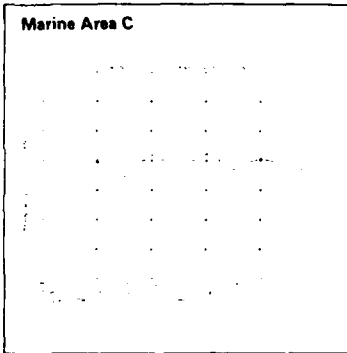
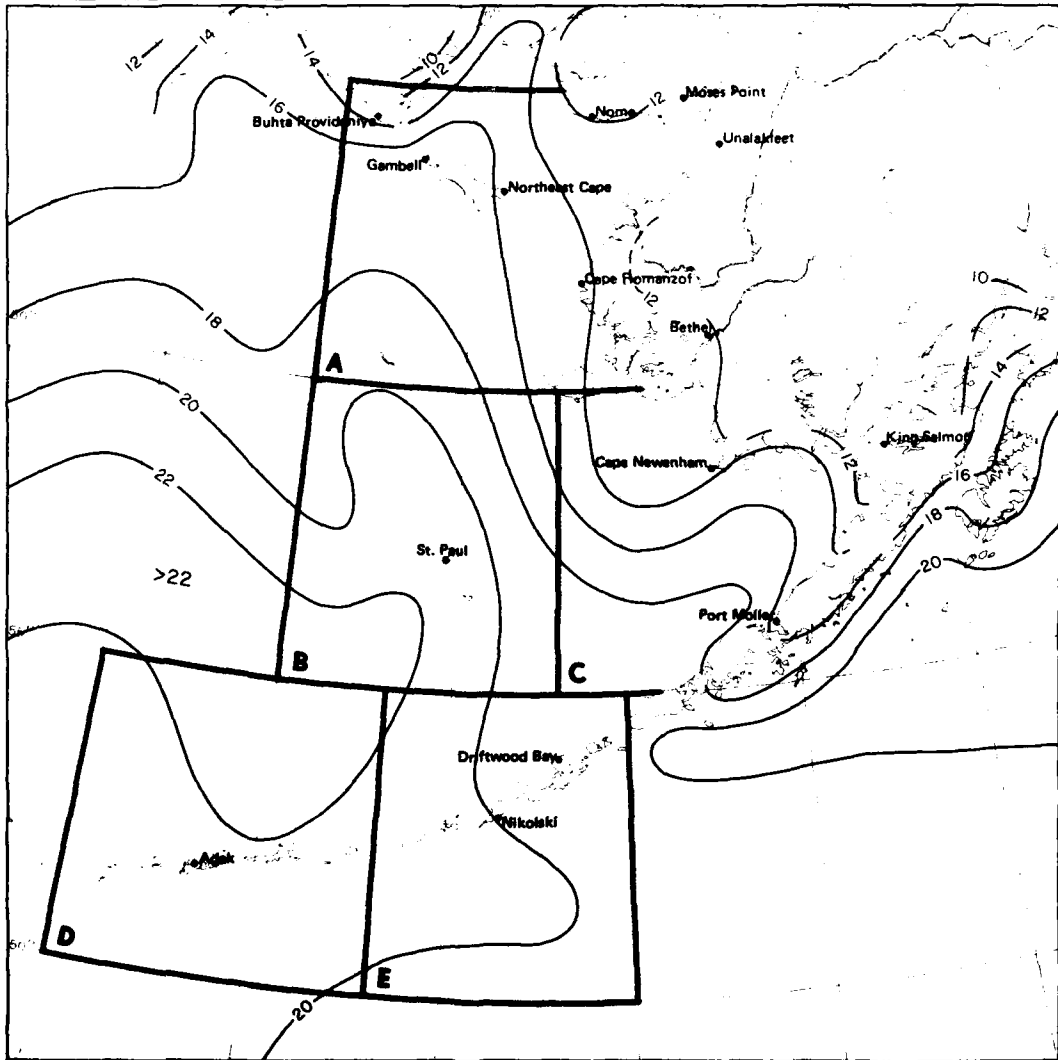
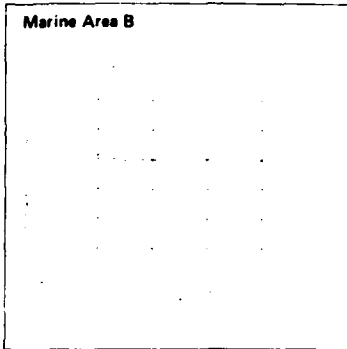
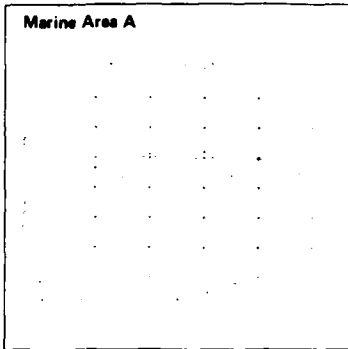
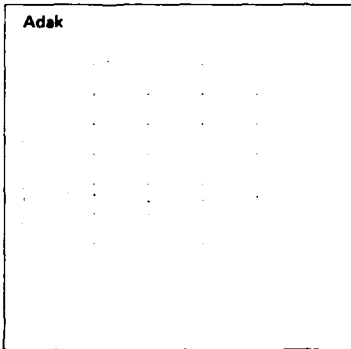
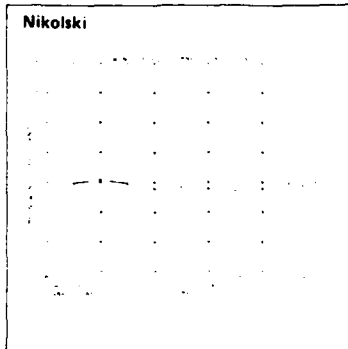












**11 Scalar mean wind**

**February**

**Legend**

**Low cloud ceiling/visibility**

Percent frequency of simultaneous occurrence of specified low cloud ceilings (hundreds of feet) and visibilities (nautical miles). Low cloud ceiling heights are estimated from the height of low clouds (h) when low cloud amount (N<sub>h</sub>) is  $\geq 5.8$ . Obscurements are included under ceiling 0 < 1.5.

N.C. no ceiling, includes bases of clouds  $\geq 8000$  feet as well as occurrences of N<sub>h</sub> < 5.8.

2% of all observations reported ceiling  $\geq 1000$  but < 2000 feet simultaneously with visibility  $\geq 5$  but < 10 nautical miles.

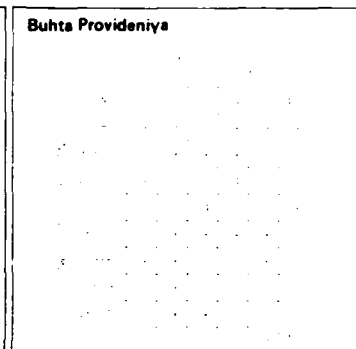
— indicates < 5% but > 0.

— Number of observations.

**Map - Low cloud ceiling and visibility thresholds**

BLACK LINE: Percent frequency of low cloud ceiling  $\geq 1000$  feet or no low cloud ceiling, and visibility  $\geq 5$  nautical miles.

BLUE LINE: Percent frequency of low cloud ceiling < 600 feet and or visibility < 2 nautical miles.



**Gambell**

VISIBILITY

	N	1/2	1	2	5	10	$\geq 10$
NC				2	12	28	
50+80	0	0					
35+50	0	0					
20+35			2	3	2		
10+20	3	3	3	6	6	3	
6+10	2	2	2	2	3	1	
3+6							0
1.5+3	0	0	0	0	0	0	0
0+1.5	7	1					0

1121

**Northeast Cape**

VISIBILITY

	N	1/2	1	2	5	10	$\geq 10$
NC				3	21	31	
50+80							
35+50							
20+35			1	2	3	1	
10+20			1	3	6	8	2
6+10	1	1	2	2	2		
3+6							0
1.5+3	0	0	0	0	0	0	0
0+1.5	4	2	1				0

1984

**Noma**

VISIBILITY

	N	1/2	1	2	5	10	$\geq 10$
NC				1	11	52	
50+80							
35+50							
20+35			1	2	3	2	
10+20			1	2	3	2	
6+10		1	1	2	1		
3+6							
1.5+3	0	0	0	0	0	0	0
0+1.5	2	2	1				0

6488

**Moses Point**

VISIBILITY

	N	1/2	1	2	5	10	$\geq 10$
NC	1	0			8	56	
50+80	0	0	0	0	3	0	
35+50	0	0	0	0	1	1	
20+35	0						4
10+20	0		0	4	2		
6+10	0	0	0	0	0	0	
3+6	0	0	0	0	0	0	0
1.5+3	0	0	0	0	0	0	0
0+1.5	5	5	2	1	0	0	0

219

**Unalakleet**

VISIBILITY

	N	1/2	1	2	5	10	$\geq 10$
NC				4	41		
50+80							
35+50							
20+35					4		
10+20							
6+10							
3+6							
1.5+3							
0+1.5							

1131

**Cape Romanzof**

VISIBILITY

	N	1/2	1	2	5	10	$\geq 10$
NC	2	3	2	5	27	16	
50+80					1	1	
35+50	0	0	0	1			
20+35				1	5	1	
10+20	1	1	1	3	5	1	
6+10	1	2	2	2	2		
3+6							0
1.5+3	0	0	0	0	0	0	0
0+1.5	4	3					0

2039

**Bethel**

VISIBILITY

	N	1/2	1	2	5	10	$\geq 10$
NC	1		1	1	10	45	
50+80					1	3	
35+50					1	3	
20+35					1	4	4
10+20				1	3	3	2
6+10			1	1	2	1	
3+6					1	1	
1.5+3							0
0+1.5	2	2	2	1		0	

5175

**Cape Newenham**

VISIBILITY

	N	1/2	1	2	5	10	$\geq 10$
NC			1	2	17	42	
50+80	0	0				1	
35+50	0	0	0		1	1	
20+35					1	3	1
10+20					1	5	7
6+10			1	3	6	6	3
3+6					1	1	
1.5+3	0		0			0	0
0+1.5	3	2	1	1	0		

2010

**King Salmon**

VISIBILITY

	N	1/2	1	2	5	10	$\geq 10$
NC	1			1	10	50	
50+80					1	4	
35+50	0	0	0	2	3		
20+35				1	3	5	
10+20	0		1	1	3	3	
6+10				1	2	1	
3+6	0				1		
1.5+3	0	0	0			0	
0+1.5	1	2	2	1		0	

5764

**St. Paul**

VISIBILITY

	N	1/2	1	2	5	10	$\geq 10$
NC	1		1	1	22	8	
50+80		0					
35+50	0	0	0	0	1		
20+35	1			1	7	2	
10+20	3	2	3	6	17	2	
6+10	1	1	1	2	4		
3+6	1	1	1	1	1		
1.5+3						0	
0+1.5	5	1				0	

3712

**Port Moller**

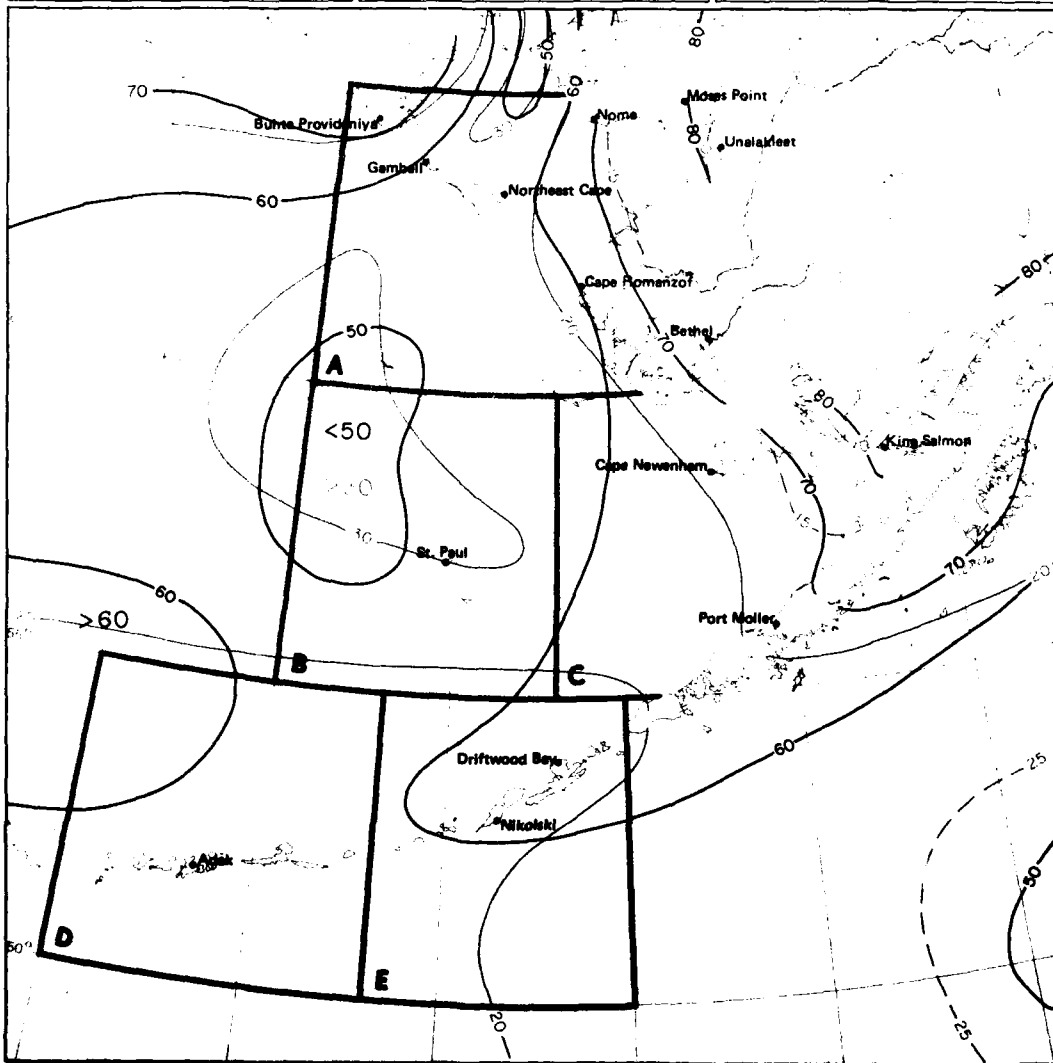
Insufficient Data

**Driftwood Bay**

Insufficient Data



<p>Nikolski</p> <p>Insufficient Data</p>	<p>Adak</p> <p>visibility</p> <p>70 100 245 500 245</p> <p>5590</p>	<p>Marine Area A</p>	<p>Marine Area B</p>
--	---	----------------------	----------------------



Marine Area C

visibility

70 100 245 500 245

5590

Marine Area D

visibility

70 100 245 500 245

5590

Marine Area E

visibility

70 100 245 500 245

5590

LOW CLOUD CEILING

50+80									
35+50									
20+35									4
10+20									11
6+10									4
3+6									1
1.5+3									1
0+1.5	2	1	1	2	1				1

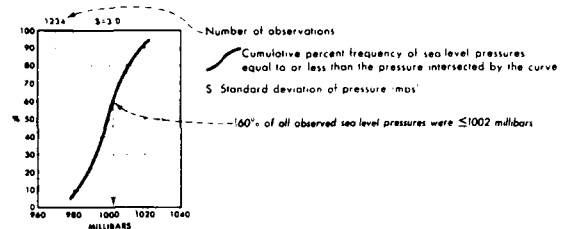
314

12 Low cloud ceiling and visibility thresholds

February

**Legend**

**Sea level pressure**

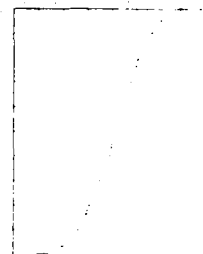


**Map - Mean sea level pressure**

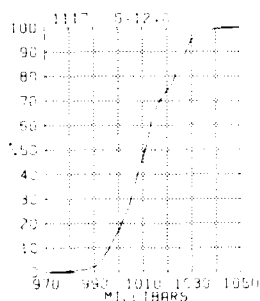
BLACK LINE Mean sea level pressure (millibars)

Sea level pressure is one of the most frequently recorded elements but one of the least accurate because of instrument and coding errors. Despite the inaccuracies of the individual readings, however, the large scale patterns and mean gradients of the isopleth analyses are relatively accurate.

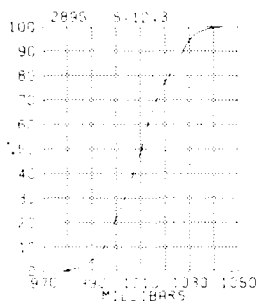
**Buhta Provideniya**



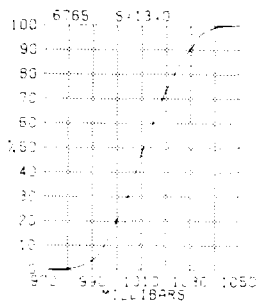
**Gambell**



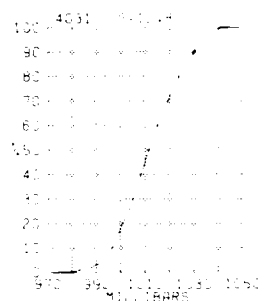
**Northeast Cape**



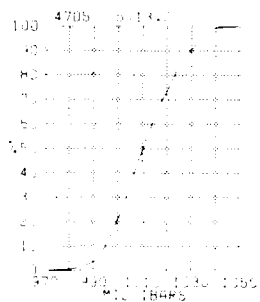
**Nome**



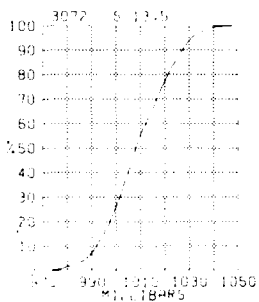
**Moses Point**



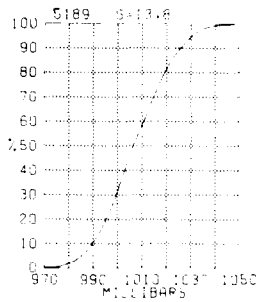
**Unalakleet**



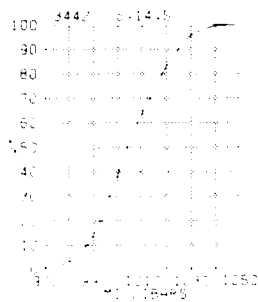
**Cape Romanzof**



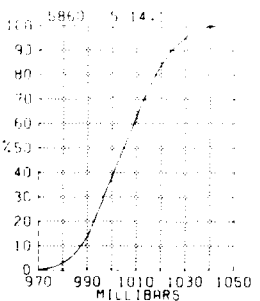
**Bethel**



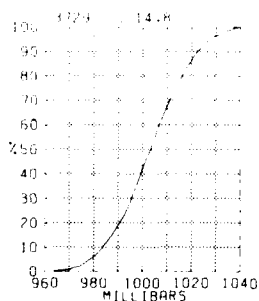
**Cape Newenham**



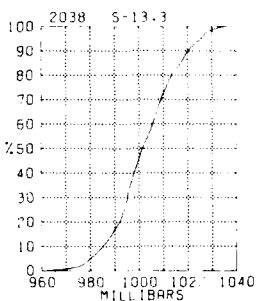
**King Salmon**



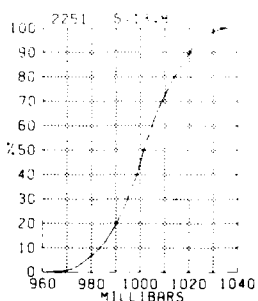
**St. Paul**



**Port Moller**

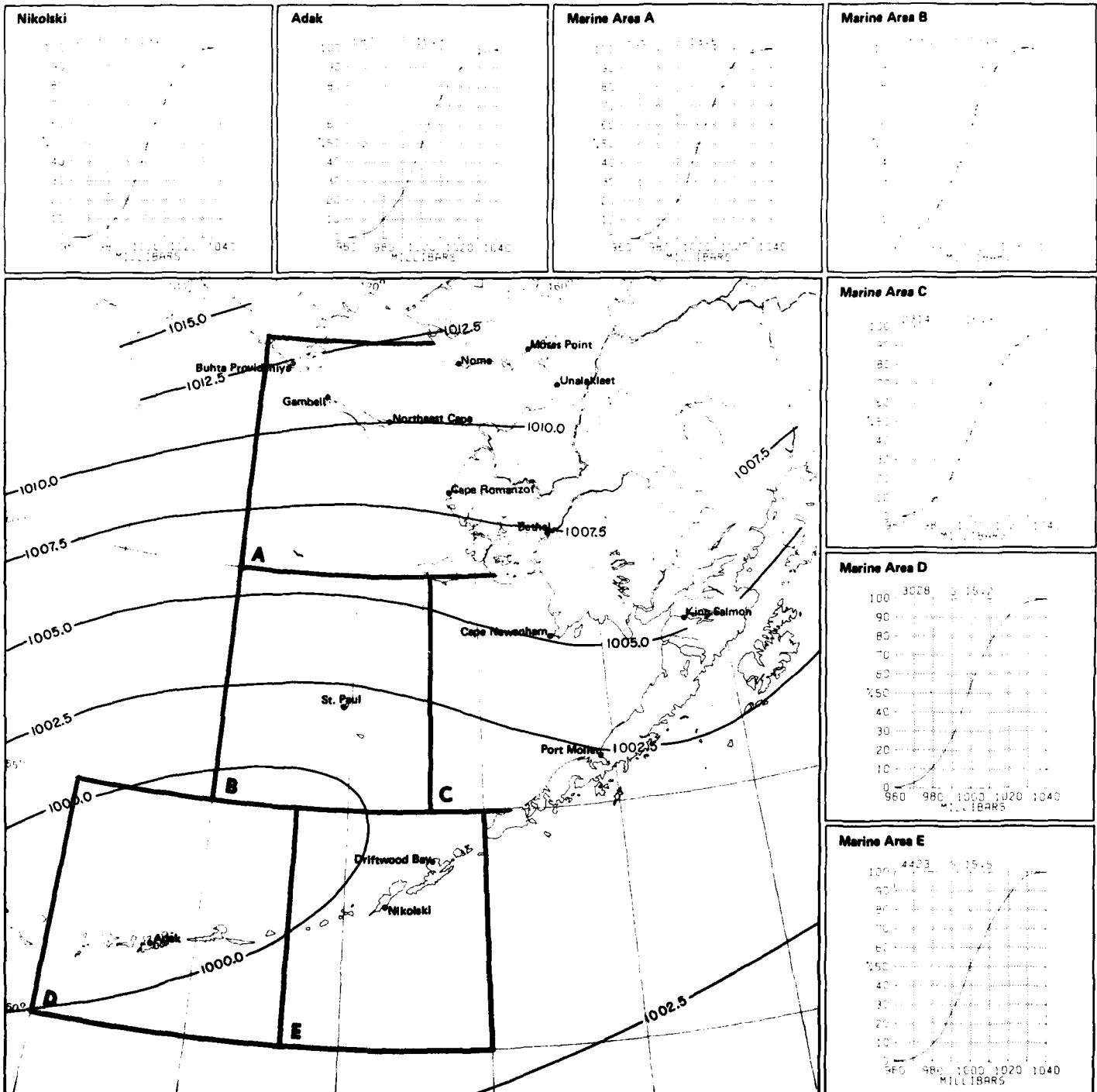


**Driftwood Bay**



**February**

**13 Sea level pressure**

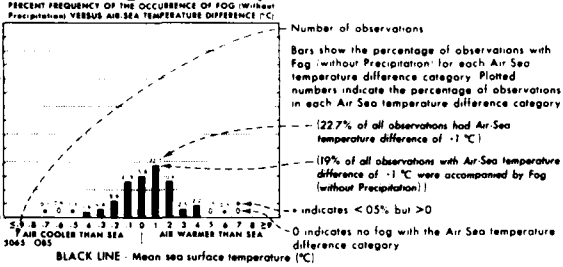


13 Mean sea level pressure

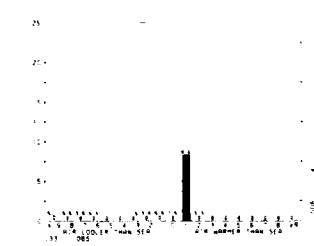
February

**Legend**

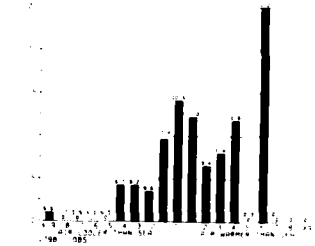
**Fog/air-sea temperature difference**



**Marine Area A**

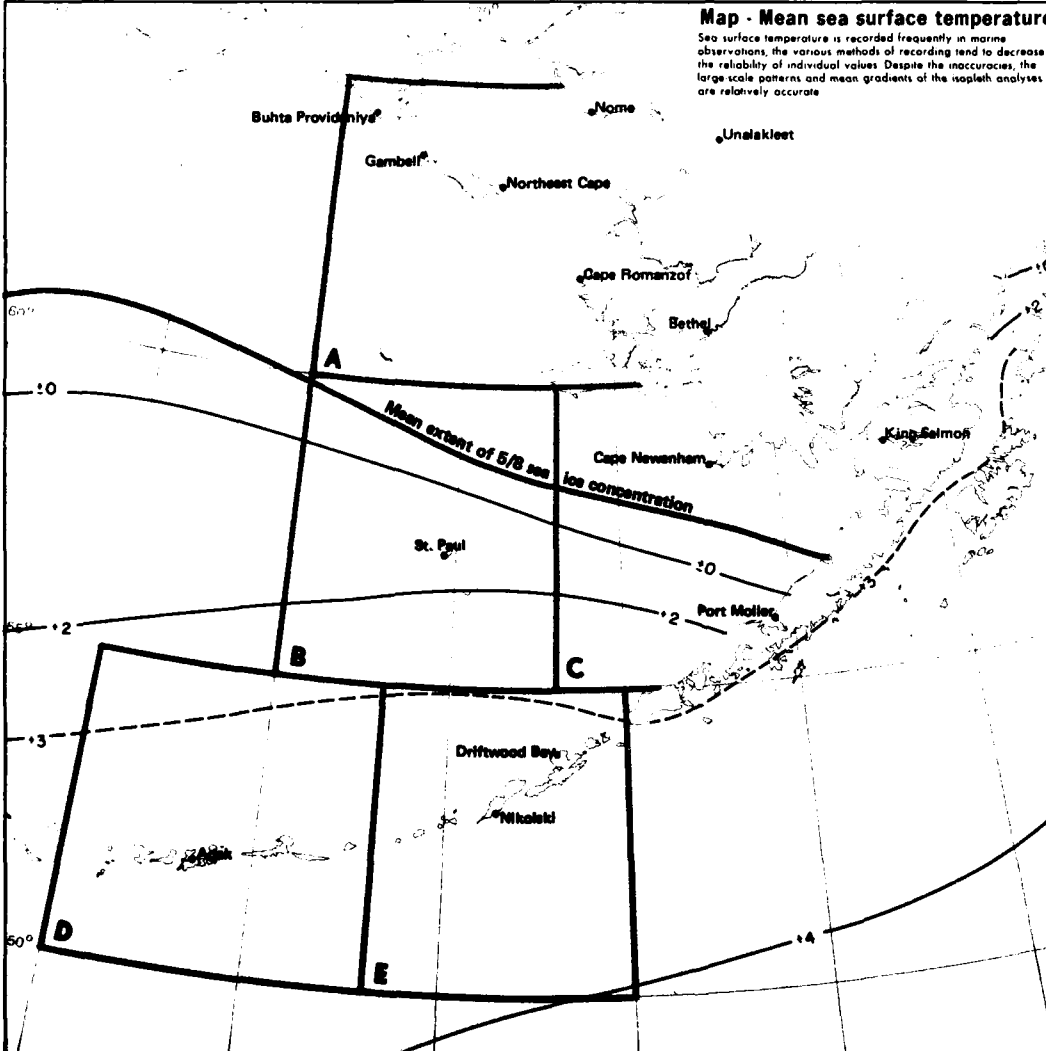


**Marine Area B**

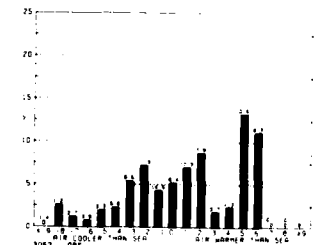


**Map - Mean sea surface temperature**

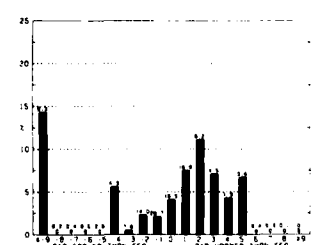
Sea surface temperature is recorded frequently in marine observations, the various methods of recording tend to decrease the reliability of individual values. Despite the inaccuracies, the large scale patterns and mean gradients of the isopleth analyses are relatively accurate.



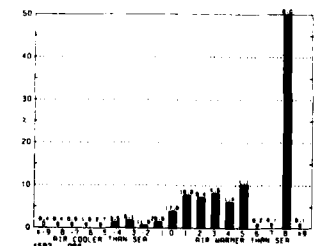
**Marine Area C**



**Marine Area D**



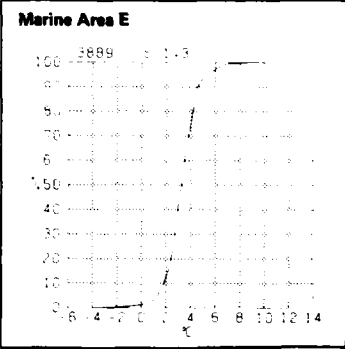
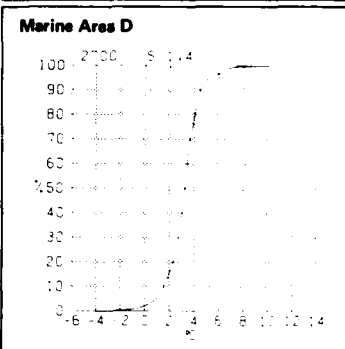
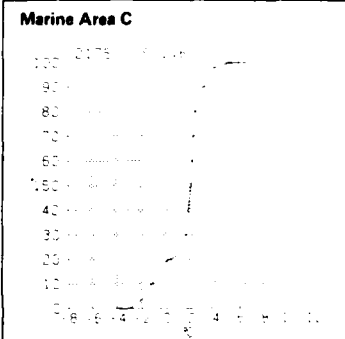
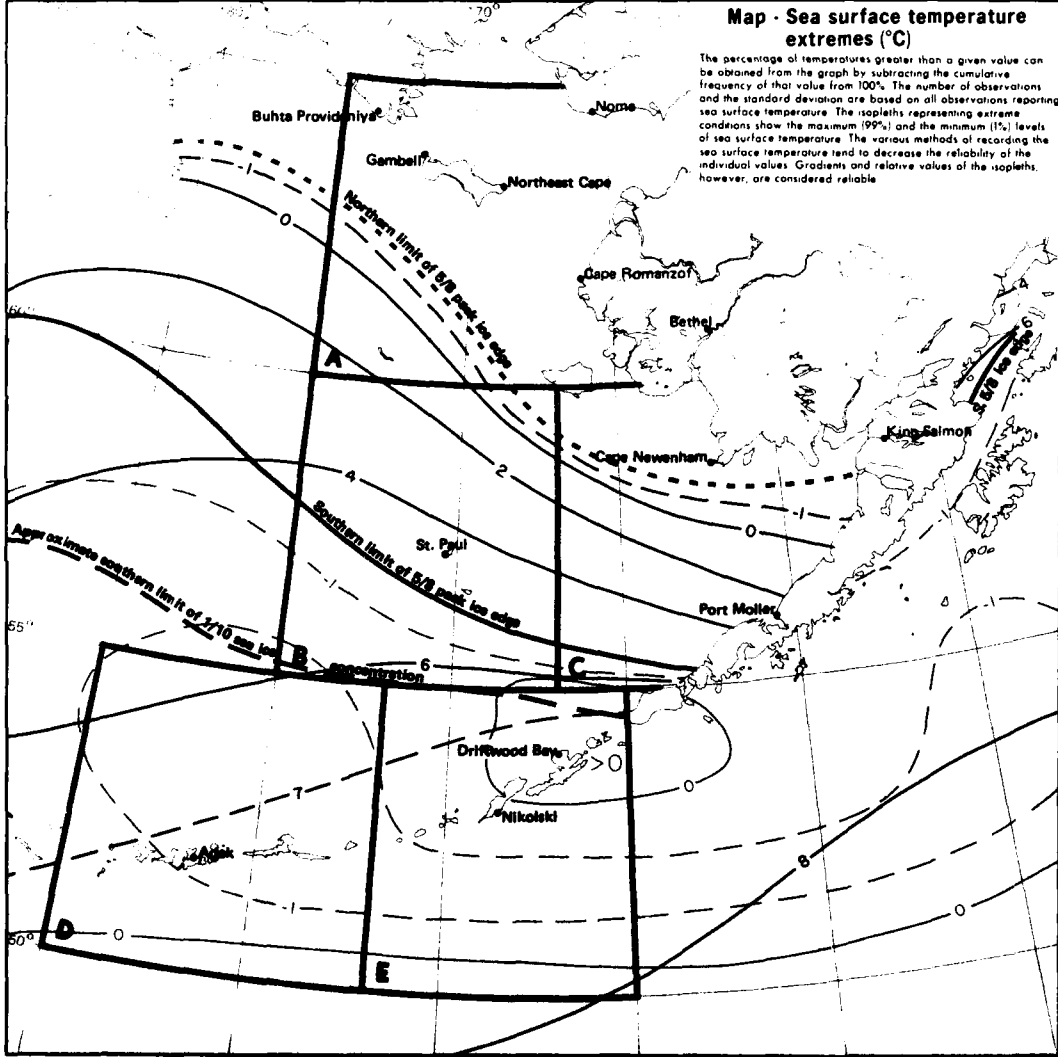
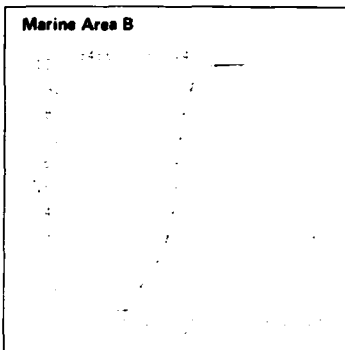
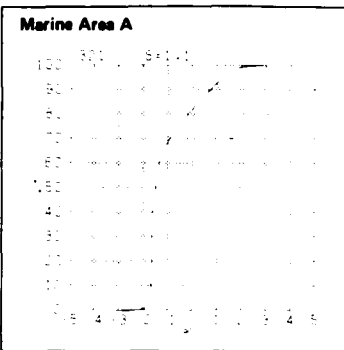
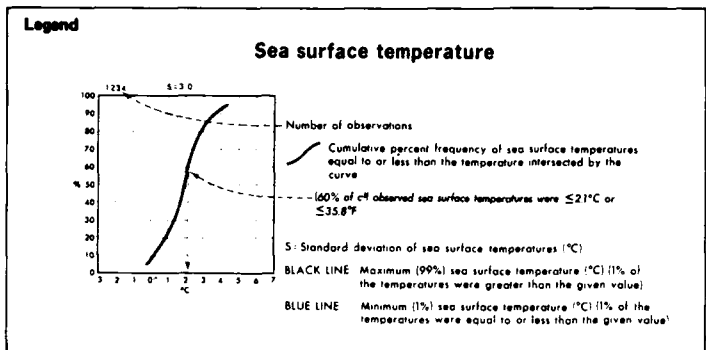
**Marine Area E**



February

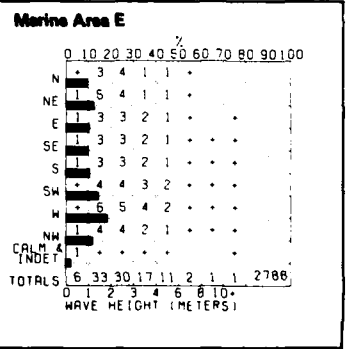
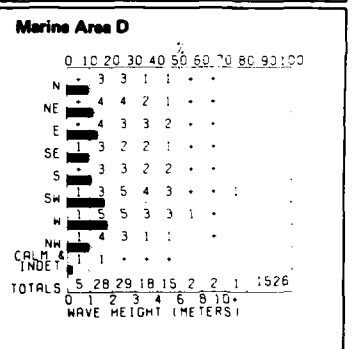
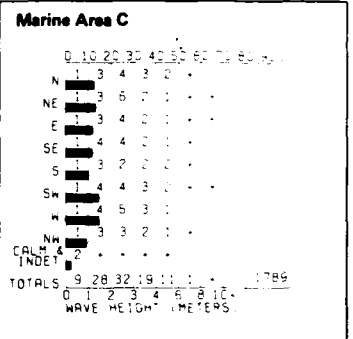
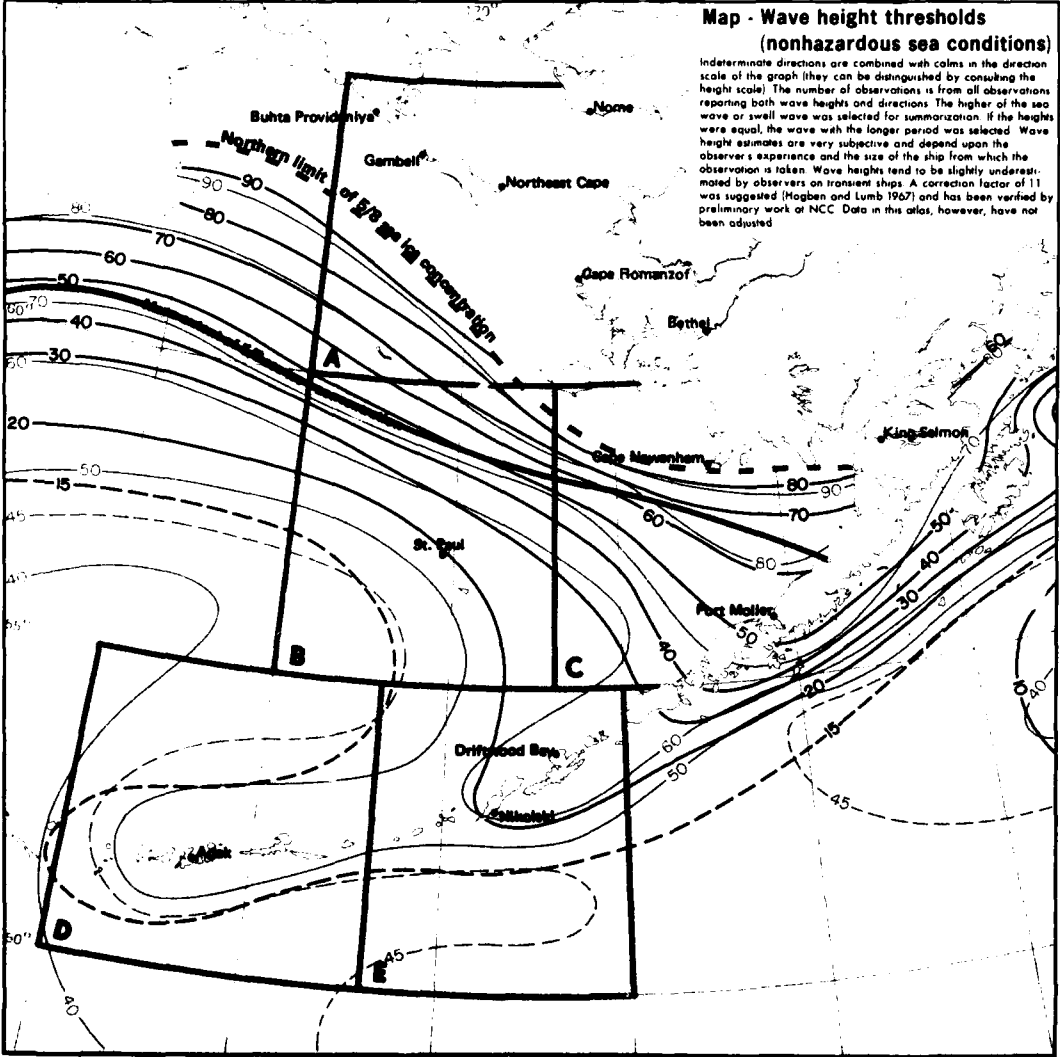
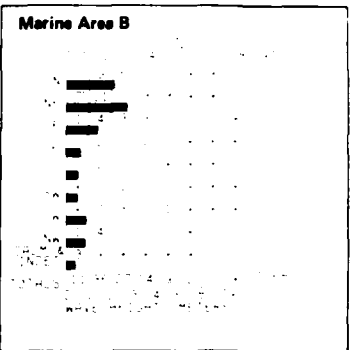
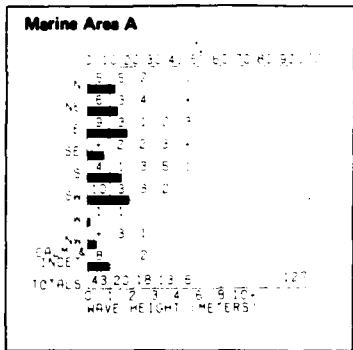
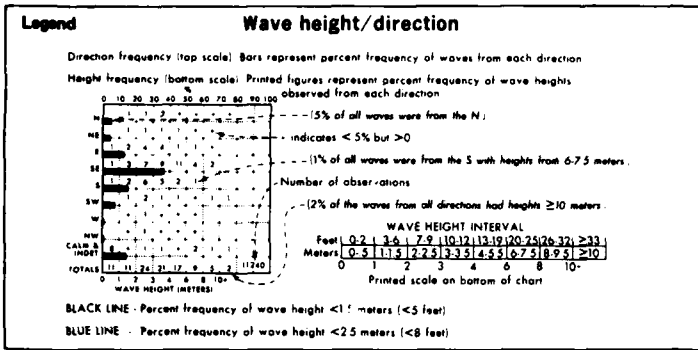
90

**14 Fog/air-sea temperature difference  
Mean sea surface temperature**



15 Sea surface temperature extremes

February



**Legend**

**Wave height/period**

PERIOD SECONDS

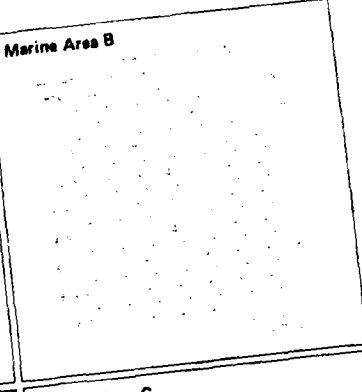
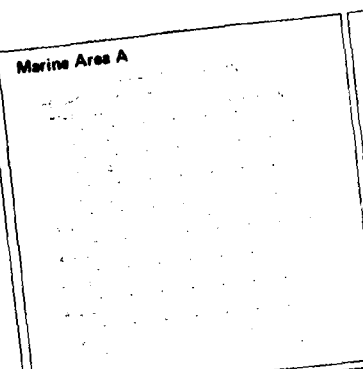
1-1.5	2-2.5	3-3.5	4-4.5	5-5.5	6-6.5	7-7.5	8-8.5	9-9.5	10-10.5	11-11.5	12-12.5	13-13.5	14-14.5	15-15.5	16-16.5	17-17.5	18-18.5	19-19.5	20-20.5	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Percent frequency of occurrence of wave period and height of 10-11 seconds indicates < 5% but > 0

Number of observations

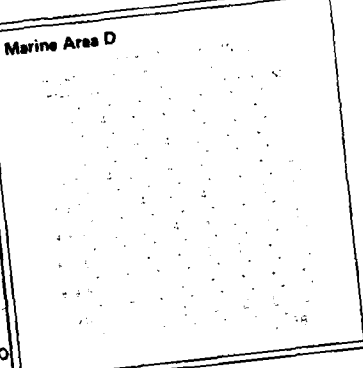
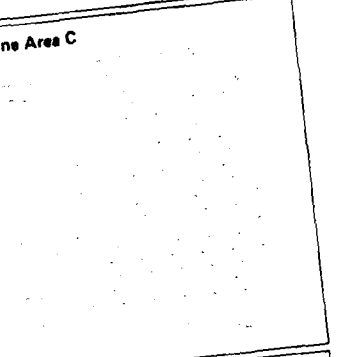
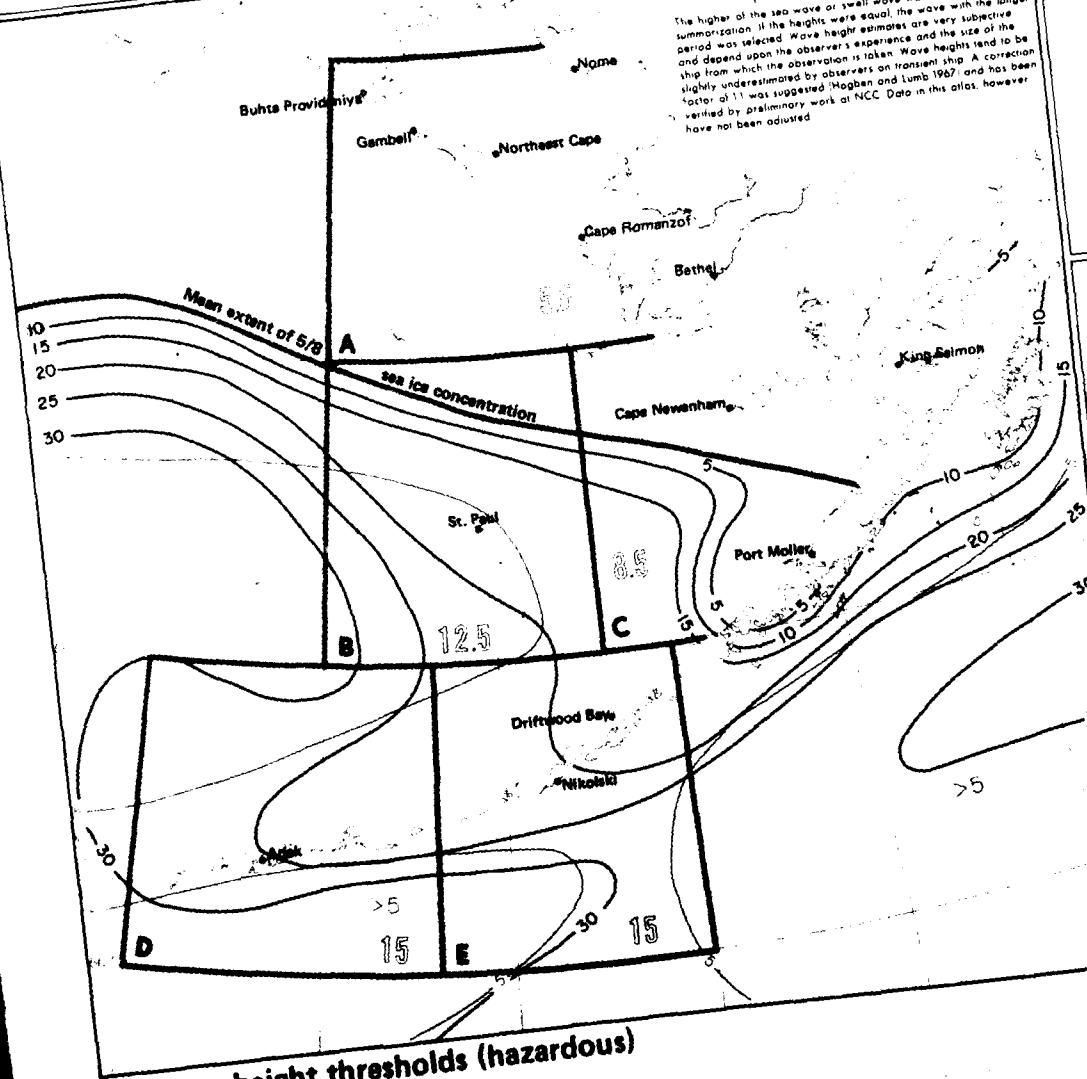
Waves are selected on the basis of the higher of sea and swell when both are reported. If both heights are equal the wave with the longer period is selected.

BLACK LINE Percent frequency of wave height  $\geq 3.5$  meters  $\geq 12$  feet  
 BLUE LINE Percent frequency of wave height  $\geq 6$  meters  $\geq 20$  feet  
 BLUE NUMBER Maximum observed wave height meters



**Map - Wave height thresholds (hazardous sea conditions)**

The higher of the sea wave or swell wave was selected for summation. If the heights were equal, the wave with the longer period was selected. Wave height estimates are very subjective and depend upon the observer's experience and the size of the ship from which the observation is taken. Wave heights tend to be slightly underestimated by observers on transit ship. A correction factor of 1.1 was suggested (Hogben and Lumb 1967) and has been verified by preliminary work of NCC. Data in this atlas, however, have not been adjusted.



**Marine Area E**

HEIGHT	PERIOD SECONDS																									
WAVE	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1-1.5	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-2.5	5	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-3.5	2	5	5	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-4.5	1	3	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6-6.5	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-8.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL																										

2814

**17 Wave height thresholds (hazardous)**

**Legend**

**Low pressure center movement**

24 hour movement of low pressure centers considering only closed situations.

Mean speed: Printed figure at the end of each bar represents the mean speed of movement in knots toward the indicated direction.

Direction frequency: Bars represent percent frequency of 24 hour movements toward each direction. Each circle represents 20%.

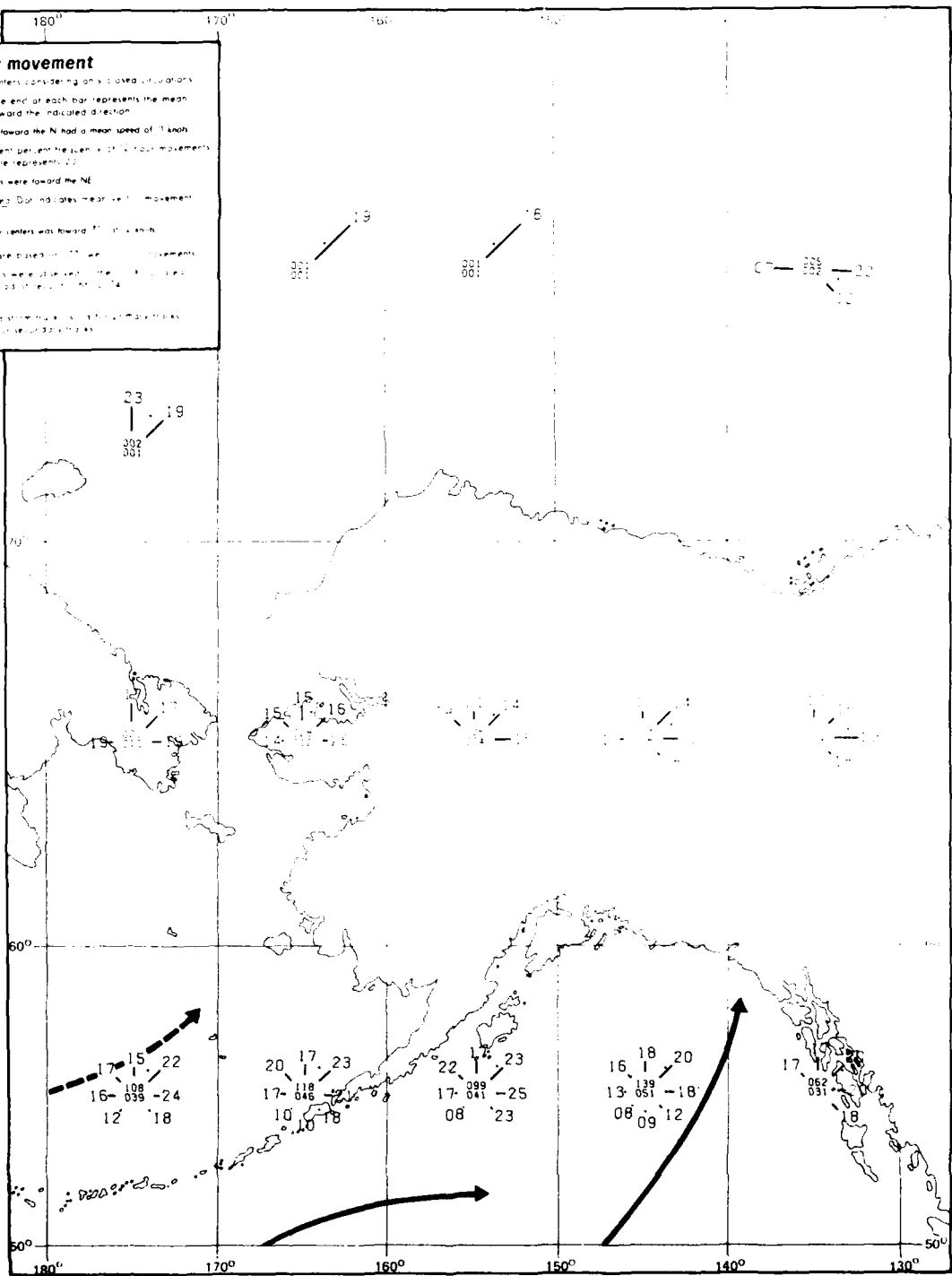
40% of all 24 hour movements were toward the NE.

Mean vector movement of 20 centers was toward 77° at 14 knots.

Standard error for this case are based on 20 low pressure movements.

65 low pressure centers were observed during the 9 year period of this study.

BLACK ARROWS: Frequency of low pressure centers during the 9 year period.



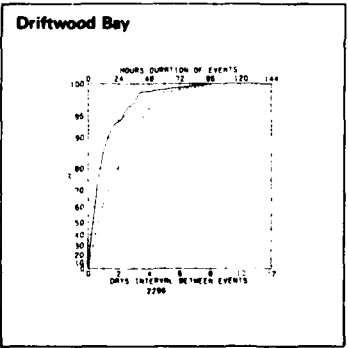
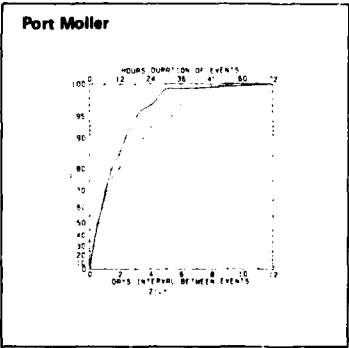
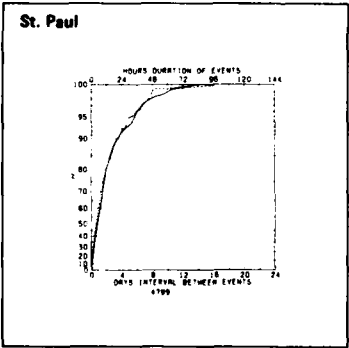
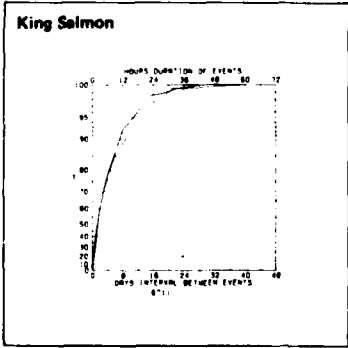
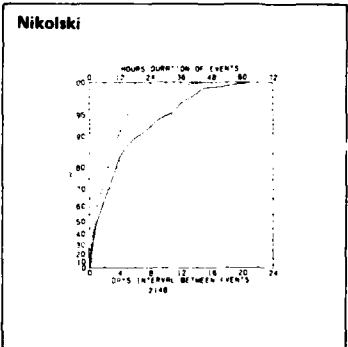
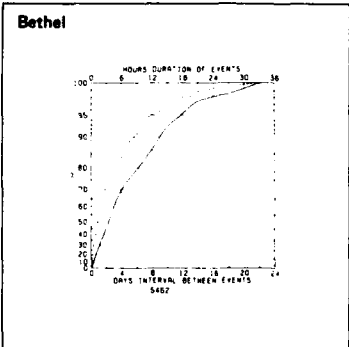
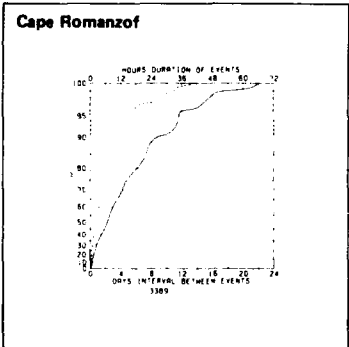
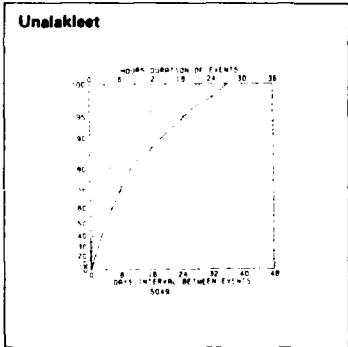
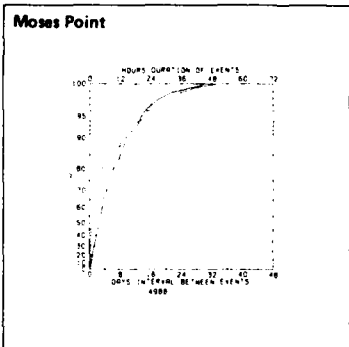
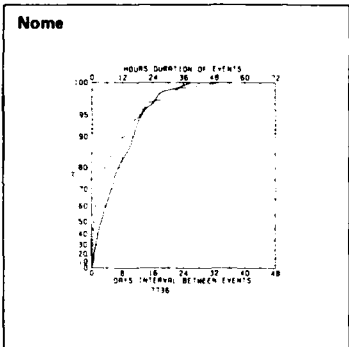
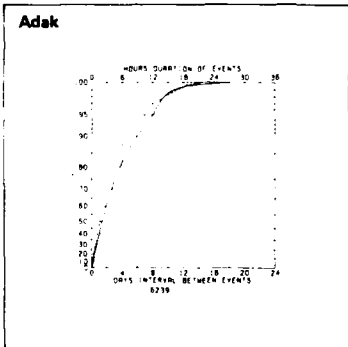
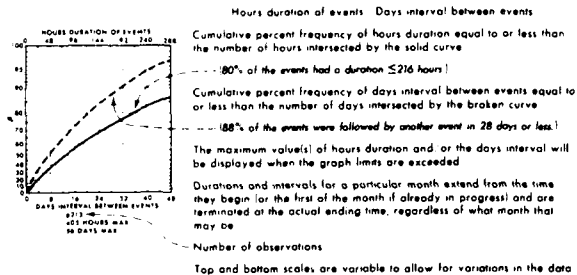
February

18 Low pressure center movement



**Legend**

**Persistence of visibility <2 n. mi.**



**19 Persistence of visibility <2 n. mi.**

**February**

AD-A081 311

ALASKA UNIV ANCHORAGE ARCTIC ENVIRONMENTAL INFORMATI--ETC F/0 4/2  
CLIMATIC ATLAS OF THE OUTER CONTINENTAL SHELF WATERS AND COASTA--ETC(U)  
1977 W A BROWER; H F DIAZ; A S PRECHTEL

UNCLASSIFIED

AL

2-5

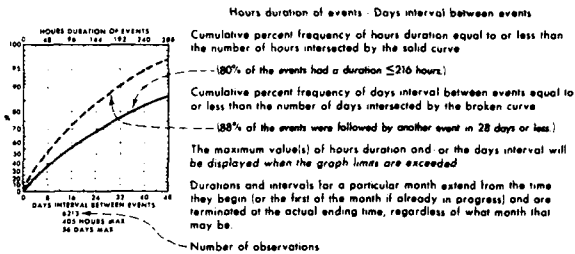
2-5

2-5

The table consists of 10 columns and 10 rows. The top-left cell contains the text '2-5' and '2-5' on two lines. The rest of the grid is mostly blacked out, with some faint markings in the top-right and middle-right areas.

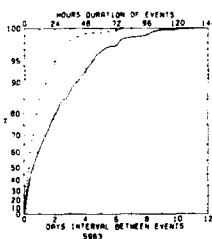
**Legend**

**Persistence of wind  $\geq 10$  kts.**

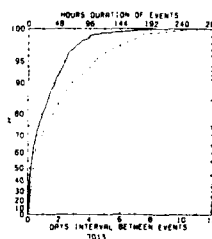


Top and bottom scales are variable to allow for variations in the data

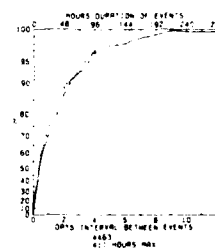
**Adak**



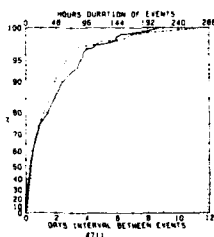
**Nome**



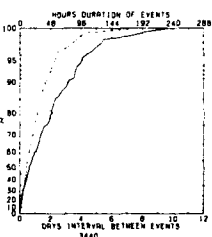
**Moses Point**



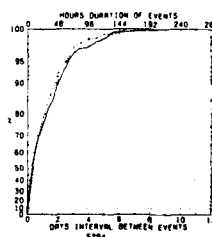
**Unalakleet**



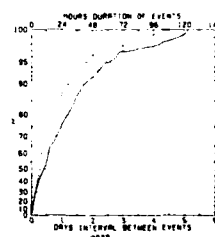
**Cape Romanzof**



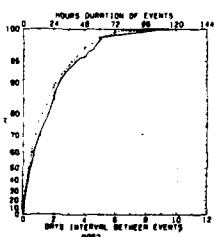
**Bethel**



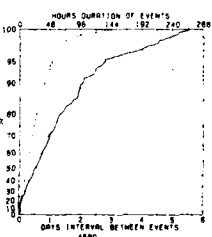
**Nikolski**



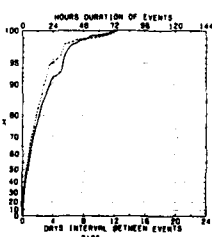
**King Salmon**



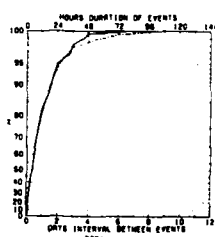
**St. Paul**



**Port Moller**



**Driftwood Bay**

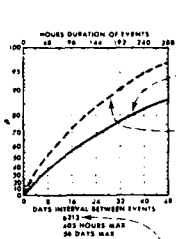


**February**

**20 Persistence of wind  $\geq 10$  kts.**

**Legend**

**Persistence of wind  $\geq 20$  kts.**



Hours duration of events Days interval between events

Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve

--- (80% of the events had a duration  $\leq 216$  hours.)

Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve

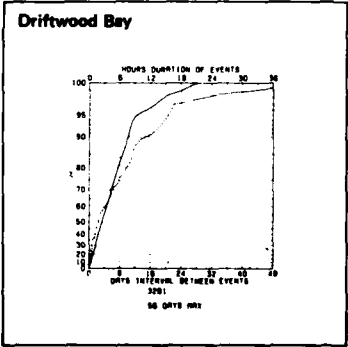
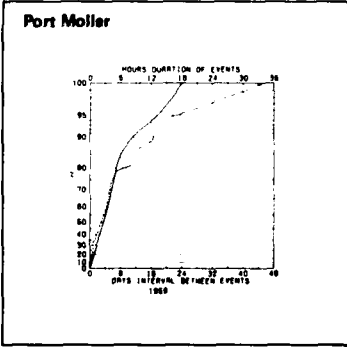
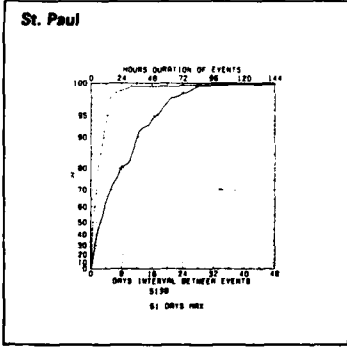
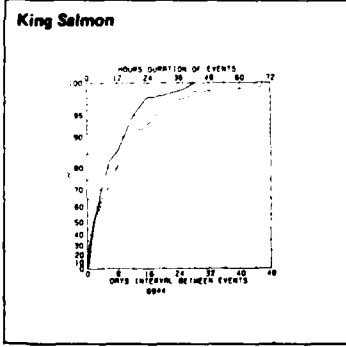
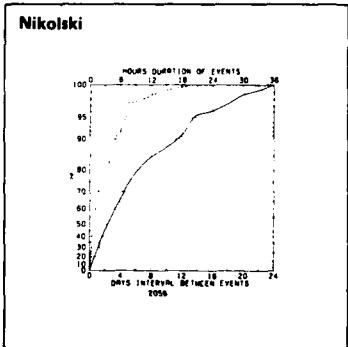
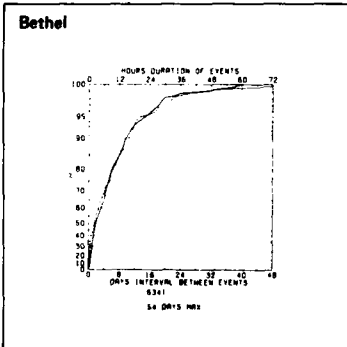
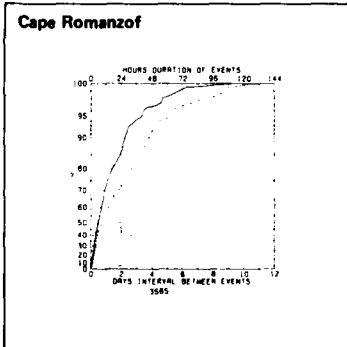
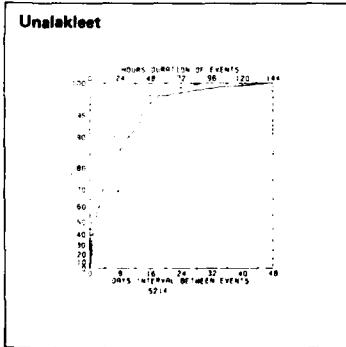
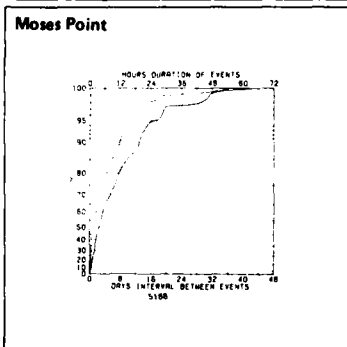
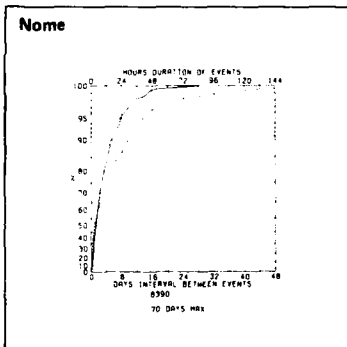
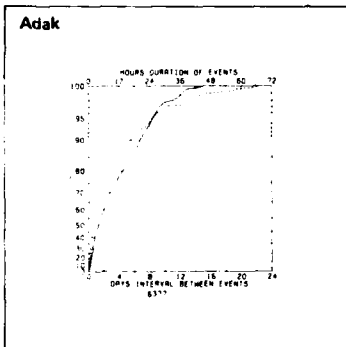
--- (88% of the events were followed by another event in 28 days or less.)

The maximum values of hours duration and/or the days interval will be displayed when the graph limits are exceeded

Durations and intervals for a particular month extend from the time they begin (or the first of the month if already in progress) and are terminated at the actual ending time, regardless of what month that may be

Number of observations

Top and bottom scales are variable to allow for variations in the data

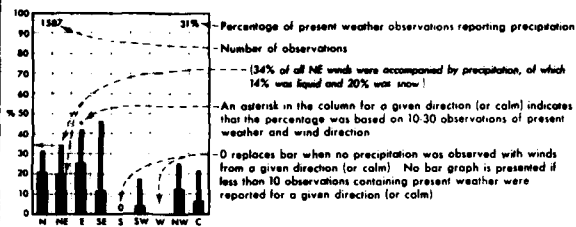


21 Persistence of wind  $\geq 20$  kts.

February

**Legend**

% Pcpn % Liquid % Snow



**Precipitation/wind direction**

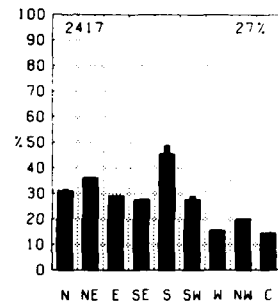
Percent frequency of surface wind observations from each direction and calm that were accompanied by precipitation, subdivided into liquid type (including freezing rain and freezing drizzle) and snow

**Map - Precipitation**

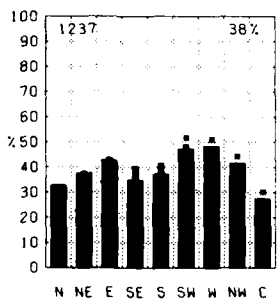
BLACK LINE Percent frequency of observations reporting precipitation

Of all the elements recorded in historical marine observations, precipitation is one of those most subject to interpretation error, from coding practices, observers preference for certain present weather codes, and other biases

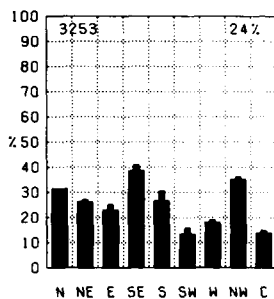
**Buhta Provideniya**



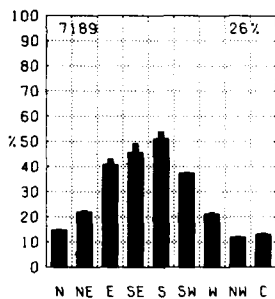
**Gambell**



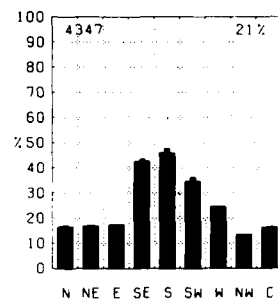
**Northeast Cape**



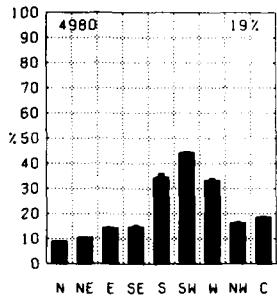
**Nome**



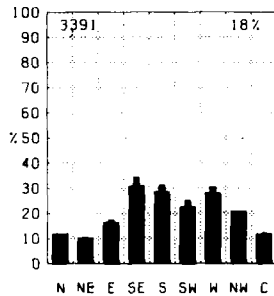
**Moses Point**



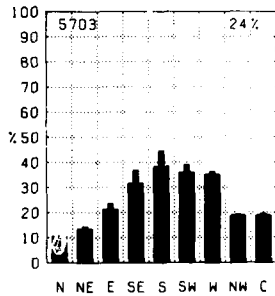
**Unalakleet**



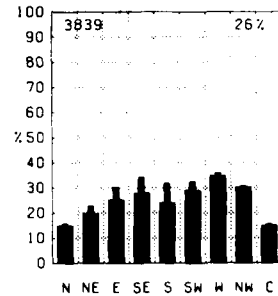
**Cape Romanzof**



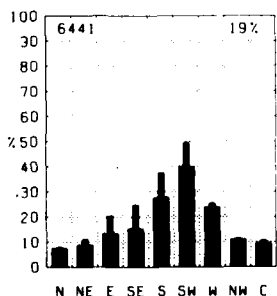
**Bethel**



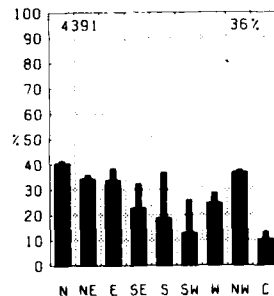
**Cape Newenham**



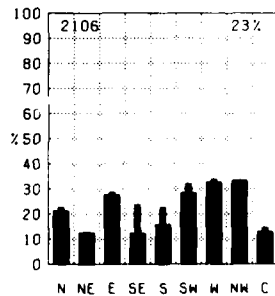
**King Salmon**



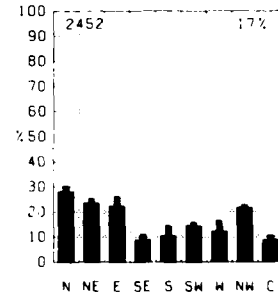
**St. Paul**



**Port Moller**



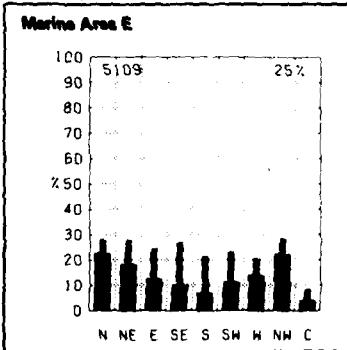
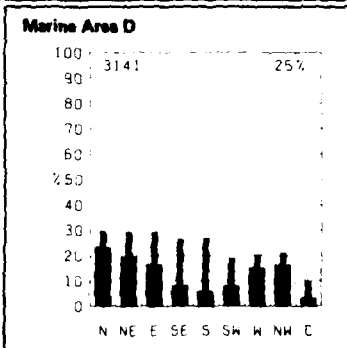
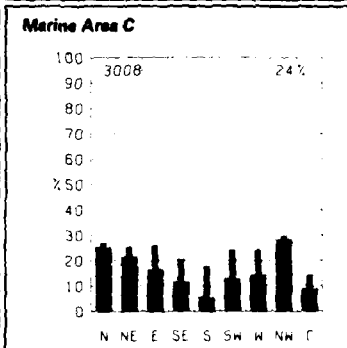
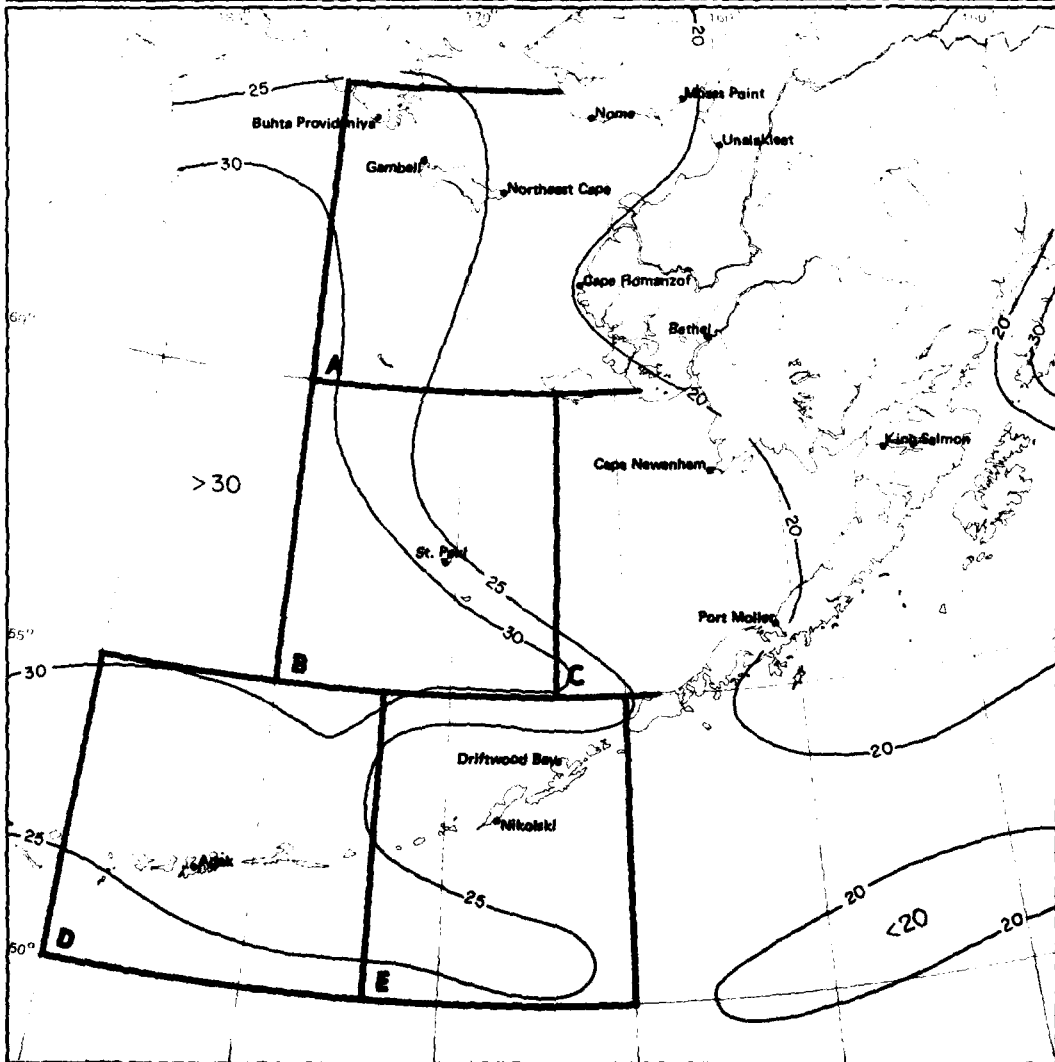
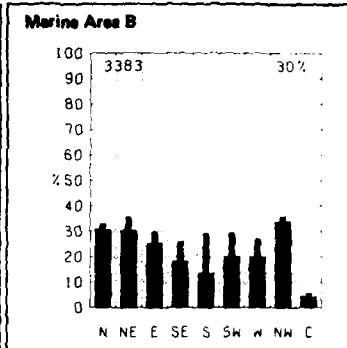
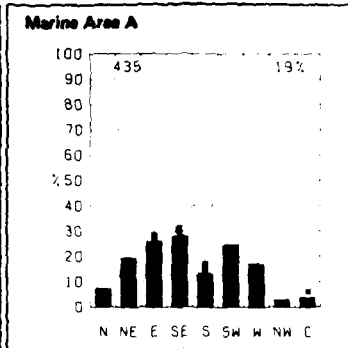
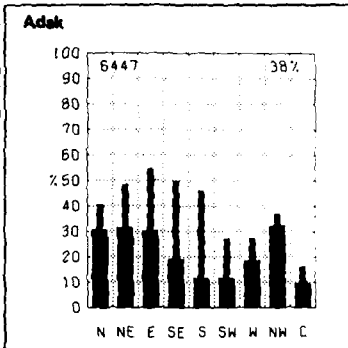
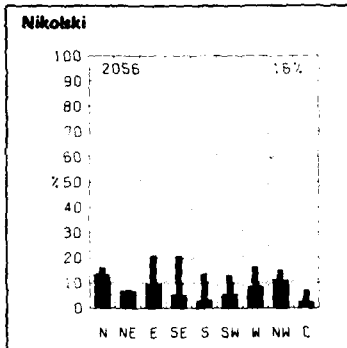
**Driftwood Bay**



**March**

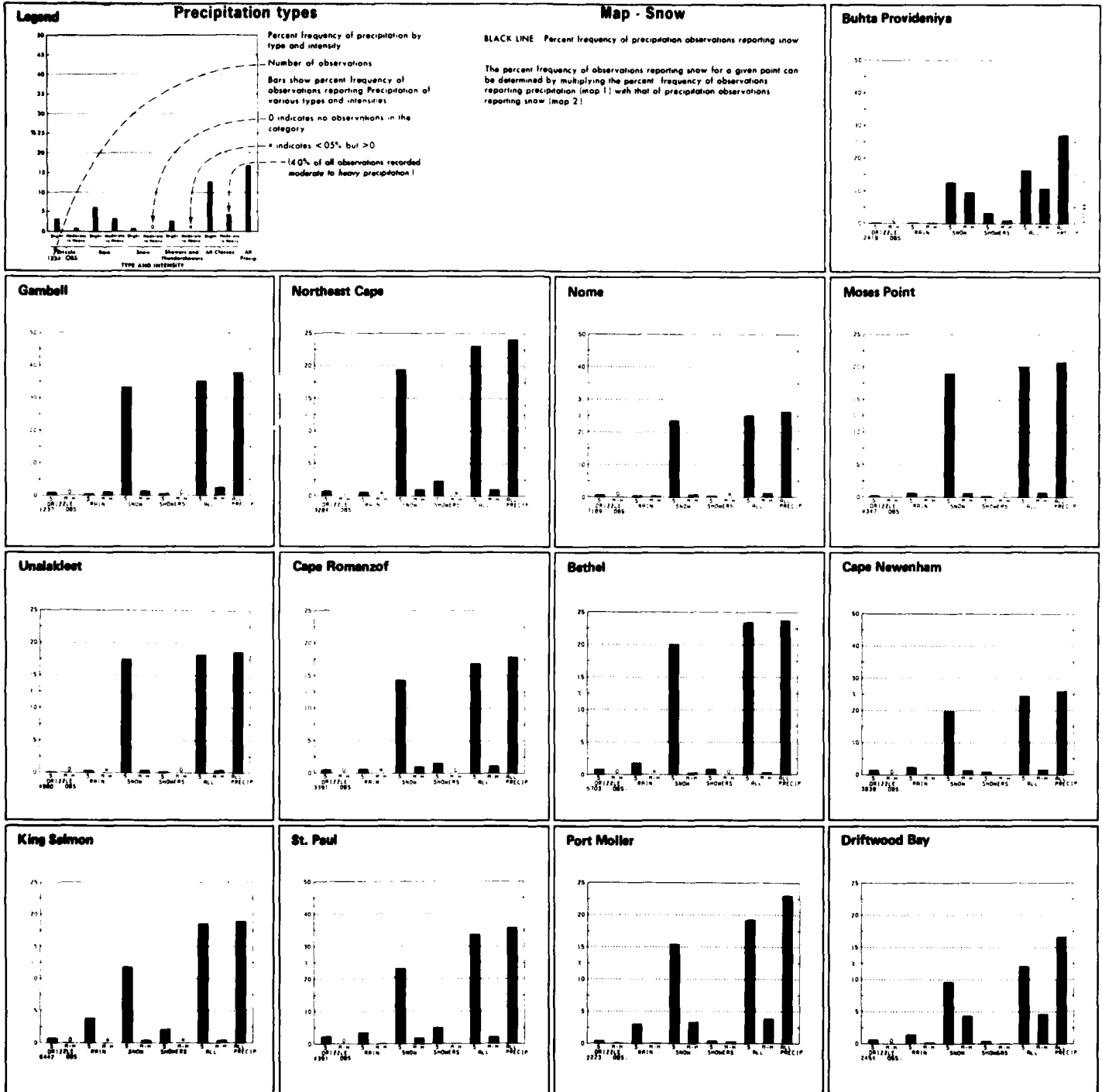
08

**1 Precipitation/wind direction**



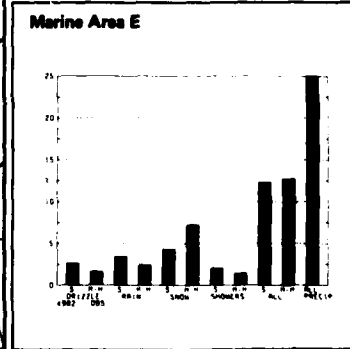
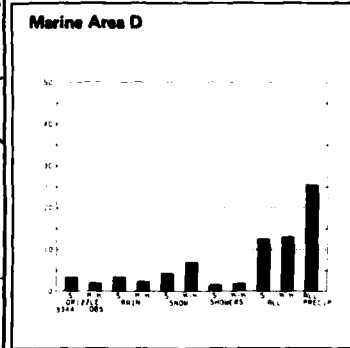
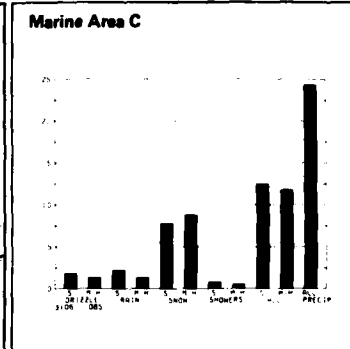
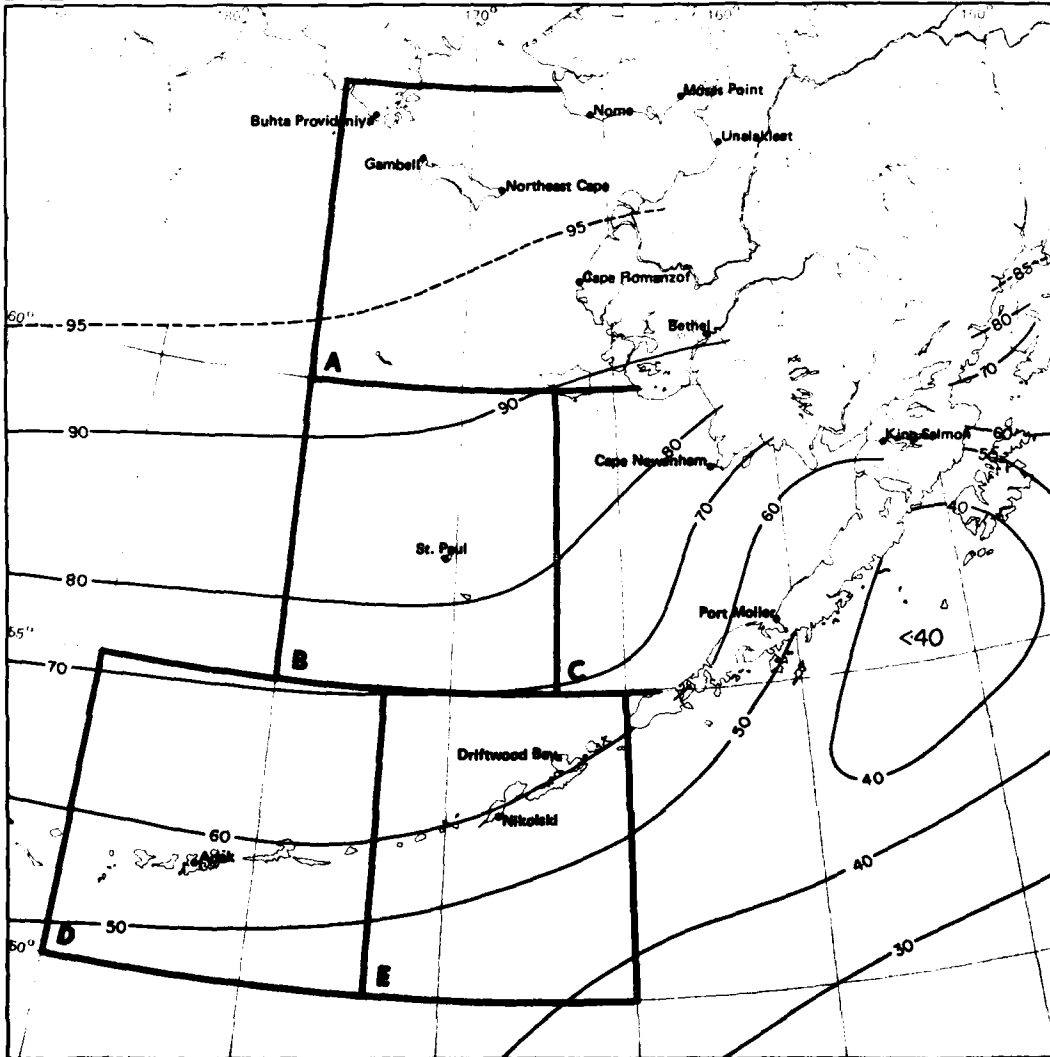
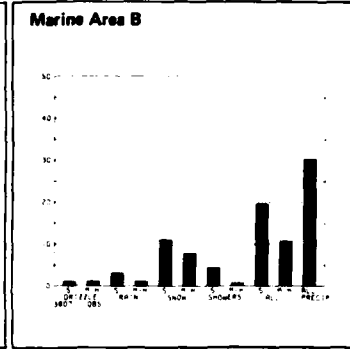
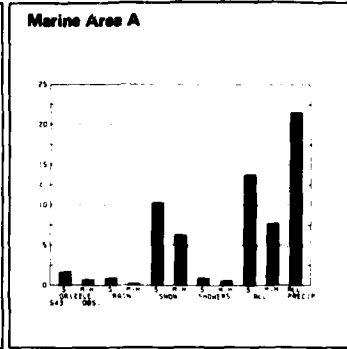
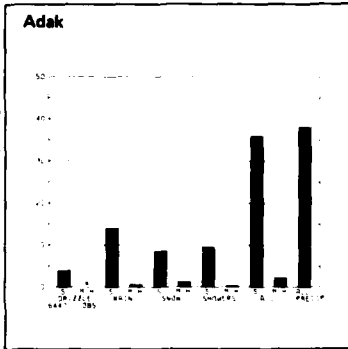
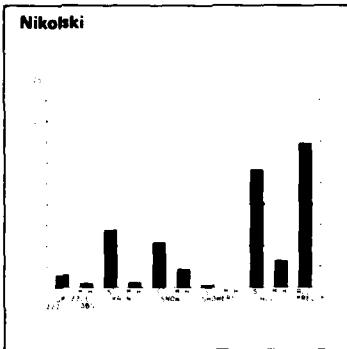
1 Precipitation

March



March

2 Precipitation types



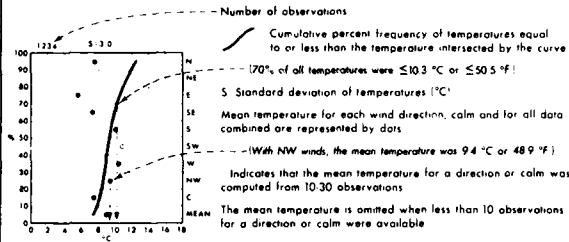
2 Snow

March



**Legend**

**Air temperature/wind direction**



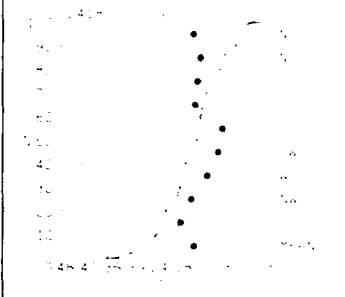
**Map - Air temperature mean and thresholds**

- BLACK LINE Percent frequency of temperature  $\leq 0^{\circ}\text{C}$  ( $\leq 32^{\circ}\text{F}$ )
- RED LINE Mean air temperature  $^{\circ}\text{C}$
- BLUE LINE Percent frequency of wind chill temperature  $\leq 30^{\circ}\text{C}$  ( $\leq 22^{\circ}\text{F}$ )

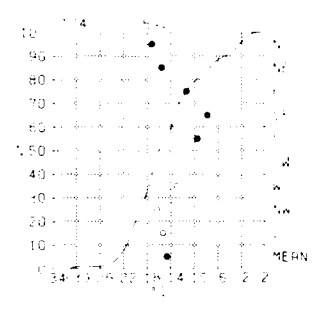
Air temperature readings recorded on transient ships in warm, sunny weather appear biased toward high temperatures, apparently because of improper instrument exposure and ventilation. Despite the inaccuracies, the large scale patterns and mean gradients of the isopleth analyses are relatively accurate.

The temperature scale of the graph may vary in both range and class interval. The percentage of temperature observations greater than a given value can be obtained by subtracting the cumulative percent frequency of that value from 100%. The number of observations and the standard deviation plus the plotted points on the graphs are based on those observations reporting both temperature and wind direction. The cumulative curve is based on all observations reporting temperature with or without wind direction.

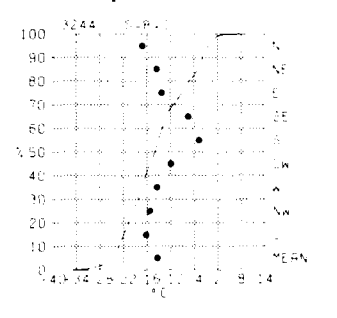
**Buhta Provideniya**



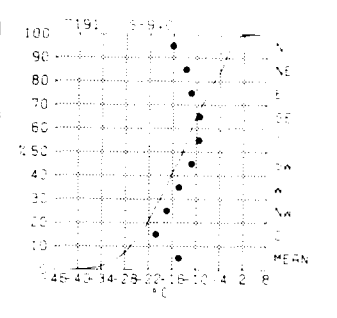
**Gambell**



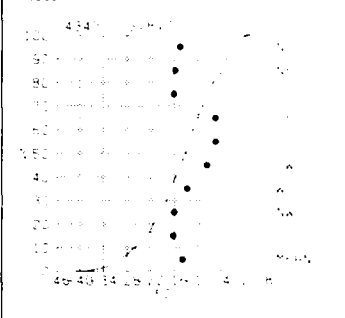
**Northeast Cape**



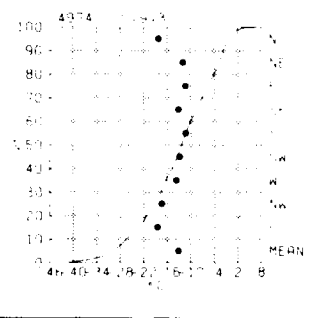
**Nome**



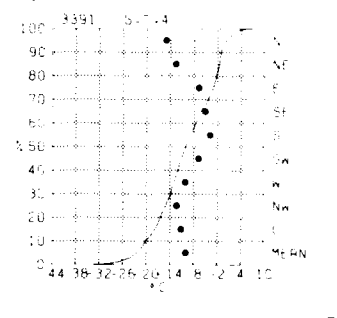
**Moses Point**



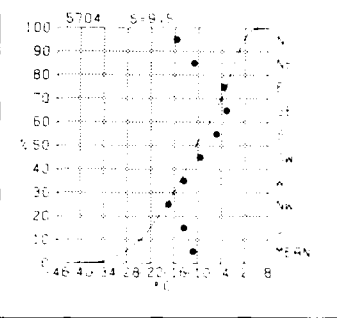
**Unalakleet**



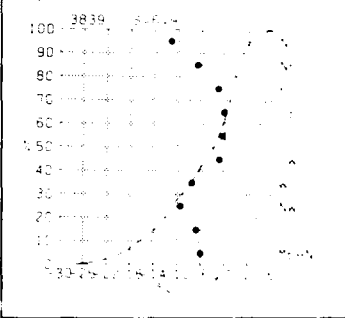
**Cape Romanzof**



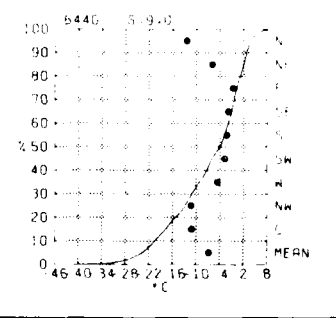
**Bethel**



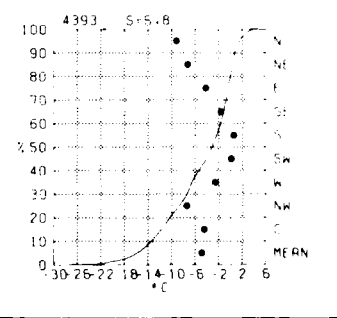
**Cape Newenham**



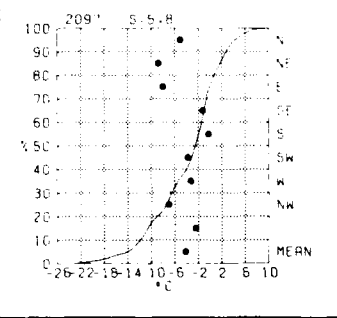
**King Salmon**



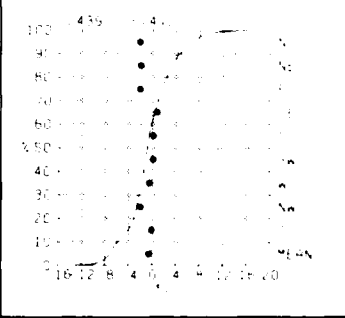
**St. Paul**



**Port Moller**

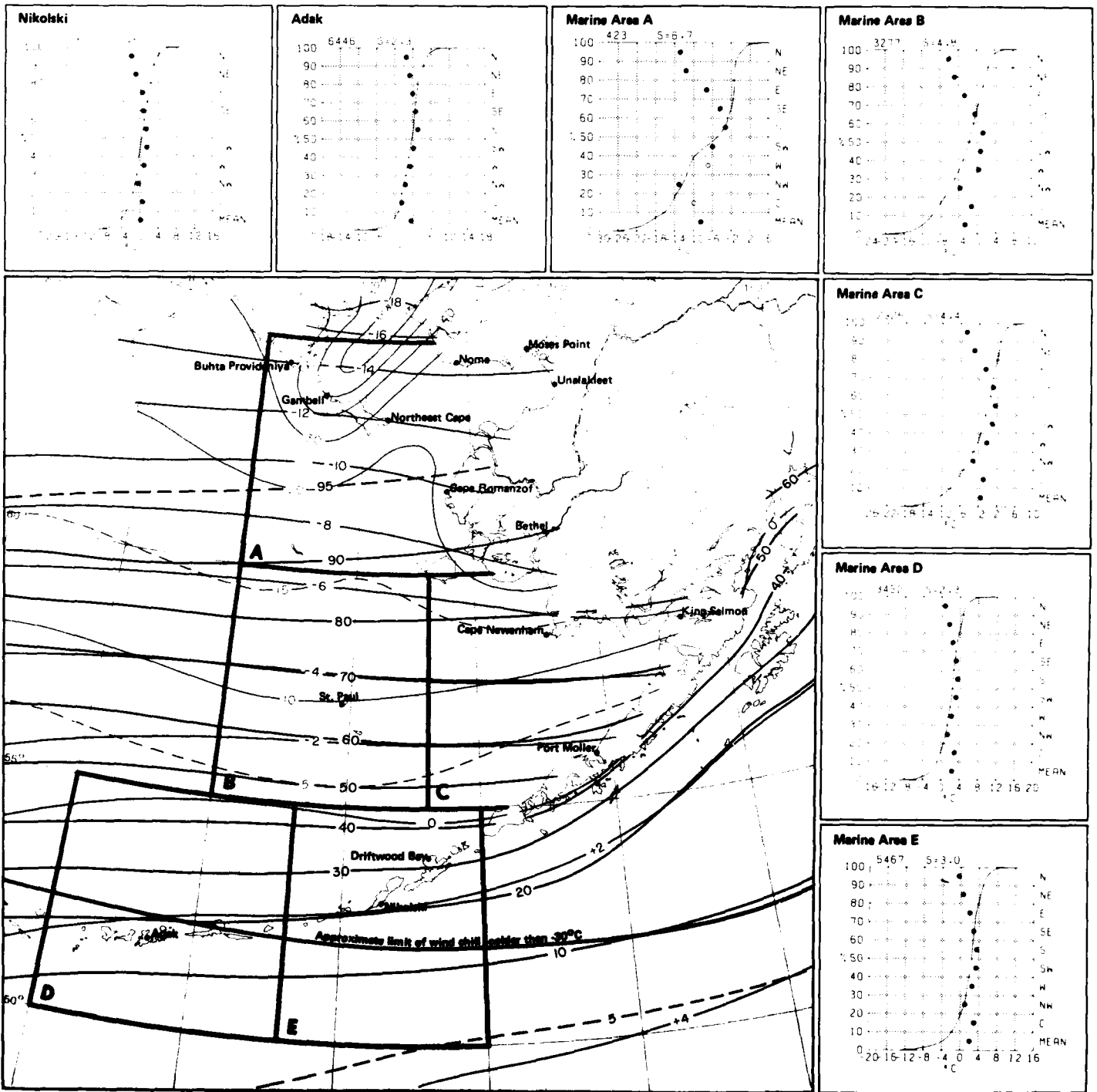


**Driftwood Bay**



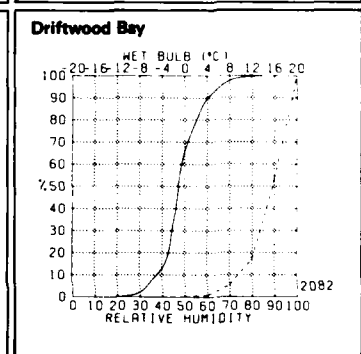
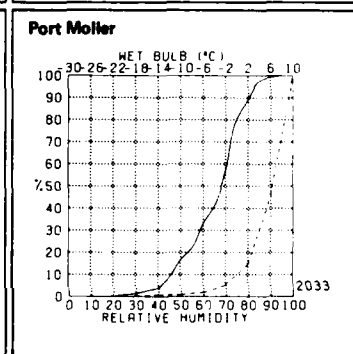
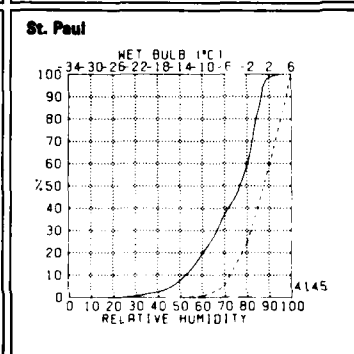
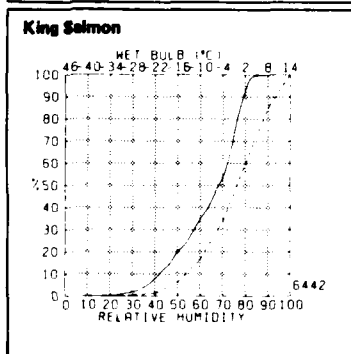
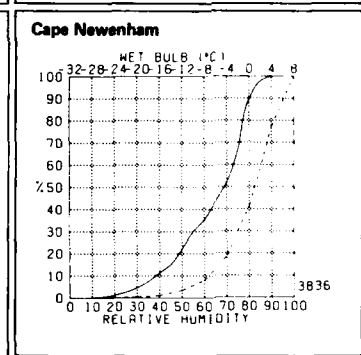
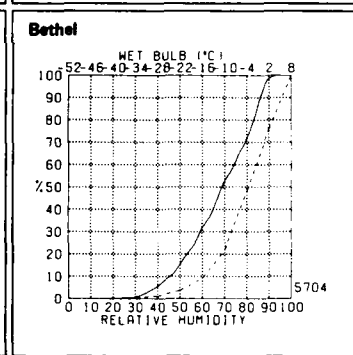
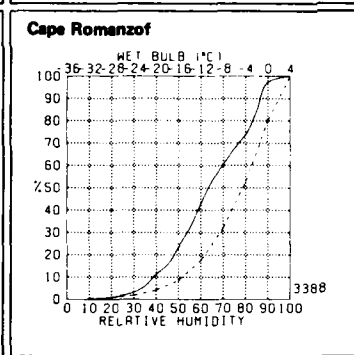
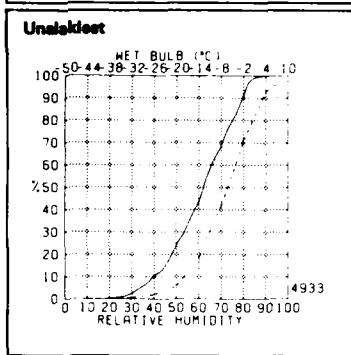
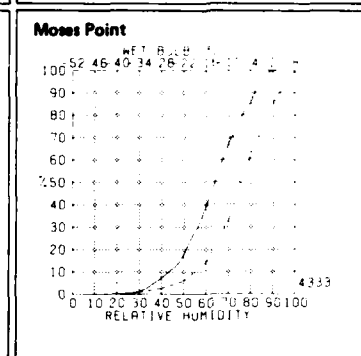
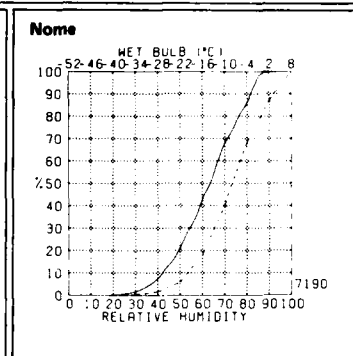
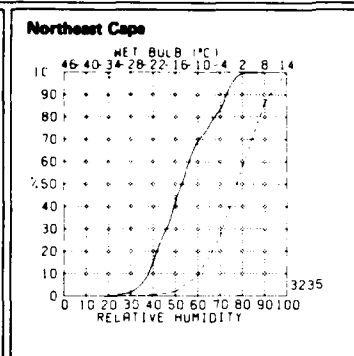
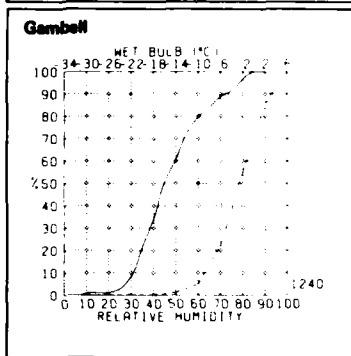
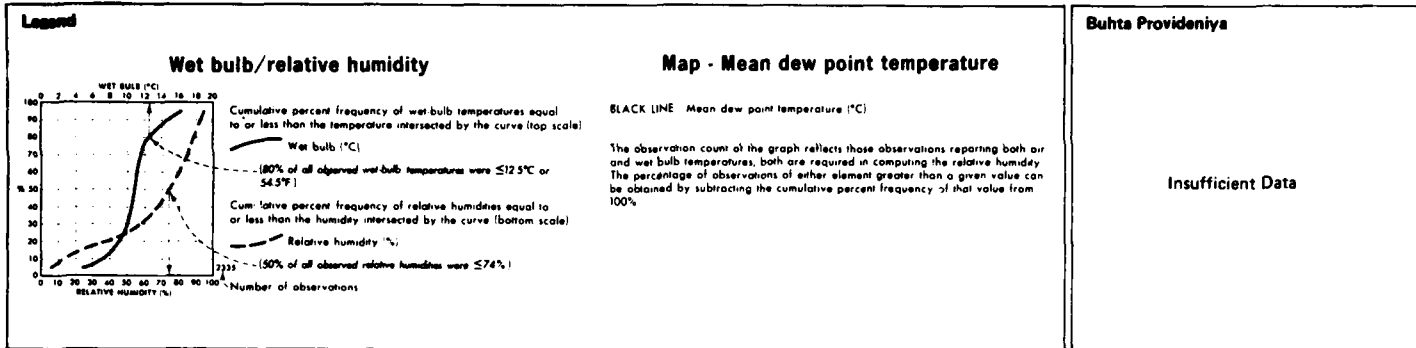
March

3 Air temperature/wind direction



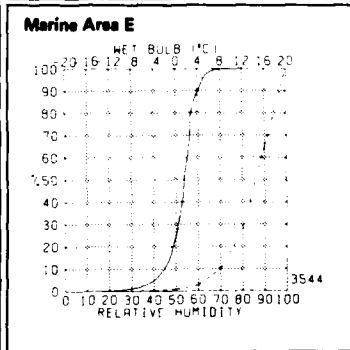
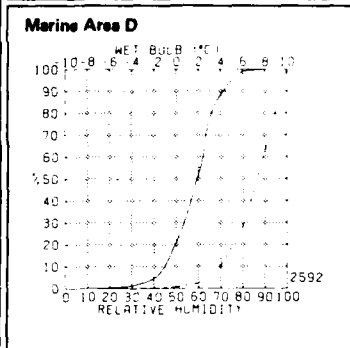
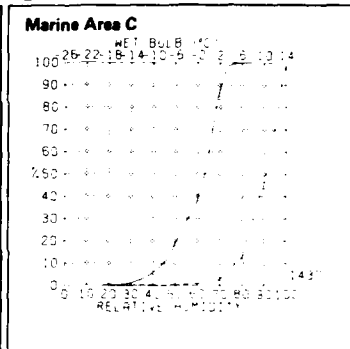
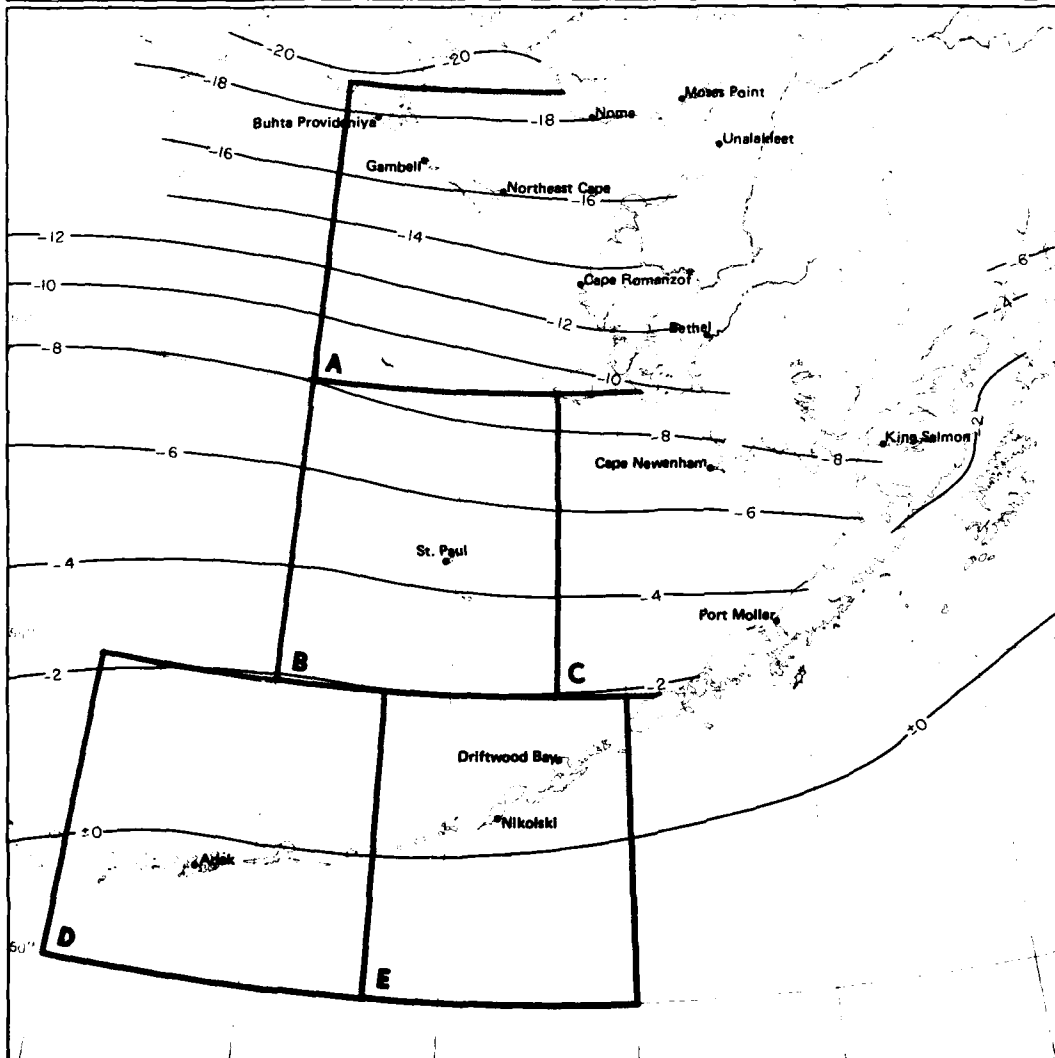
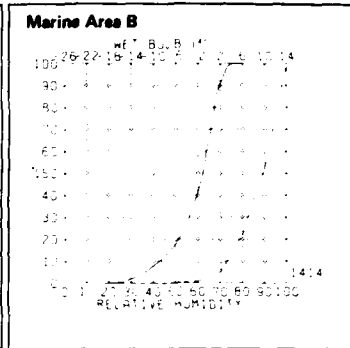
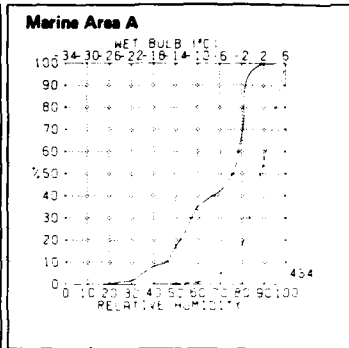
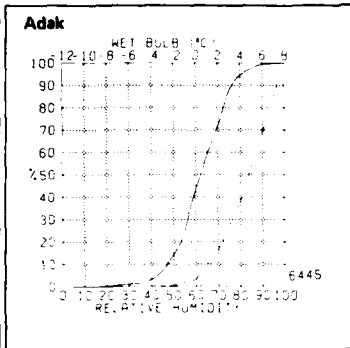
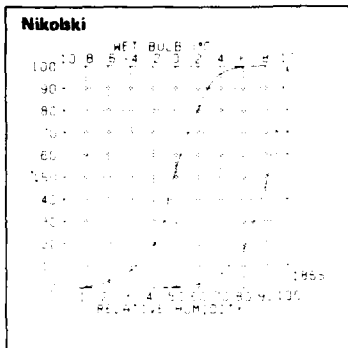
3 Air temperature mean and thresholds

March



March

4 Wet bulb/relative humidity

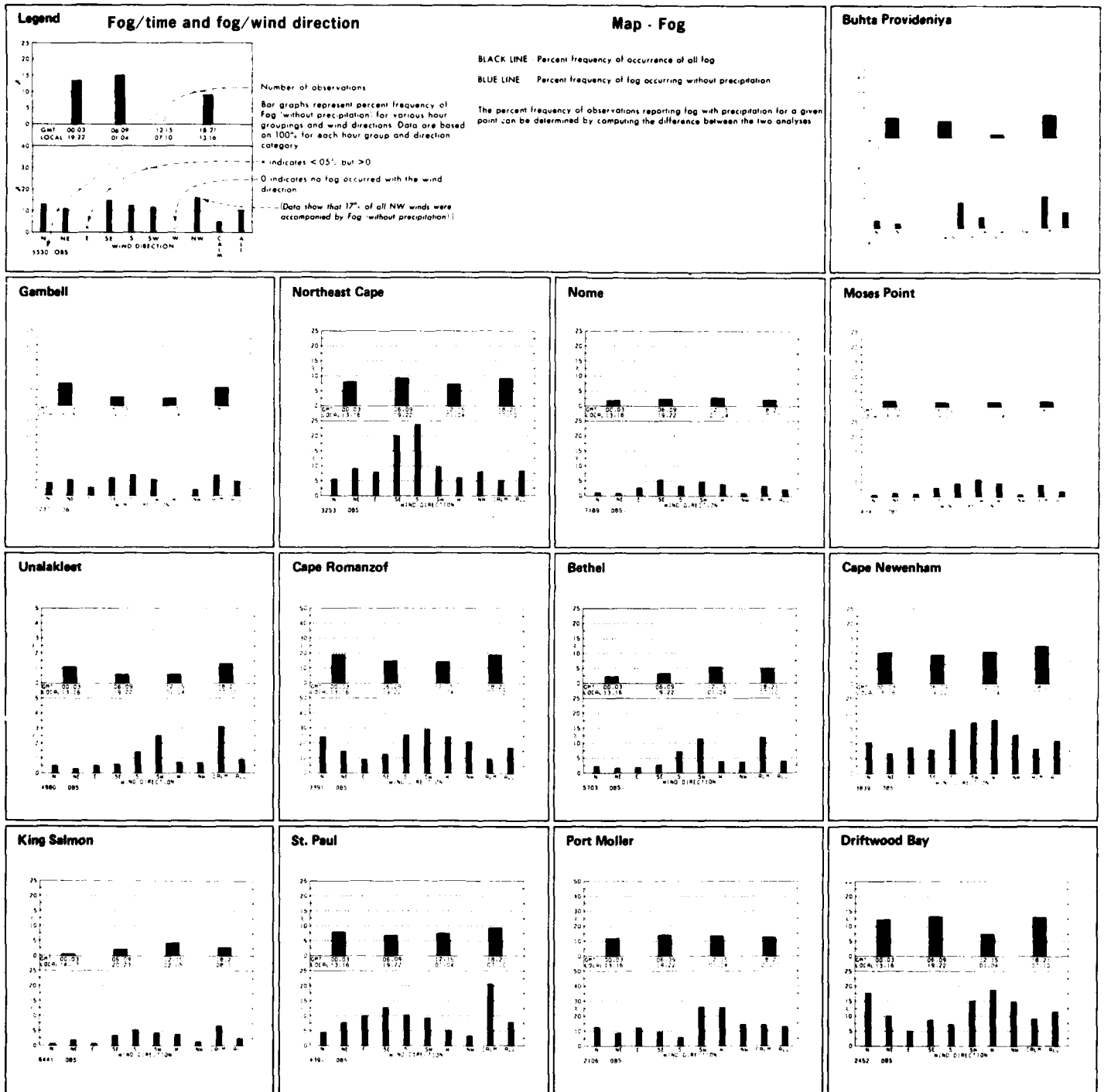


4 Mean dew point temperature

March

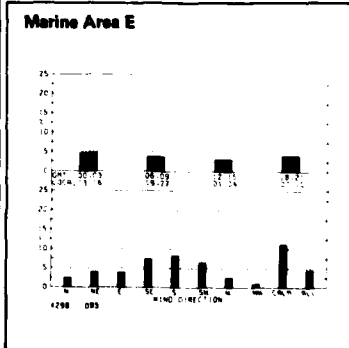
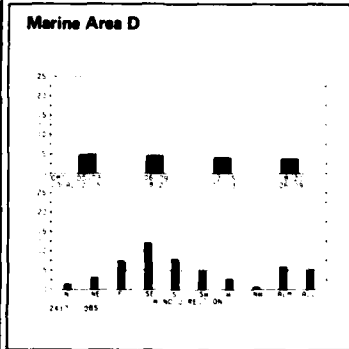
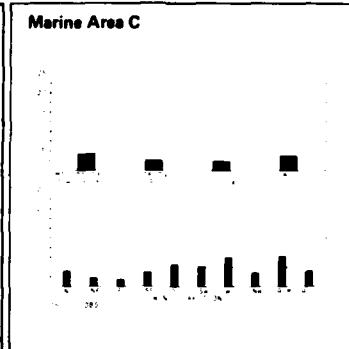
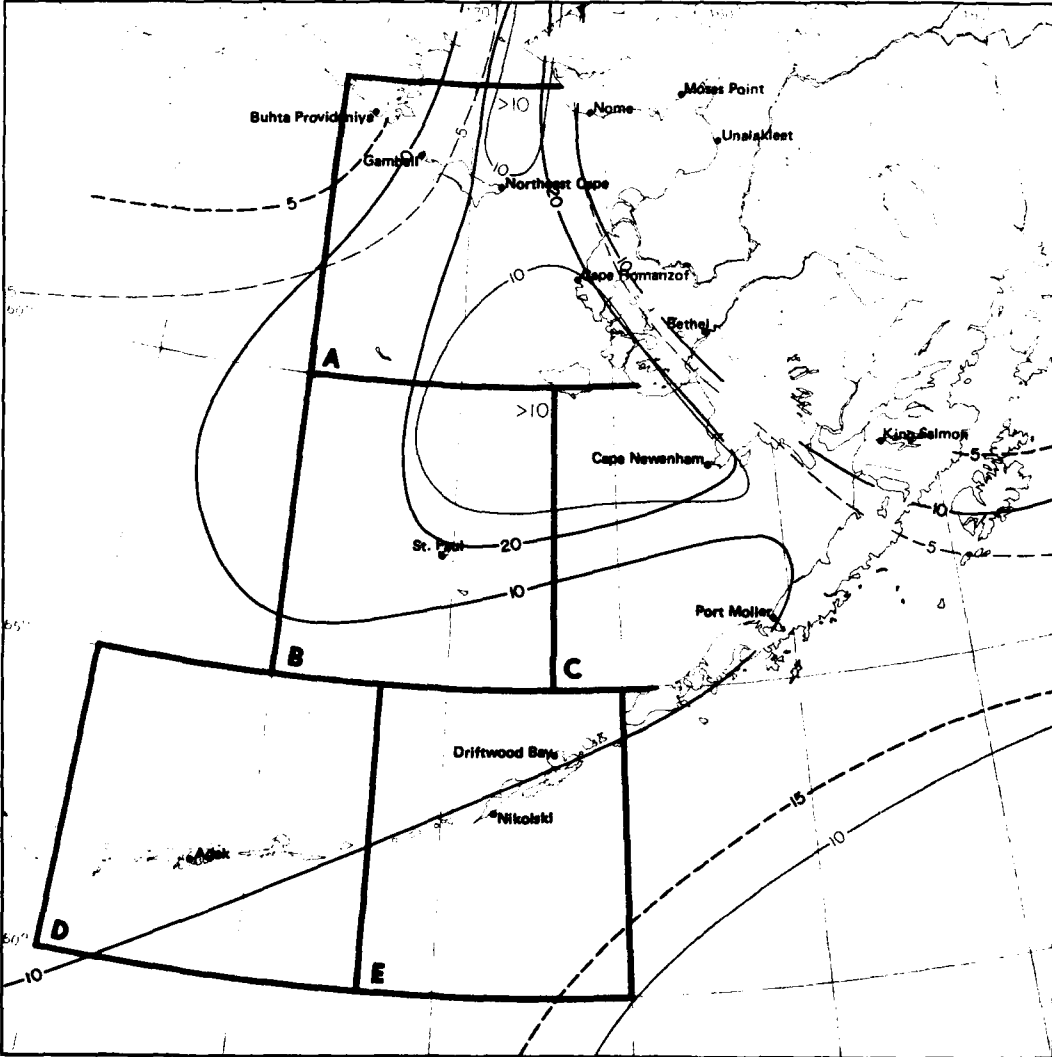
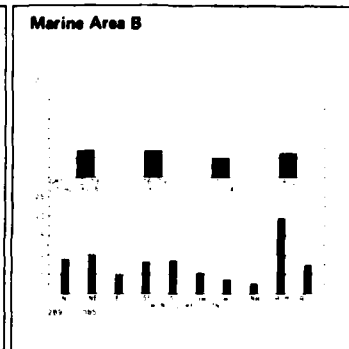
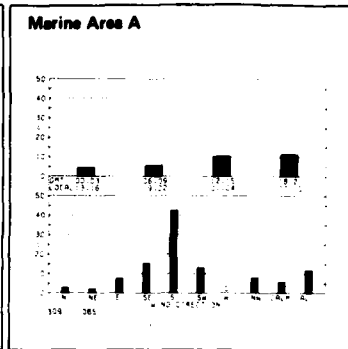
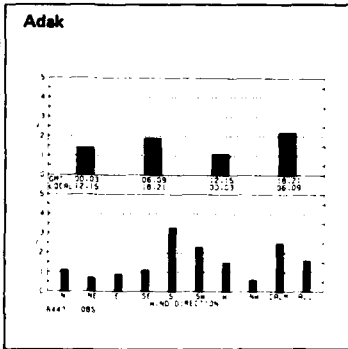
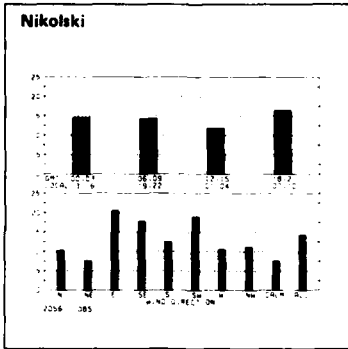






March

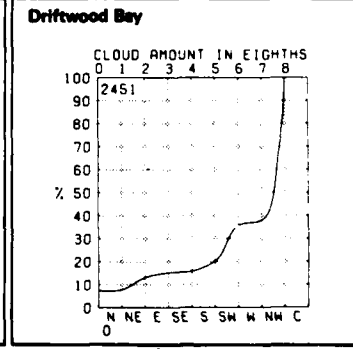
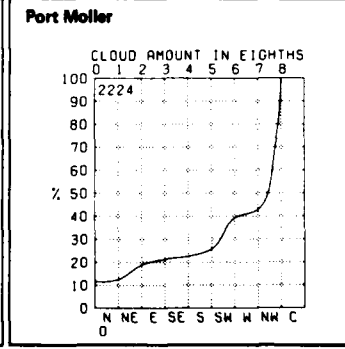
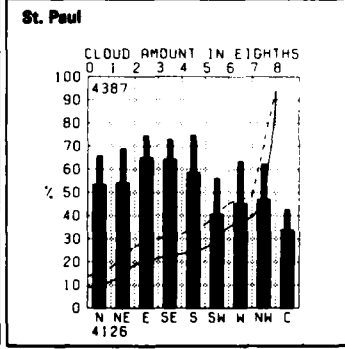
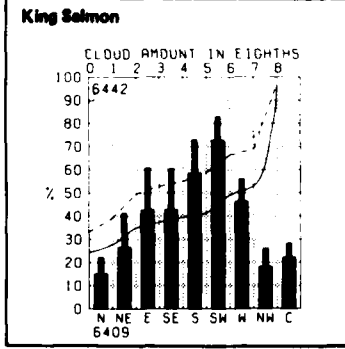
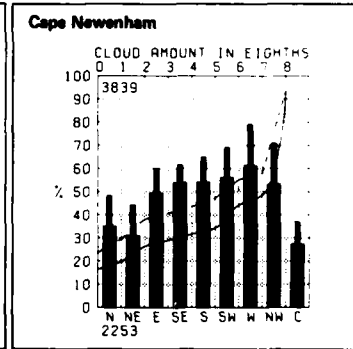
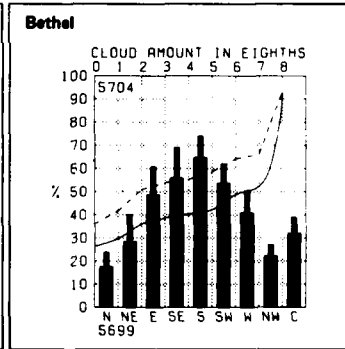
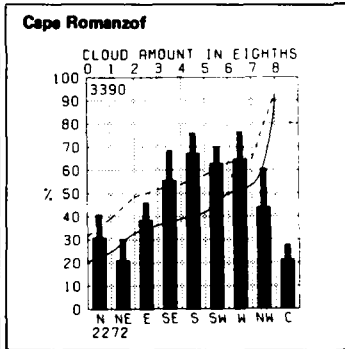
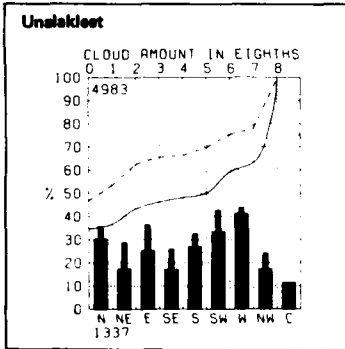
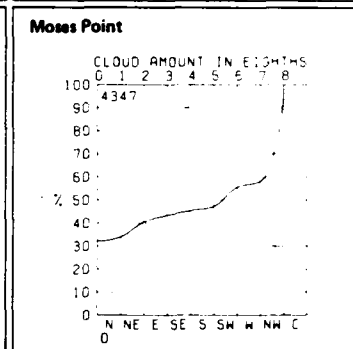
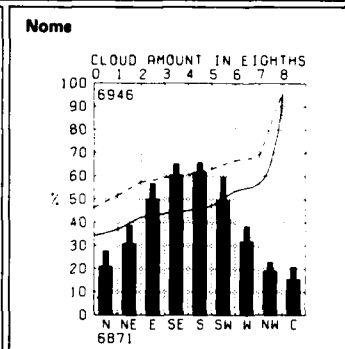
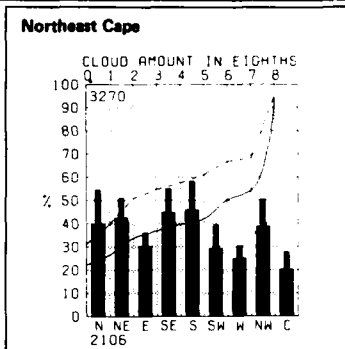
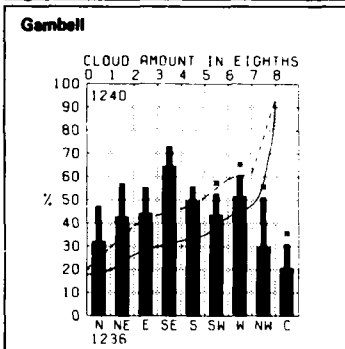
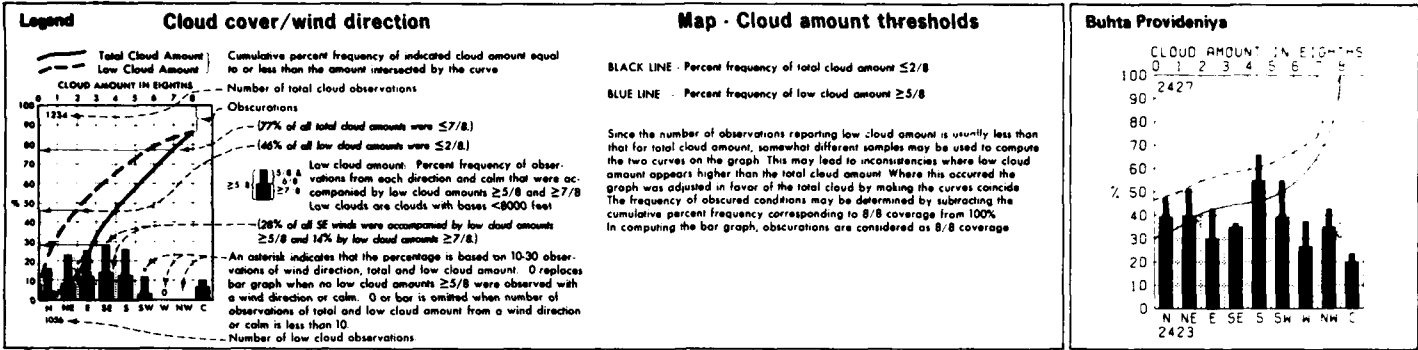
6 Fog/time and fog/wind direction

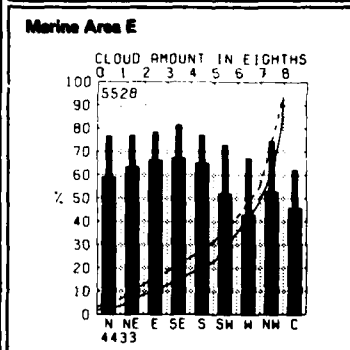
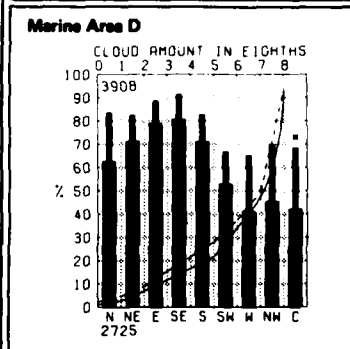
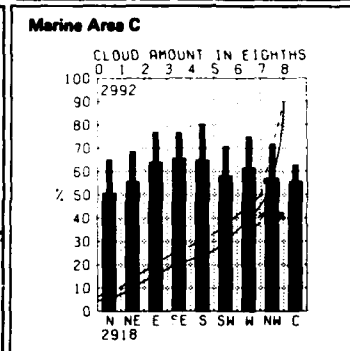
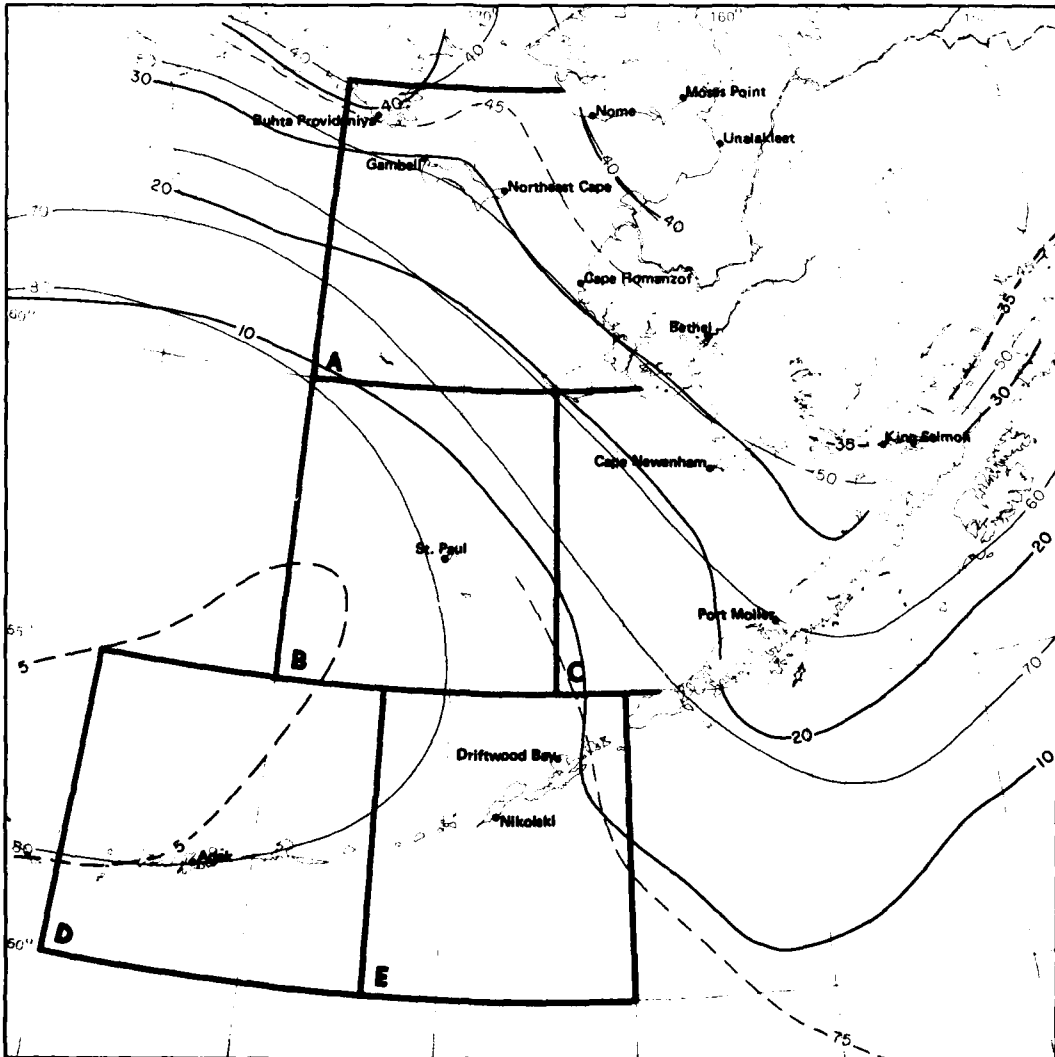
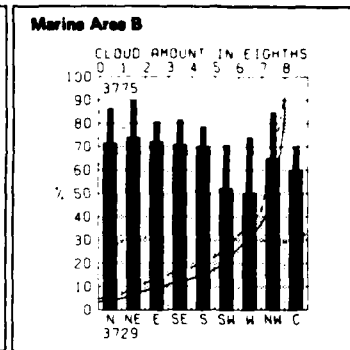
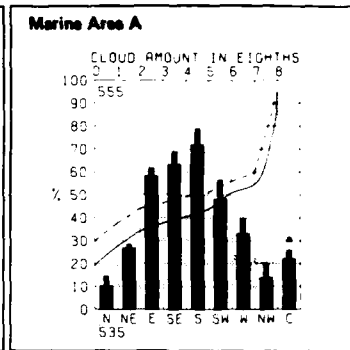
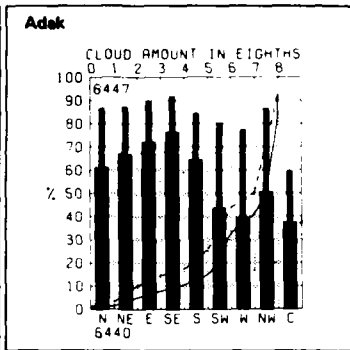
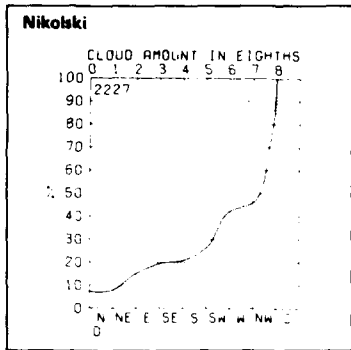


6 Fog

March





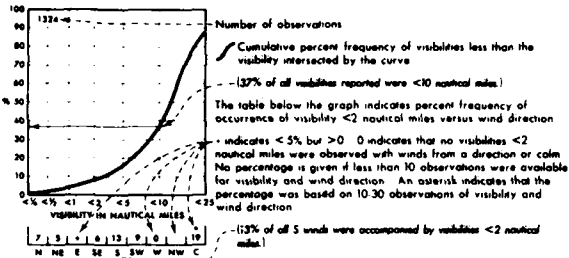


7 Cloud amount thresholds

March

**Legend**

**Visibility/wind direction**

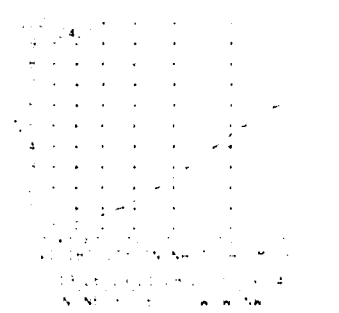


**Map - Visibility thresholds**

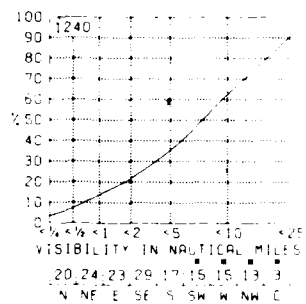
BLACK LINE Percent frequency of visibilities  $\geq 5$  nautical miles  
 BLUE LINE Percent frequency of visibilities  $< 2$  nautical miles

The percentage of visibility equal to or greater than a given value can be obtained from the graph by subtracting the cumulative percent frequency of that value from 100%. Visibility at sea is difficult to measure because of the lack of reference points. Also, some observers seem to report reduced visibilities at night because of darkness, though the tendency has abated in recent years. The coarseness of the coding intervals, however, tends to minimize serious biases in the summarized data. Visibilities greater than 25 nm should be interpreted cautiously because the earth's curvature makes it impossible to see 25 nm horizontally from the bridges of most ships.

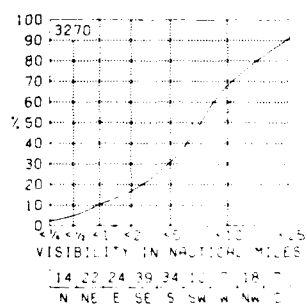
**Buhta Provideniya**



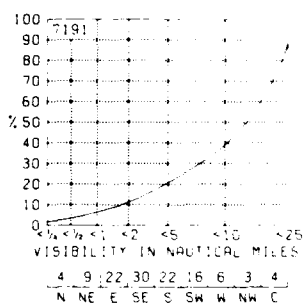
**Gambell**



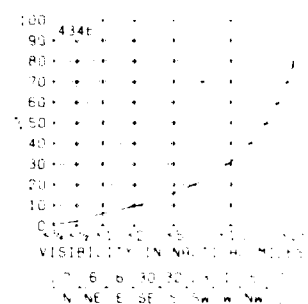
**Northeast Cape**



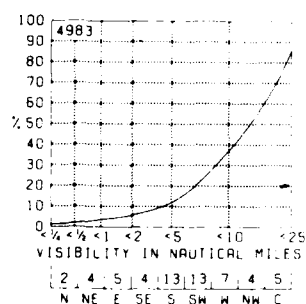
**Nome**



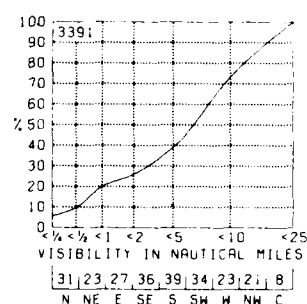
**Moses Point**



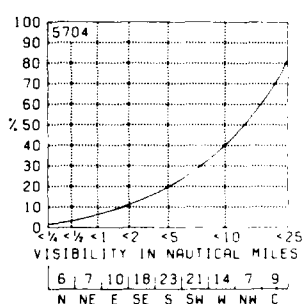
**Unalakleet**



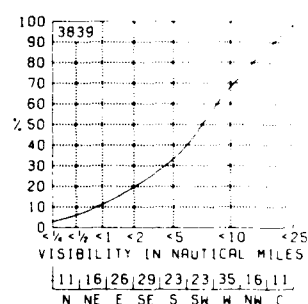
**Cape Romanzof**



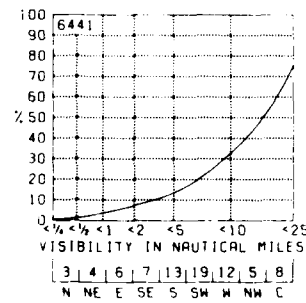
**Bethel**



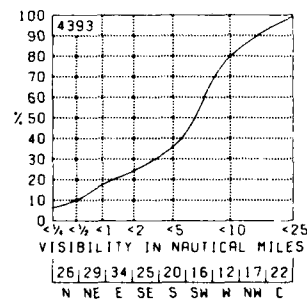
**Cape Newenham**



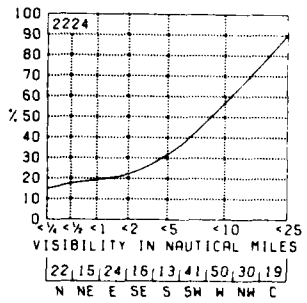
**King Salmon**



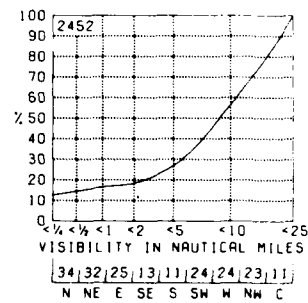
**St. Paul**

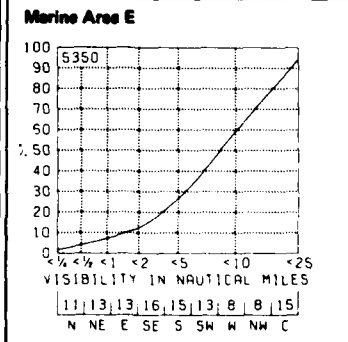
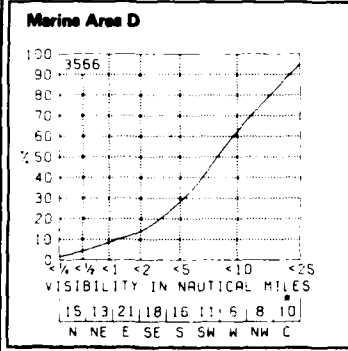
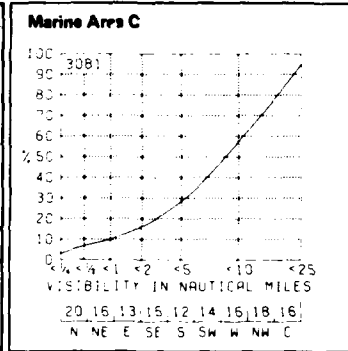
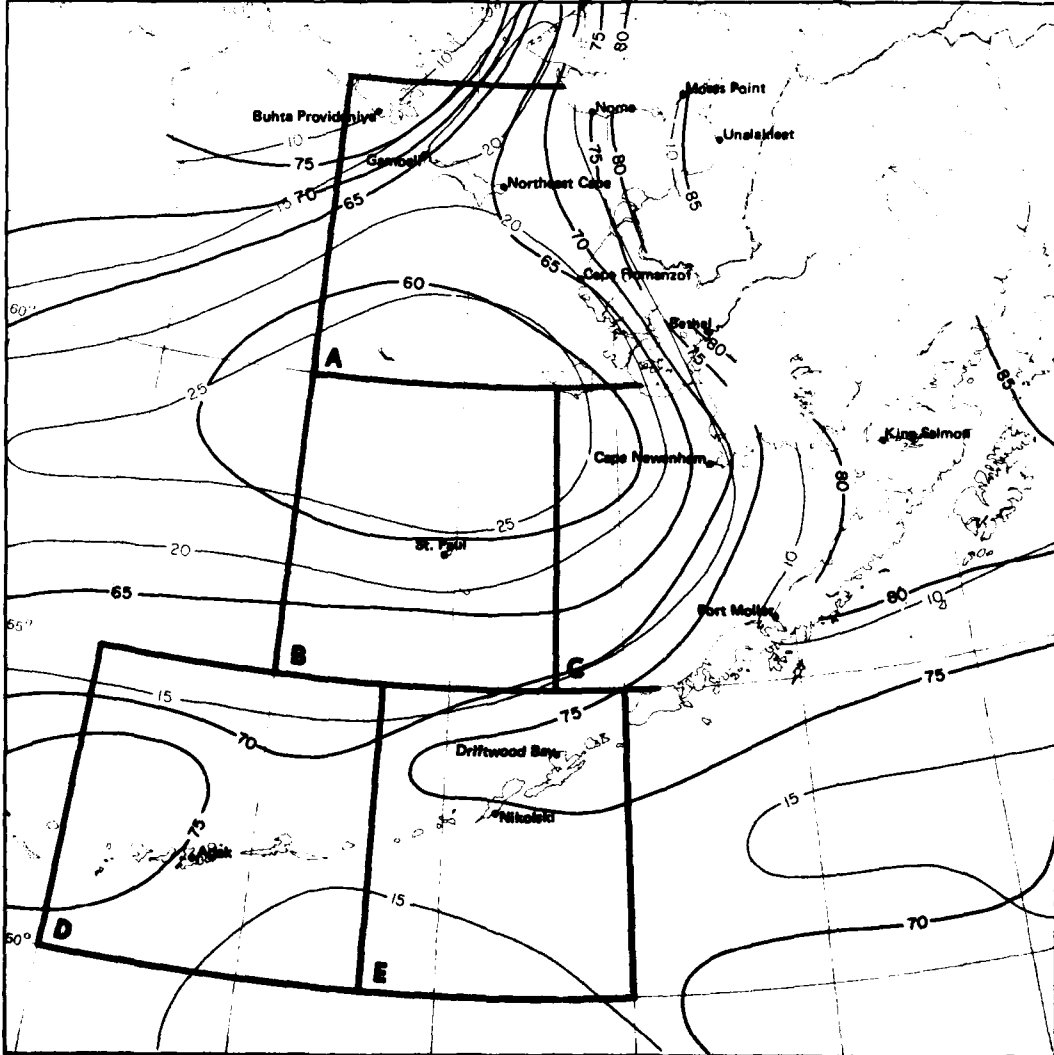
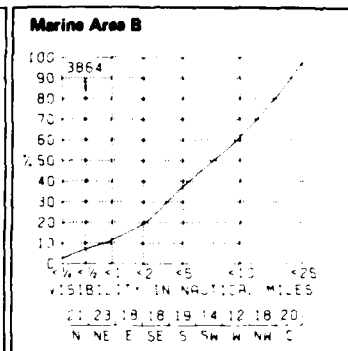
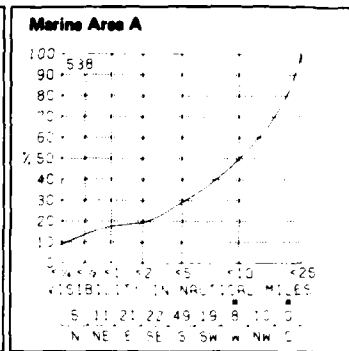
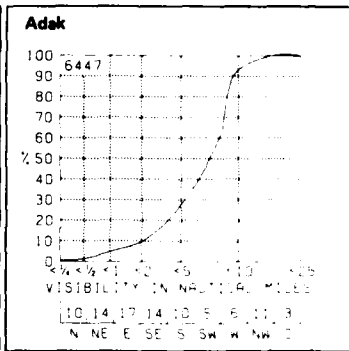
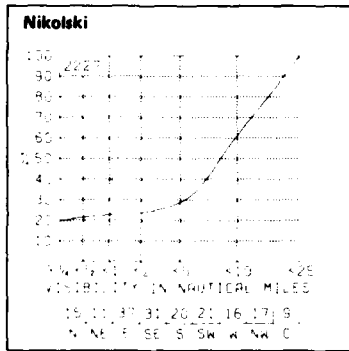


**Port Moller**



**Driftwood Bay**





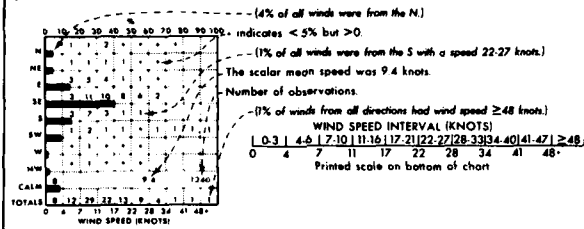
**8 Visibility thresholds**

**March**

### Legend

### Wind speed/direction

Direction frequency (top scale) Bars represent percent frequency of winds observed from each direction. Speed frequency (bottom scale). Printed figures represent percent frequency of wind speeds observed from each direction.



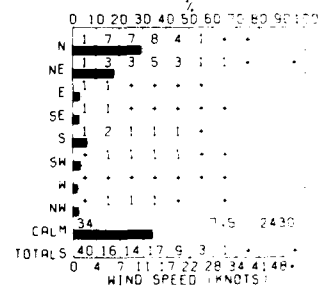
### Map - Wind speed thresholds

BLACK LINE - Percent frequency of wind speed  $\leq 10$  knots ( $\leq 12$  mph)

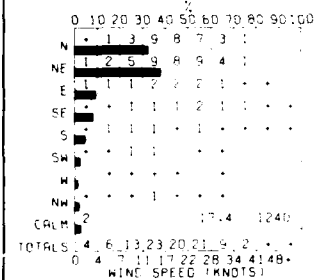
BLUE LINE - Percent frequency of wind speed  $\geq 34$  knots ( $\geq 39$  mph)

The scalar mean wind speed on the graph is based on the number of observations reporting a wind speed with direction. The sum of the totals line provides the cumulative percent frequency of wind speed below a selected threshold value. In the example graph, 71% of all winds were less than 17 knots (20 mph).

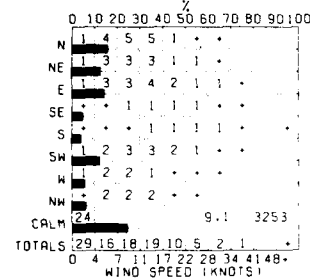
### Buhta Provideniya



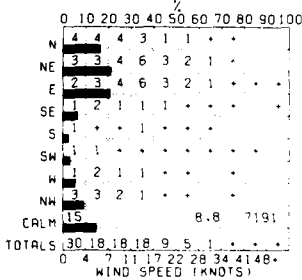
### Gambell



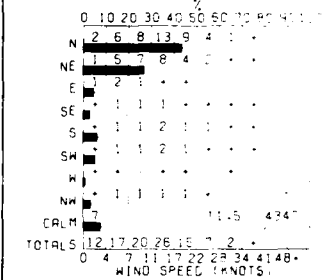
### Northeast Cape



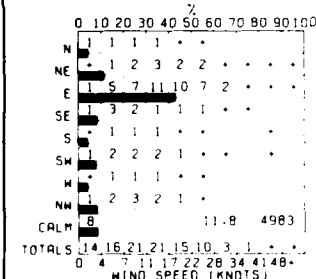
### Nome



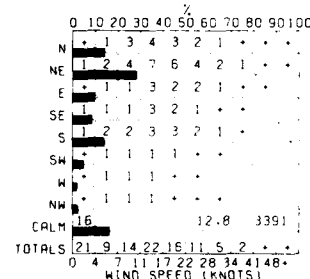
### Moses Point



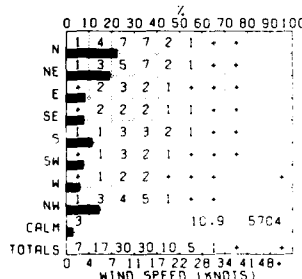
### Unalakleet



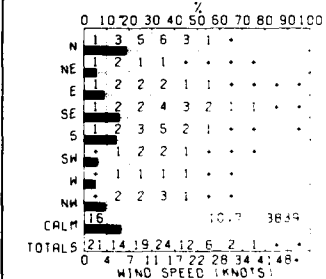
### Cape Romenzof



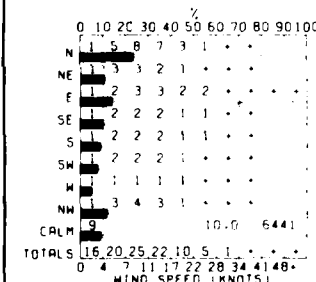
### Bethel



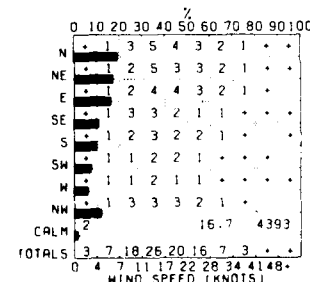
### Cape Newenham



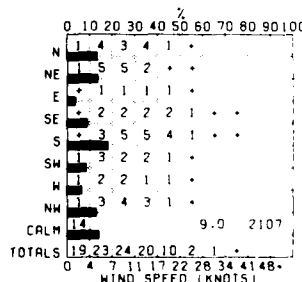
### King Salmon



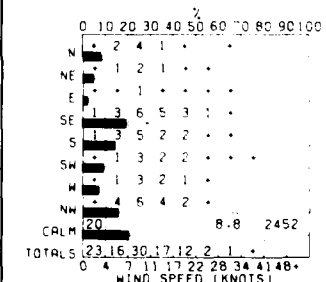
### St. Paul



### Port Moller

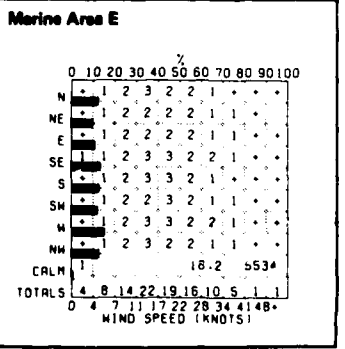
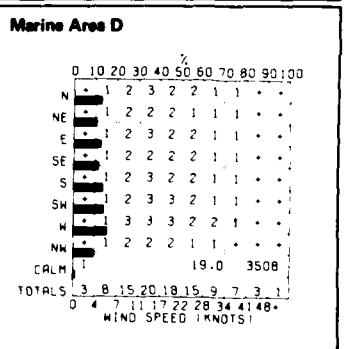
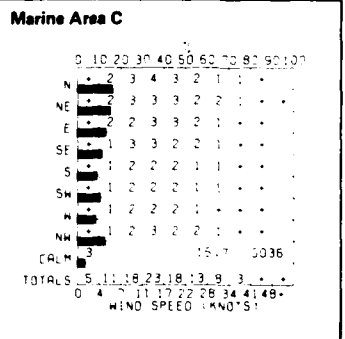
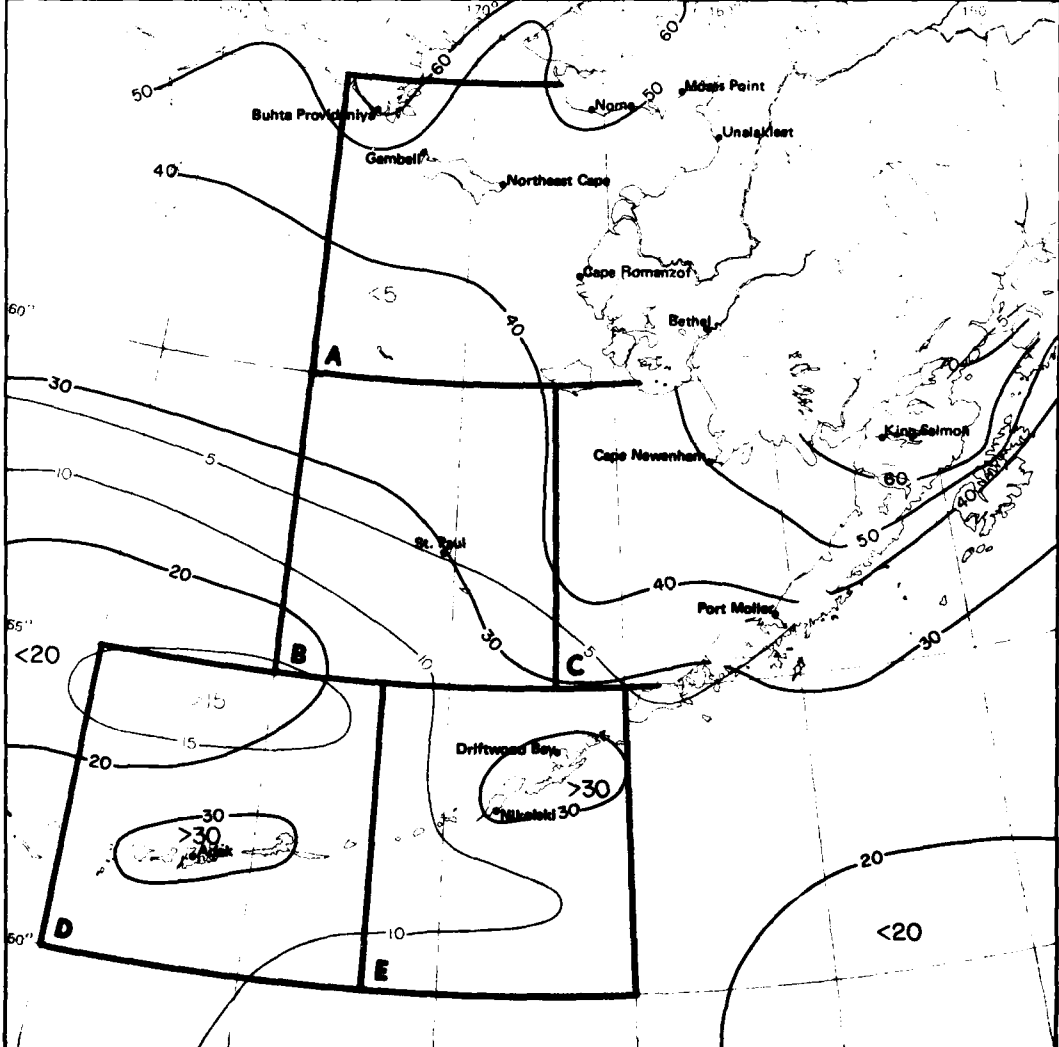
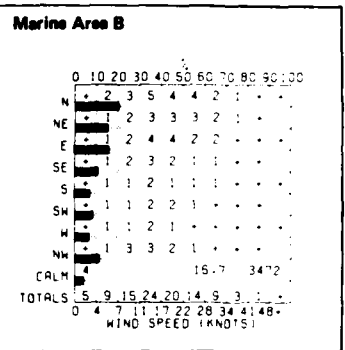
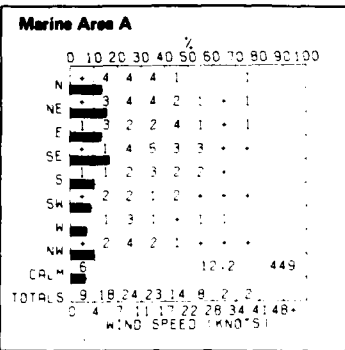
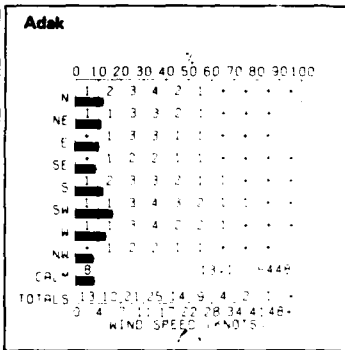
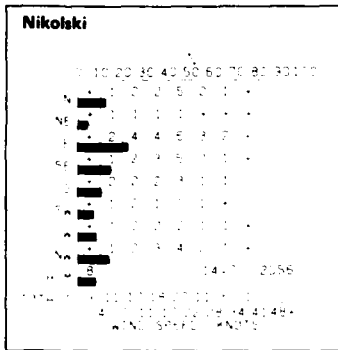


### Driftwood Bay



## March

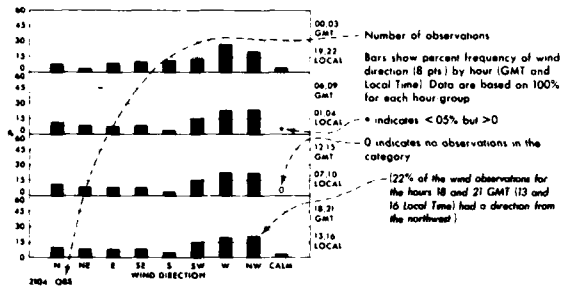
## 9 Wind speed/direction



9 Wind speed thresholds

March

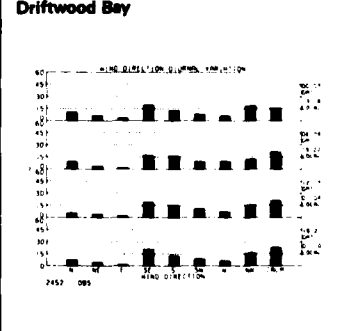
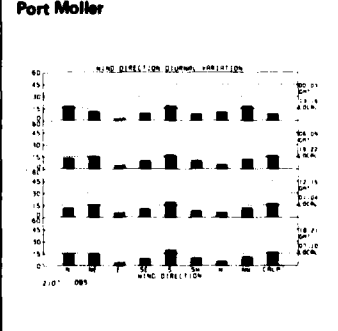
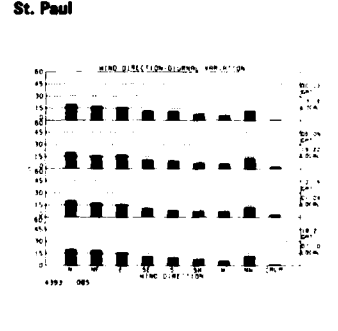
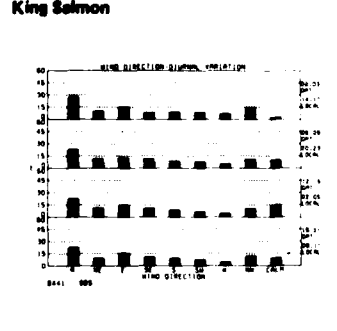
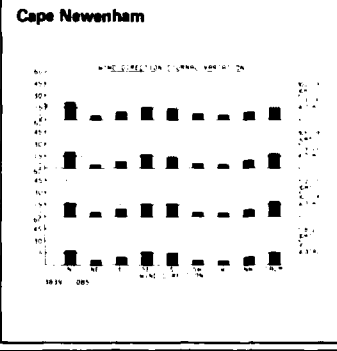
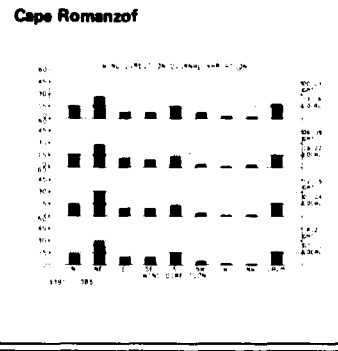
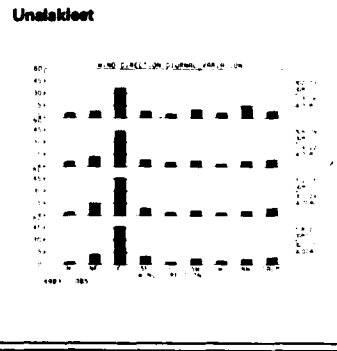
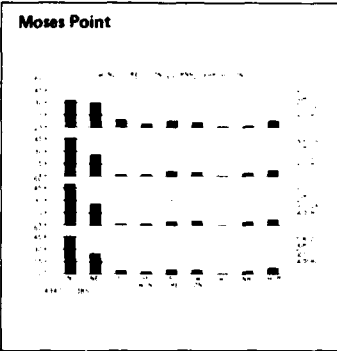
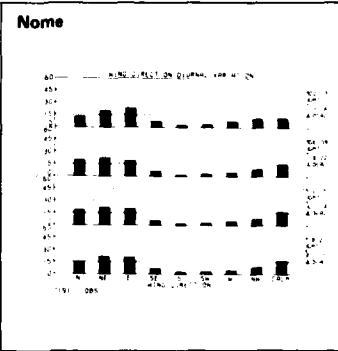
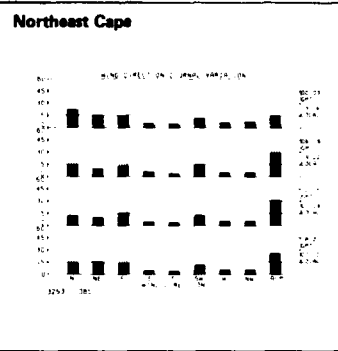
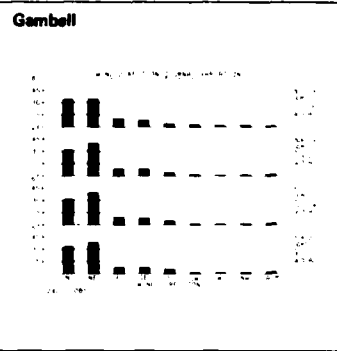
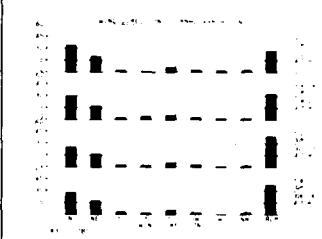
**Legend Wind direction/diurnal variation**



**Map - Vector mean wind**

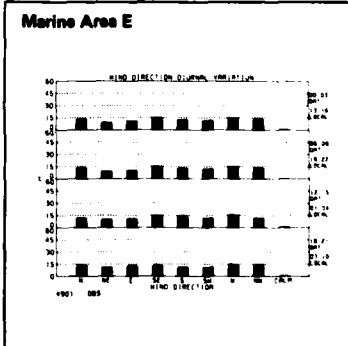
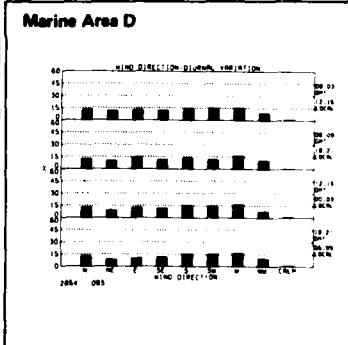
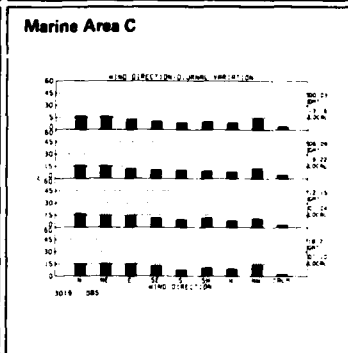
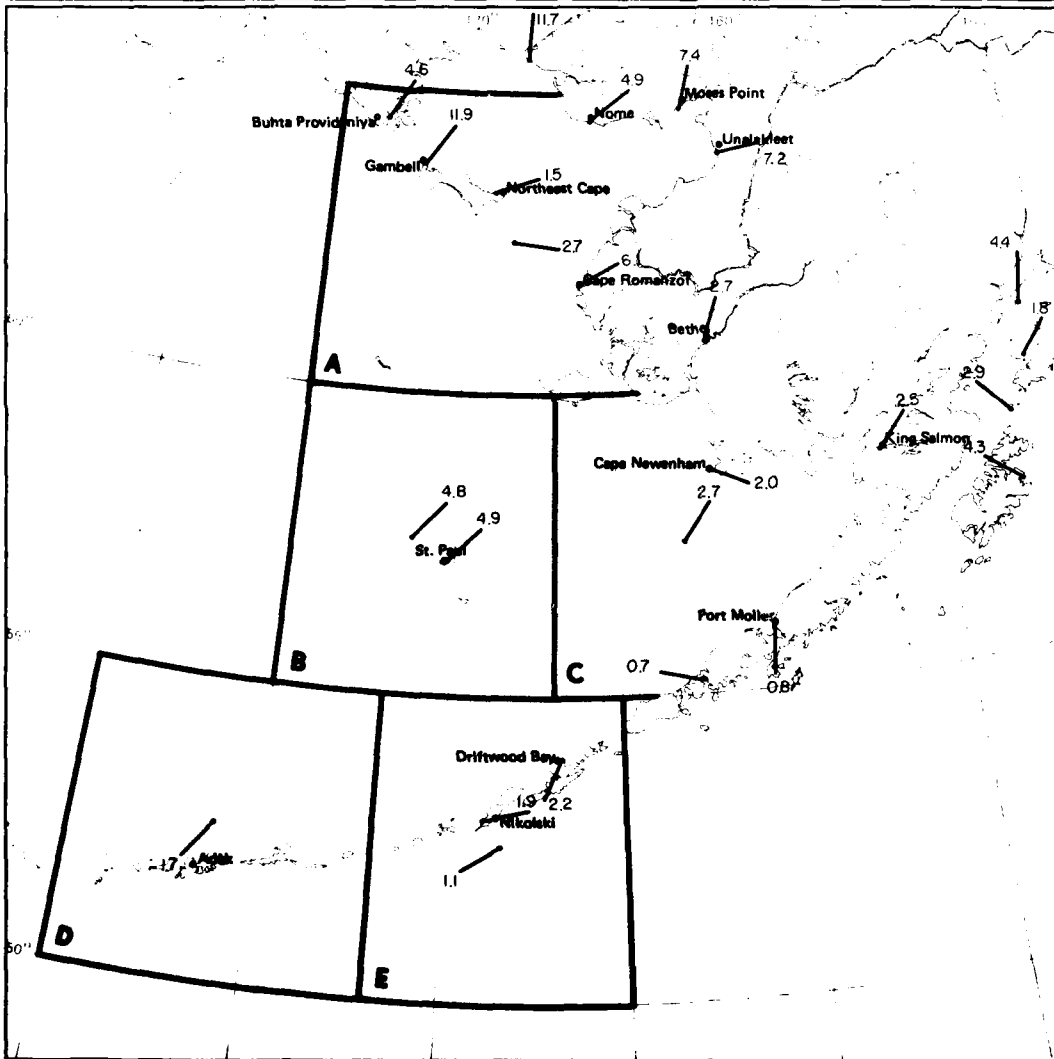
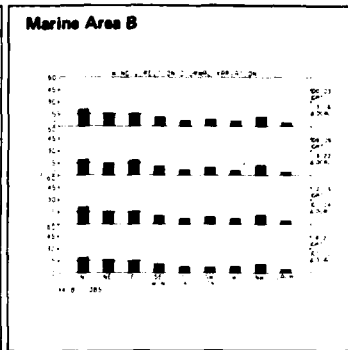
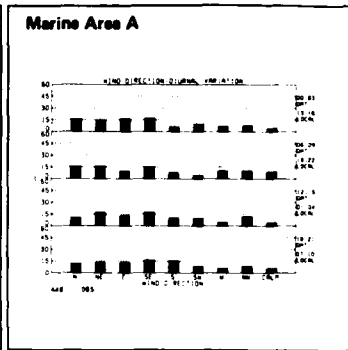
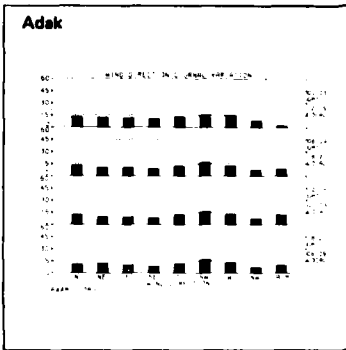
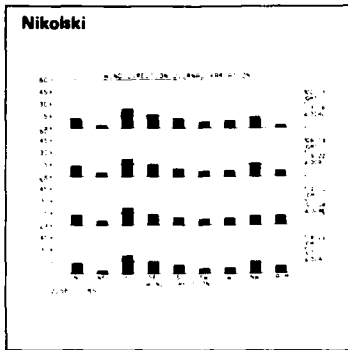
Direction of flow toward station dot, vector magnitude in knots (example: vector mean wind is from northeast at 10.2 knots or 11.7 mph)

**Buhta Provideniya**



March

10 Wind direction/diurnal variation

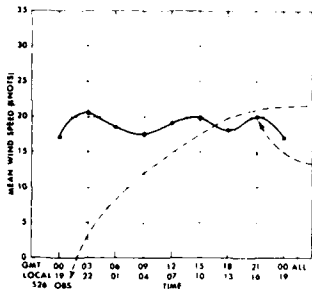


10 Vector mean wind

March



**Legend Wind speed/diurnal variation**

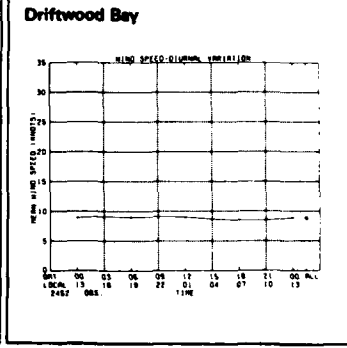
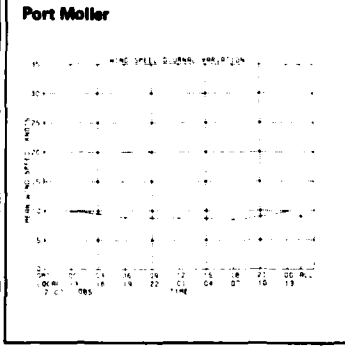
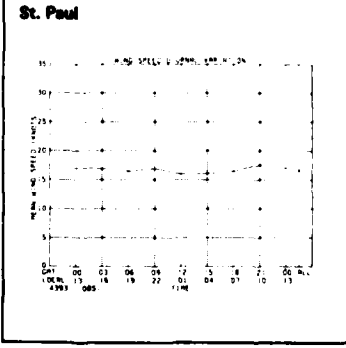
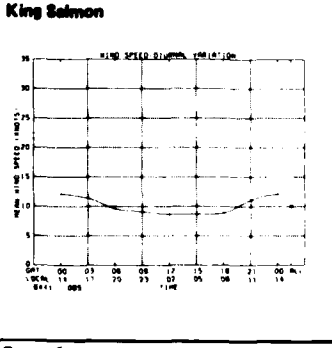
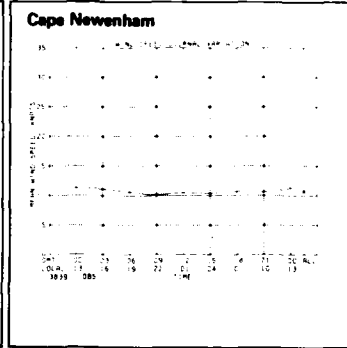
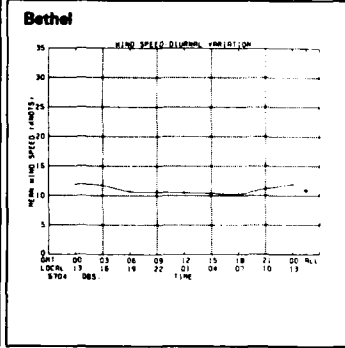
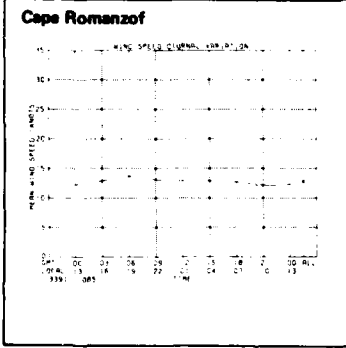
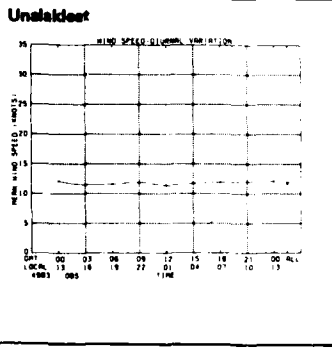
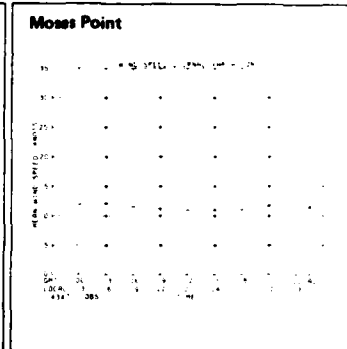
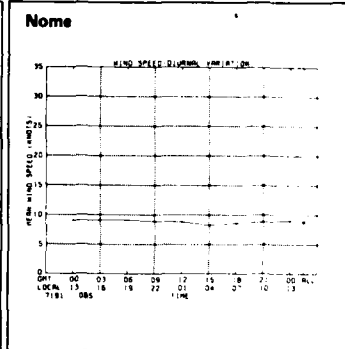
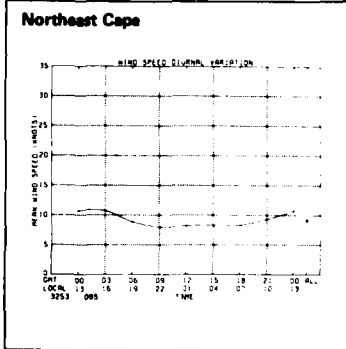
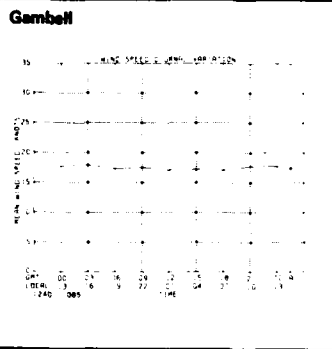
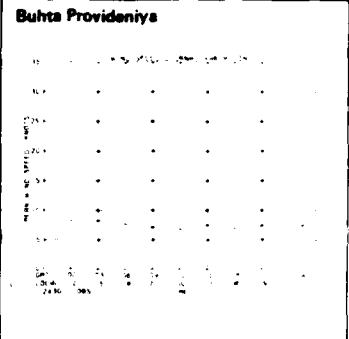


Number of observations  
 Mean wind speed (knots) by hour (GMT and Local Time) and for all hours  
 --- (The mean wind speed for the hour 21 GMT (16 Local) was 20 knots)

**Map - Scalar mean wind**

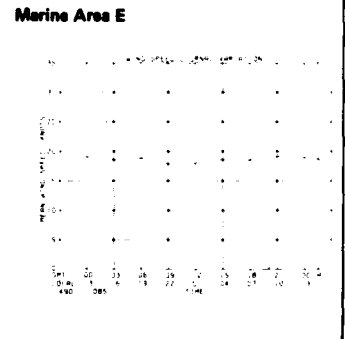
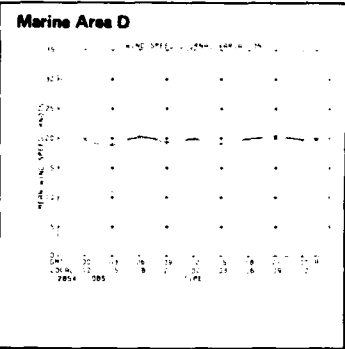
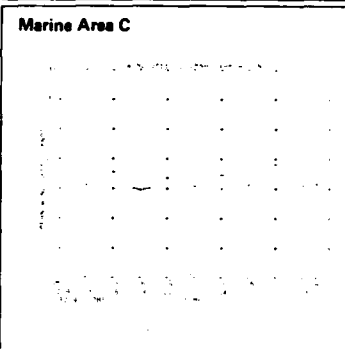
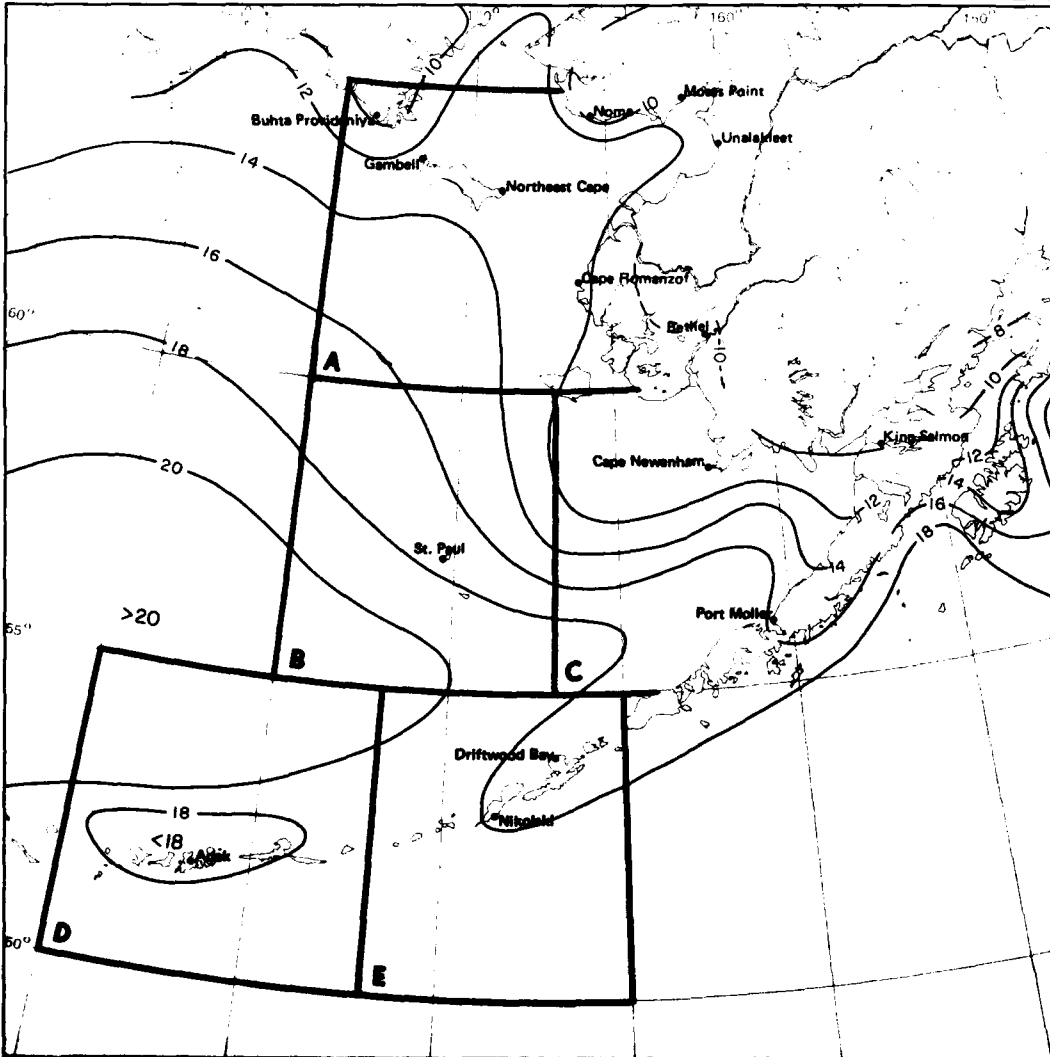
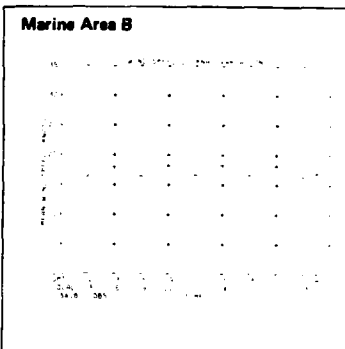
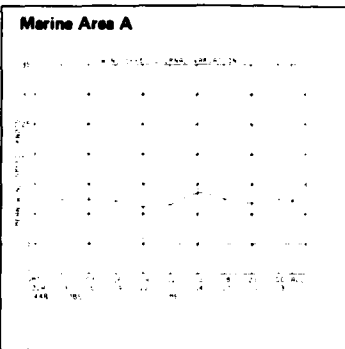
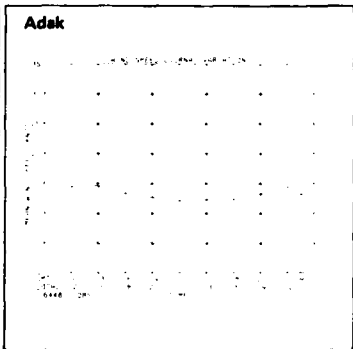
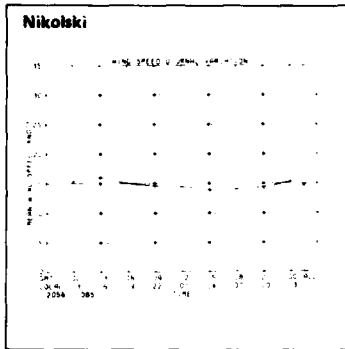
BLACK LINE Scalar mean wind (knots)

In areas of high persistence of direction, the magnitude of the vector mean winds should closely approach that of the scalar mean winds. As most of the marine observations are recorded at six hour intervals, disregard the plots for other than 00, 06, 12, 18, GMT hours on the marine area graphs



**March**

**11 Wind speed/diurnal variation**



**11 Scalar mean wind**

**March**

**Legend****Low cloud ceiling/visibility**

VISIBILITY

LOW CLOUD CEILING	<1/2	1/2	1	1+2	2+5	5+10	>10
50+80	0	0	0	1	3	12	33
35+50	0	0	0	0	0	1	1
20+35	0	0	0	0	0	1	1
10+20	1	2	3	6	7	2	
6+10	1	2	3	3	4		
3+6	0	0	0	1	1		
1.5+3	0	0	0	0	0		
0+1.5	5	2	0	0	0		

Percent frequency of simultaneous occurrence of specified low cloud ceilings (hundreds of feet) and visibilities (nautical miles). Low cloud ceiling heights are estimated from the height of low clouds ( $h$ ) when low cloud amount ( $N_h$ ) is  $\geq 5$ . Obscurations are included under ceiling 0 < 1.5. N.C. (no ceiling) includes bases of clouds  $\geq 8000$  feet as well as occurrences of  $N_h < 5$ .

12% of all observations reported ceiling  $\geq 1000$  but < 2000 feet simultaneously with visibility  $\geq 5$  but < 10 nautical miles.

... indicates < 1% but > 0.

... Number of observations.

**Map - Low cloud ceiling and visibility thresholds**

BLACK LINE Percent frequency of low cloud ceiling  $\geq 1000$  feet or no low cloud ceiling, and visibility  $\geq 5$  nautical miles.

BLUE LINE Percent frequency of low cloud ceiling < 600 feet and or visibility < 2 nautical miles.

**Buhta Provideniya****Gambell**

VISIBILITY

LOW CLOUD CEILING	<1/2	1/2	1	1+2	2+5	5+10	>10
NC	0	0	1	3	12	33	
50+80	0	0	0	0	1	1	
35+50	0	0	0	0	0	0	
20+35	0	0	0	0	0	0	
10+20	1	2	3	6	7	2	
6+10	1	2	3	3	4		
3+6	0	0	0	1	1		
1.5+3	0	0	0	0	0		
0+1.5	5	2	0	0	0		

1236

**Northeast Cape**

VISIBILITY

LOW CLOUD CEILING	<1/2	1/2	1	1+2	2+5	5+10	>10
NC	0	0	3	9	35		
50+80	0	0	0	0	0		
35+50	0	0	0	0	0		
20+35	0	0	0	0	2	1	
10+20	0	0	2	4	8	2	
6+10	0	0	1	2	2		
3+6	0	0	0	0	0		
1.5+3	0	0	0	0	0		
0+1.5	4	2	1	0	0		

2092

**Nome**

VISIBILITY

LOW CLOUD CEILING	<1/2	1/2	1	1+2	2+5	5+10	>10
NC	0	0	1	9	54		
50+80	0	0	0	1	2		
35+50	0	0	0	0	1	2	
20+35	0	0	0	2	3	2	
10+20	0	1	1	2	3	1	
6+10	0	0	1	2	1		
3+6	0	0	1	1	0		
1.5+3	0	0	0	0	0		
0+1.5	2	1	1	0	0		

6871

**Moses Point**

VISIBILITY

LOW CLOUD CEILING	<1/2	1/2	1	1+2	2+5	5+10	>10
NC	0	0	0	1	2	44	
50+80	0	0	0	0	0	0	
35+50	0	0	0	0	0	2	
20+35	0	0	0	0	0	0	
10+20	0	1	2	6	2	2	
6+10	0	0	0	0	0	0	
3+6	0	0	0	0	0	0	
1.5+3	0	0	0	0	0	0	
0+1.5	9	4	3	1	0	0	

246

**Unalakleet**

VISIBILITY

LOW CLOUD CEILING	<1/2	1/2	1	1+2	2+5	5+10	>10
NC	0	0	0	0	0	0	
50+80	0	0	0	0	0	0	
35+50	0	0	0	0	0	0	
20+35	0	0	0	0	0	0	
10+20	0	0	0	0	0	0	
6+10	0	0	0	0	0	0	
3+6	0	0	0	0	0	0	
1.5+3	0	0	0	0	0	0	
0+1.5	0	0	0	0	0	0	

**Cape Romanzof**

VISIBILITY

LOW CLOUD CEILING	<1/2	1/2	1	1+2	2+5	5+10	>10
NC	2	3	1	5	25	20	
50+80	0	0	0	0	2	1	
35+50	0	0	0	0	1	0	
20+35	1	1	0	1	4	1	
10+20	1	1	1	3	0	0	
6+10	1	2	2	3	3	0	
3+6	0	1	1	1	1	0	
1.5+3	0	0	0	0	0	0	
0+1.5	7	3	0	0	0	0	

2272

**Bethel**

VISIBILITY

LOW CLOUD CEILING	<1/2	1/2	1	1+2	2+5	5+10	>10
NC	0	0	0	2	9	49	
50+80	0	0	0	0	1	3	
35+50	0	0	0	0	1	2	
20+35	0	0	0	1	3	3	
10+20	0	0	1	2	4	2	
6+10	0	0	1	2	2	1	
3+6	0	0	1	1	0	0	
1.5+3	0	0	0	0	0	0	
0+1.5	2	2	2	1	0	0	

5699

**Cape Newenham**

VISIBILITY

LOW CLOUD CEILING	<1/2	1/2	1	1+2	2+5	5+10	>10
NC	0	0	0	1	21	23	
50+80	0	0	0	0	0	0	
35+50	0	0	0	0	0	0	
20+35	0	0	0	1	2	2	
10+20	0	0	1	4	9	4	
6+10	0	0	1	2	3	5	2
3+6	0	0	1	1	2	1	0
1.5+3	0	0	0	0	0	0	
0+1.5	6	2	2	1	0	0	

2253

**King Salmon**

VISIBILITY

LOW CLOUD CEILING	<1/2	1/2	1	1+2	2+5	5+10	>10
NC	0	0	1	7	51		
50+80	0	0	0	0	1	4	
35+50	0	0	0	0	2	3	
20+35	0	0	0	1	3	5	
10+20	0	0	1	2	4	3	
6+10	0	0	1	1	2	1	
3+6	0	0	0	1	1	0	
1.5+3	0	0	0	0	0	0	
0+1.5	1	1	1	0	0	0	

6408

**St. Paul**

VISIBILITY

LOW CLOUD CEILING	<1/2	1/2	1	1+2	2+5	5+10	>10
NC	1	0	1	2	18	12	
50+80	0	0	0	0	0	0	
35+50	0	0	0	0	1	1	
20+35	0	0	0	1	6	3	
10+20	2	2	2	5	14	3	
6+10	1	2	1	2	4	0	
3+6	1	2	2	2	1	0	
1.5+3	0	0	0	0	0	0	
0+1.5	5	1	0	0	0	0	

4126

**Port Moller**

Insufficient Data

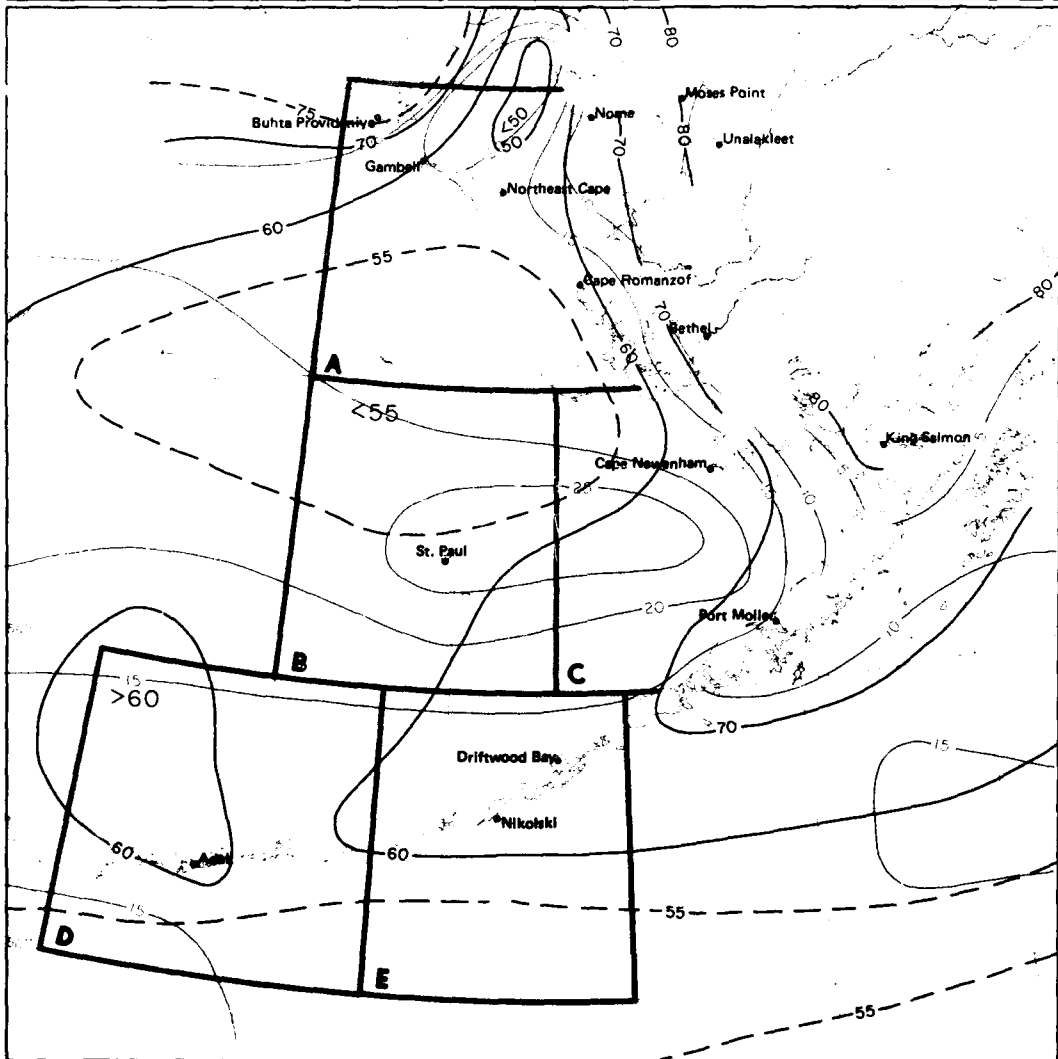
**Driftwood Bay**

Insufficient Data

March

12 Low cloud ceiling/visibility

<p>Nikolski</p> <p>Insufficient Data</p>	<p>Adak</p> <p>VISIBILITY</p> <table border="1"> <tr> <td>00-05</td> <td>05-10</td> <td>10-15</td> <td>15-20</td> <td>20-25</td> <td>25-30</td> <td>30-35</td> <td>35-40</td> <td>40-45</td> <td>45-50</td> <td>50-55</td> <td>55-60</td> <td>60-65</td> <td>65-70</td> <td>70-75</td> <td>75-80</td> <td>80-85</td> <td>85-90</td> <td>90-95</td> <td>95-100</td> </tr> <tr> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> </table> <p>6440</p>	00-05	05-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	95-100	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	<p>Marine Area A</p>	<p>Marine Area B</p>
00-05	05-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	95-100																								
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																								



Marine Area C

00-05	05-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	95-100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Marine Area D

00-05	05-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	95-100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Marine Area E

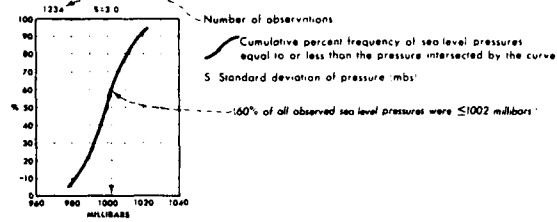
00-05	05-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	95-100
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

12 Low cloud ceiling and visibility thresholds

March

**Legend**

**Sea level pressure**

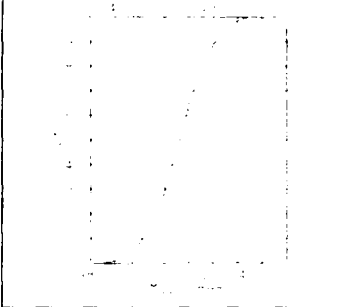


**Map - Mean sea level pressure**

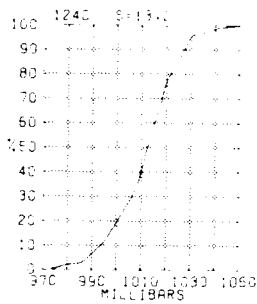
BLACK LINE - Mean sea level pressure (millibars)

Sea level pressure is one of the most frequently recorded elements but one of the least accurate because of instrument and coding errors. Despite the inaccuracies of the individual readings, however, the large scale patterns and mean gradients of the isopleth analyses are relatively accurate.

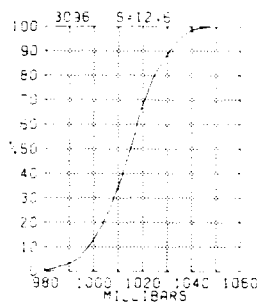
**Buhta Provideniya**



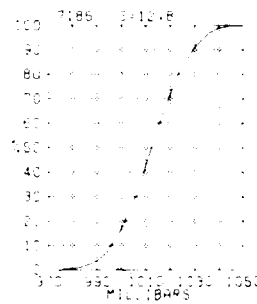
**Gambell**



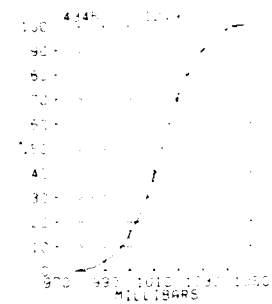
**Northeast Cape**



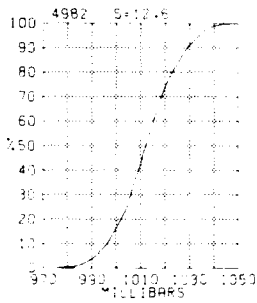
**Nome**



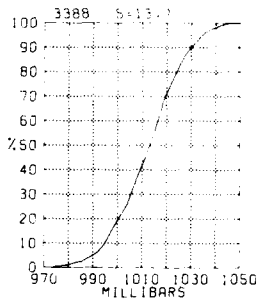
**Moses Point**



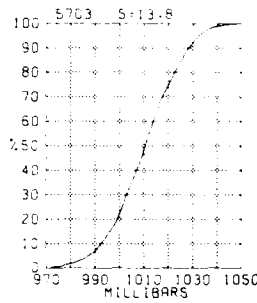
**Unalakleet**



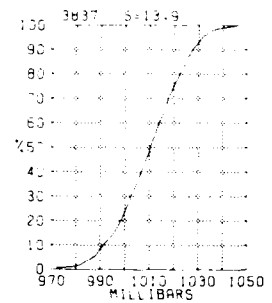
**Cape Romanzof**



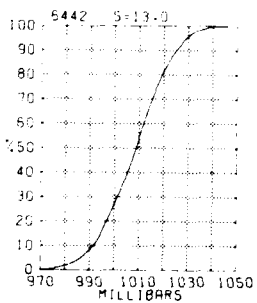
**Bethel**



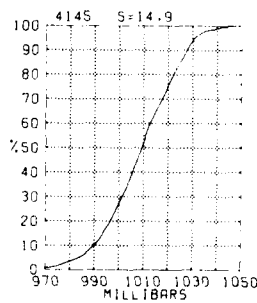
**Cape Newenham**



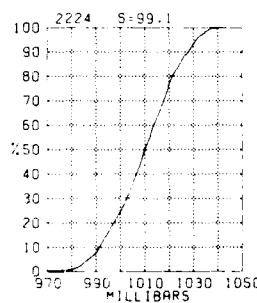
**King Salmon**



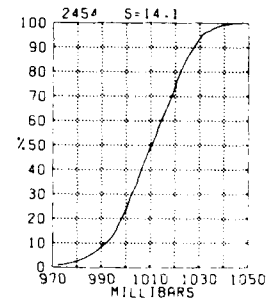
**St. Paul**



**Port Moller**

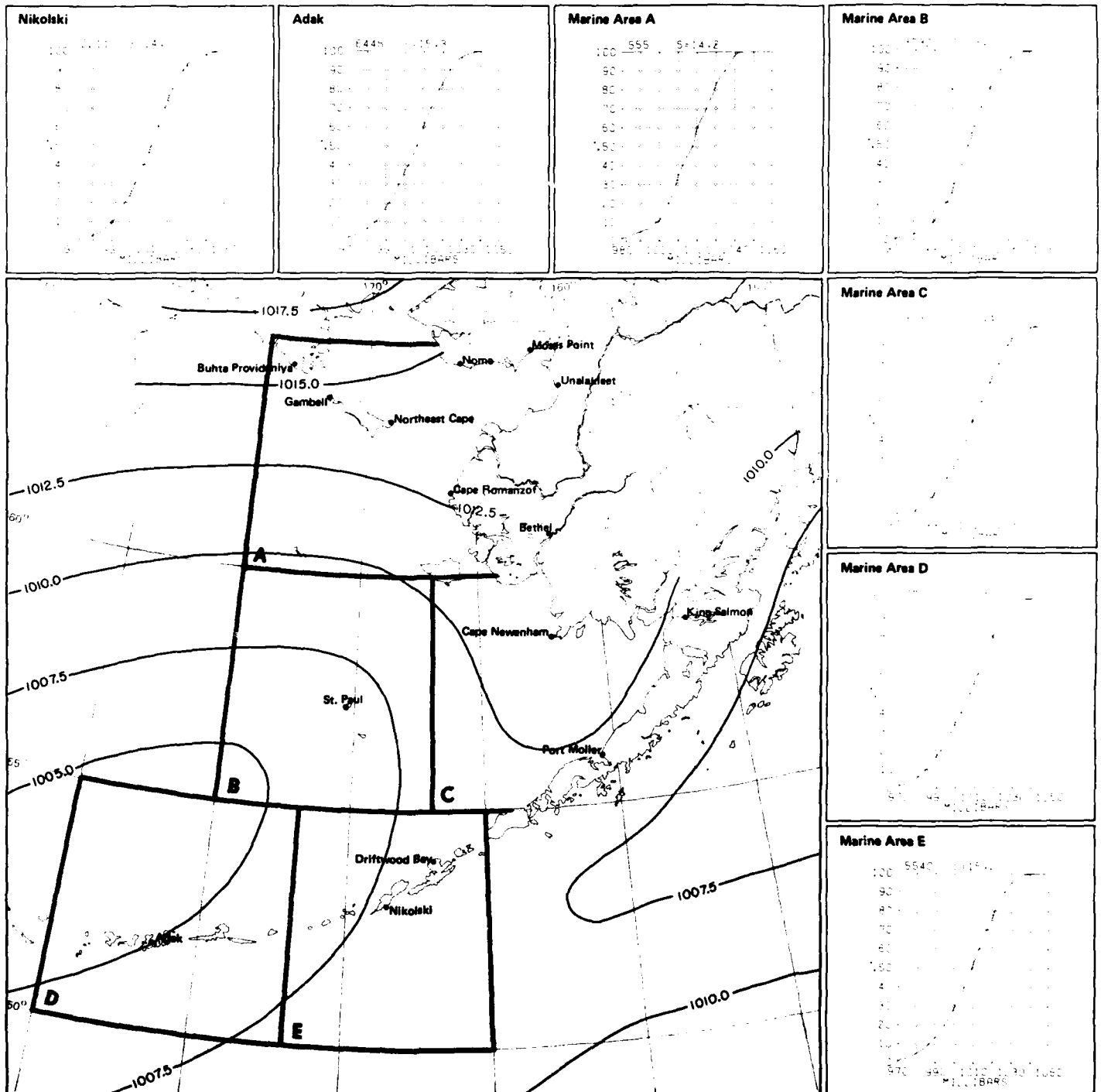


**Driftwood Bay**



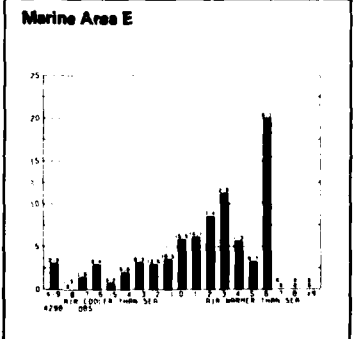
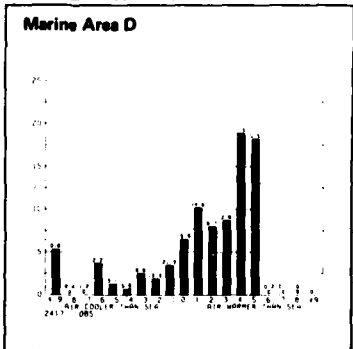
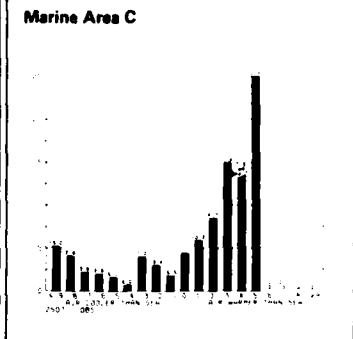
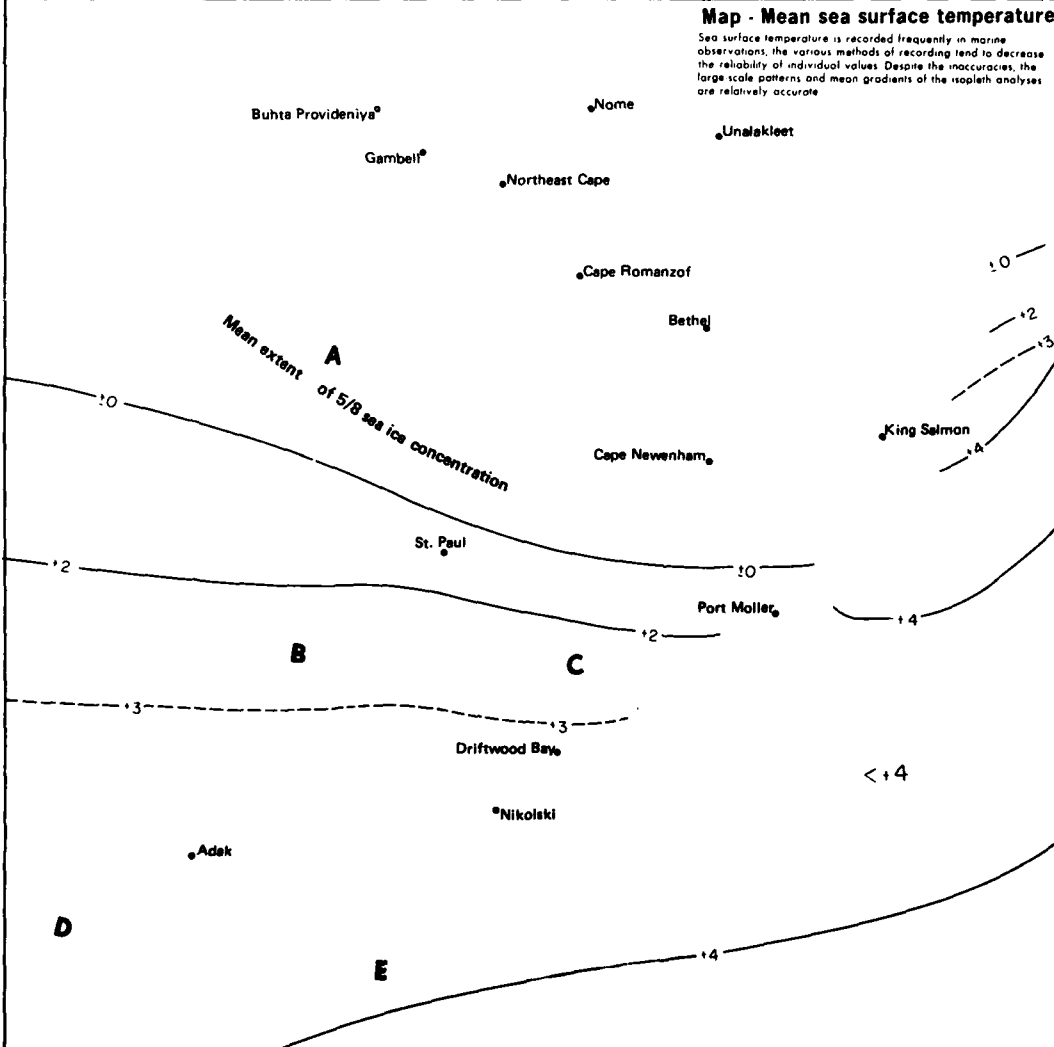
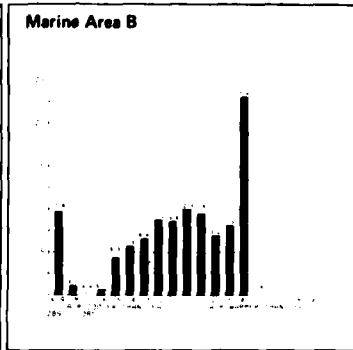
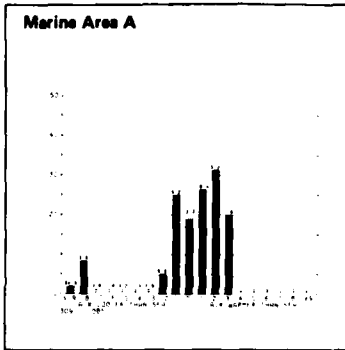
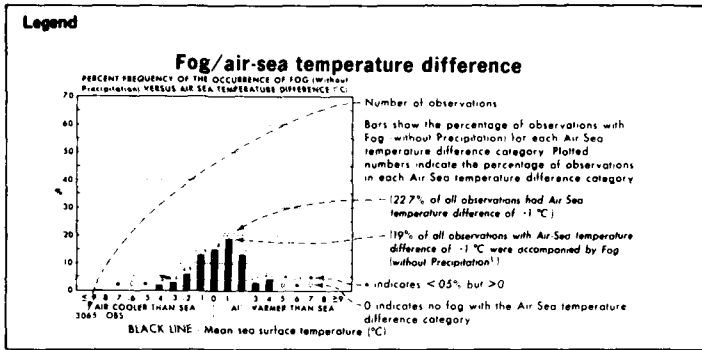
**March**

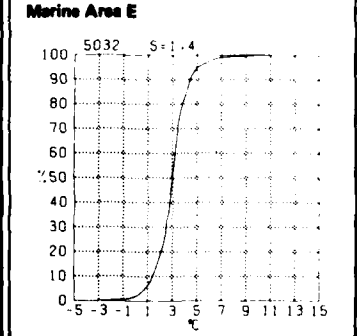
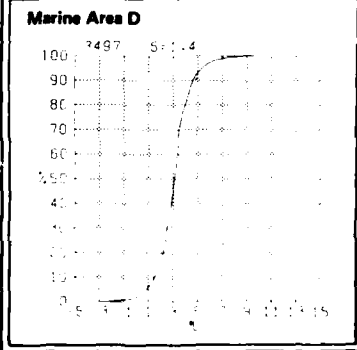
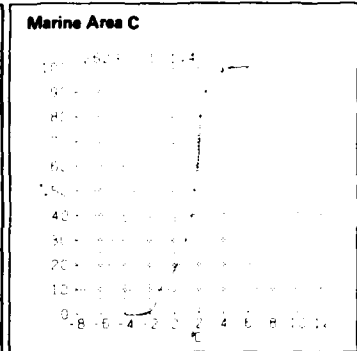
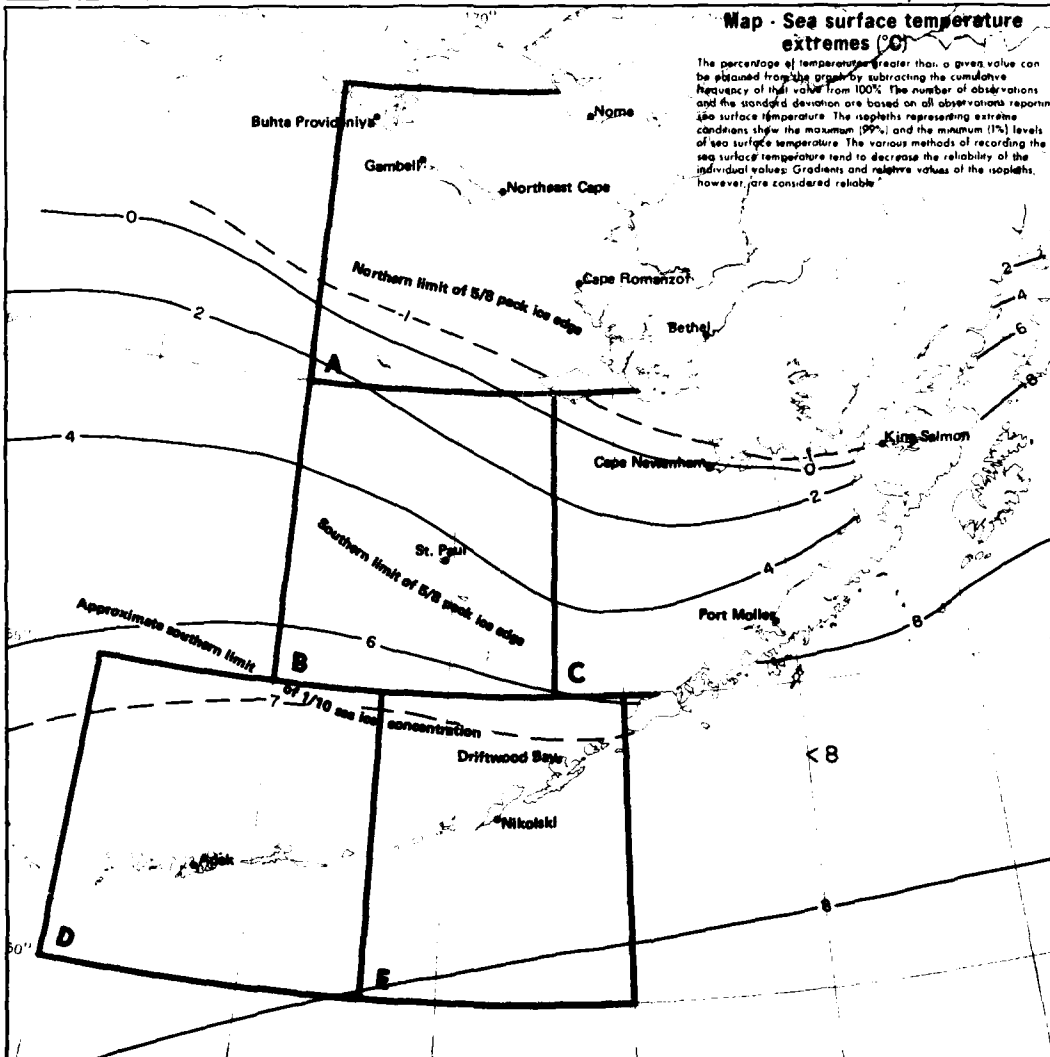
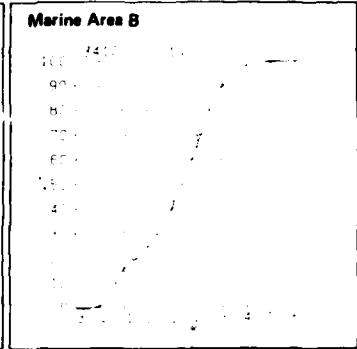
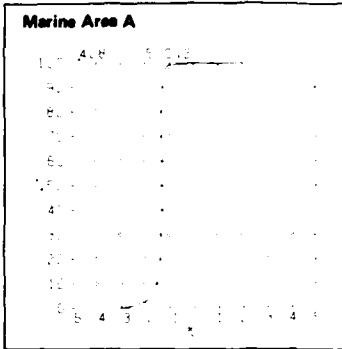
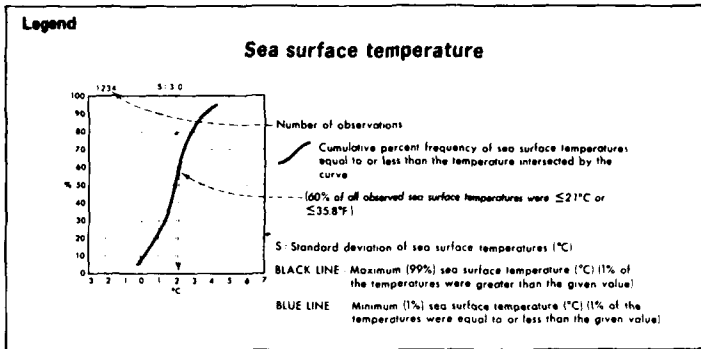
**13 Sea level pressure**



13 Mean sea level pressure

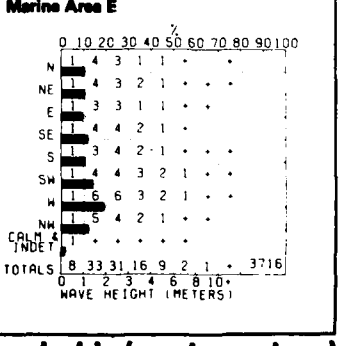
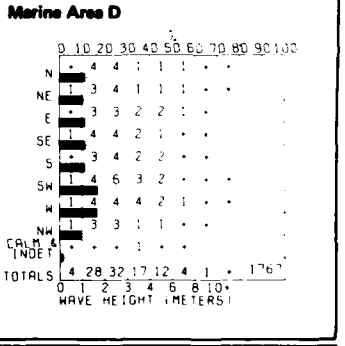
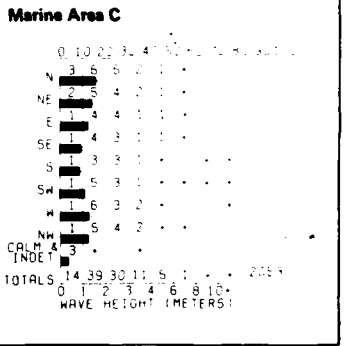
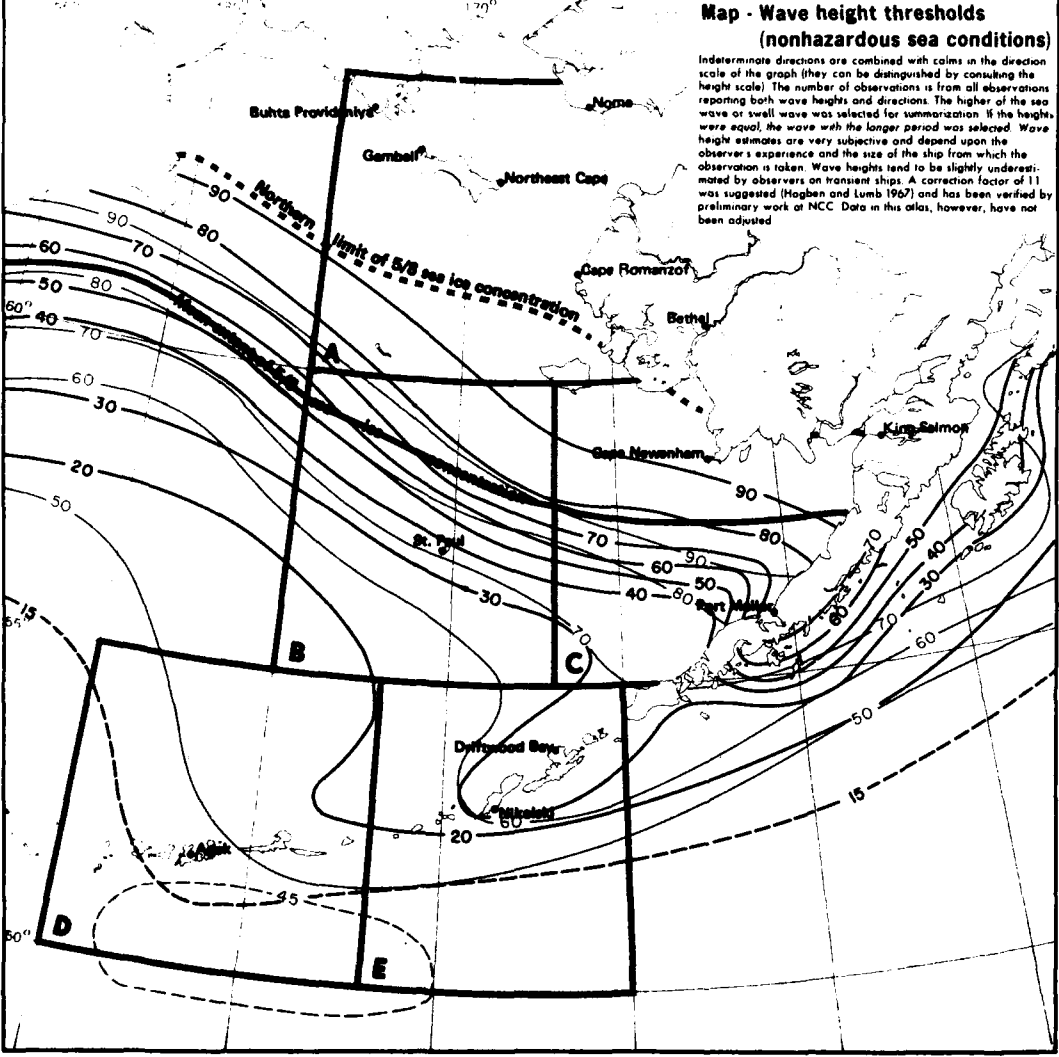
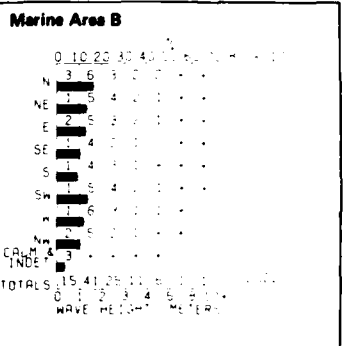
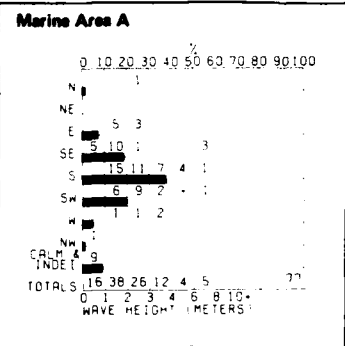
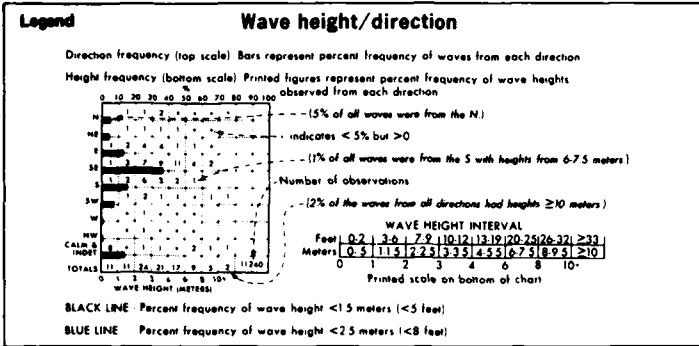
March





**15 Sea surface temperature extremes**





March 16 Wave height thresholds (nonhazardous)

**Legend**

**Wave height/period**

PERIOD (seconds)	Percent frequency of occurrence of wave period and height
10	0
11	1
12	2
13	3
14	4
15	5
16	6
17	7
18	8
19	9
20	10
21	11
22	12
23	13
24	14
25	15
26	16
27	17
28	18
29	19
30	20
31	21
32	22
33	23
34	24
35	25
36	26
37	27
38	28
39	29
40	30

--- 12% of observed waves had a height of 11.5 meters and a period of 10.11 seconds  
 - indicates < 5%, but > 0  
 - Number of observations  
 Waves are selected on the basis of the higher of sea and swell when both are reported. If both heights are equal the wave with the longer period is selected.

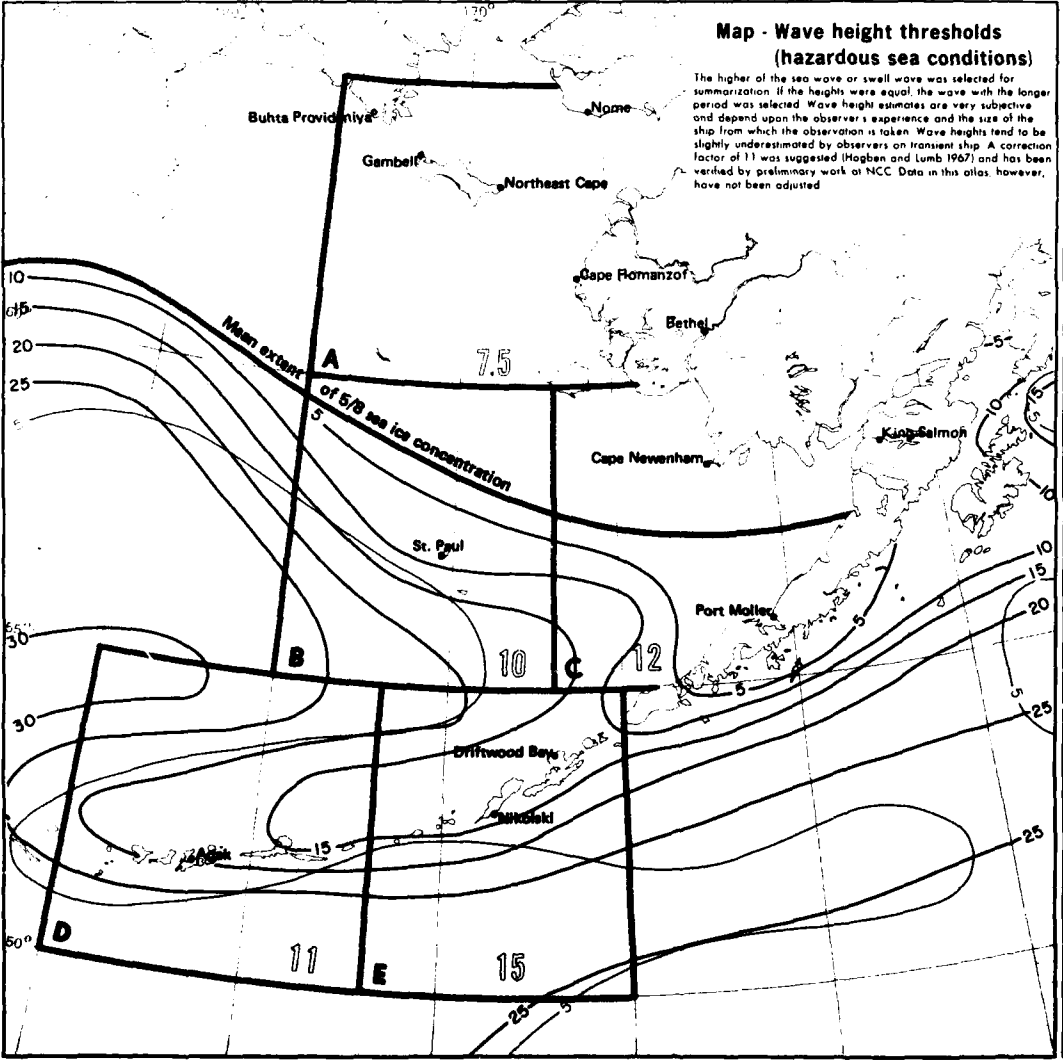
BLACK LINE Percent frequency of wave height  $\geq 3.5$  meters ( $\geq 12$  feet)  
 BLUE LINE Percent frequency of wave height  $\geq 6$  meters ( $\geq 20$  feet)  
 BLUE NUMBER Maximum observed wave height (meters)

**Marine Area A**

HEIGHT	PERIOD (SECONDS)
15	10
15	11
15	12
15	13
15	14
15	15
15	16
15	17
15	18
15	19
15	20
15	21
15	22
15	23
15	24
15	25
15	26
15	27
15	28
15	29
15	30
15	31
15	32
15	33
15	34
15	35
15	36
15	37
15	38
15	39
15	40

**Marine Area B**

HEIGHT	PERIOD (SECONDS)
15	10
15	11
15	12
15	13
15	14
15	15
15	16
15	17
15	18
15	19
15	20
15	21
15	22
15	23
15	24
15	25
15	26
15	27
15	28
15	29
15	30
15	31
15	32
15	33
15	34
15	35
15	36
15	37
15	38
15	39
15	40



**Marine Area C**

HEIGHT	PERIOD (SECONDS)
15	10
15	11
15	12
15	13
15	14
15	15
15	16
15	17
15	18
15	19
15	20
15	21
15	22
15	23
15	24
15	25
15	26
15	27
15	28
15	29
15	30
15	31
15	32
15	33
15	34
15	35
15	36
15	37
15	38
15	39
15	40

**Marine Area D**

HEIGHT	PERIOD (SECONDS)
15	10
15	11
15	12
15	13
15	14
15	15
15	16
15	17
15	18
15	19
15	20
15	21
15	22
15	23
15	24
15	25
15	26
15	27
15	28
15	29
15	30
15	31
15	32
15	33
15	34
15	35
15	36
15	37
15	38
15	39
15	40

**Marine Area E**

HEIGHT	PERIOD (SECONDS)										
	5	6	7	8	9	10	11	12	13	14	INC.
0.5	6	1	+	+	0	1	2				
1.5	12	13	5	1	+	+	1				
2.5	5	13	8	3	1	+	1				
3.5	2	6	4	2	1	+	+				
4.5	+	2	3	2	1	1	+				
6.7.5	0	+	+	1	+	+	+				
8.9.5	0	+	+	+	+	+	+	0			
10	0	0	+	+	+	+	+	0			

3758

17 Wave height thresholds (hazardous)

March

**Legend**

**Low pressure center movement**

12 hour movements of low pressure centers, considering only closed circulations

Mean speed: Printed figure at the end of each bar represents the mean speed of movement in knots toward the indicated direction

Direction frequency: Bars represent percent frequency of 12-hour movements toward each direction. Each circle represents 20%

41% of all 12-hour movements were toward the NE

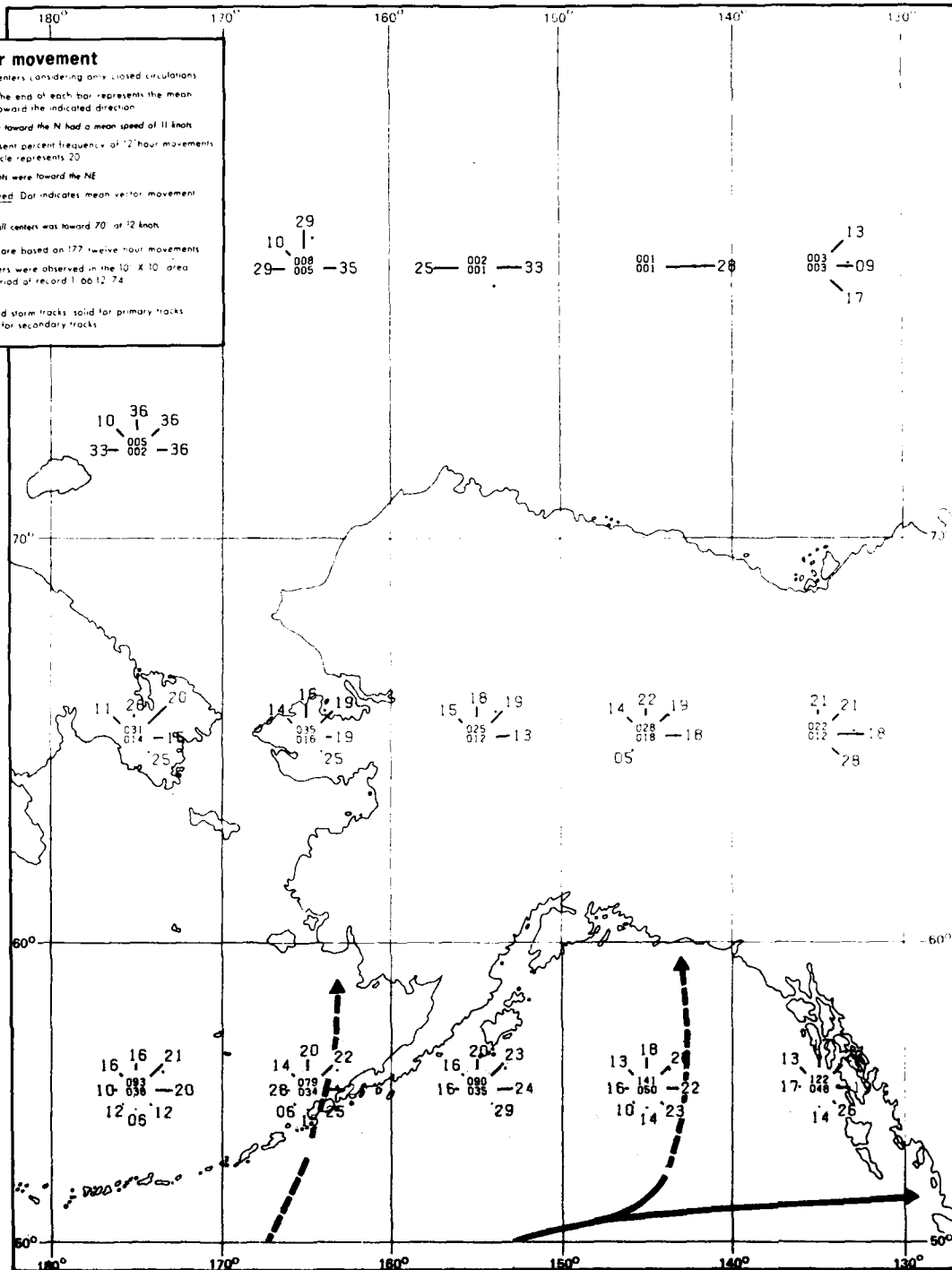
Vector: mean direction and speed. Dot indicates mean vector movement. Each circle equals 10 knots

Mean vector movement of all centers was toward 70° at 12 knots

Statistics for this rose are based on 177 twelve-hour movements

83 low pressure centers were observed in the 10° X 10° area during the 9-year period of record 1.00.12.74

BLACK ARROWS: Preferred storm tracks, solid for primary tracks, dashed for secondary tracks

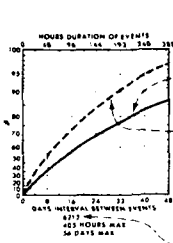


March

18 Low pressure center movement

**Legend**

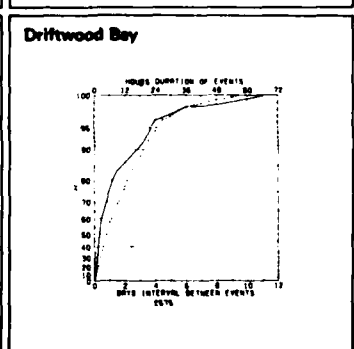
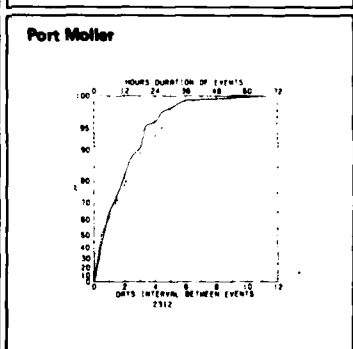
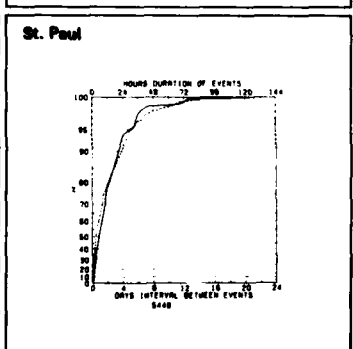
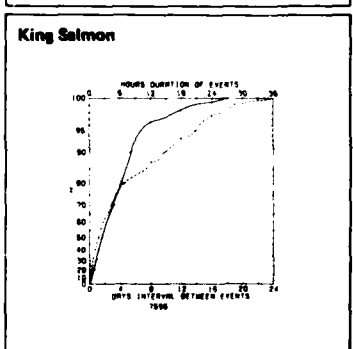
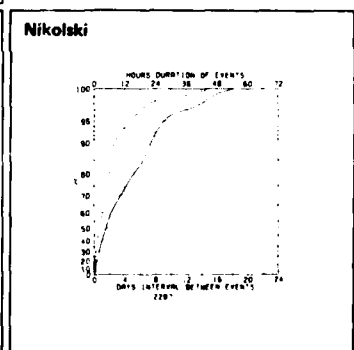
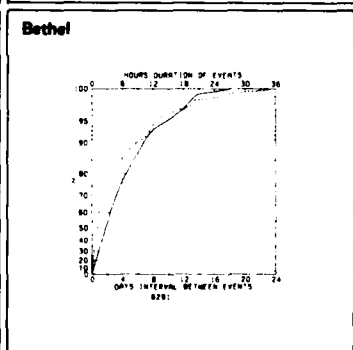
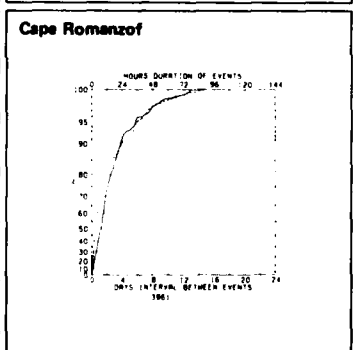
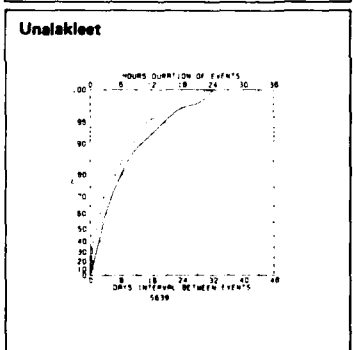
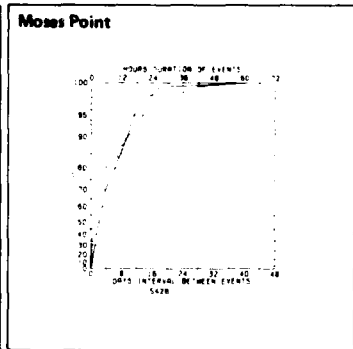
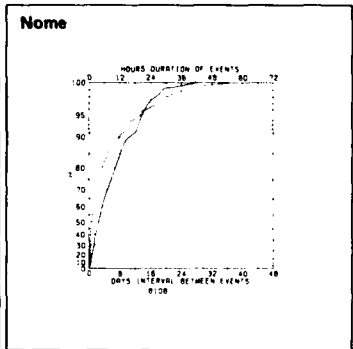
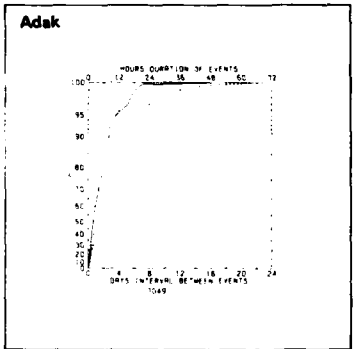
**Persistence of visibility <2 n. mi.**



Hours duration of events Days interval between events  
 Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve  
 --- (80% of the events had a duration ≤ 216 hours.)  
 Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve  
 --- (88% of the events were followed by another event in 28 days or less.)  
 The maximum value(s) of hours duration and/or the days interval will be displayed when the graph limits are exceeded

Durations and intervals for a particular month extend from the time they began (or the first of the month if already in progress) and are terminated at the actual ending time, regardless of what month that may be

Number of observations  
 Top and bottom scales are variable to allow for variations in the data

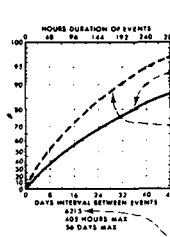


**19 Persistence of visibility <2 n. mi.**

**March**

**Legend**

**Persistence of wind  $\geq 10$  kts.**



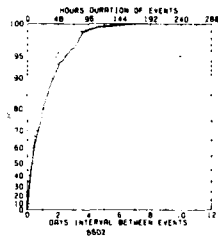
Hours duration of events - Days interval between events  
 Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve  
 --- (80% of the events had a duration  $\leq 216$  hours.)  
 Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve  
 --- (88% of the events were followed by another event in 28 days or less.)  
 The maximum values of hours duration and/or the days interval will be displayed when the graph limits are exceeded

Durations and intervals for a particular month extend from the time they begin (or the first of the month if already in progress) and are terminated at the actual ending time, regardless of what month that may be

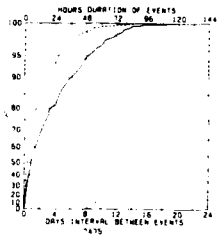
Number of observations

Top and bottom scales are variable to allow for variations in the data

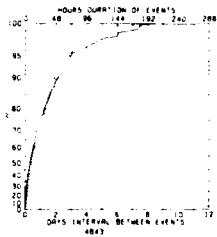
**Adak**



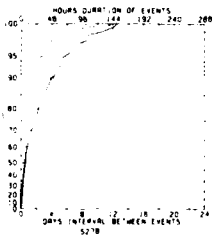
**Nome**



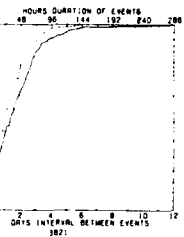
**Moses Point**



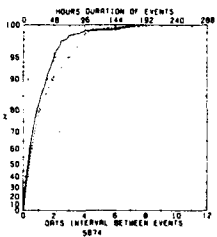
**Unalakleet**



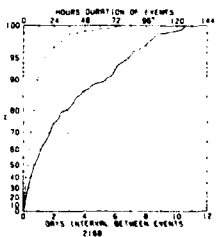
**Cape Romanzof**



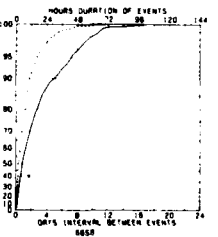
**Bethel**



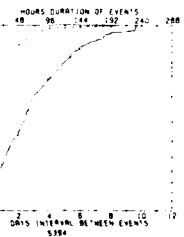
**Nikolski**



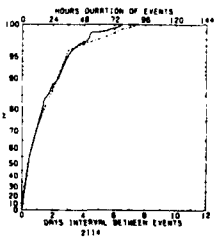
**King Salmon**



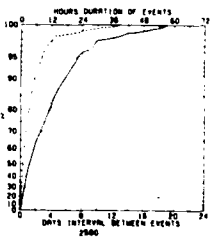
**St. Paul**



**Port Moller**



**Driftwood Bay**

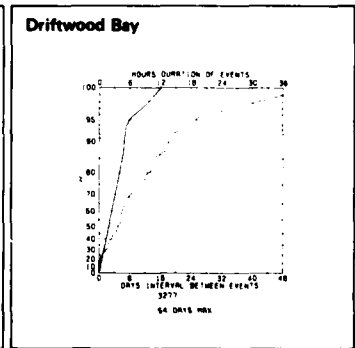
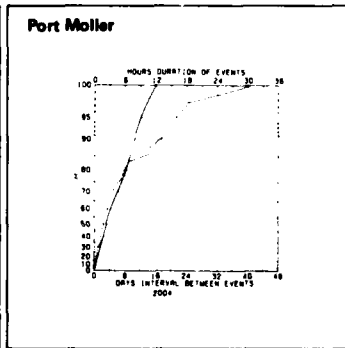
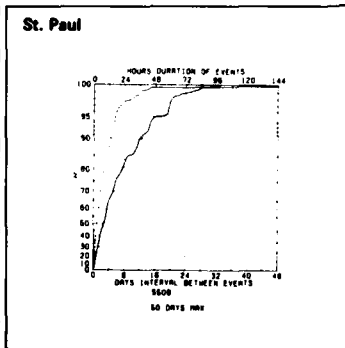
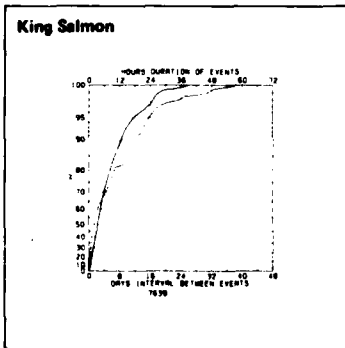
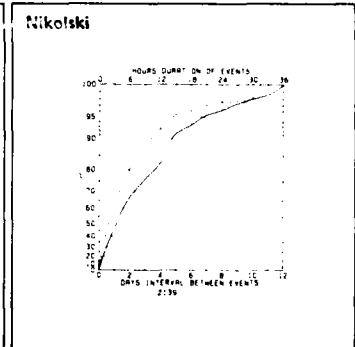
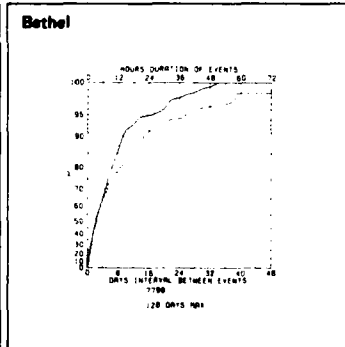
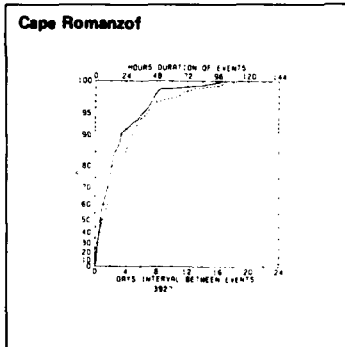
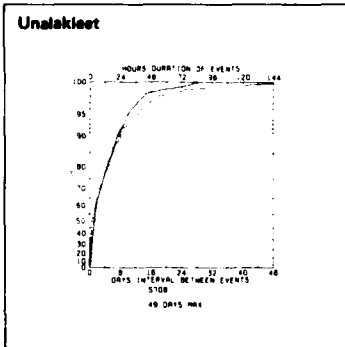
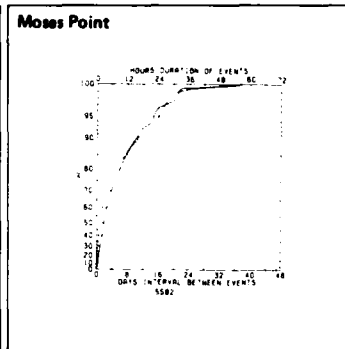
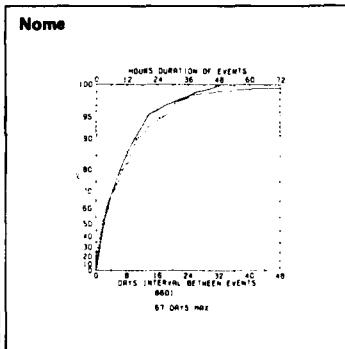
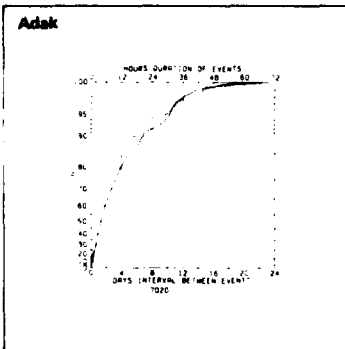
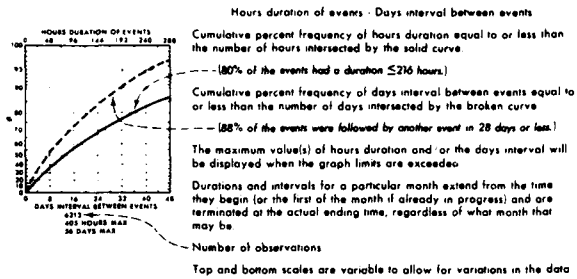


**March**

**20 Persistence of wind  $\geq 10$  kts.**

**Legend**

**Persistence of wind  $\geq 20$  kts.**

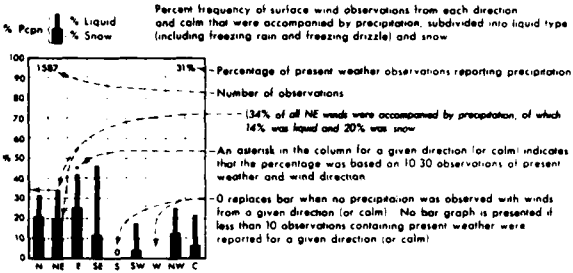


**21 Persistence of wind  $\geq 20$  kts.**

**March**

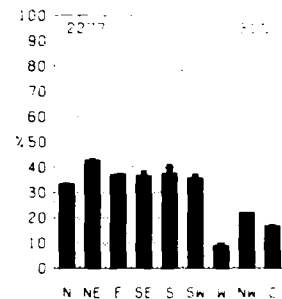
**Legend**

**Precipitation/wind direction**

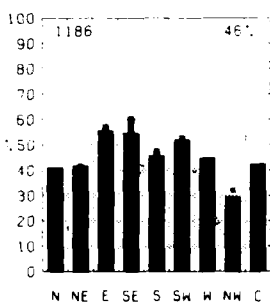


**Map - Precipitation**

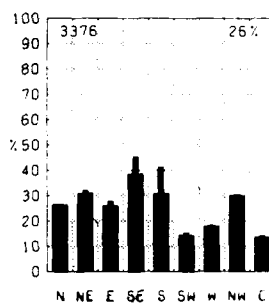
**Buhta Provideniya**



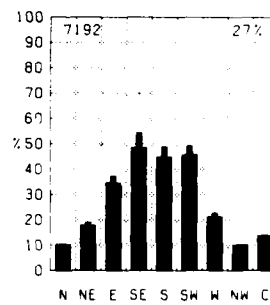
**Gambell**



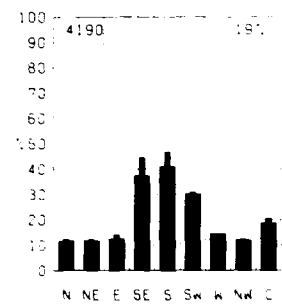
**Northeast Cape**



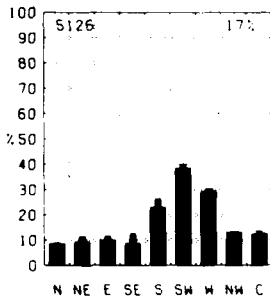
**Nome**



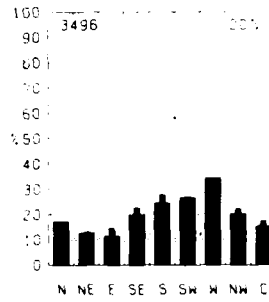
**Moses Point**



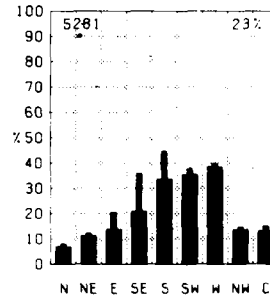
**Unalakleet**



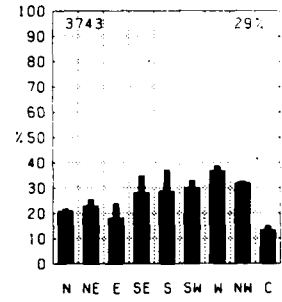
**Cape Romanzof**



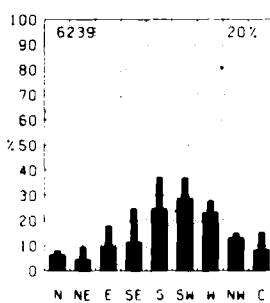
**Bethel**



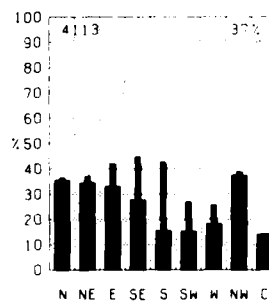
**Cape Newenham**



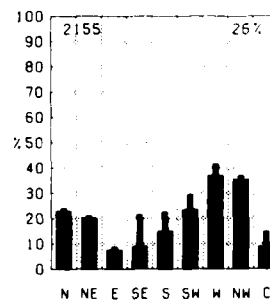
**King Salmon**



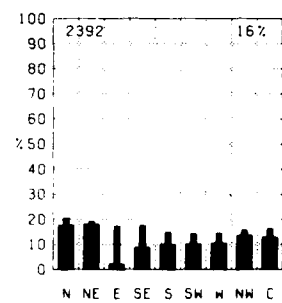
**St. Paul**

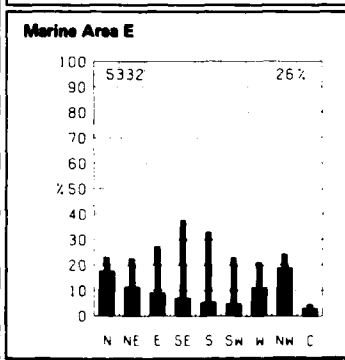
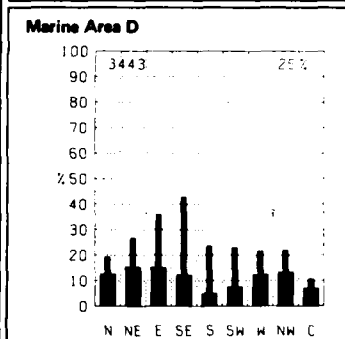
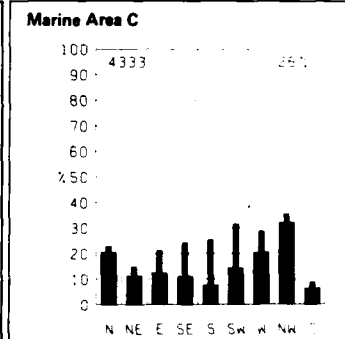
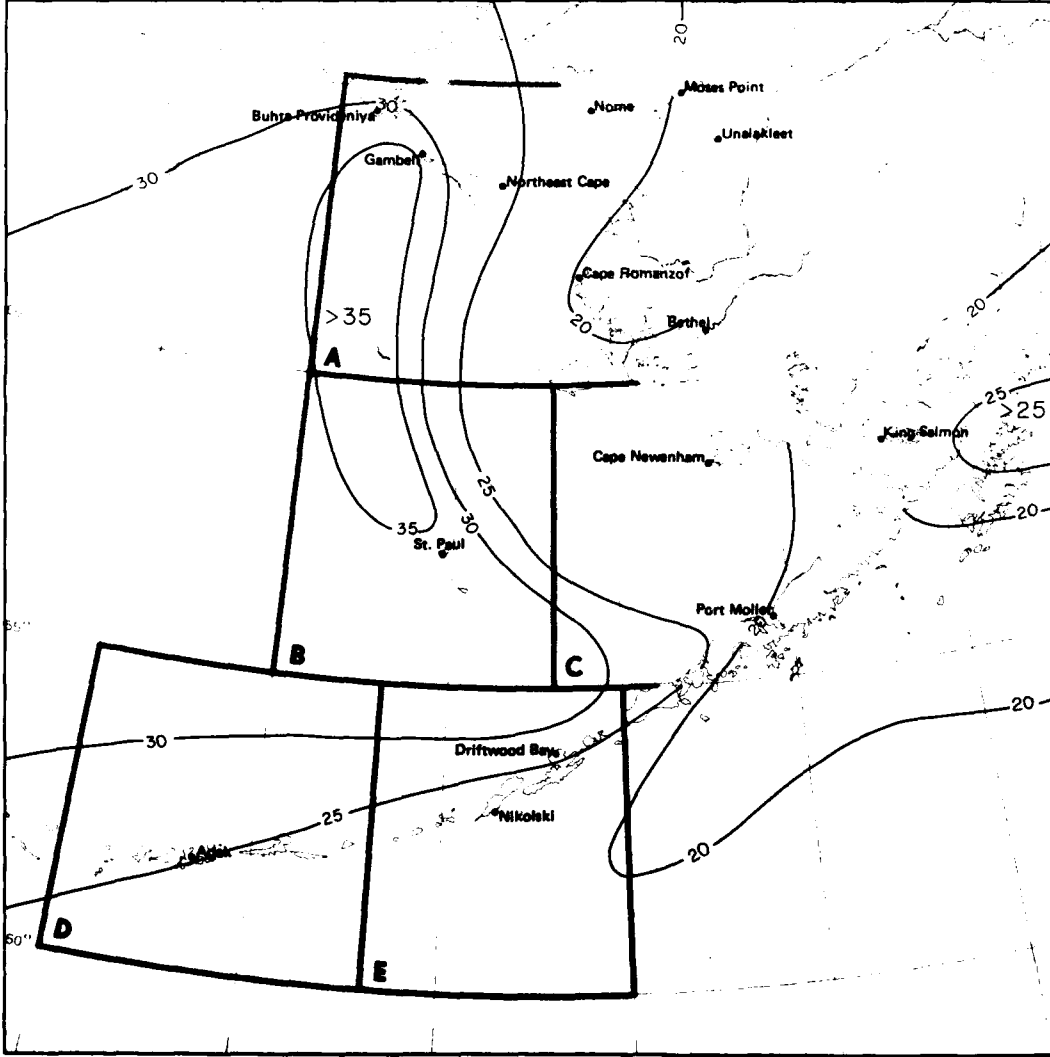
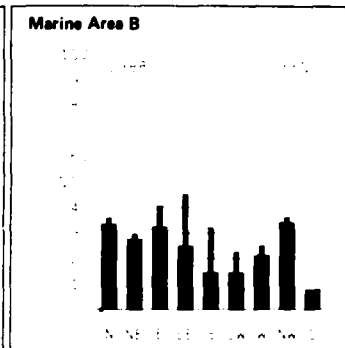
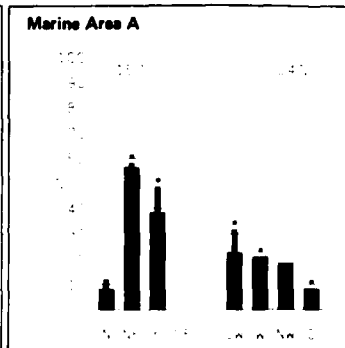
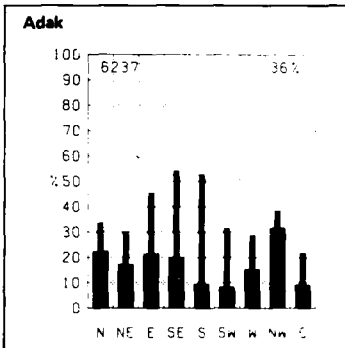
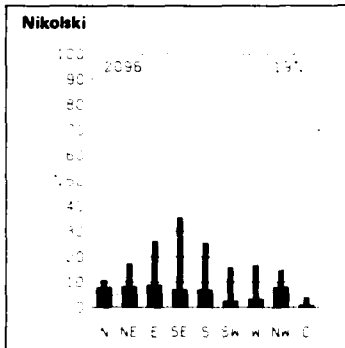


**Port Moller**



**Driftwood Bay**





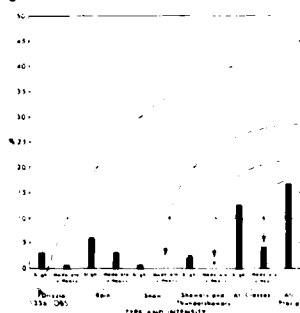
**1 Precipitation**

**April**



**Legend**

**Precipitation types**

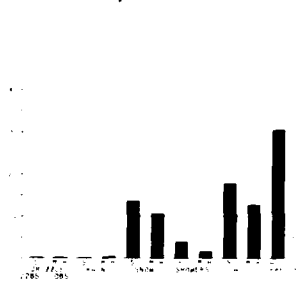


Percent frequency of precipitation by type and intensity  
 Number of observations  
 Bars show percent frequency of observations reporting Precipitation of various types and intensities  
 0 indicates no observations in the category  
 \* indicates < 0.5%, but > 0  
 — 40% of all observations recorded moderate to heavy precipitation

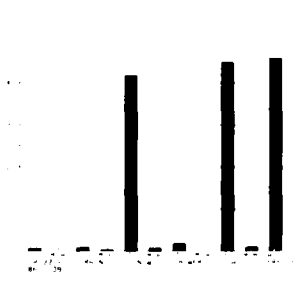
**Map - Snow**

**BLACK LINE** Percent frequency of precipitation observations reporting snow  
 The percent frequency of observations reporting snow for a given point can be determined by multiplying the percent frequency of observations reporting precipitation (map 1) with that of precipitation observations reporting snow (map 2)

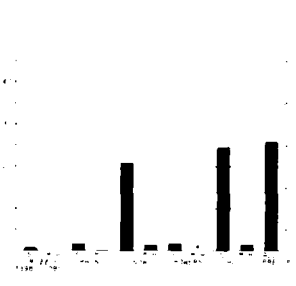
**Buhta Provideniya**



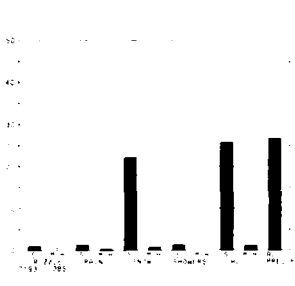
**Gambell**



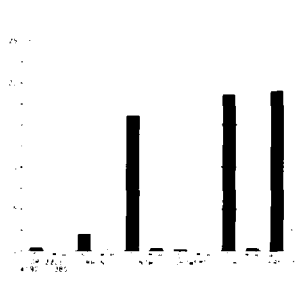
**Northeast Cape**



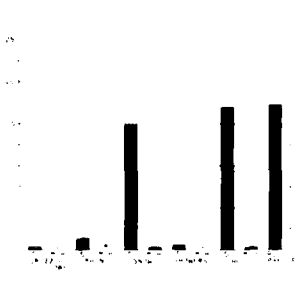
**Nome**



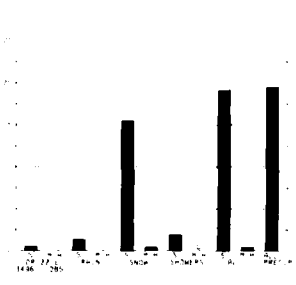
**Moses Point**



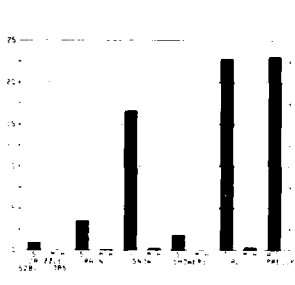
**Unalakleet**



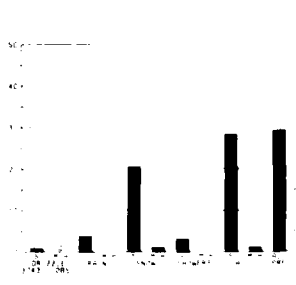
**Cape Romanzof**



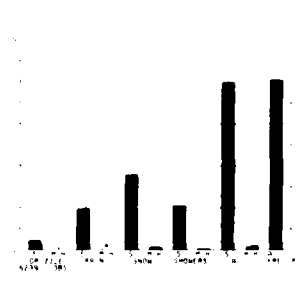
**Bethel**



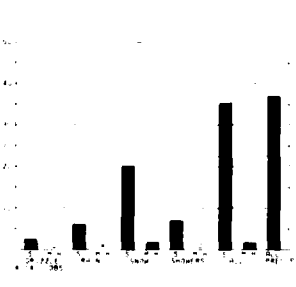
**Cape Newenham**



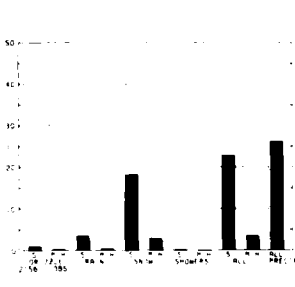
**King Salmon**



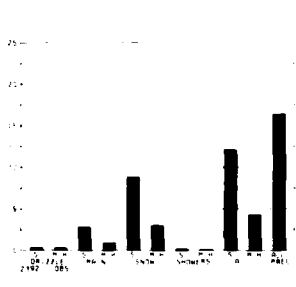
**St. Paul**



**Port Moller**

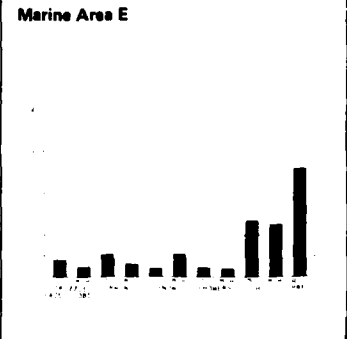
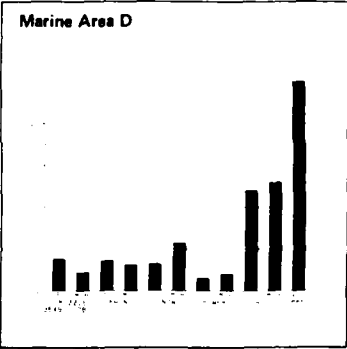
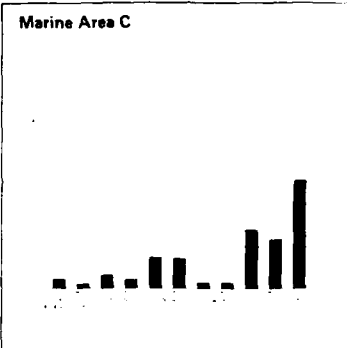
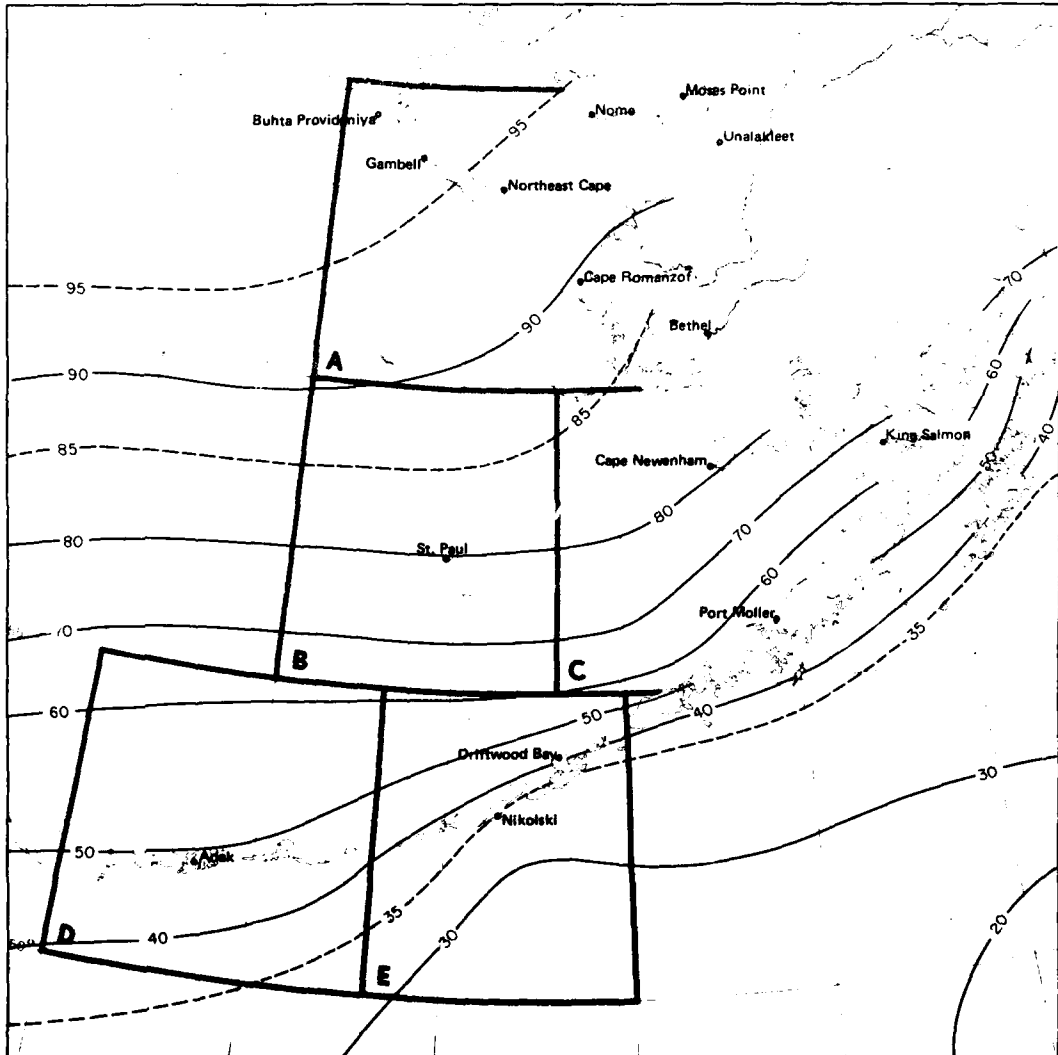
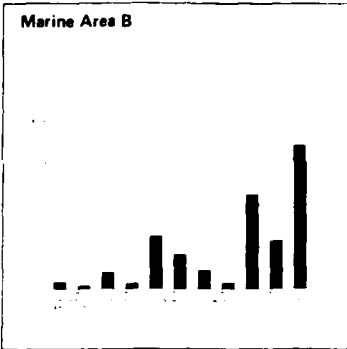
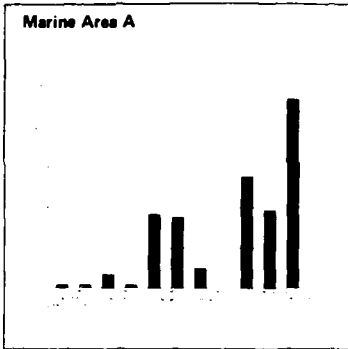
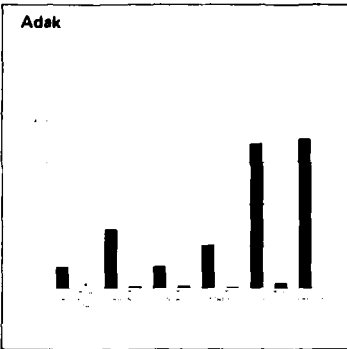
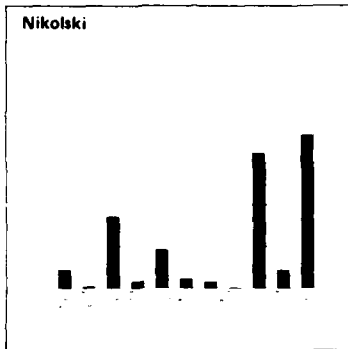


**Driftwood Bay**



**April**

**2 Precipitation types**

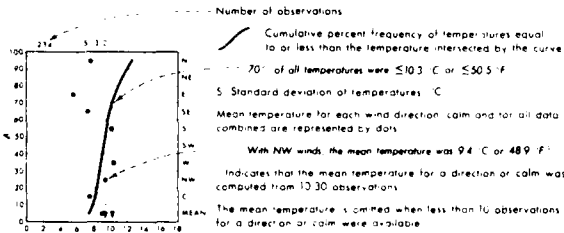


2 Snow

April

**Legend**

**Air temperature/wind direction**



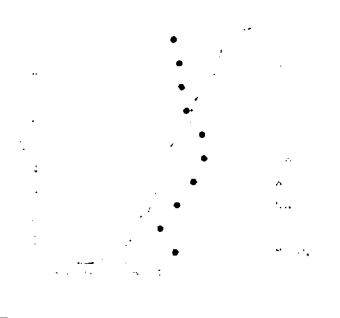
**Map - Air temperature mean and thresholds**

- BLACK LINE Percent frequency of temperature  $\leq 0^\circ\text{C}$   $\leq 32^\circ\text{F}$
- RED LINE Mean air temperature  $^\circ\text{C}$
- BLUE LINE Percent frequency of wind chill temperature  $\leq 30^\circ\text{C}$   $\leq 22^\circ\text{F}$

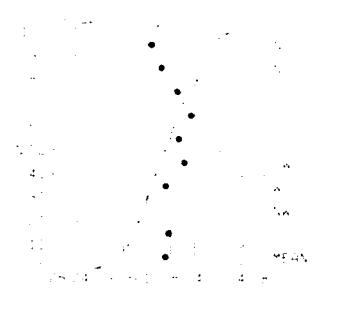
Air temperature readings recorded on transient ships in warm, sunny weather appear biased toward high temperatures, apparently because of improper instrument exposure and ventilation. Despite the inaccuracies, the large scale patterns and mean gradients of the isopleth analyses are relatively accurate.

The temperature scale of the graph may vary in both range and class interval. The percentage of temperature observations greater than a given value can be obtained by subtracting the cumulative percent frequency at that value from 100%. The number of observations and the standard deviation plus the plotted points on the graphs are based on those observations reporting both temperature and wind direction. The cumulative curve is based on all observations reporting temperature with or without wind direction.

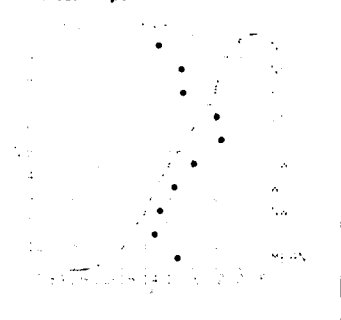
**Buhta Provideniya**



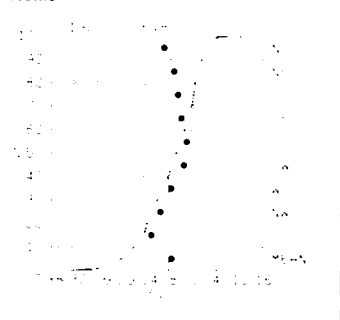
**Gambell**



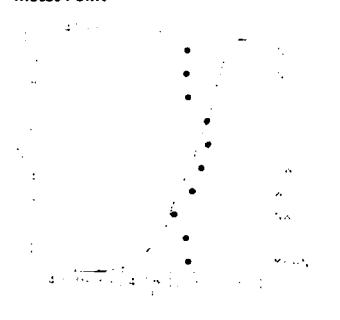
**Northeast Cape**



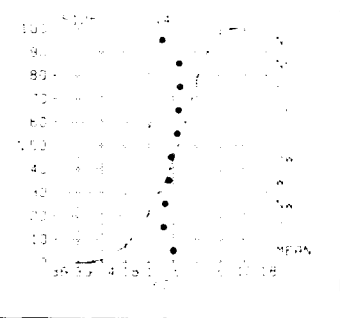
**Nome**



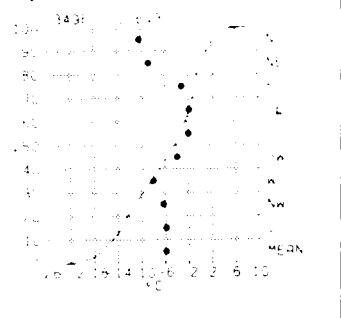
**Moses Point**



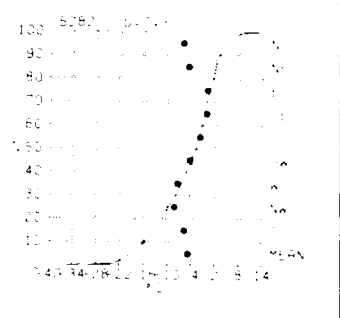
**Unalakleet**



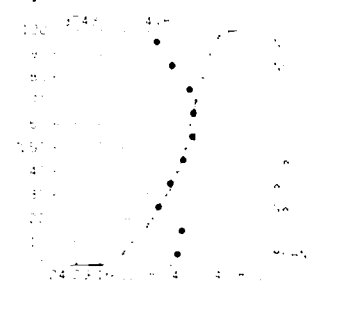
**Cape Romanzof**



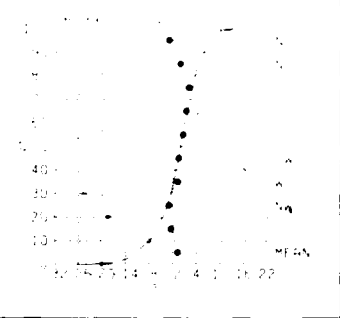
**Bethel**



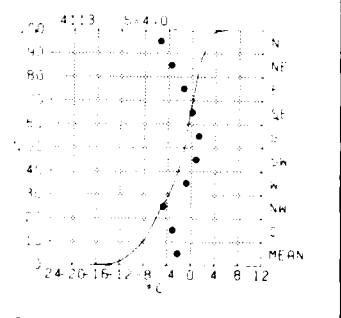
**Cape Newenham**



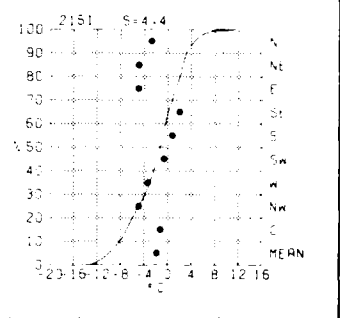
**King Salmon**



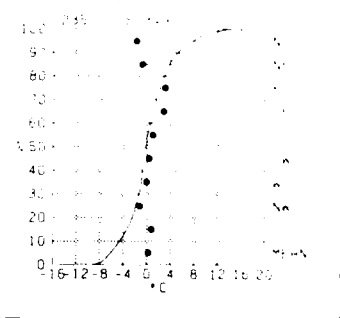
**St. Paul**



**Port Moller**

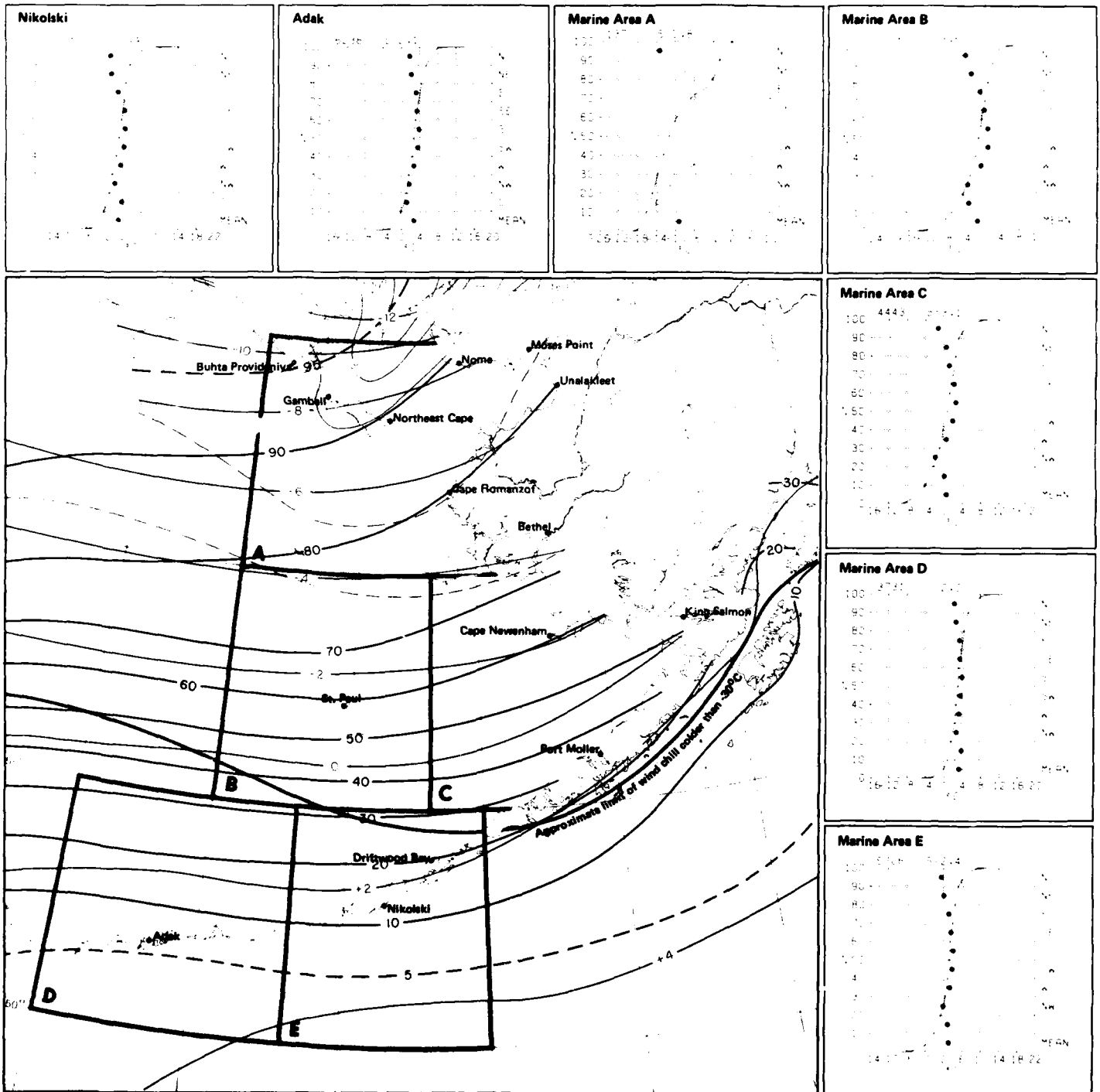


**Driftwood Bay**



**April**

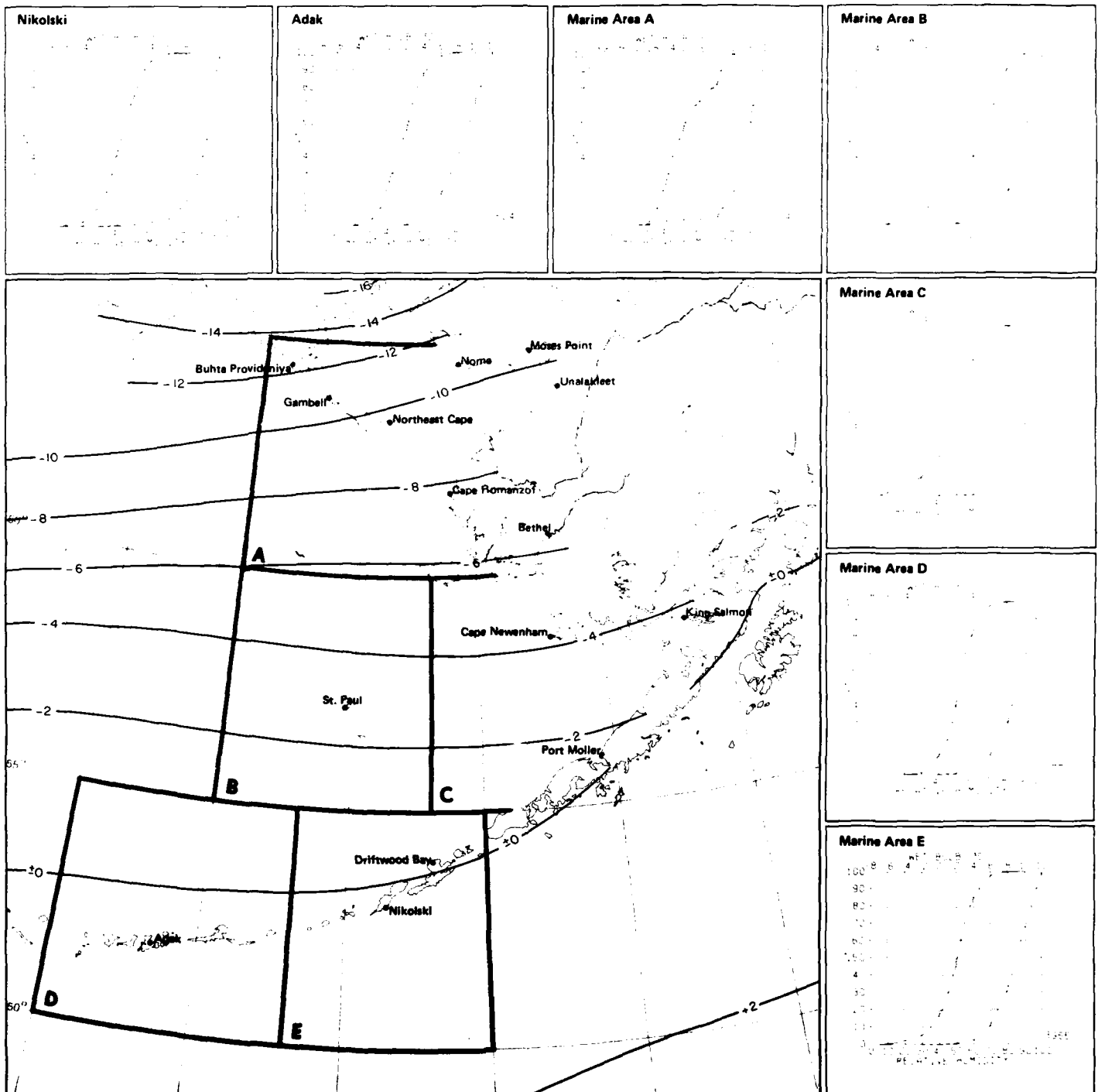
**3 Air temperature/wind direction**



3 Air temperature mean and thresholds

April





4 Mean dew point temperature

April

**Legend**

**Air temperature/wind speed**

WIND SPEED (KTS)

0-3	4-10	11-21	22-33	≥ 34
1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
31	32	33	34	35

Percent frequency of simultaneous occurrence of specified temperature (°C) and wind speed (knots)  
 - - - - - % of all observations reported temperature 2.3°C simultaneously with wind speed of 22-33 kts!  
 + Indicates < 5%, but > 0  
 - Number of observations

**Map - Air temperature extremes (°C)**

BLACK LINE Maximum 100% air temperature 1% of temperatures were greater than the given value  
 BLUE LINE Minimum 1% air temperature 1% of temperatures were equal to or less than the given value

The graph can be used to determine the extent of human discomfort from the combined effects of extreme heat or cold and winds or to estimate the likelihood of superstructure icing (icing potential increases as the air temperature drops below freezing and the winds increase above 10 knots (12 mph) and may become quite severe with temperatures equal to or less than 9°C (16°F) and winds equal to or greater than 34 knots (39 mph)

**Buhta Provideniya**

**Gambell**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
16.17	0	+	+	0	0
14.15	+	+	+	0	0
12.13	+	+	+	0	0
10.11	+	+	+	0	0
8.9	+	1	1	+	0
6.7	+	3	3	1	+
4.5	1	4	3	1	+
2.3	2	9	7	1	+
0.1	2	9	5	+	0
-2.1	2	9	4	+	0
-4.3	5	17	8	1	0

5186

**Northeast Cape**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
16.17	0	+	+	0	0
14.15	+	+	+	0	0
12.13	+	+	+	0	0
10.11	+	+	+	0	0
8.9	+	1	1	+	0
6.7	+	3	3	1	+
4.5	1	3	4	1	+
2.3	2	3	4	1	+
0.1	2	3	3	+	0
-2.1	2	3	3	+	0
-4.3	2	4	3	+	0
-6.5	2	3	3	+	0
-8.7	2	4	3	+	0
-10.9	2	4	3	+	0
-12.11	2	4	3	+	0
-14.13	3	5	7	8	1

3321

**Noma**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
16.17	0	+	+	0	0
14.15	+	+	+	0	0
12.13	+	+	+	0	0
10.11	+	+	+	0	0
8.9	+	1	1	+	0
6.7	+	1	2	+	0
4.5	1	3	5	1	+
2.3	1	3	5	1	+
0.1	1	3	5	1	+
-2.1	2	5	7	+	0
-4.3	2	5	5	+	0
-6.5	2	3	3	+	0
-8.7	2	4	3	+	0
-10.9	3	16	8	1	+

7192

**Moses Point**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
16.17	0	+	+	0	0
14.15	+	+	+	0	0
12.13	+	+	+	0	0
10.11	+	+	+	0	0
8.9	+	1	1	+	0
6.7	+	1	2	+	0
4.5	1	3	4	1	+
2.3	1	4	4	1	+
0.1	1	3	4	1	+
-2.1	2	4	4	1	+
-4.3	2	4	4	1	+
-6.5	2	3	4	1	+
-8.7	2	3	3	1	+
-10.9	2	3	3	1	+
-12.11	2	3	4	1	+
-14.13	4	11	8	1	+

4138

**Unalakleet**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
16.17	0	+	+	0	0
14.15	+	+	+	0	0
12.13	+	+	+	0	0
10.11	+	+	+	0	0
8.9	+	1	1	+	0
6.7	+	1	2	+	0
4.5	1	2	2	+	0
2.3	1	4	5	1	0
0.1	1	5	5	1	+
-2.1	1	5	5	1	+
-4.3	2	5	4	1	0
-6.5	2	5	4	2	+
-8.7	2	5	4	2	+
-10.9	2	5	4	2	+
-12.11	2	5	4	2	+
-14.13	9	25	14	2	+

5126

**Cape Romanzof**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34	
16.17	0	+	+	0	0	
14.15	+	+	+	0	0	
12.13	+	+	+	0	0	
10.11	+	+	+	0	0	
8.9	+	1	3	6	2	+
6.7	+	2	5	8	3	+
4.5	2	4	5	2	+	
2.3	1	1	3	1	+	
0.1	1	2	3	1	+	
-2.1	1	2	3	1	+	
-4.3	1	1	3	1	+	
-6.5	1	1	3	1	+	
-8.7	1	2	3	1	+	
-10.9	1	1	3	1	+	
-12.11	1	2	3	2	+	
-14.13	3	5	7	3	+	

3496

**Bethel**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
16.17	0	+	+	0	0
14.15	+	+	+	0	0
12.13	+	+	+	0	0
10.11	+	+	+	0	0
8.9	+	1	1	+	0
6.7	+	2	1	0	0
4.5	+	2	2	+	0
2.3	1	6	4	+	0
0.1	1	6	6	1	+
-2.1	1	7	5	1	+
-4.3	1	5	4	+	0
-6.5	3	19	18	1	0

5282

**Cape Newenham**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
16.17	0	+	+	0	0
14.15	+	+	+	0	0
12.13	+	+	+	0	0
10.11	+	+	+	0	0
8.9	+	1	1	+	0
6.7	+	1	1	+	0
4.5	1	3	5	1	+
2.3	3	7	5	1	+
0.1	3	7	4	1	+
-2.1	4	7	4	1	+
-4.3	3	4	5	1	+
-6.5	1	2	3	+	0
-8.7	1	2	4	1	0
-10.9	1	2	4	1	0
-12.11	1	2	3	+	0
-14.13	+	2	2	+	0

3743

**King Salmon**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
16.17	0	+	+	0	0
14.15	+	+	+	0	0
12.13	0	+	+	0	0
10.11	+	+	+	0	0
8.9	+	1	1	+	0
6.7	+	3	3	1	+
4.5	1	4	3	1	+
2.3	2	9	7	1	+
0.1	2	9	5	+	0
-2.1	2	9	4	+	0
-4.3	5	17	8	1	0

6239

**St. Paul**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
16.17	0	+	+	0	+
14.15	+	3	8	3	+
12.13	0	6	14	4	+
10.11	1	6	11	4	+
8.9	1	3	6	3	+
6.7	+	2	4	2	+
4.5	+	2	3	3	+
2.3	+	1	2	1	+
0.1	+	1	2	1	+
-2.1	+	1	2	1	+
-4.3	+	1	2	1	+
-6.5	+	2	3	3	+
-8.7	+	2	3	3	+
-10.9	+	1	2	1	+
-12.11	+	1	2	1	+
-14.13	+	+	+	+	0
-16.15	0	+	+	+	0

4113

**Port Moller**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
16.17	0	+	+	0	0
14.15	+	+	+	0	0
12.13	0	+	+	0	0
10.11	0	+	+	0	0
8.9	0	+	+	0	0
6.7	+	1	1	+	0
4.5	1	2	2	1	+
2.3	4	7	5	1	+
0.1	4	7	5	1	0
-2.1	4	9	5	1	+
-4.3	3	6	4	+	0
-6.5	1	3	3	+	0
-8.7	2	8	7	+	0

2151

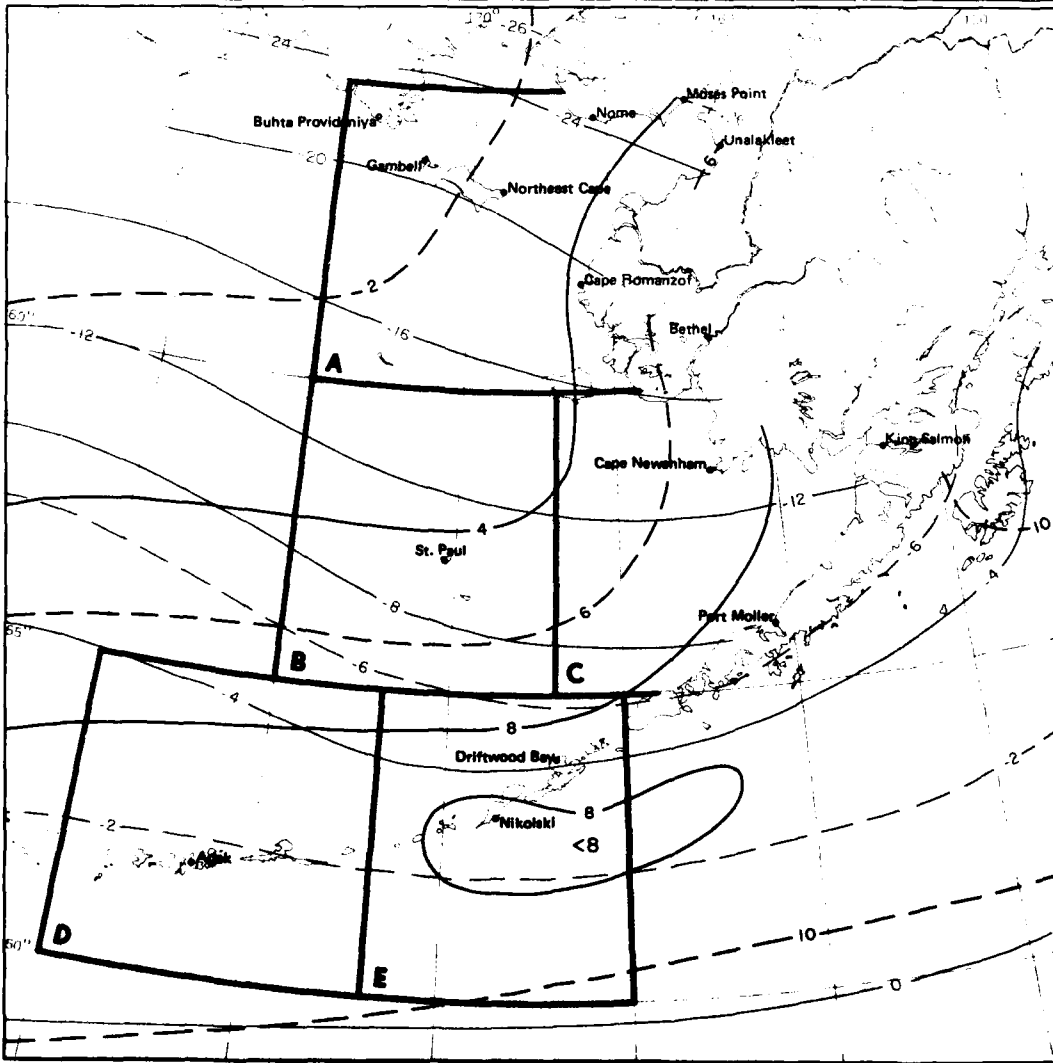
**Driftwood Bay**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
16.17	0	+	+	0	0
14.15	0	+	+	0	0
12.13	0	1	1	+	0
10.11	+	1	1	+	0
8.9	+	1	1	+	+
6.7	1	1	2	+	0
4.5	1	3	2	+	0
2.3	4	8	4	+	0
0.1	5	13	5	1	0
-2.1	4	14	6	+	0
-4.3	2	10	7	+	0

2357

<p><b>Nikolski</b></p> <p>1954</p> <p>1955</p> <p>1956</p> <p>1957</p> <p>1958</p> <p>1959</p> <p>1960</p> <p>1961</p> <p>1962</p> <p>1963</p> <p>1964</p> <p>1965</p> <p>1966</p> <p>1967</p> <p>1968</p> <p>1969</p> <p>1970</p> <p>1971</p> <p>1972</p> <p>1973</p> <p>1974</p> <p>1975</p> <p>1976</p> <p>1977</p> <p>1978</p> <p>1979</p> <p>1980</p> <p>1981</p> <p>1982</p> <p>1983</p> <p>1984</p> <p>1985</p> <p>1986</p> <p>1987</p> <p>1988</p> <p>1989</p> <p>1990</p> <p>1991</p> <p>1992</p> <p>1993</p> <p>1994</p> <p>1995</p> <p>1996</p> <p>1997</p> <p>1998</p> <p>1999</p> <p>2000</p> <p>2001</p> <p>2002</p> <p>2003</p> <p>2004</p> <p>2005</p> <p>2006</p> <p>2007</p> <p>2008</p> <p>2009</p> <p>2010</p> <p>2011</p> <p>2012</p> <p>2013</p> <p>2014</p> <p>2015</p> <p>2016</p> <p>2017</p> <p>2018</p> <p>2019</p> <p>2020</p>	<p><b>Adak</b></p> <p>1954</p> <p>1955</p> <p>1956</p> <p>1957</p> <p>1958</p> <p>1959</p> <p>1960</p> <p>1961</p> <p>1962</p> <p>1963</p> <p>1964</p> <p>1965</p> <p>1966</p> <p>1967</p> <p>1968</p> <p>1969</p> <p>1970</p> <p>1971</p> <p>1972</p> <p>1973</p> <p>1974</p> <p>1975</p> <p>1976</p> <p>1977</p> <p>1978</p> <p>1979</p> <p>1980</p> <p>1981</p> <p>1982</p> <p>1983</p> <p>1984</p> <p>1985</p> <p>1986</p> <p>1987</p> <p>1988</p> <p>1989</p> <p>1990</p> <p>1991</p> <p>1992</p> <p>1993</p> <p>1994</p> <p>1995</p> <p>1996</p> <p>1997</p> <p>1998</p> <p>1999</p> <p>2000</p> <p>2001</p> <p>2002</p> <p>2003</p> <p>2004</p> <p>2005</p> <p>2006</p> <p>2007</p> <p>2008</p> <p>2009</p> <p>2010</p> <p>2011</p> <p>2012</p> <p>2013</p> <p>2014</p> <p>2015</p> <p>2016</p> <p>2017</p> <p>2018</p> <p>2019</p> <p>2020</p>	<p><b>Marine Area A</b></p> <p>1954</p> <p>1955</p> <p>1956</p> <p>1957</p> <p>1958</p> <p>1959</p> <p>1960</p> <p>1961</p> <p>1962</p> <p>1963</p> <p>1964</p> <p>1965</p> <p>1966</p> <p>1967</p> <p>1968</p> <p>1969</p> <p>1970</p> <p>1971</p> <p>1972</p> <p>1973</p> <p>1974</p> <p>1975</p> <p>1976</p> <p>1977</p> <p>1978</p> <p>1979</p> <p>1980</p> <p>1981</p> <p>1982</p> <p>1983</p> <p>1984</p> <p>1985</p> <p>1986</p> <p>1987</p> <p>1988</p> <p>1989</p> <p>1990</p> <p>1991</p> <p>1992</p> <p>1993</p> <p>1994</p> <p>1995</p> <p>1996</p> <p>1997</p> <p>1998</p> <p>1999</p> <p>2000</p> <p>2001</p> <p>2002</p> <p>2003</p> <p>2004</p> <p>2005</p> <p>2006</p> <p>2007</p> <p>2008</p> <p>2009</p> <p>2010</p> <p>2011</p> <p>2012</p> <p>2013</p> <p>2014</p> <p>2015</p> <p>2016</p> <p>2017</p> <p>2018</p> <p>2019</p> <p>2020</p>	<p><b>Marine Area B</b></p> <p>1954</p> <p>1955</p> <p>1956</p> <p>1957</p> <p>1958</p> <p>1959</p> <p>1960</p> <p>1961</p> <p>1962</p> <p>1963</p> <p>1964</p> <p>1965</p> <p>1966</p> <p>1967</p> <p>1968</p> <p>1969</p> <p>1970</p> <p>1971</p> <p>1972</p> <p>1973</p> <p>1974</p> <p>1975</p> <p>1976</p> <p>1977</p> <p>1978</p> <p>1979</p> <p>1980</p> <p>1981</p> <p>1982</p> <p>1983</p> <p>1984</p> <p>1985</p> <p>1986</p> <p>1987</p> <p>1988</p> <p>1989</p> <p>1990</p> <p>1991</p> <p>1992</p> <p>1993</p> <p>1994</p> <p>1995</p> <p>1996</p> <p>1997</p> <p>1998</p> <p>1999</p> <p>2000</p> <p>2001</p> <p>2002</p> <p>2003</p> <p>2004</p> <p>2005</p> <p>2006</p> <p>2007</p> <p>2008</p> <p>2009</p> <p>2010</p> <p>2011</p> <p>2012</p> <p>2013</p> <p>2014</p> <p>2015</p> <p>2016</p> <p>2017</p> <p>2018</p> <p>2019</p> <p>2020</p>
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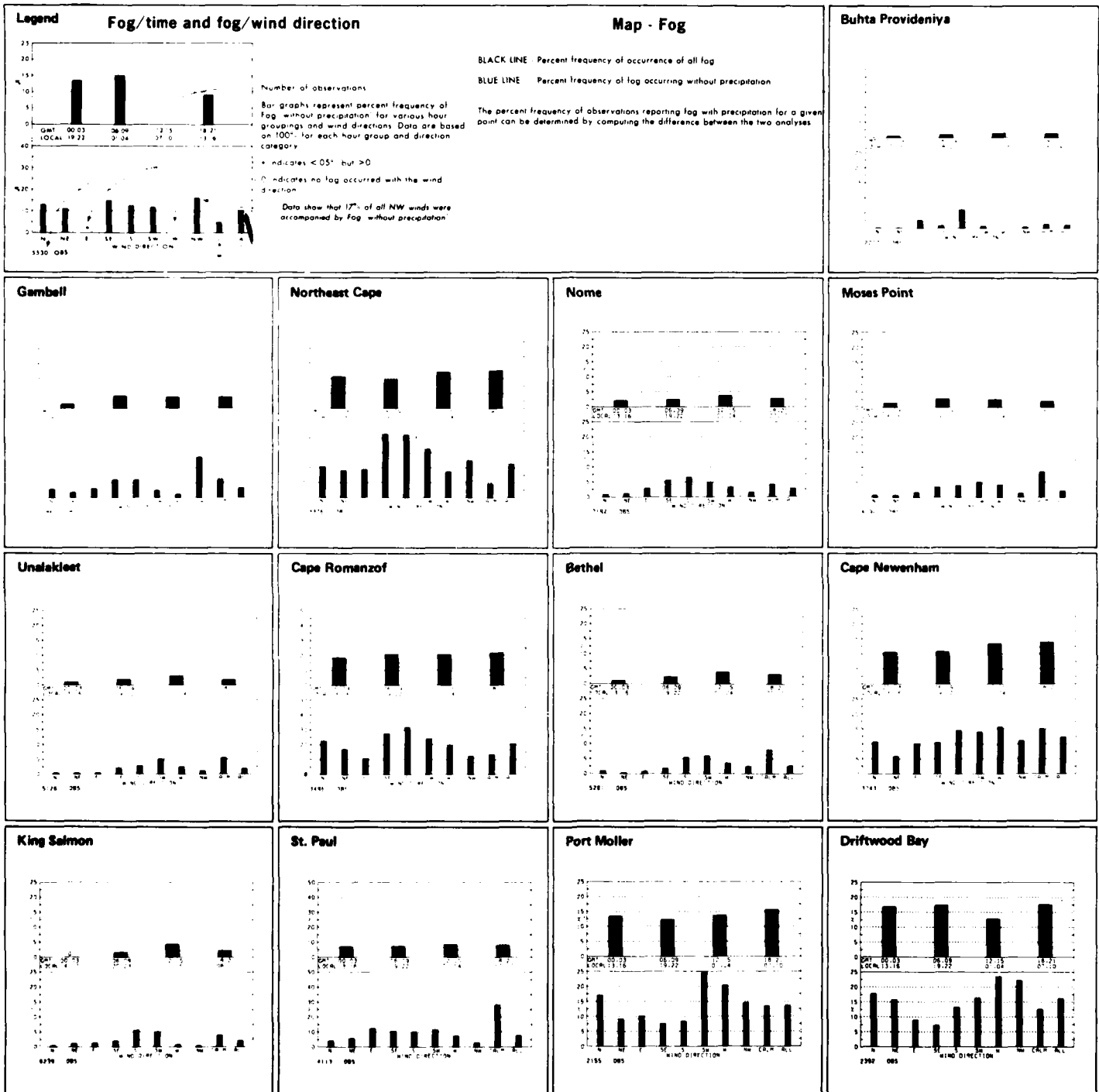
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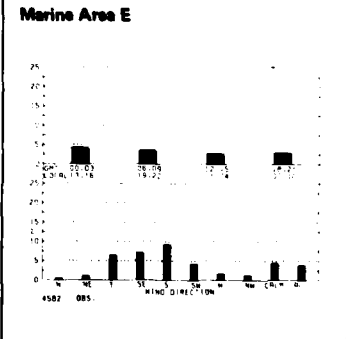
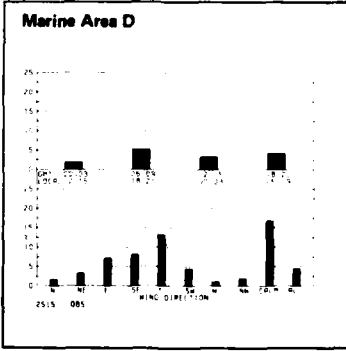
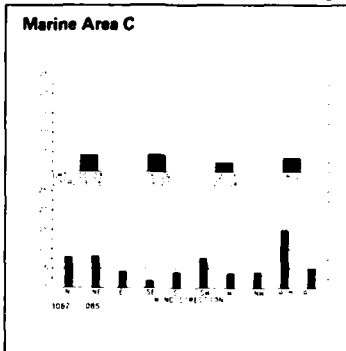
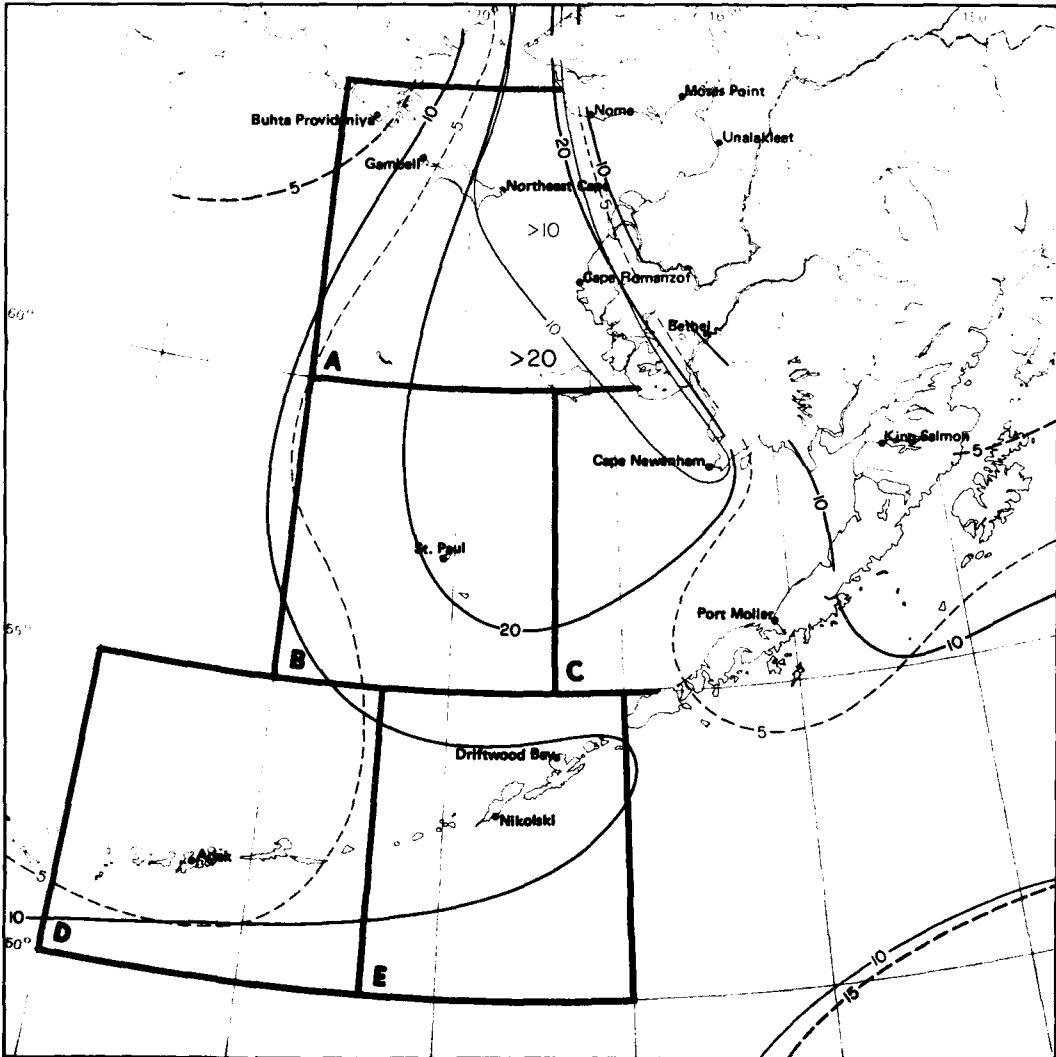
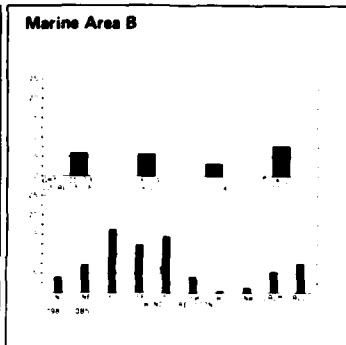
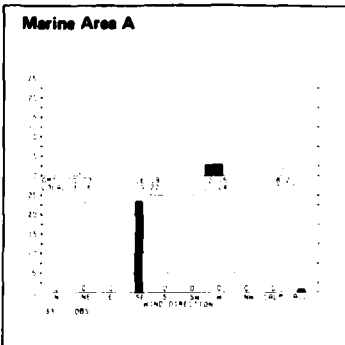
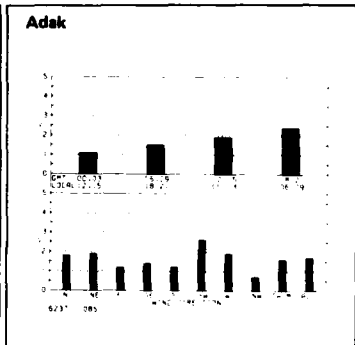
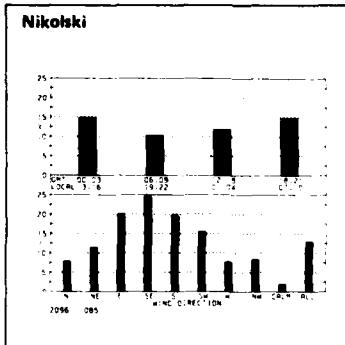
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2020

5 Air temperature extremes (°C)

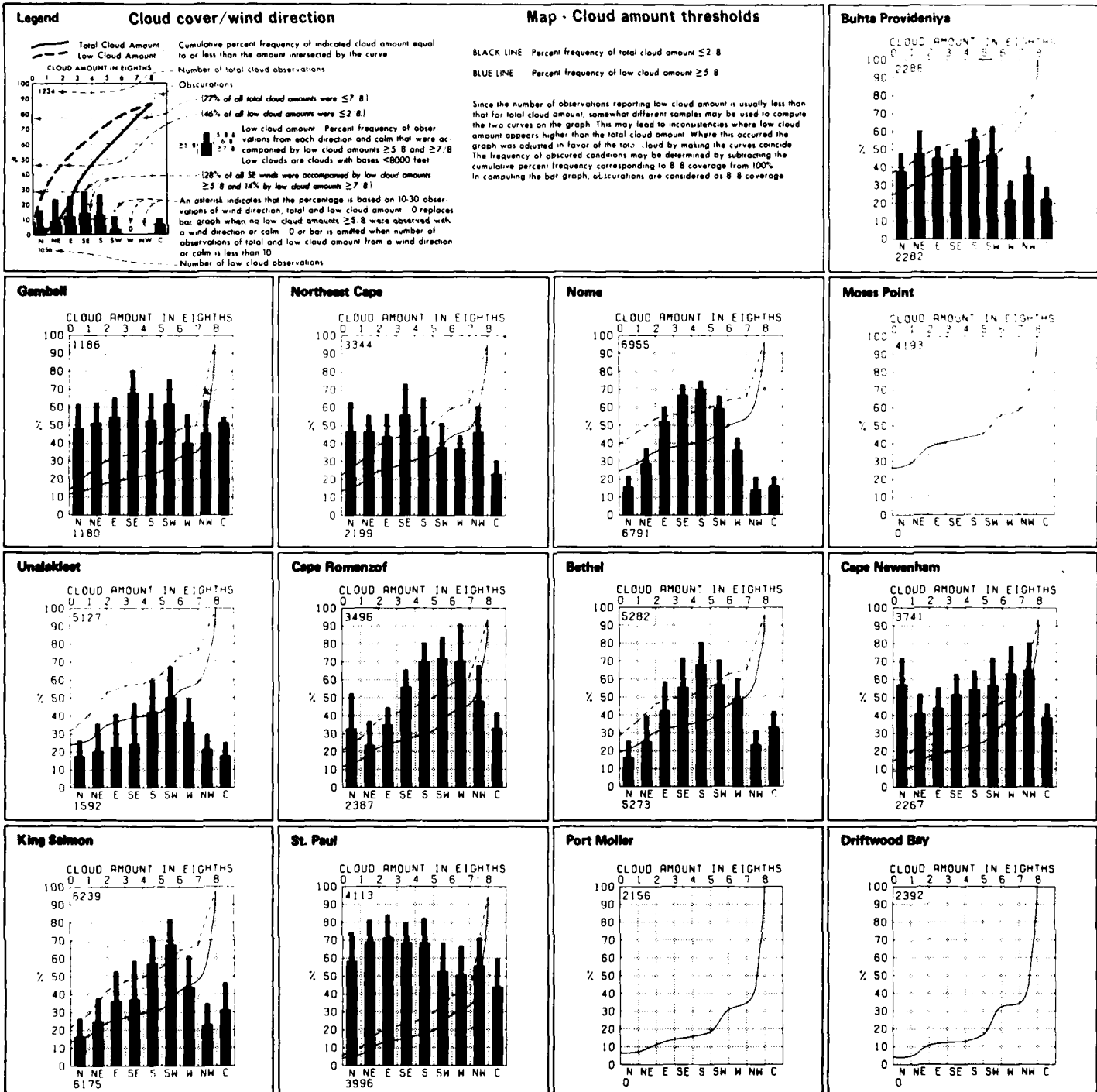






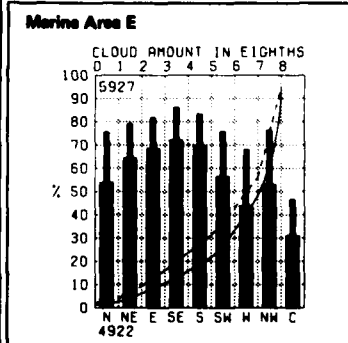
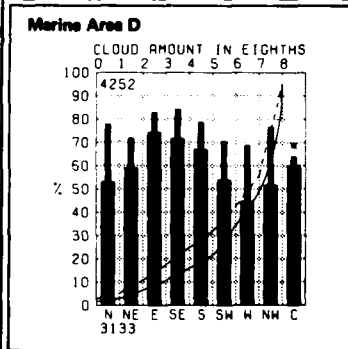
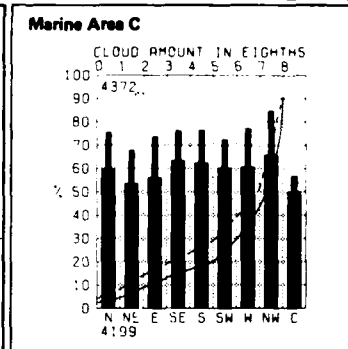
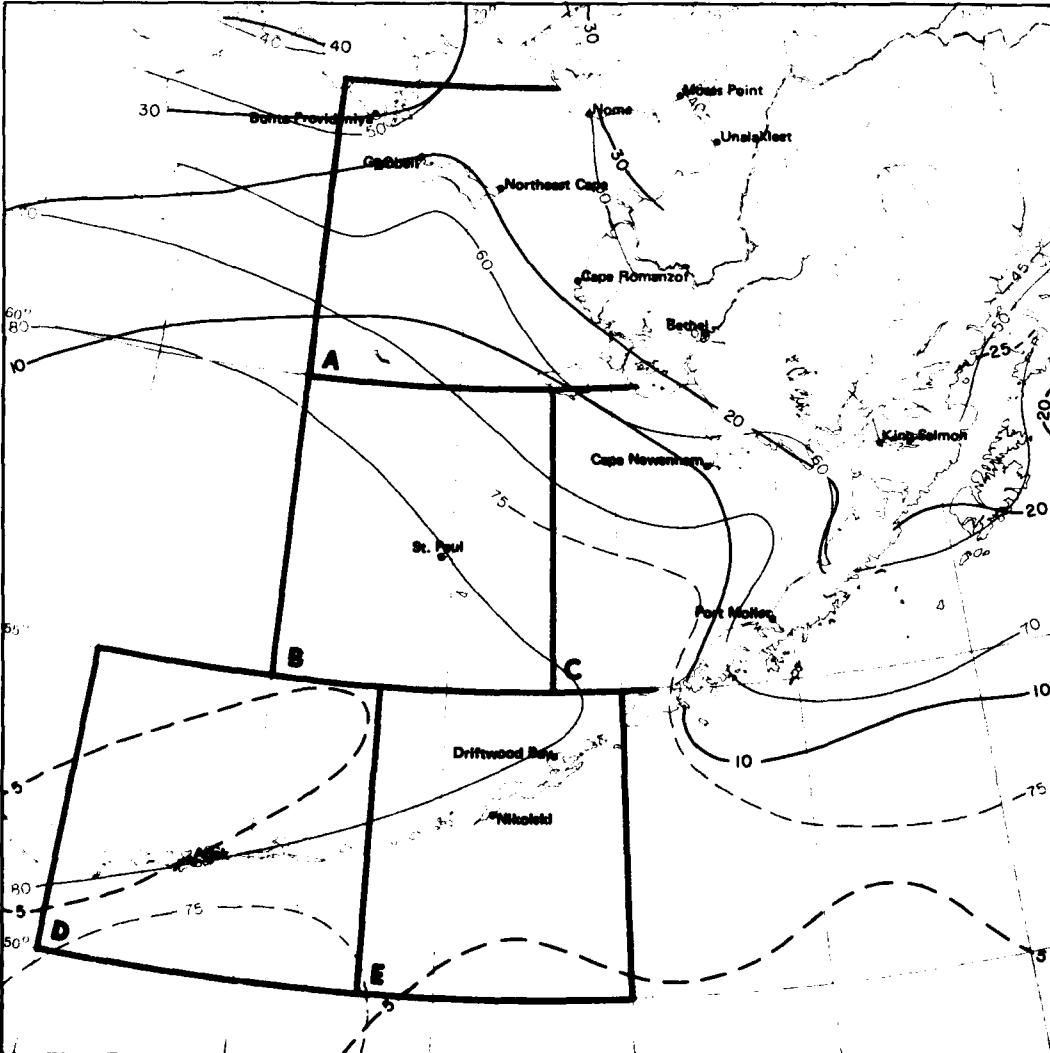
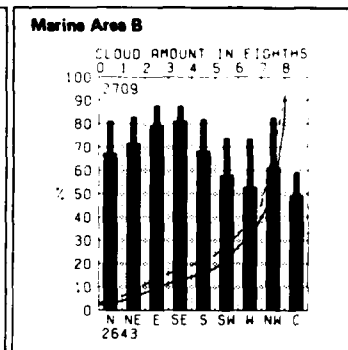
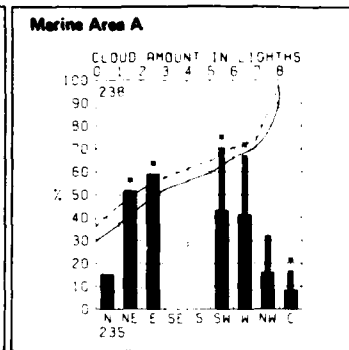
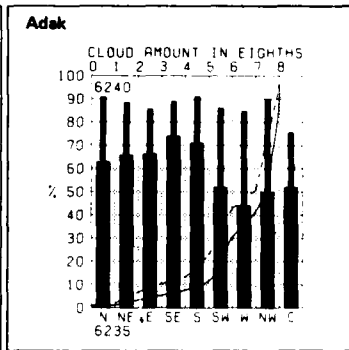
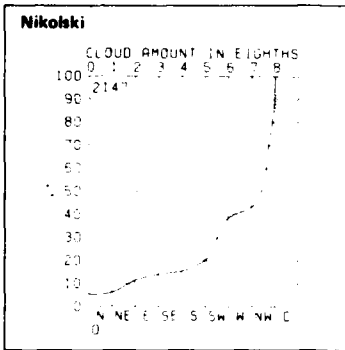
6 Fog

April



April

7 Cloud cover/wind direction

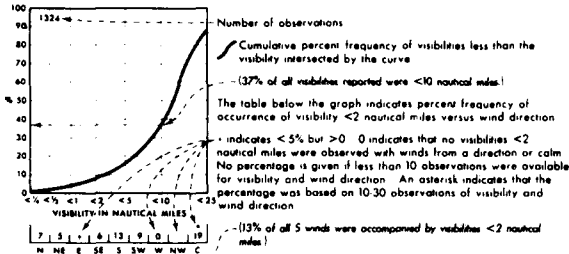


7 Cloud amount thresholds

April

**Legend**

**Visibility/wind direction**

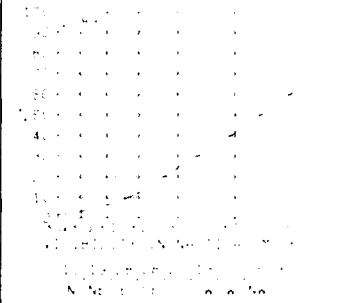


**Map - Visibility thresholds**

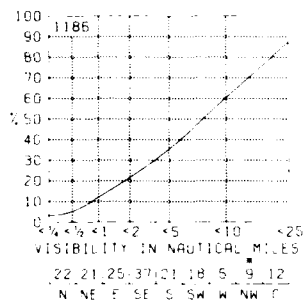
BLACK LINE Percent frequency of visibilities  $\geq 5$  nautical miles  
 BLUE LINE Percent frequency of visibilities  $< 2$  nautical miles

The percentage of visibility equal to or greater than a given value can be obtained from the graph by subtracting the cumulative percent frequency of that value from 100%. Visibility at sea is difficult to measure because of the lack of reference points. Also, some observers seem to report reduced visibilities at night because of darkness, though this tendency has abated in recent years. The coarseness of the coding intervals, however, tends to minimize serious biases in the summarized data. Visibilities greater than 25 nm should be interpreted cautiously because the earth's curvature makes it impossible to see 25 nm horizontally from the bridges of most ships.

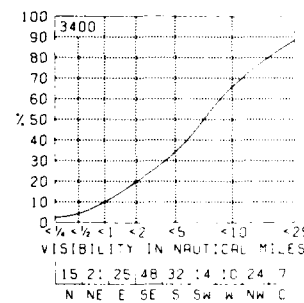
**Buhta Provideniya**



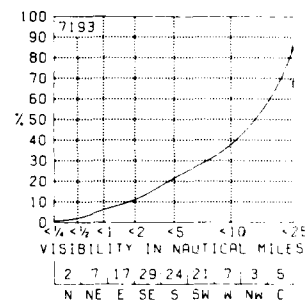
**Gambell**



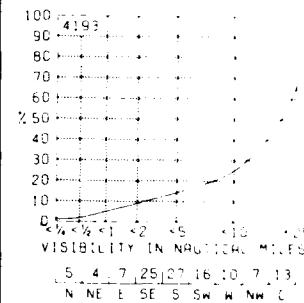
**Northeast Cape**



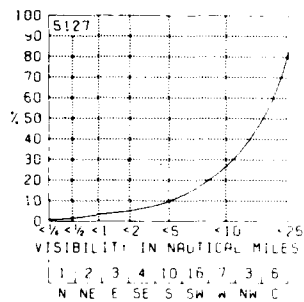
**Nome**



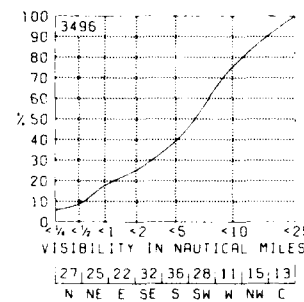
**Moses Point**



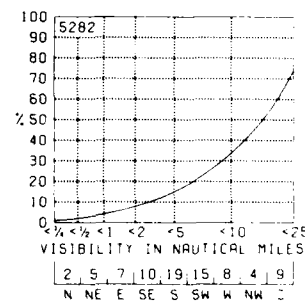
**Unalakleet**



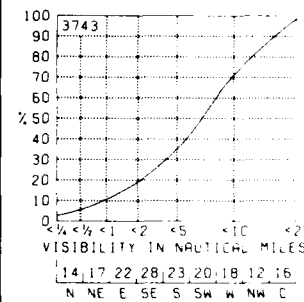
**Cape Romanzof**



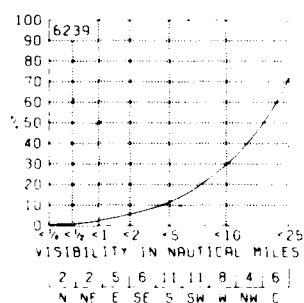
**Bethel**



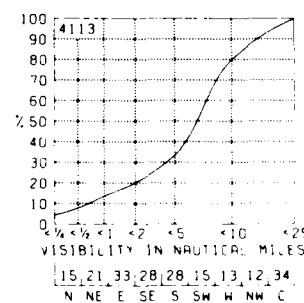
**Cape Newenham**



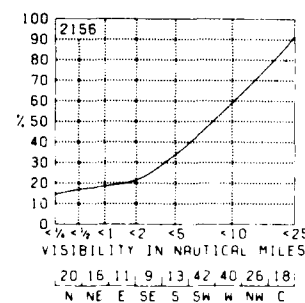
**King Salmon**



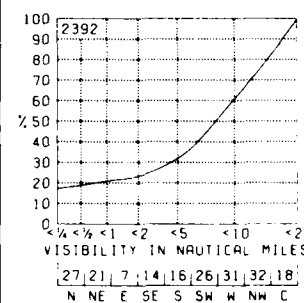
**St. Paul**

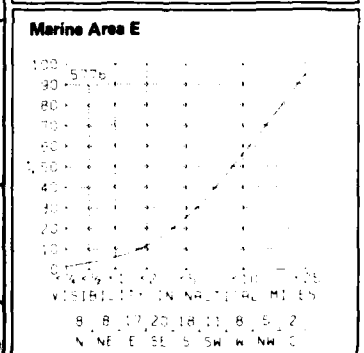
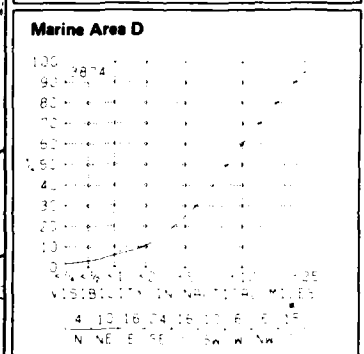
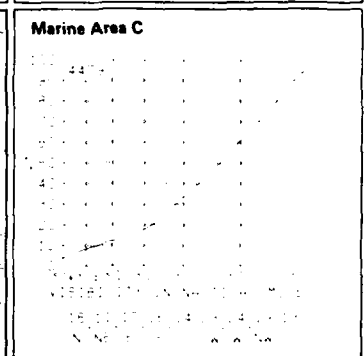
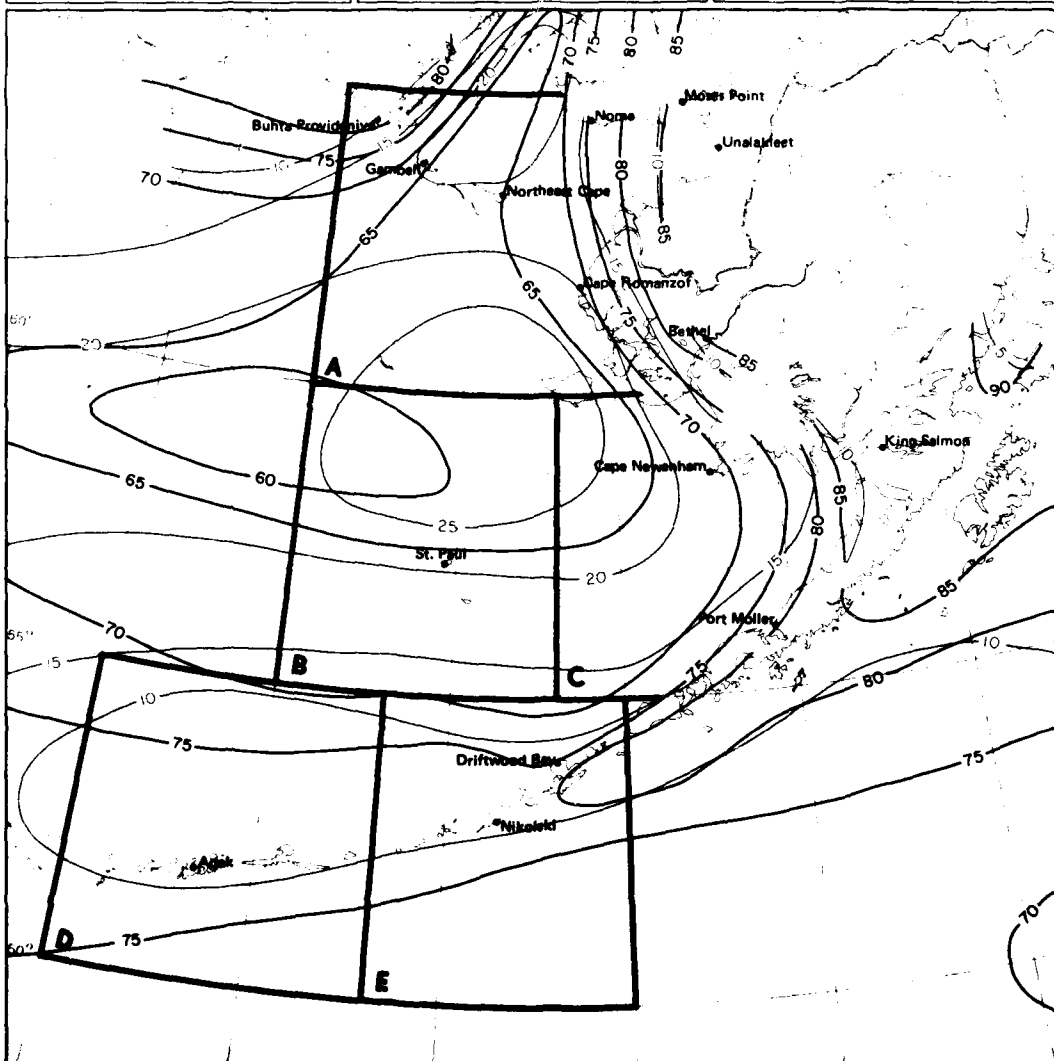
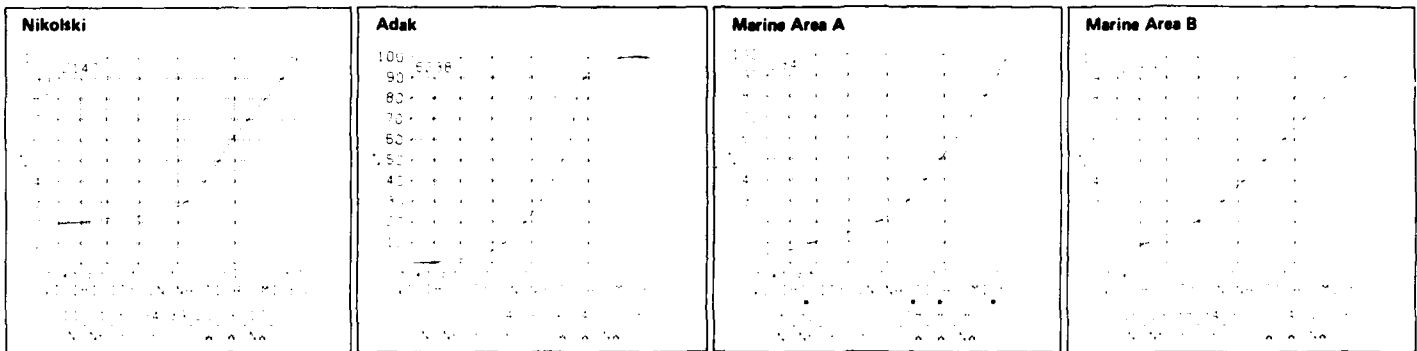


**Port Moller**



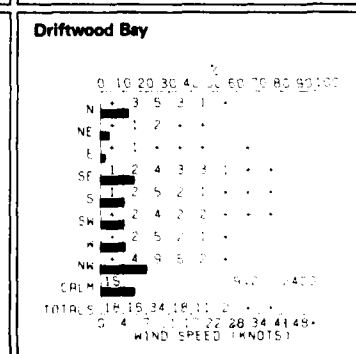
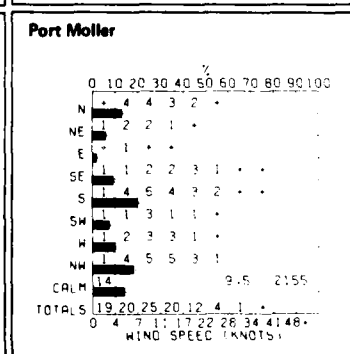
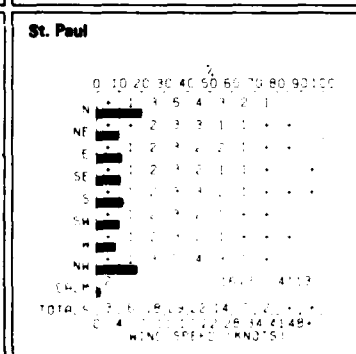
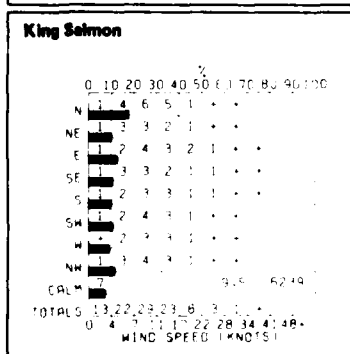
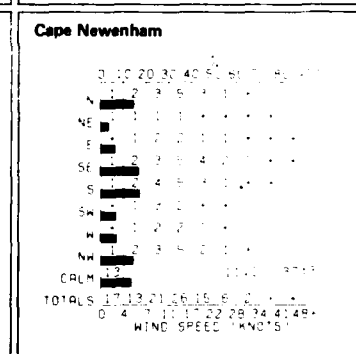
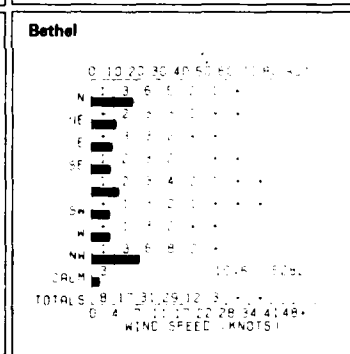
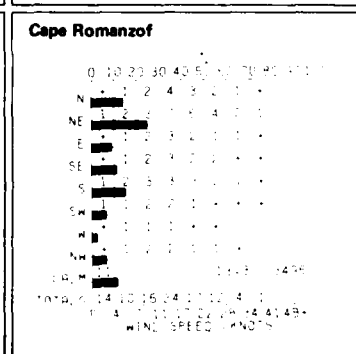
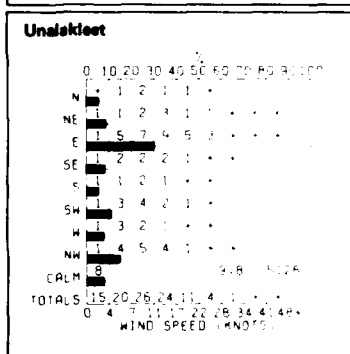
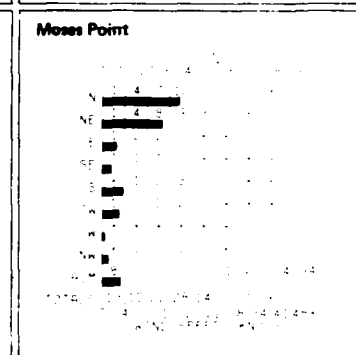
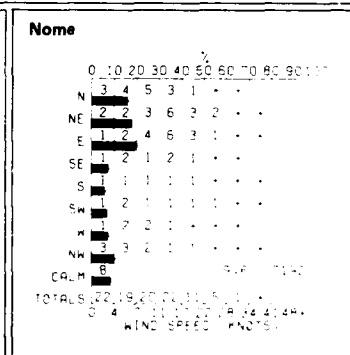
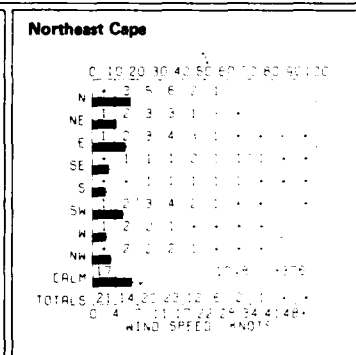
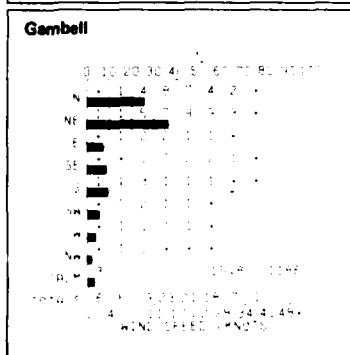
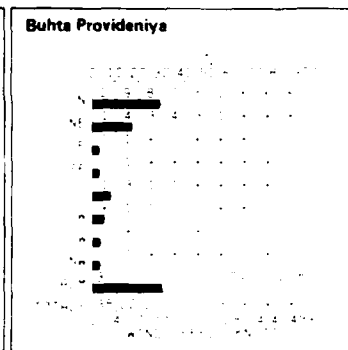
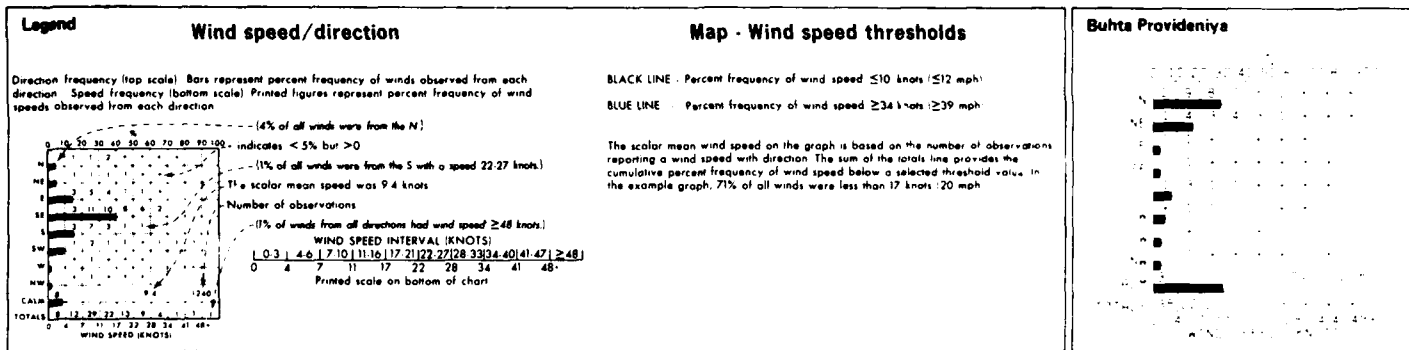
**Driftwood Bay**

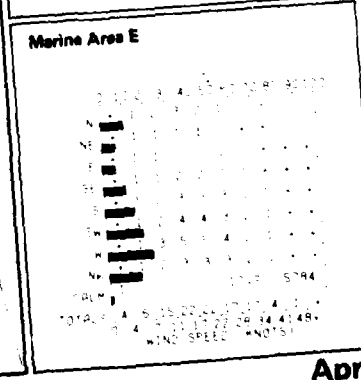
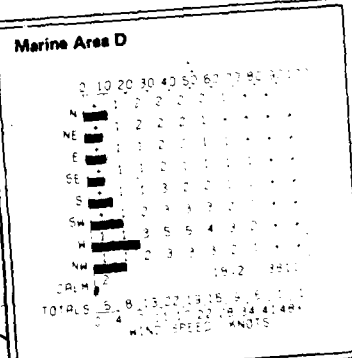
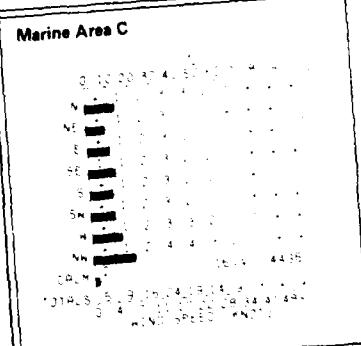
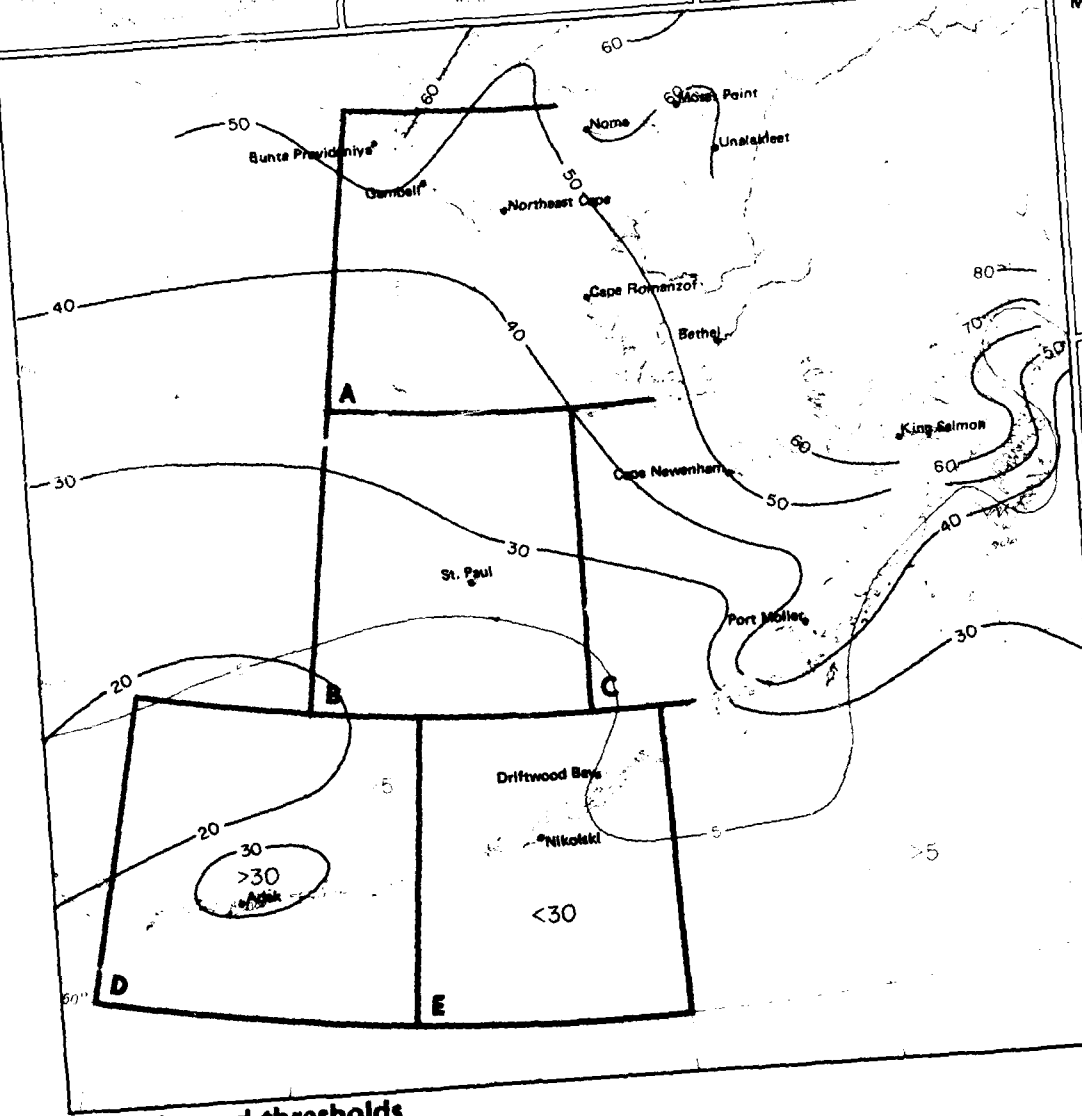
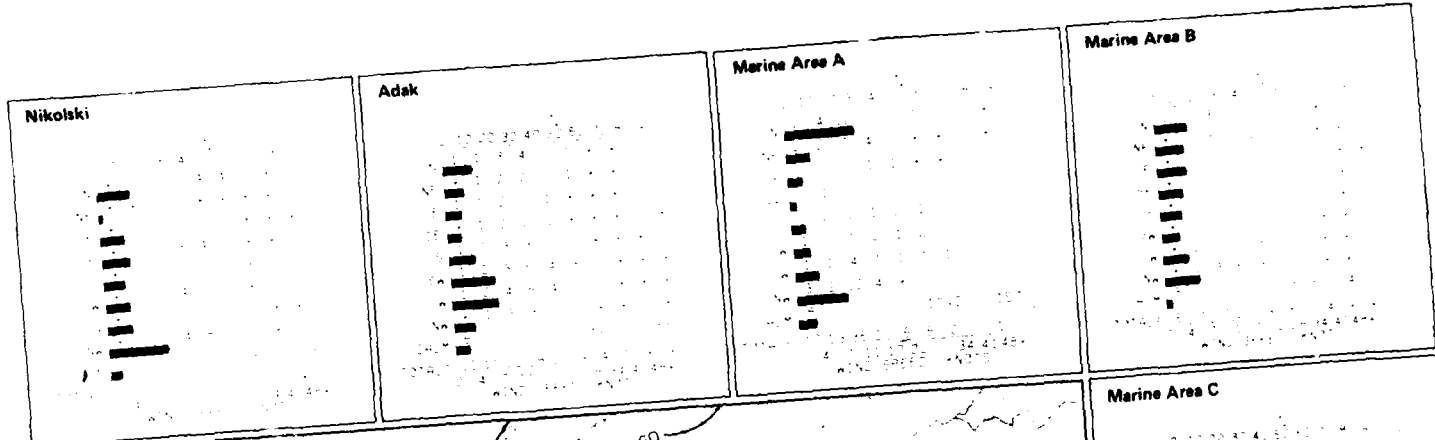




8 Visibility thresholds

April

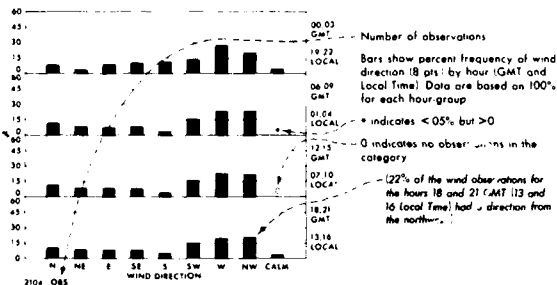




9 Wind speed thresholds



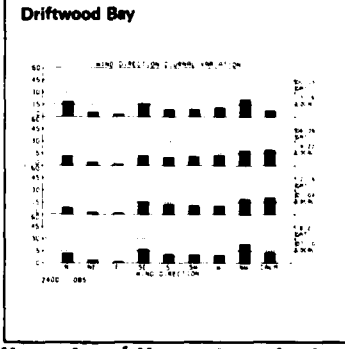
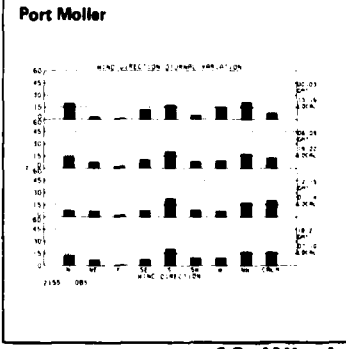
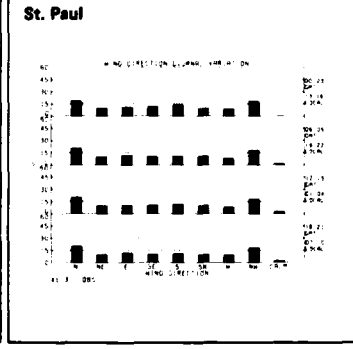
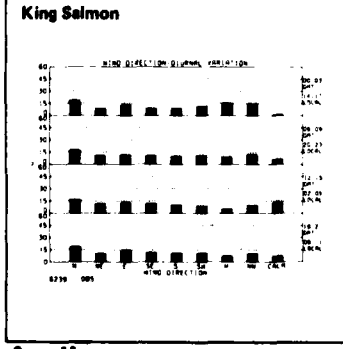
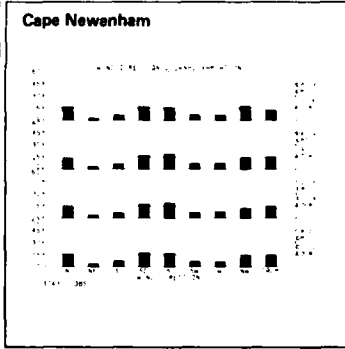
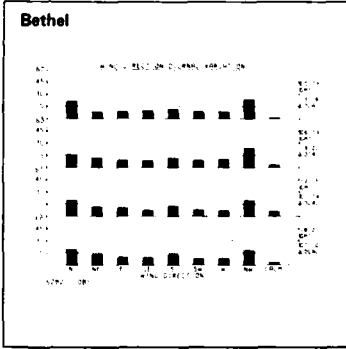
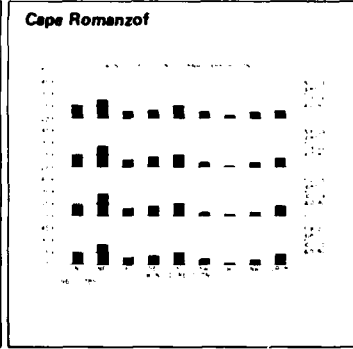
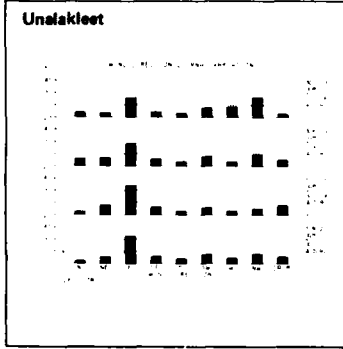
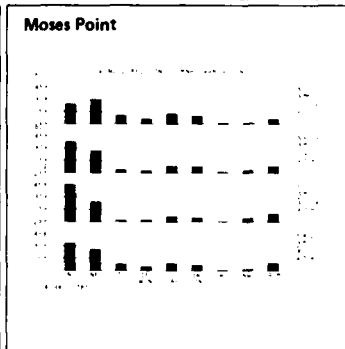
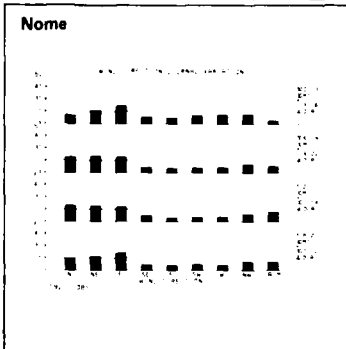
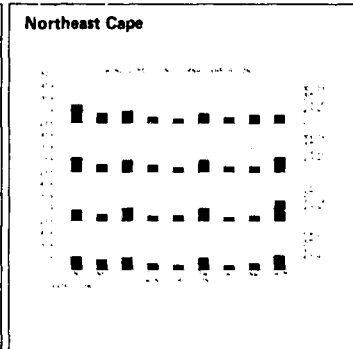
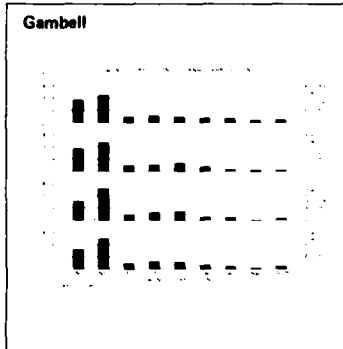
**Legend Wind direction/diurnal variation**



**Map - Vector mean wind**

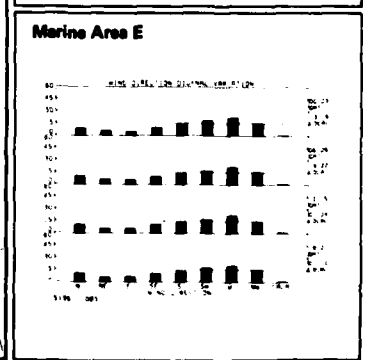
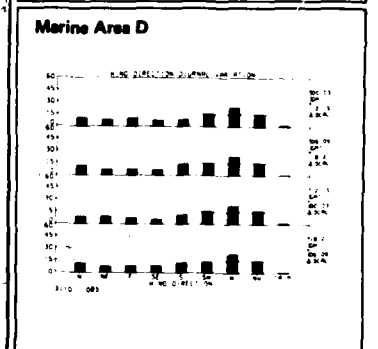
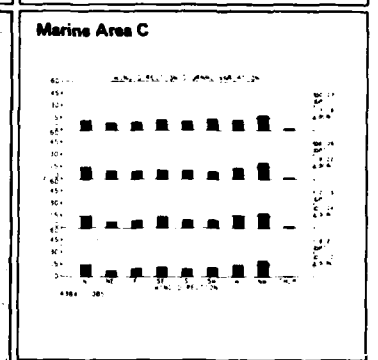
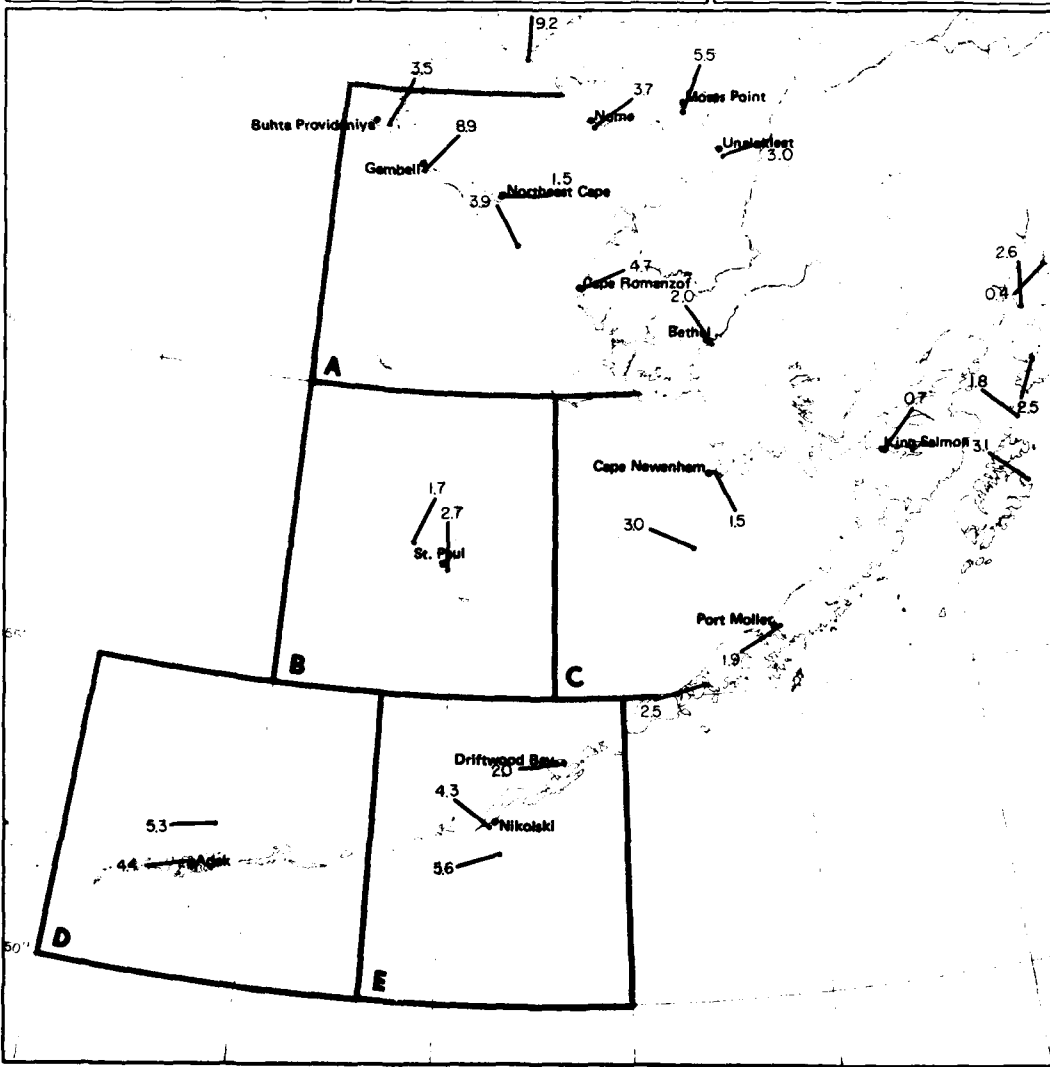
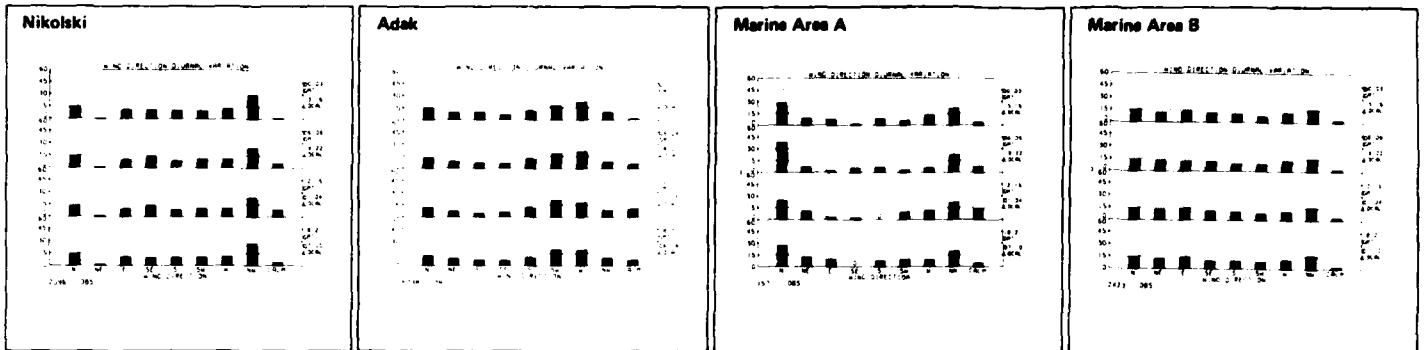
10.2 Direction of flow toward station dot, vector magnitude in knots  
example: vector mean wind is from northeast at 10.2 knots or 11.7 mph

**Buhta Provideniya**



April

10 Wind direction/diurnal variation

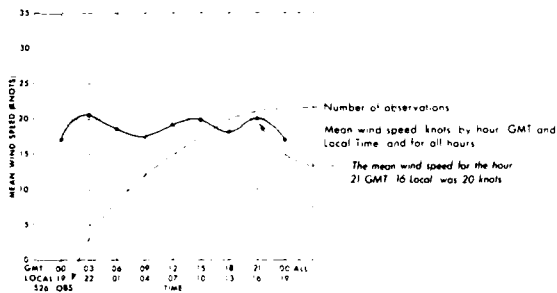


10 Vector mean wind

April

**Legend**

**Wind speed/diurnal variation**

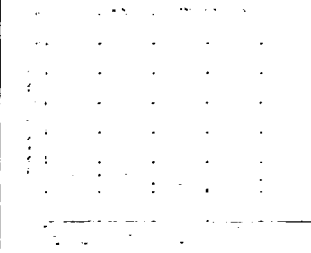


**Map - Scalar mean wind**

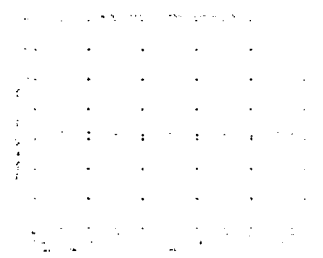
BLACK LINE - Scalar mean wind knots

In areas of high persistence of direction, the magnitude of the vector mean winds should closely approach that of the scalar mean winds. As most of the marine observations are recorded at six hour intervals, disregard the plots for other than 00, 06, 12, 18 GMT hours on the marine area graphs.

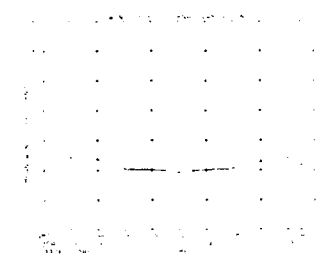
**Buhta Provideniya**



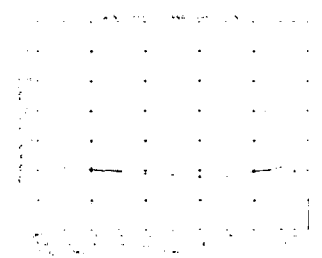
**Gambell**



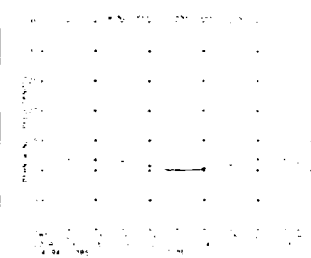
**Northeast Cape**



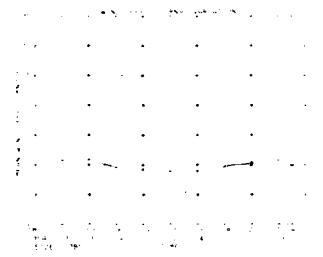
**Nome**



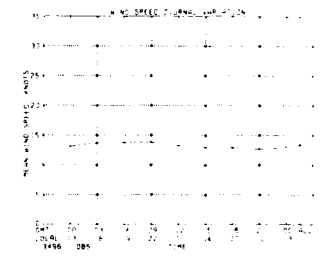
**Moses Point**



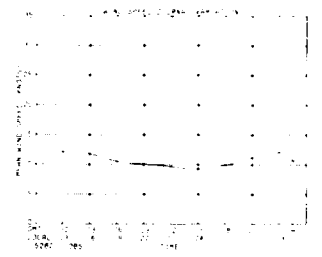
**Unalakleet**



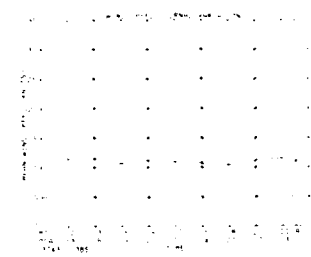
**Cape Romanzof**



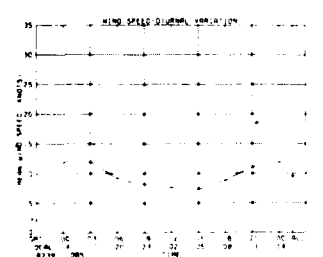
**Bethel**



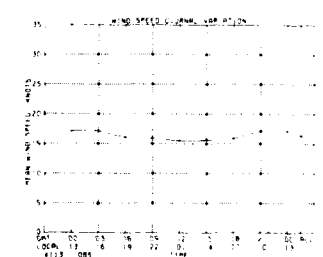
**Cape Newenham**



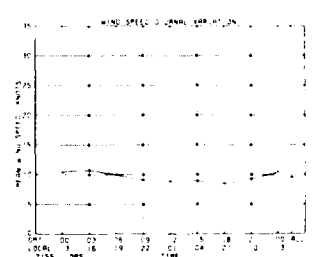
**King Salmon**



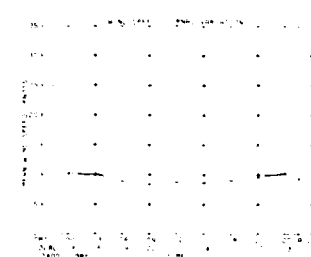
**St. Paul**

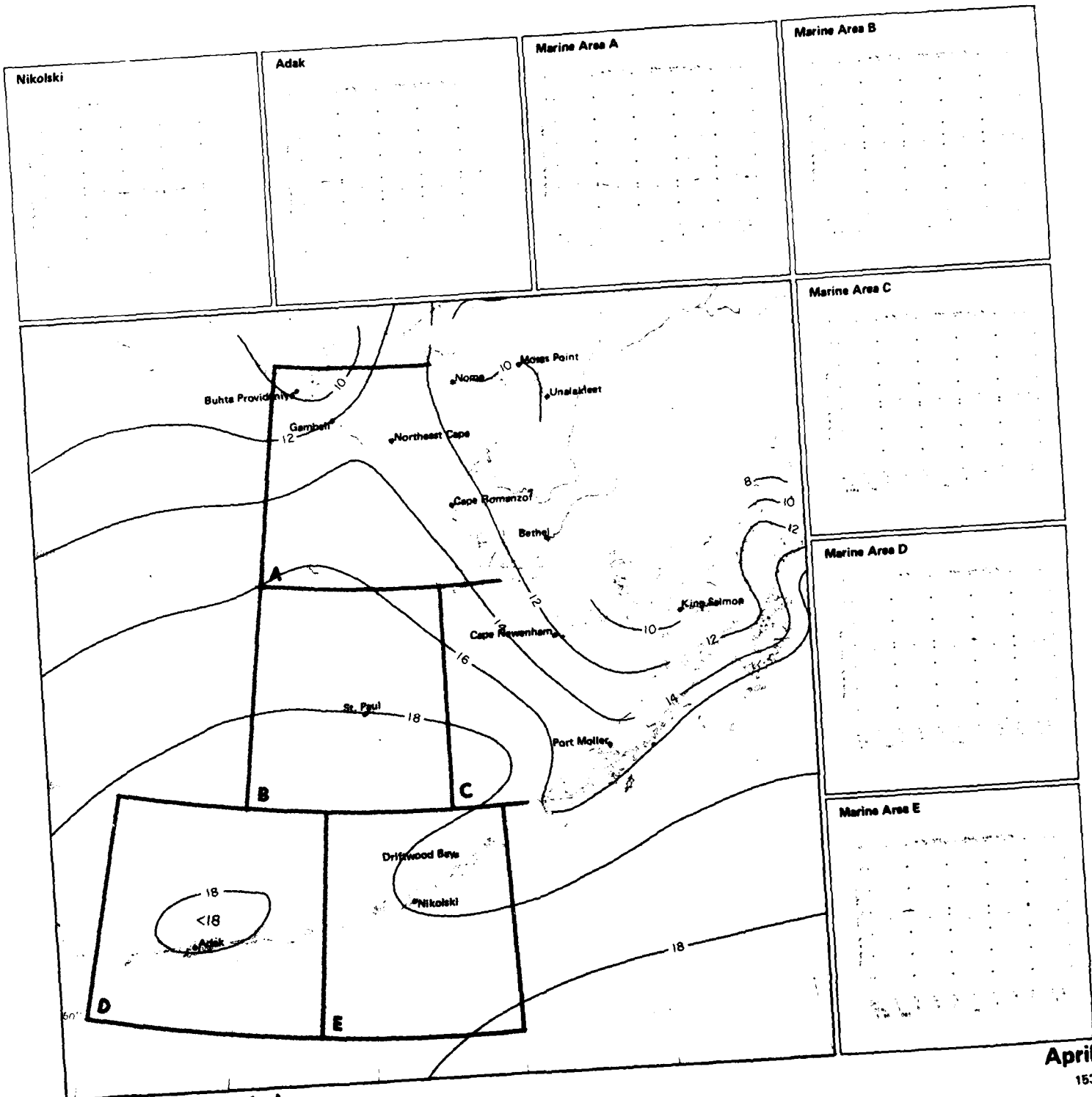


**Port Moller**



**Driftwood Bay**

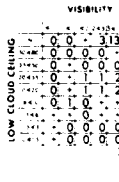




11 Scalar mean wind

**Legend**

**Low cloud ceiling/visibility**

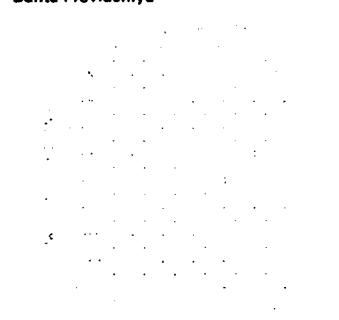


Percent frequency of simultaneous occurrence of specified low cloud ceilings (hundreds of feet and visibilities, nautical miles).  
 Low cloud ceiling heights are estimated from the height of low clouds (h) when low cloud amount (N<sub>h</sub>) is ≥ 5.8  
 Observations are included under ceiling 0 < 1.5  
 N.C. (no ceiling) includes bases of clouds ≥ 8000 feet as well as occurrences of N<sub>h</sub> < 5.8  
 \* 2% of all observations reported ceiling ≥ 1000 but < 2000 feet simultaneously with visibility ≥ 5 but < 10 nautical miles  
 - indicates < 5%; but > 0  
 - Number of observations

**Map - Low cloud ceiling and visibility thresholds**

**BLACK LINE** Percent frequency of low cloud ceiling ≥ 1000 feet for no low cloud ceiling and visibility ≥ 5 nautical miles  
**BLUE LINE** Percent frequency of low cloud ceiling < 600 feet and/or visibility < 2 nautical miles

**Buhta Provideniya**



**Gambell**

LOW CLOUD CEILING	VISIBILITY					
	1/2	1/2+1	1+2	2+5	5+10	>10
NC	0	0	1	7	29	
50+80	0	0	0	0	0	
35+50	0	0	0	0	0	
20+35	0	0	1	4	2	
10+20	0	0	3	5	9	5
6+10	1	2	4	5	3	1
3+6	0	1	1	1	3	0
1.5+3	0	0	0	0	0	0
0+1.5	3	2	0	0	0	0
	1180					

**Northeast Cape**

LOW CLOUD CEILING	VISIBILITY					
	1/2	1/2+1	1+2	2+5	5+10	>10
NC	0	1	1	2	12	33
50+80	0	0	0	0	0	0
35+50	0	0	0	0	0	0
20+35	0	0	0	1	3	1
10+20	0	1	3	5	10	5
6+10	1	1	2	2	4	3
3+6	0	0	1	1	1	0
1.5+3	0	0	0	0	0	0
0+1.5	3	2	2	0	0	0
	2199					

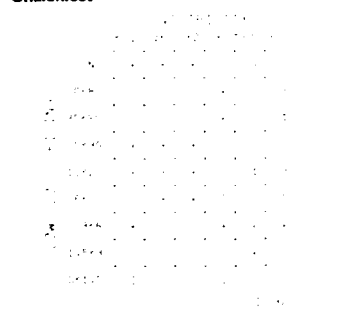
**Nome**

LOW CLOUD CEILING	VISIBILITY					
	1/2	1/2+1	1+2	2+5	5+10	>10
NC	0	0	0	1	6	53
50+80	0	0	0	0	0	0
35+50	0	0	0	0	0	0
20+35	0	0	0	2	3	3
10+20	0	0	1	3	4	2
6+10	0	1	1	2	2	0
3+6	0	1	1	1	1	0
1.5+3	0	0	0	0	0	0
0+1.5	1	2	1	0	0	0
	6791					

**Moses Point**

LOW CLOUD CEILING	VISIBILITY					
	1/2	1/2+1	1+2	2+5	5+10	>10
NC	0	0	0	0	0	0
50+80	0	0	0	0	0	0
35+50	0	0	0	0	0	0
20+35	0	0	0	0	0	0
10+20	0	0	0	0	4	1
6+10	0	0	0	0	0	0
3+6	0	0	0	0	0	0
1.5+3	0	0	0	0	0	0
0+1.5	0	2	1	0	0	0
	238					

**Unalakleet**



**Cape Romanzof**

LOW CLOUD CEILING	VISIBILITY					
	1/2	1/2+1	1+2	2+5	5+10	>10
NC	2	2	1	4	21	18
50+80	0	0	0	0	1	1
35+50	0	0	0	0	1	0
20+35	0	0	0	1	4	1
10+20	0	1	1	4	6	1
6+10	0	2	2	4	5	1
3+6	0	1	1	2	1	0
1.5+3	0	0	0	0	0	0
0+1.5	7	2	0	0	0	0
	2387					

**Bethel**

LOW CLOUD CEILING	VISIBILITY					
	1/2	1/2+1	1+2	2+5	5+10	>10
NC	0	0	0	1	6	49
50+80	0	0	0	0	0	3
35+50	0	0	0	0	1	4
20+35	0	0	0	1	3	5
10+20	0	0	1	2	5	4
6+10	0	1	2	3	2	0
3+6	0	1	1	2	0	0
1.5+3	0	0	0	0	0	0
0+1.5	2	1	1	0	0	0
	5273					

**Cape Newenham**

LOW CLOUD CEILING	VISIBILITY					
	1/2	1/2+1	1+2	2+5	5+10	>10
NC	0	0	0	1	5	19
50+80	0	0	0	0	0	0
35+50	0	0	0	0	0	0
20+35	0	0	0	1	3	2
10+20	0	0	0	4	9	5
6+10	0	1	2	6	8	3
3+6	0	0	0	2	2	1
1.5+3	0	0	0	0	0	0
0+1.5	5	3	2	1	0	0
	2267					

**King Salmon**

LOW CLOUD CEILING	VISIBILITY					
	1/2	1/2+1	1+2	2+5	5+10	>10
NC	0	0	0	0	5	48
50+80	0	0	0	0	1	3
35+50	0	0	0	0	1	4
20+35	0	0	0	1	4	8
10+20	0	0	1	2	5	5
6+10	0	0	1	1	2	1
3+6	0	0	0	1	1	0
1.5+3	0	0	0	0	0	0
0+1.5	1	1	1	0	0	0
	6175					

**St. Paul**

LOW CLOUD CEILING	VISIBILITY					
	1/2	1/2+1	1+2	2+5	5+10	>10
NC	0	0	0	1	15	10
50+80	0	0	0	0	1	0
35+50	0	0	0	0	1	1
20+35	0	0	0	1	7	4
10+20	0	2	1	2	5	17
6+10	0	1	1	3	4	1
3+6	0	2	2	3	2	0
1.5+3	0	0	0	0	0	0
0+1.5	5	1	0	0	0	0
	3995					

**Port Moller**

Insufficient Data

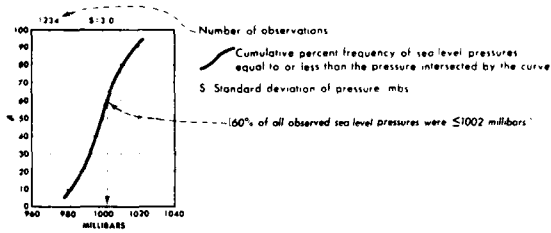
**Driftwood Bay**

Insufficient Data



**Legend**

**Sea level pressure**

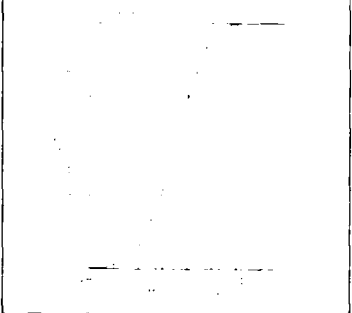


**Map - Mean sea level pressure**

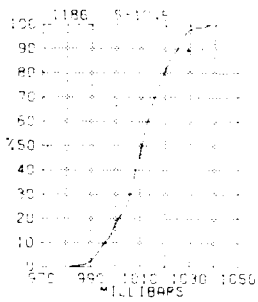
BLACK LINE Mean sea level pressure (millibars)

Sea level pressure is one of the most frequently recorded elements but one of the least accurate because of instrument and coding errors. Despite the inaccuracies of the individual readings, however, the large scale patterns and mean gradients of the isopleth analyses are relatively accurate.

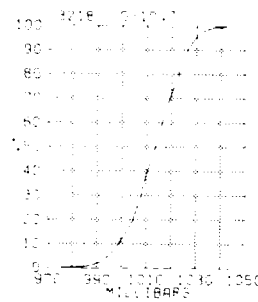
**Buhta Provideniya**



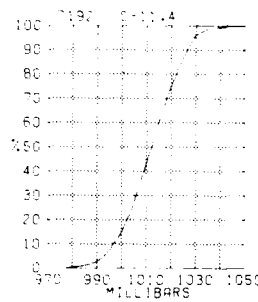
**Gambell**



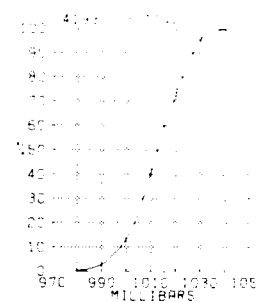
**Northeast Cape**



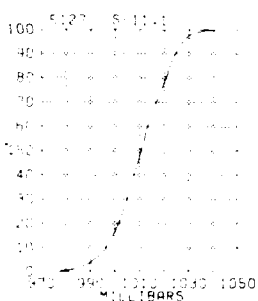
**Nome**



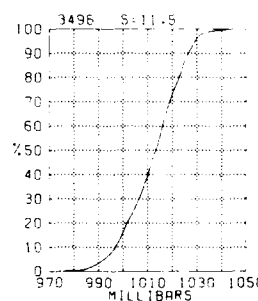
**Moses Point**



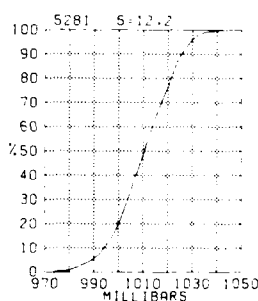
**Unalakleet**



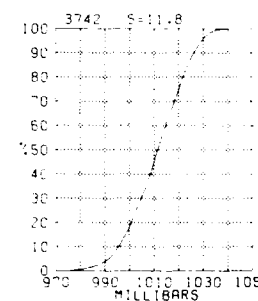
**Cape Romanzof**



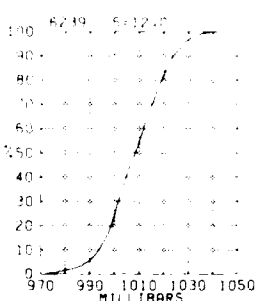
**Bethel**



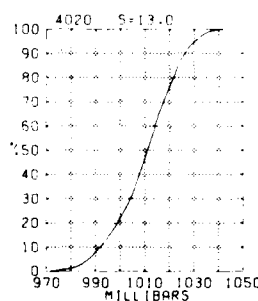
**Cape Newenham**



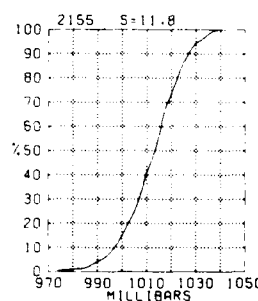
**King Salmon**



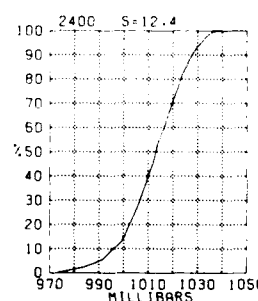
**St. Paul**



**Port Moller**



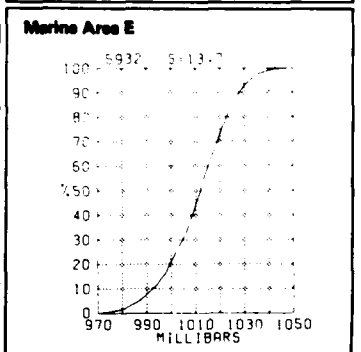
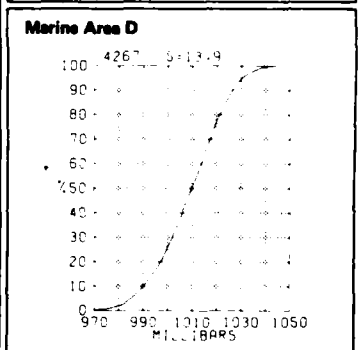
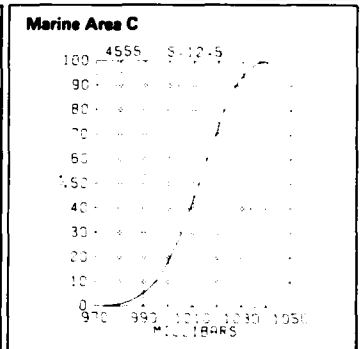
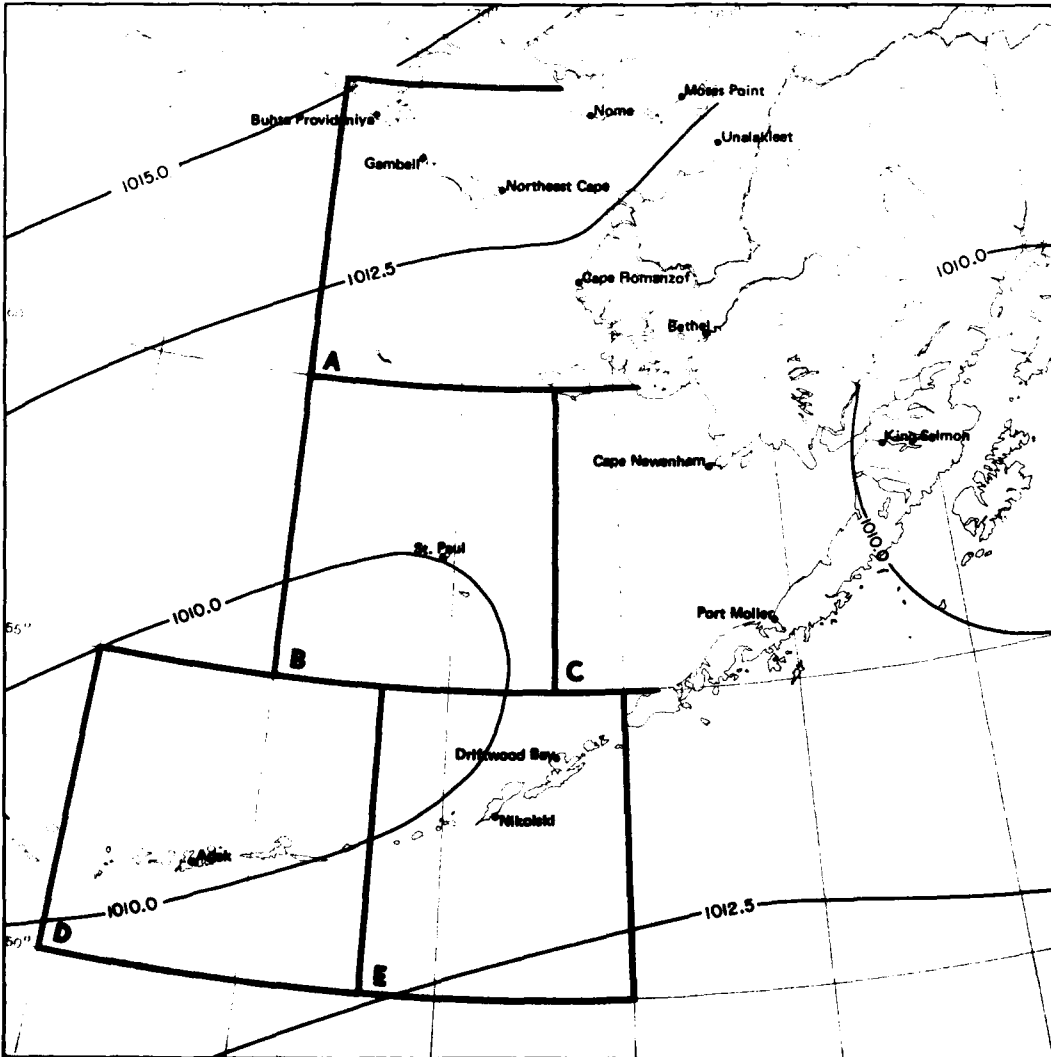
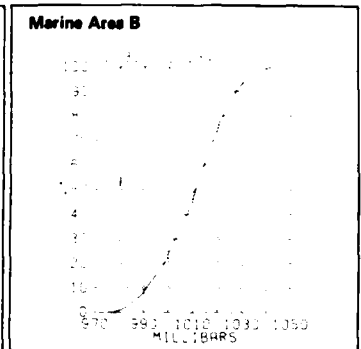
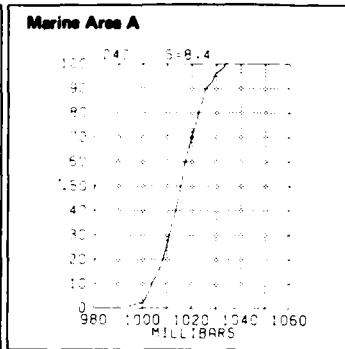
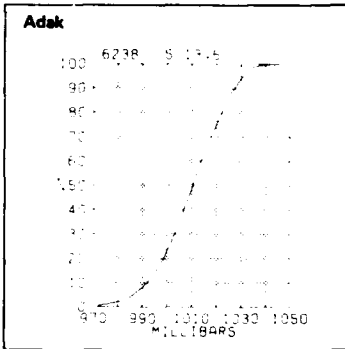
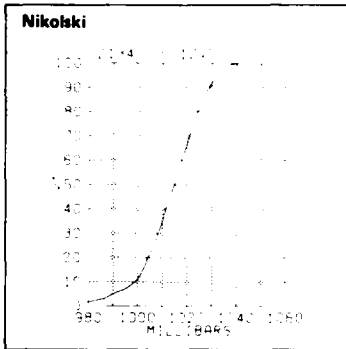
**Driftwood Bay**



**April**

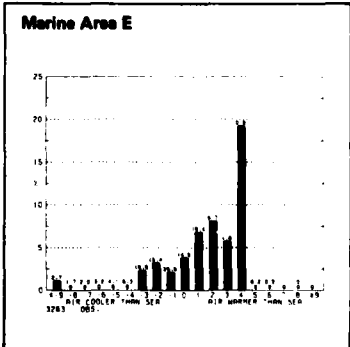
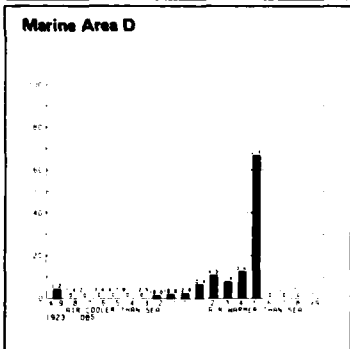
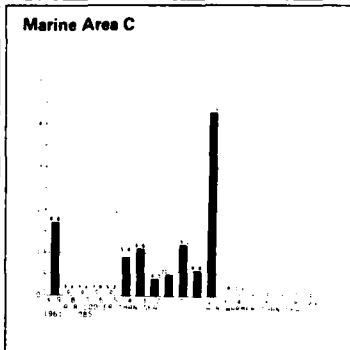
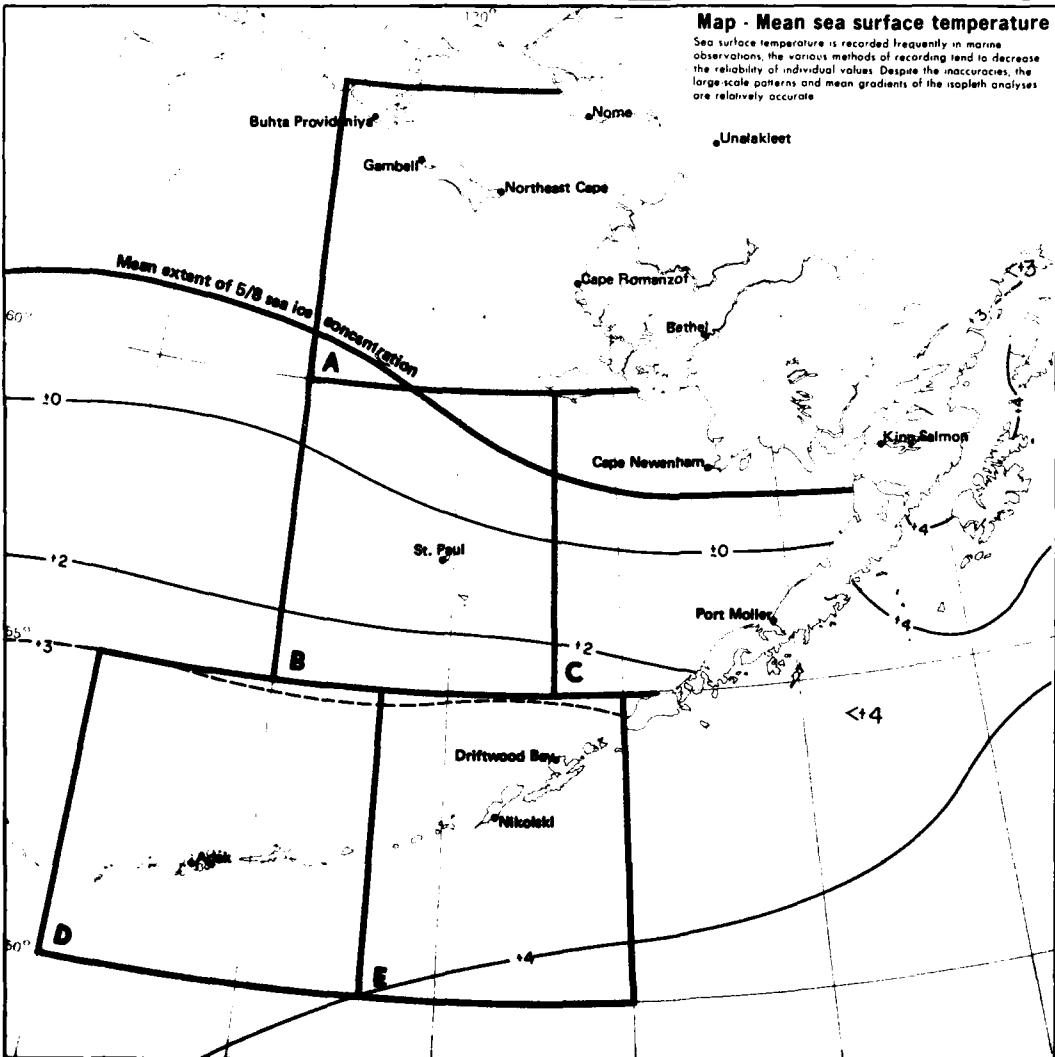
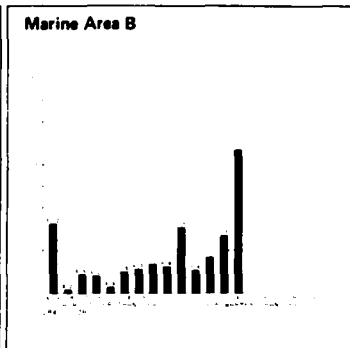
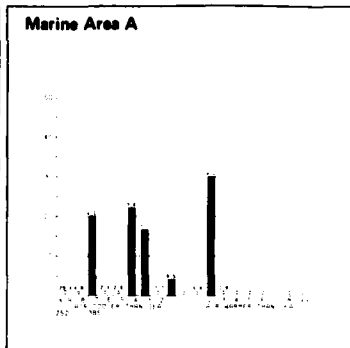
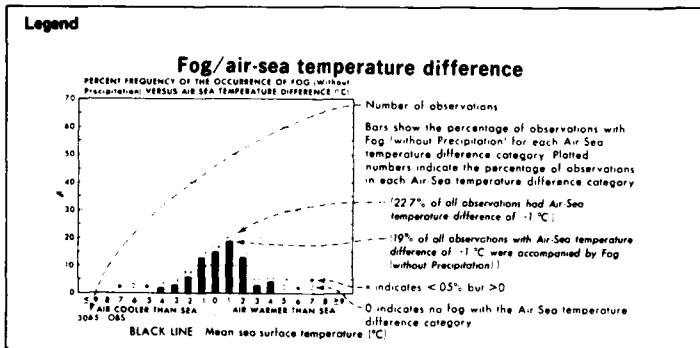
156

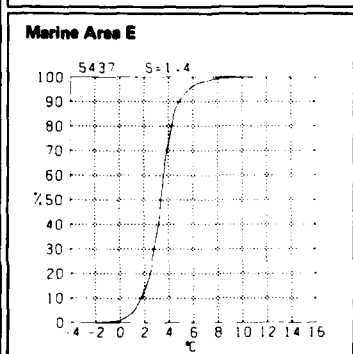
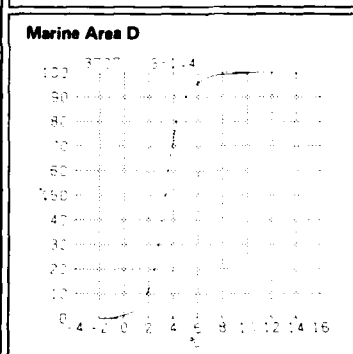
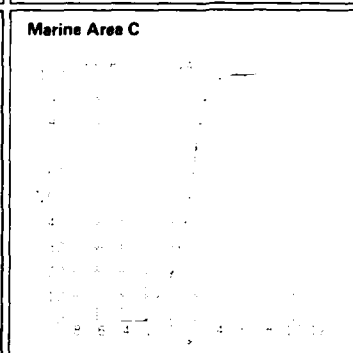
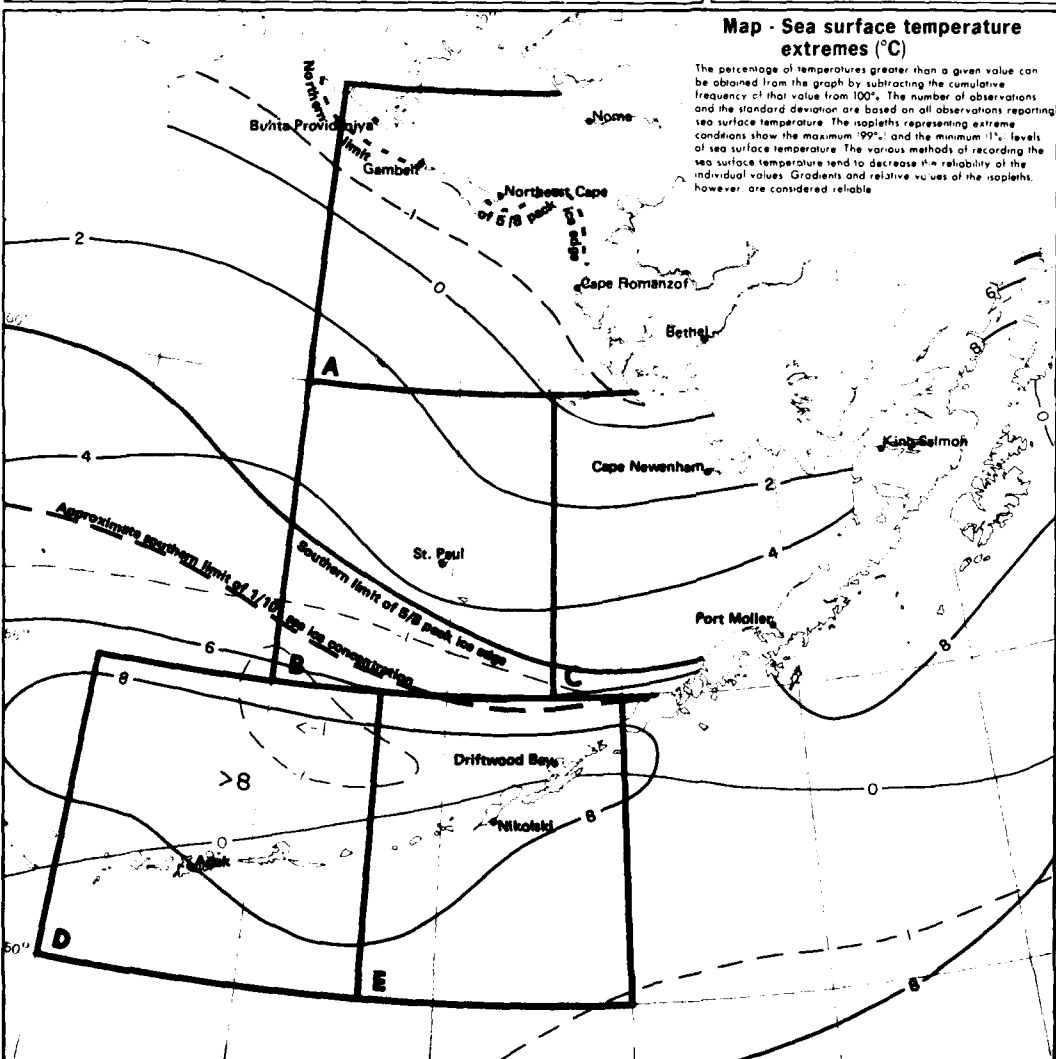
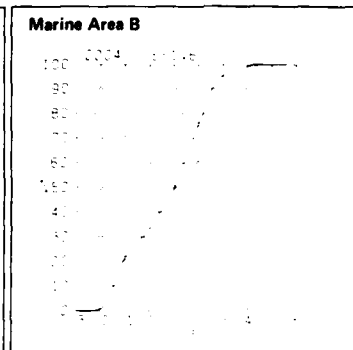
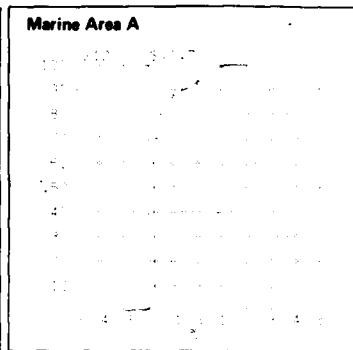
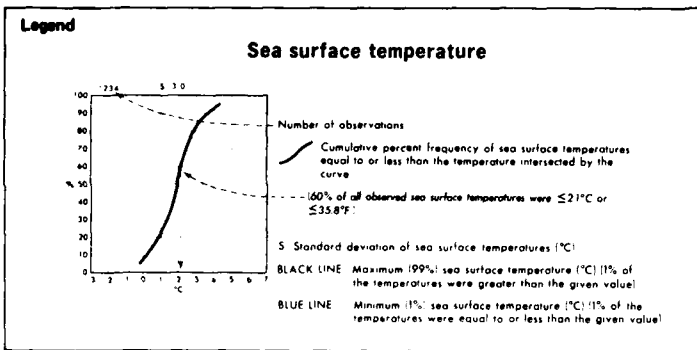
**13 Sea level pressure**



13 Mean sea level pressure

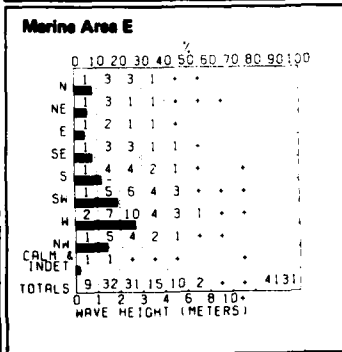
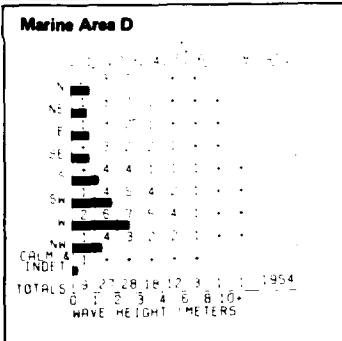
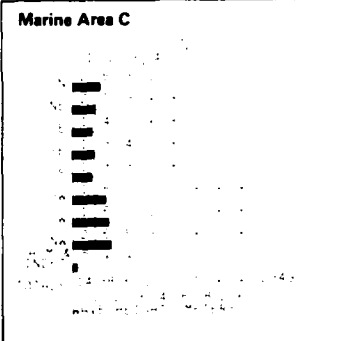
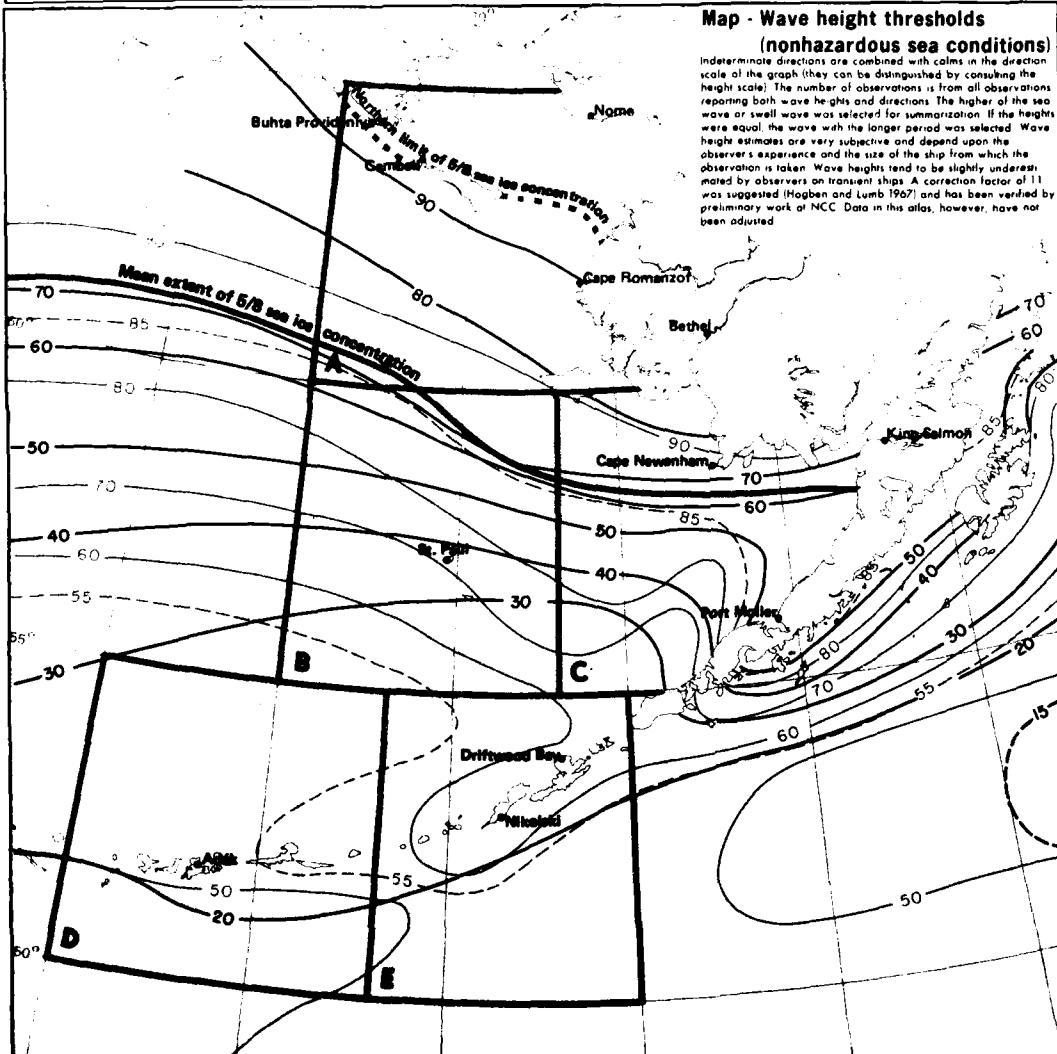
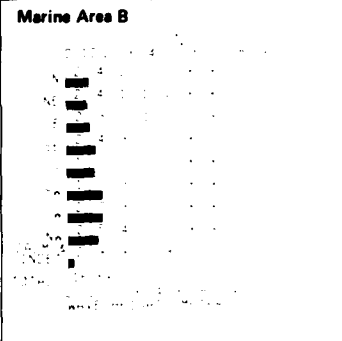
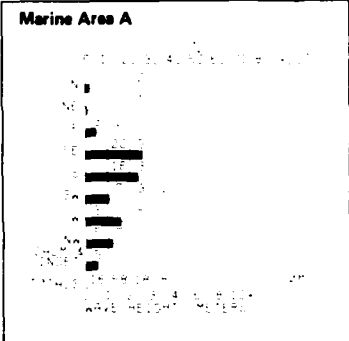
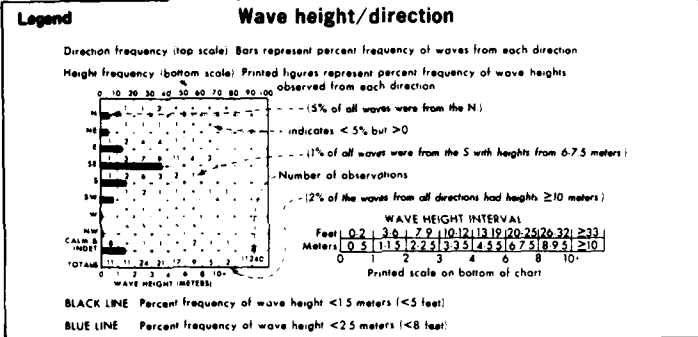


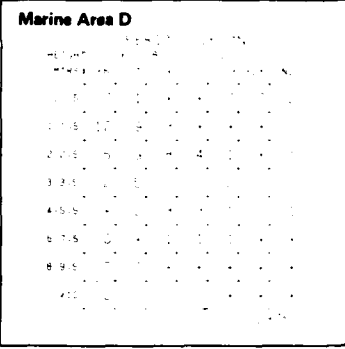
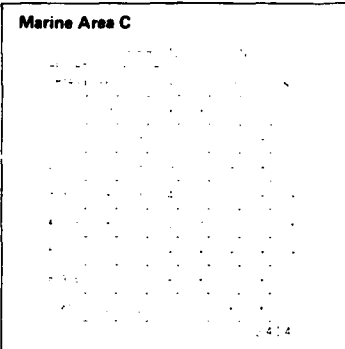
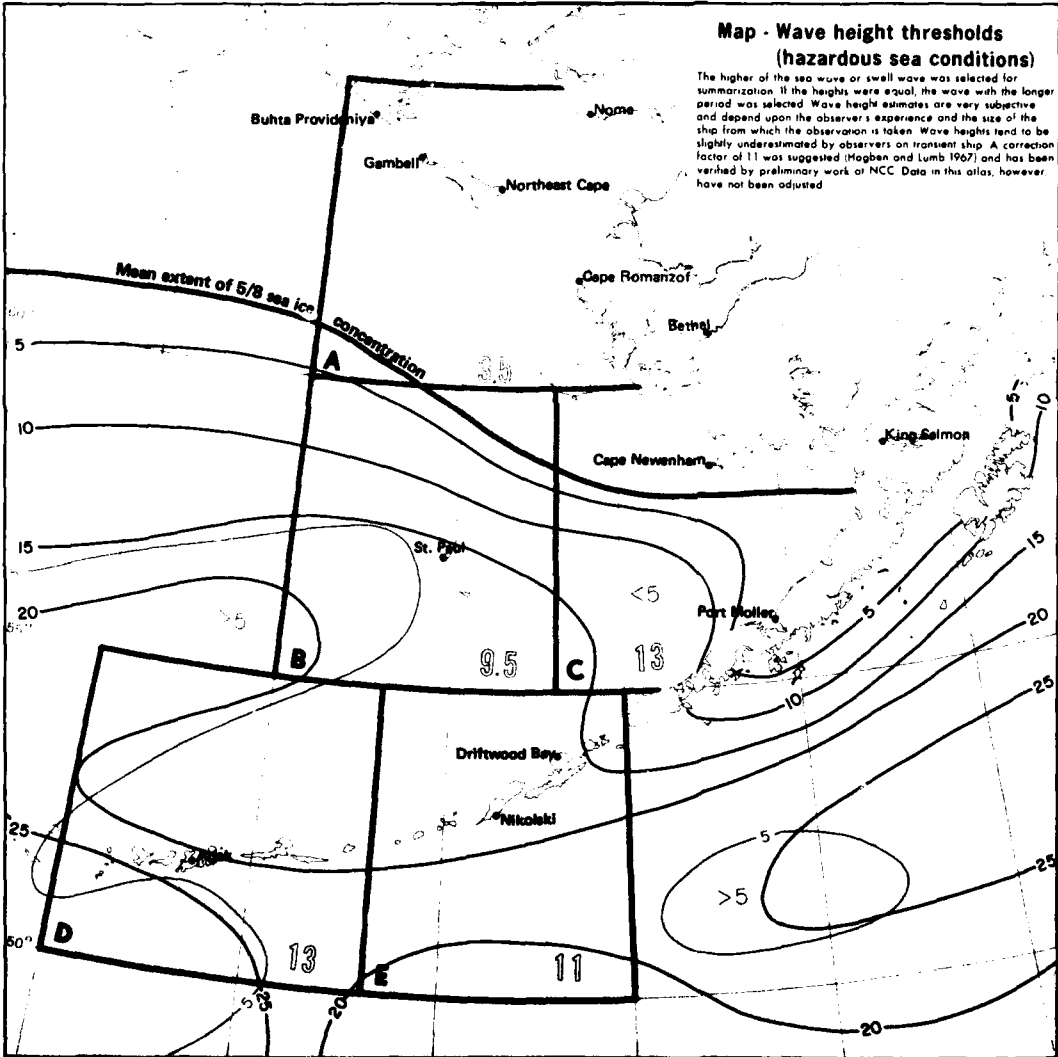
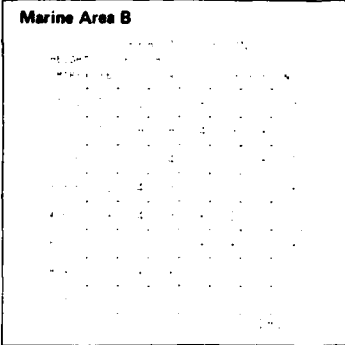
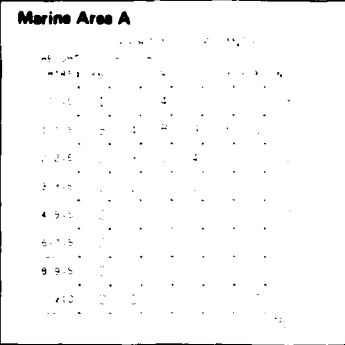
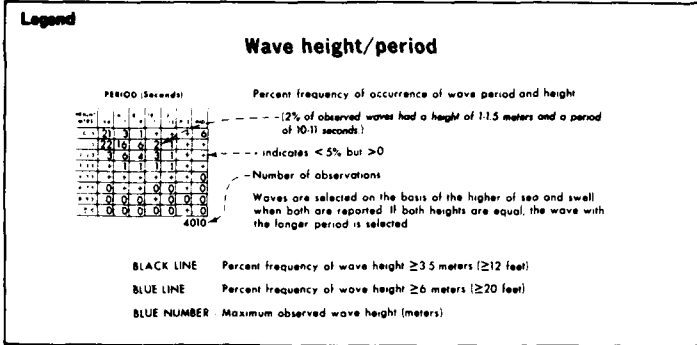




15 Sea surface temperature extremes

April





17 Wave height thresholds (hazardous)

**Legend**

**Low pressure center movement**

12-hour movements of low pressure centers in the 10° X 10° area

Mean speed: Printed figure at the end of motion represents the mean speed of movement in knots toward the indicated direction.

Low pressure centers moving toward the N had a mean speed of 31 knots.

Direction frequency: 8 pts represent percent frequency of 12-hour movements toward the indicated direction. Each circle represents 10.

41% of all 12-hour movements were toward the NE.

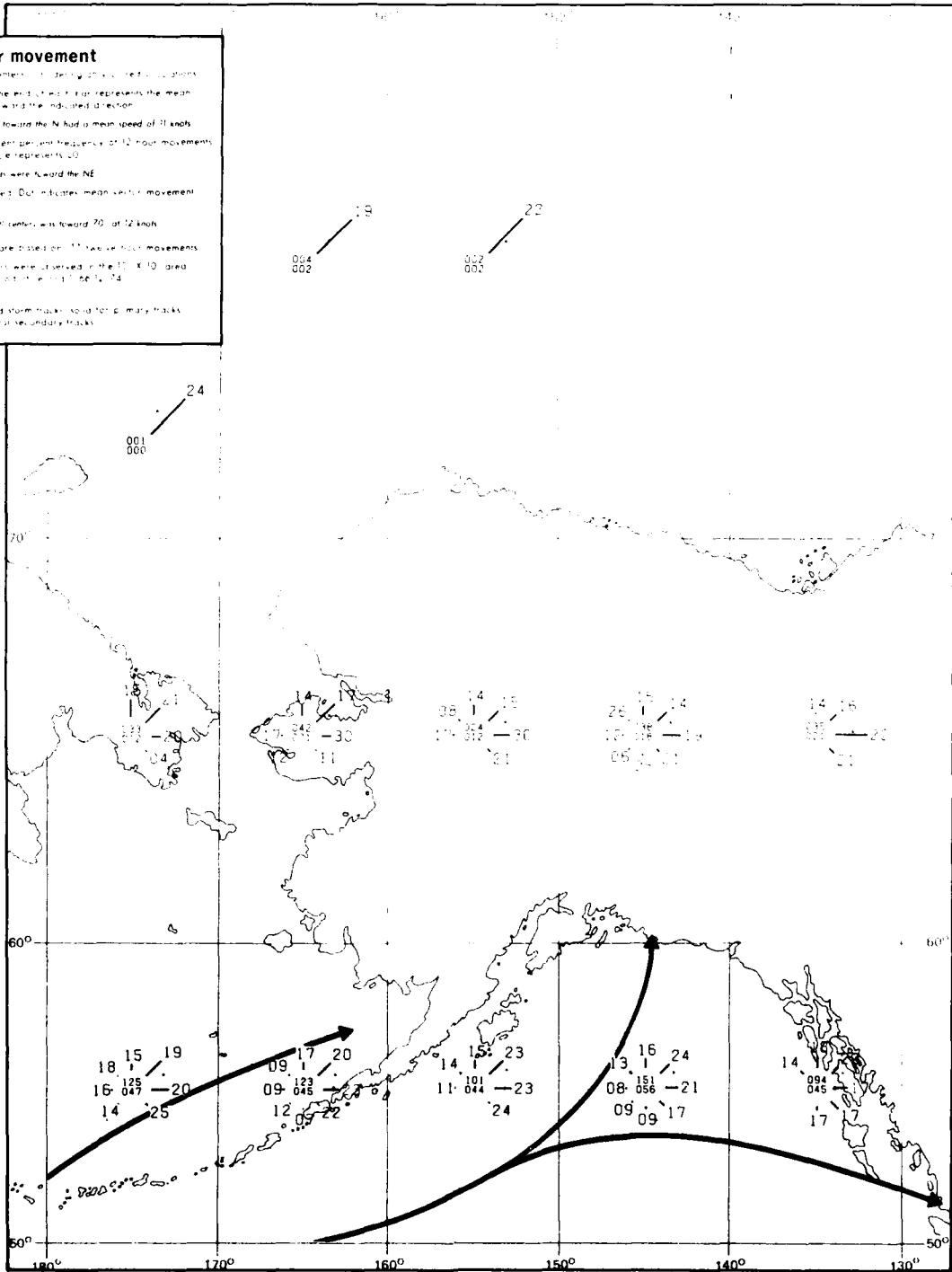
Mean vector movement: Dot indicates mean vector movement. Each circle represents 1 knot.

Mean vector movement of all centers was toward 70° at 12 knots.

Statistics for this table are based on 11 two-day-hour movements.

83 low pressure centers were observed in the 10° X 10° area during the five-day period of analysis (06/14-18).

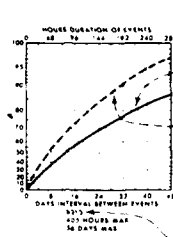
S.A.K. A.S.K.O.A. - Preferred storm tracks (solid for primary tracks, dashed for secondary tracks).



April 18 Low pressure center movement 162

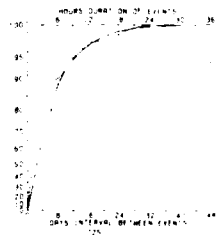
**Legend**

**Persistence of visibility <2 n. mi.**

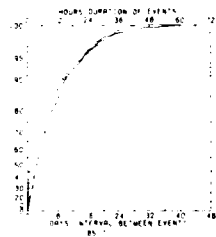


Hours duration of events Days interval between events  
 Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve  
 --- (80% of the events had a duration ≤ 216 hours)  
 Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve  
 --- (88% of the events were followed by another event in 28 days or less)  
 The maximum values of hours duration and/or the days interval will be displayed when the graph limits are exceeded.  
 Durations and intervals for a particular month extend from the time they begin (or the first of the month if already in progress) and are terminated at the actual ending time, regardless of what month that may be.  
 Number of observations  
 Top and bottom scales are variable to allow for variations in the data.

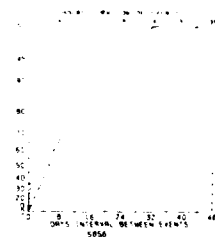
**Adak**



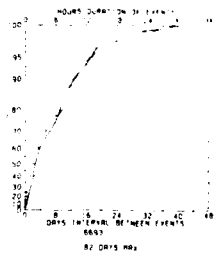
**Nome**



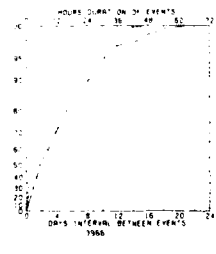
**Moses Point**



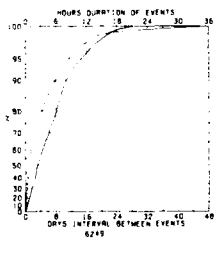
**Unalakleet**



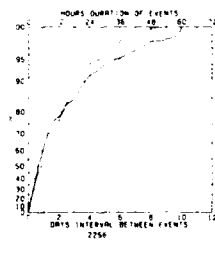
**Cape Romanzof**



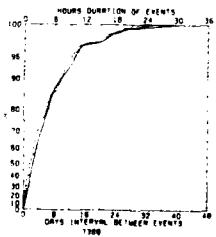
**Bethel**



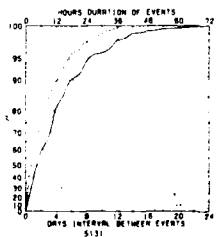
**Nikolski**



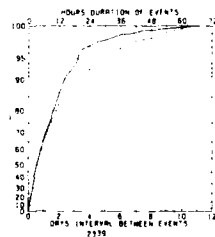
**King Salmon**



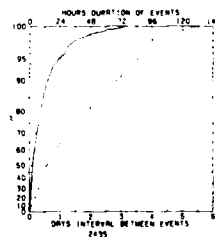
**St. Paul**



**Port Moller**



**Driftwood Bay**

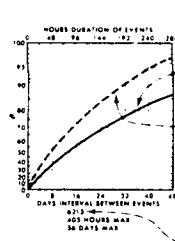


**19 Persistence of visibility <2 n. mi.**

**April**

**Legend**

**Persistence of wind  $\geq 10$  kts.**



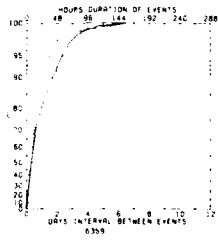
Hours duration of events Days interval between events  
 Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve  
 — (80% of the events had a duration  $\leq 216$  hours)  
 Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve  
 — (88% of the events were followed by another event in 28 days or less)  
 The maximum value(s) of hours duration and/or the days interval will be displayed when the graph limits are exceeded

Durations and intervals for a particular month extend from the time they begin (or the first of the month if already in progress) and are terminated at the actual ending time, regardless of what month that may be

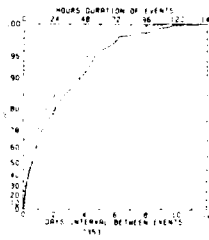
Number of observations

Top and bottom scales are variable to allow for variations in the data

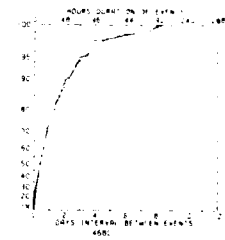
**Adak**



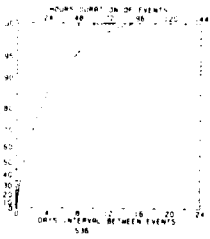
**Nome**



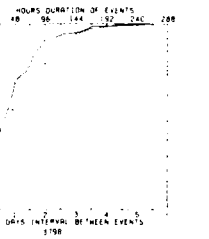
**Moses Point**



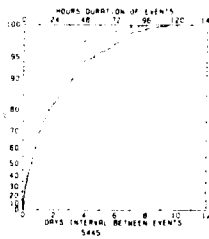
**Unalakleet**



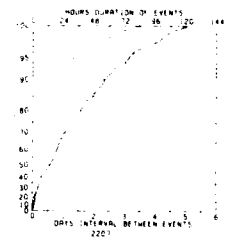
**Cape Romanzof**



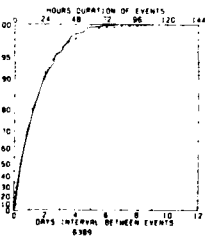
**Bethel**



**Nikolski**



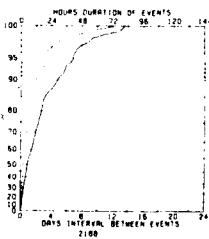
**King Salmon**



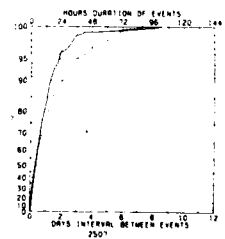
**St. Paul**



**Port Moller**



**Driftwood Bay**

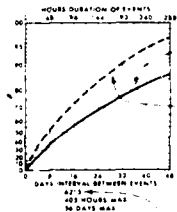


**April**

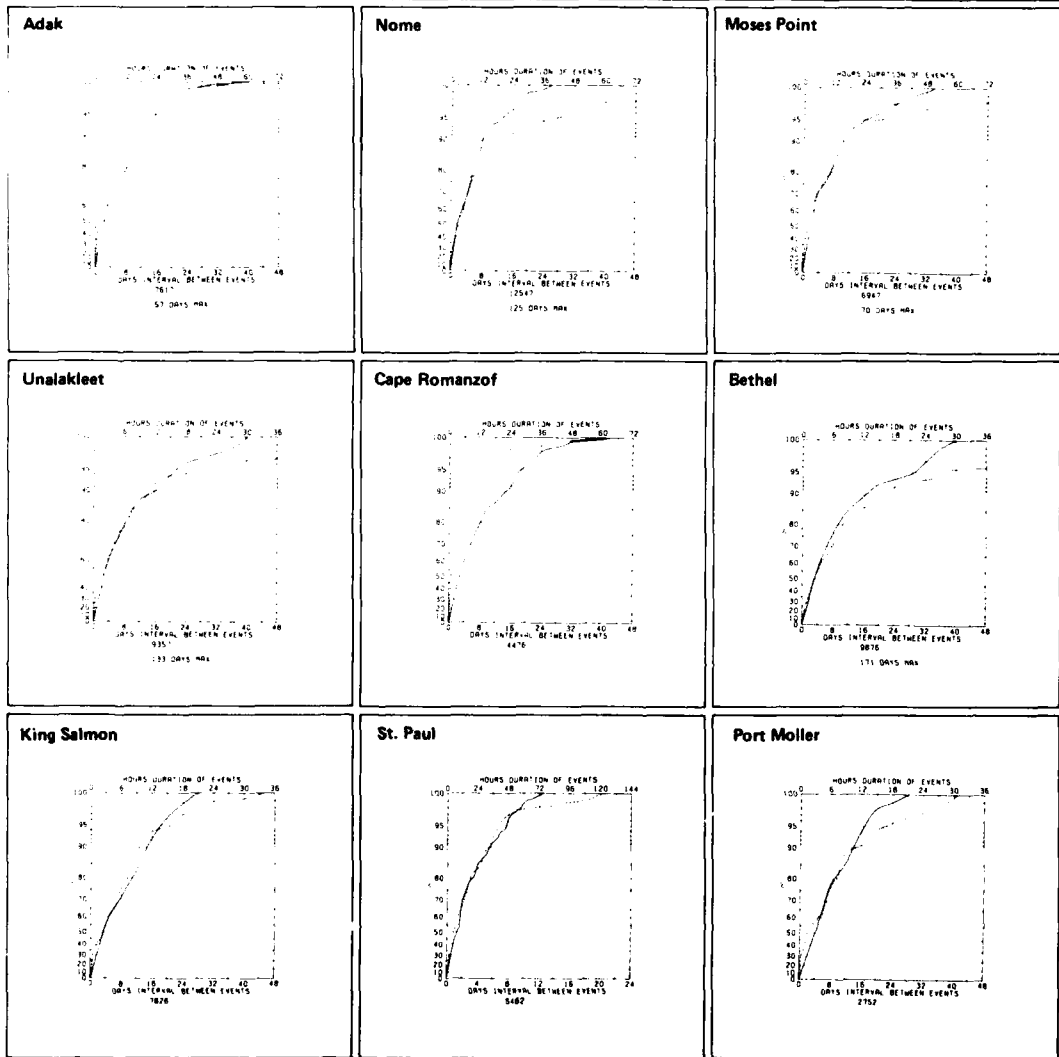
**20 Persistence of wind  $\geq 10$  kts.**

**Legend**

**Persistence of wind  $\geq 20$  kts.**



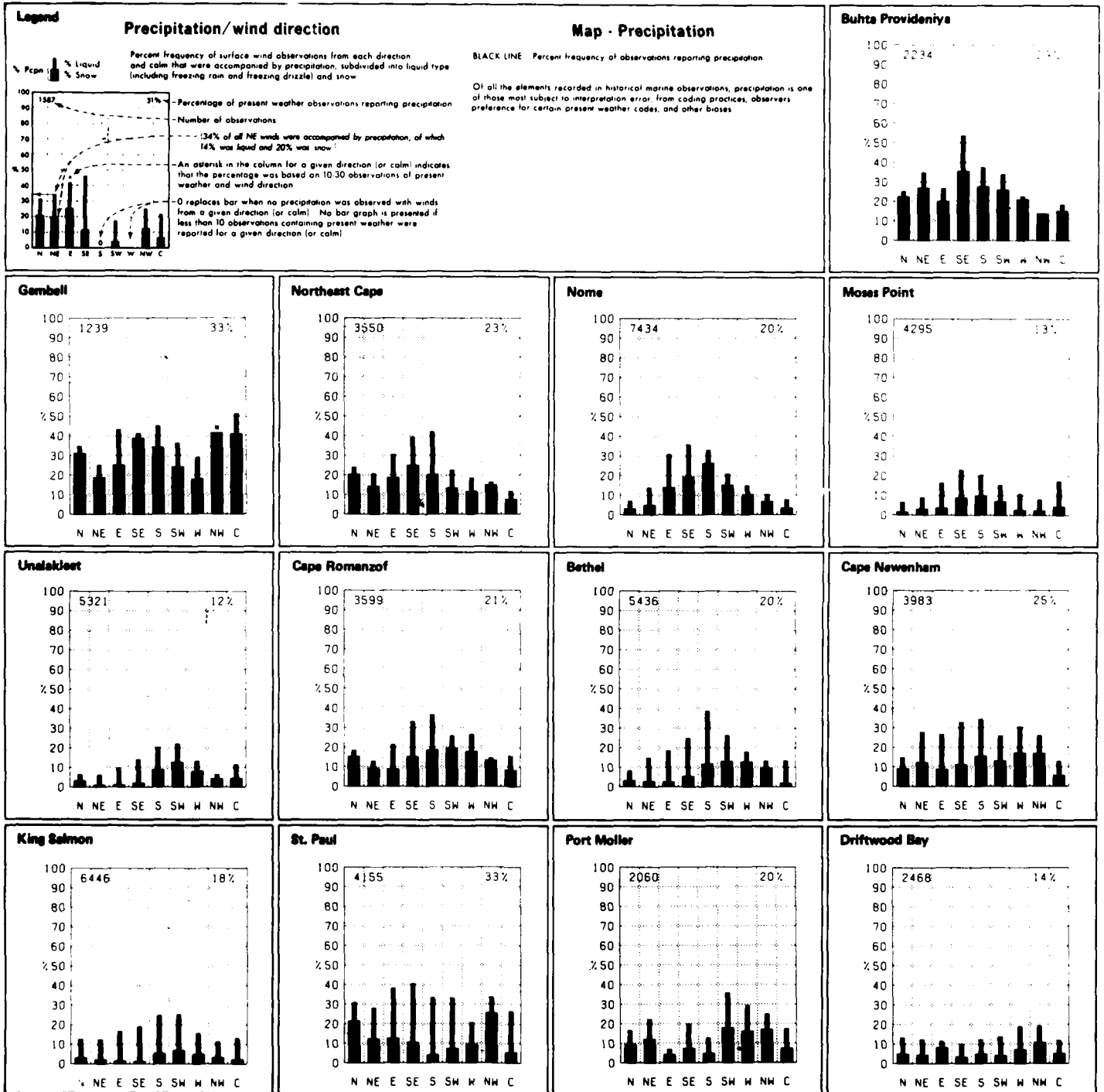
Hours duration of events Days interval between events  
 Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve  
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 Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve  
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 Number of observations  
 Top and bottom scales are variable to allow for variations in the data



**21 Persistence of wind  $\geq 20$  kts.**

**April**

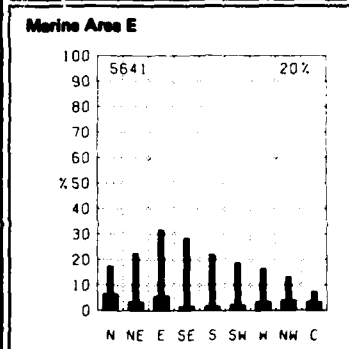
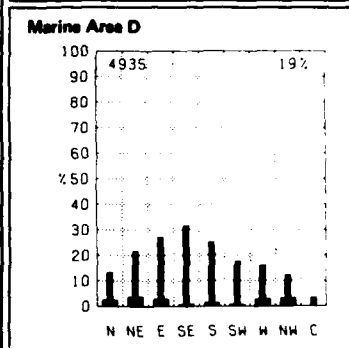
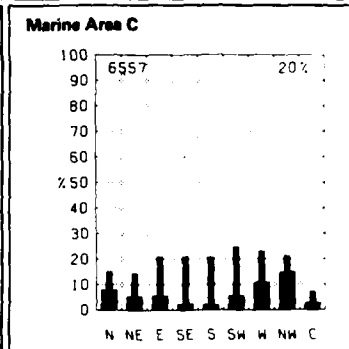
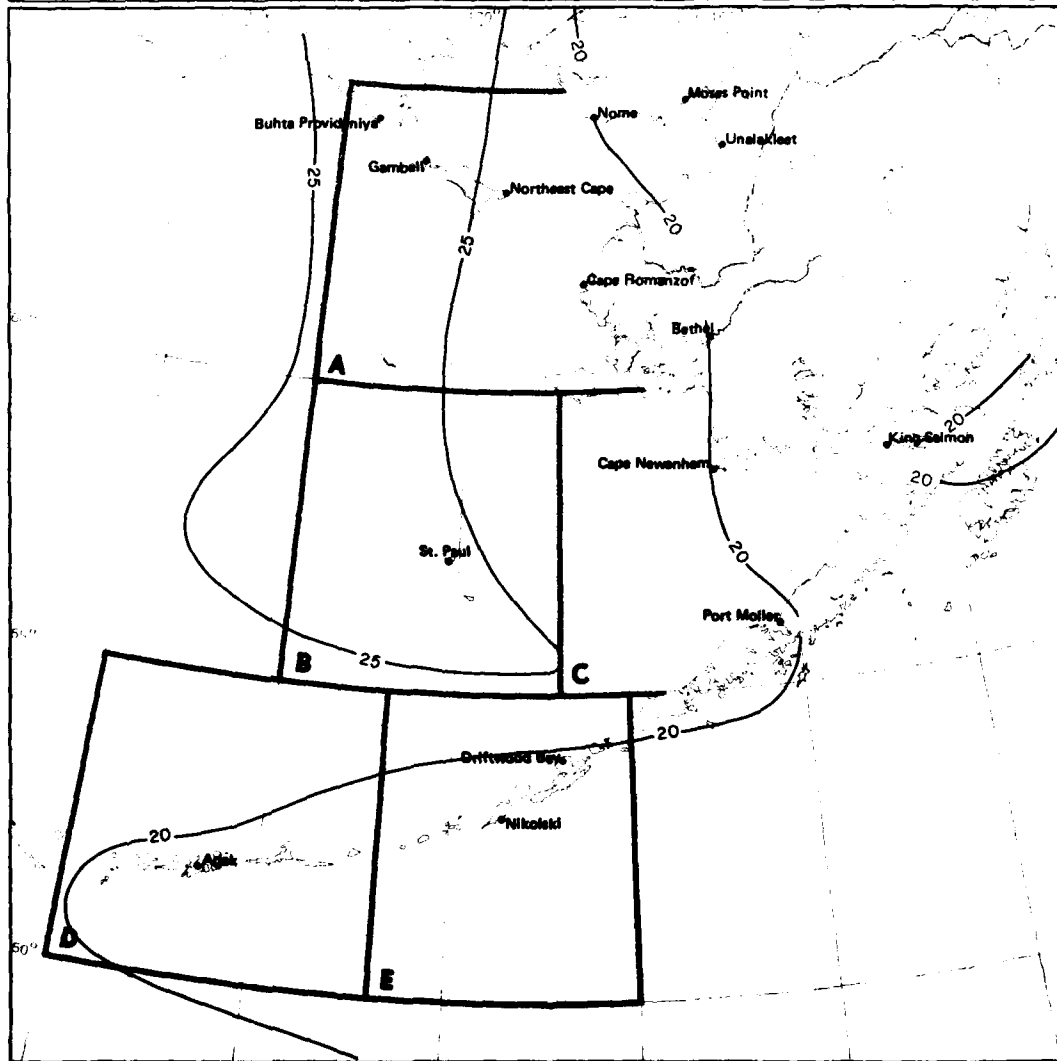
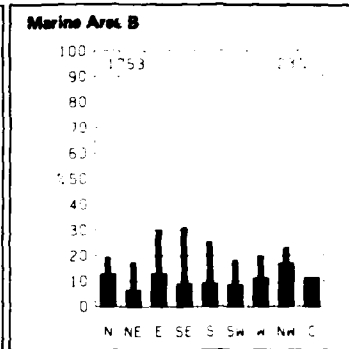
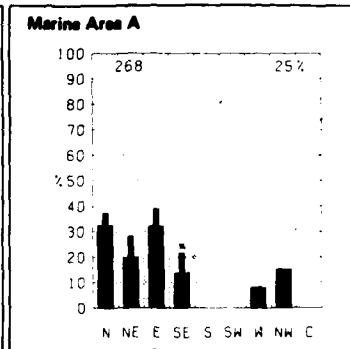
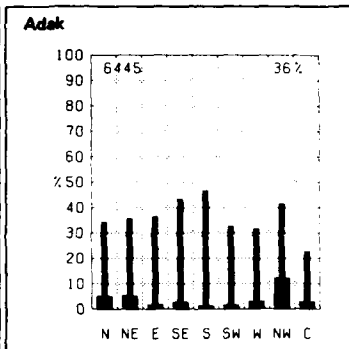
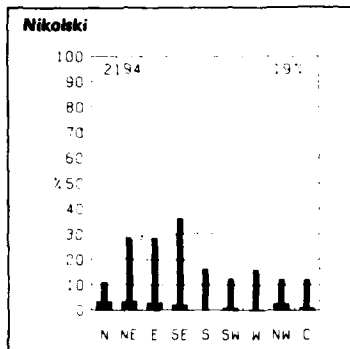




May

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1 Precipitation/wind direction

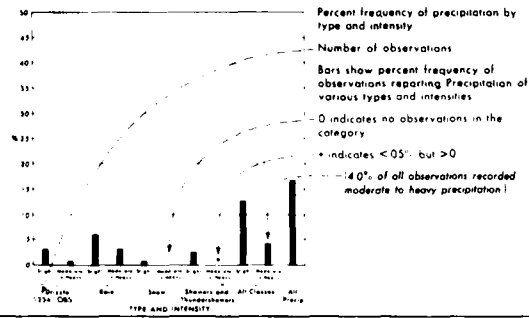


**1 Precipitation**

**May**

**Legend**

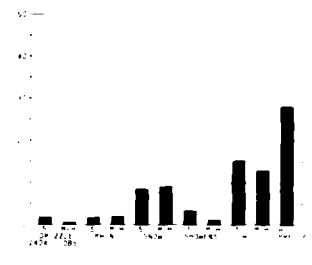
**Precipitation types**



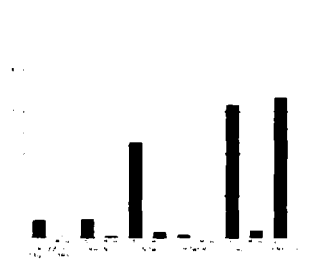
**Map - Snow**

BLACK LINE Percent frequency of precipitation observations reporting snow  
 The percent frequency of observations reporting snow for a given point can be determined by multiplying the percent frequency of observations reporting precipitation (map 1) with that of precipitation observations reporting snow (map 2)

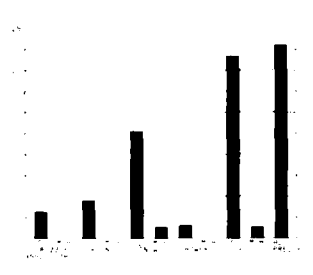
**Buhta Provideniya**



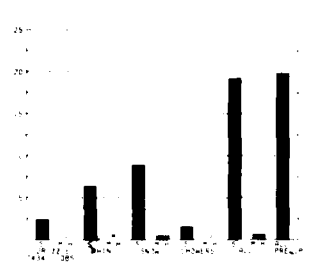
**Gambell**



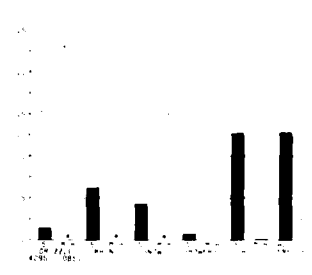
**Northeast Cape**



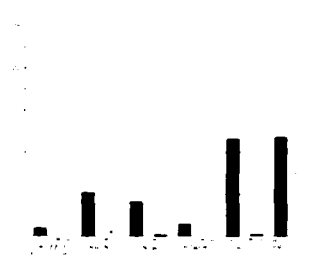
**Name**



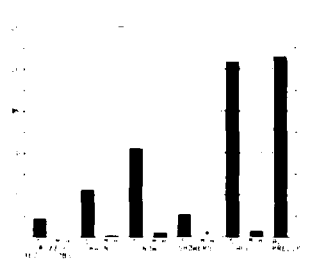
**Moses Point**



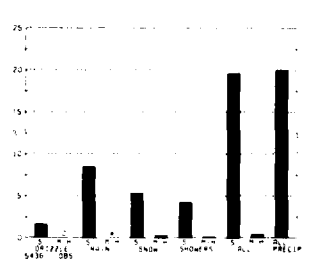
**Unalakleet**



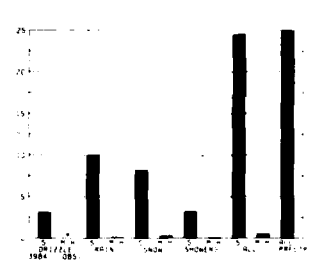
**Cape Romanzof**



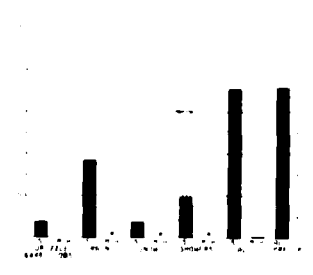
**Bethel**



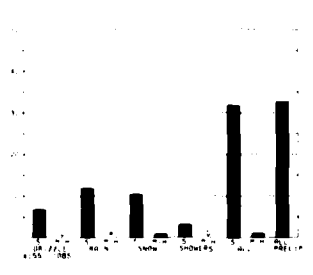
**Cape Newenham**



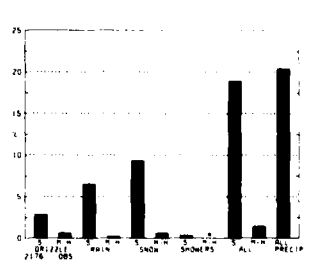
**King Salmon**



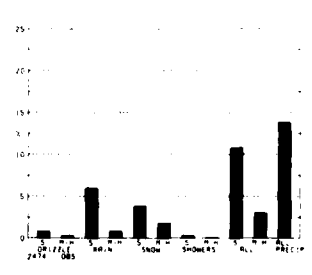
**St. Paul**

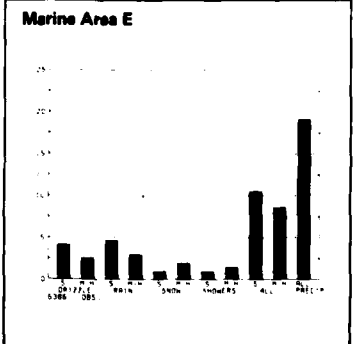
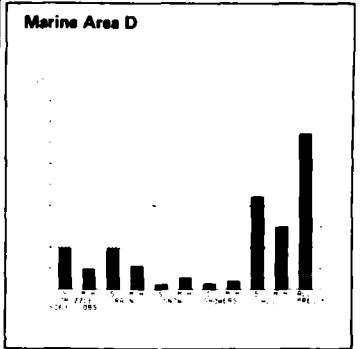
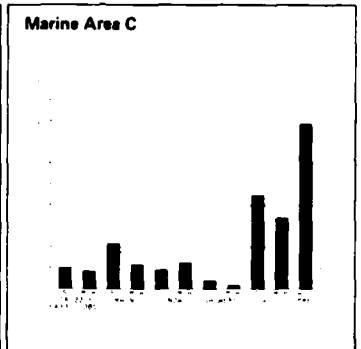
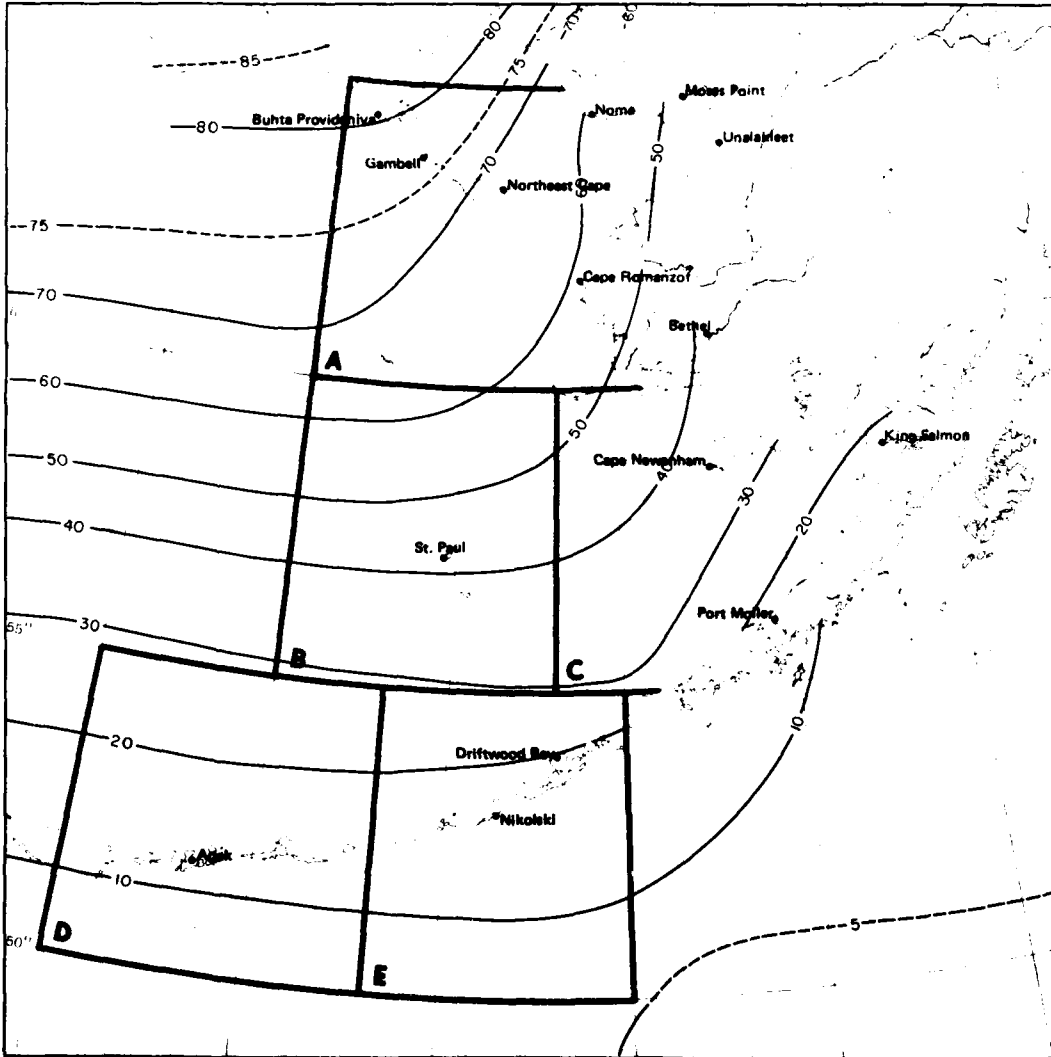
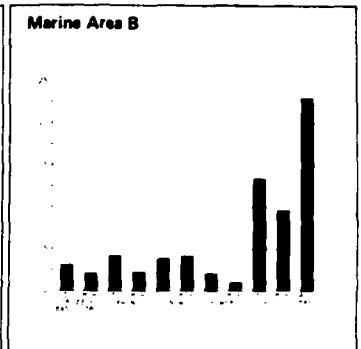
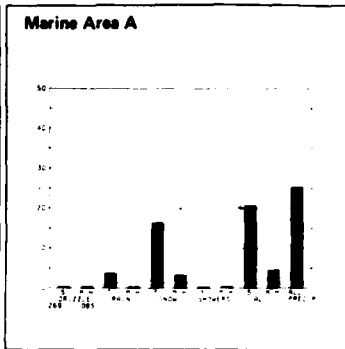
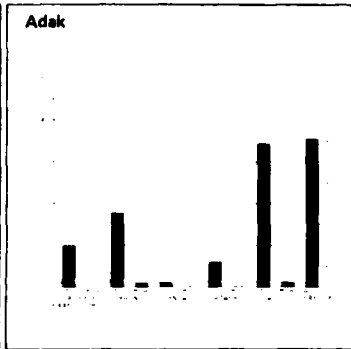
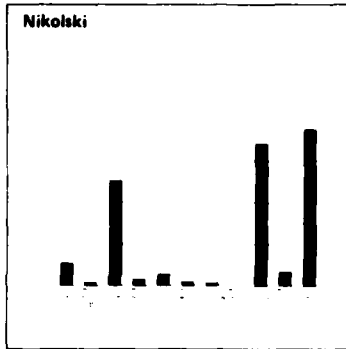


**Port Moller**



**Driftwood Bay**

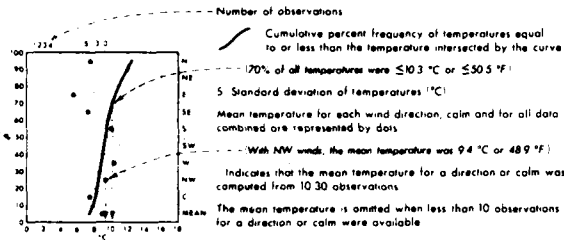




2 Snow

**Legend**

**Air temperature/wind direction**



**Map - Air temperature mean and thresholds**

BLACK LINE Percent frequency of temperature  $\leq 50^{\circ}\text{C}$  ( $\leq 32^{\circ}\text{F}$ )

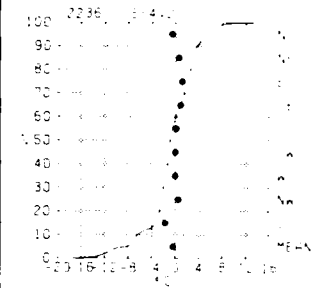
RED LINE Mean air temperature  $^{\circ}\text{C}$

BLUE LINE Percent frequency of wind chill temperature  $\leq 30^{\circ}\text{C}$  ( $\leq 22^{\circ}\text{F}$ )

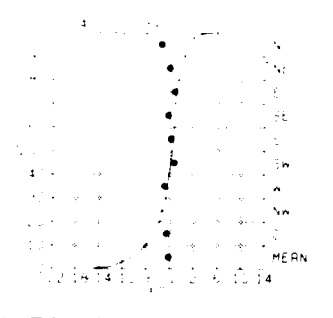
Air temperature readings recorded on transient ships in warm, sunny weather appear biased toward high temperatures, apparently because of improper instrument exposure and ventilation. Despite the inaccuracies, the large-scale patterns and mean gradients of the isopleth analyses are relatively accurate.

The temperature scale of the graph may vary in both range and class interval. The percentage of temperature observations greater than a given value can be obtained by subtracting the cumulative percent frequency of that value from 100%. The number of observations and the standard deviation plus the plotted points on the graphs are based on those observations reporting both temperature and wind direction. The cumulative curve is based on all observations reporting temperature with or without wind direction.

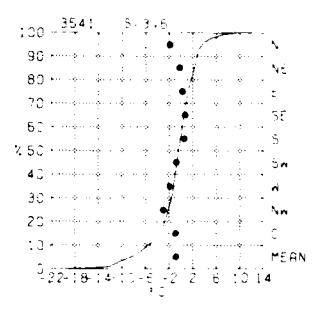
**Buhta Provideniya**



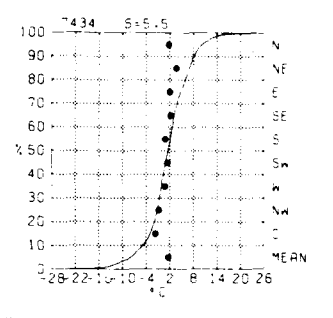
**Gambell**



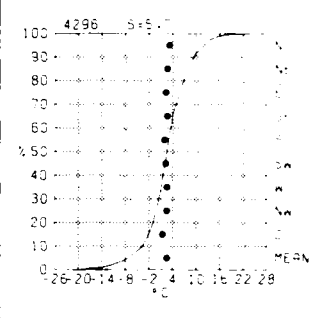
**Northeast Cape**



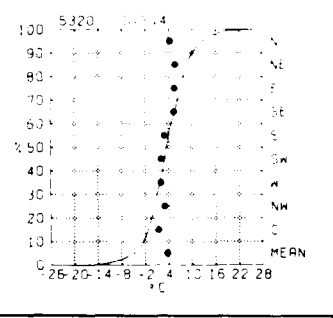
**Nome**



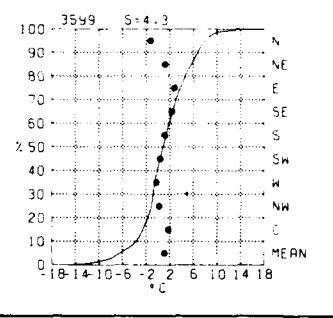
**Moses Point**



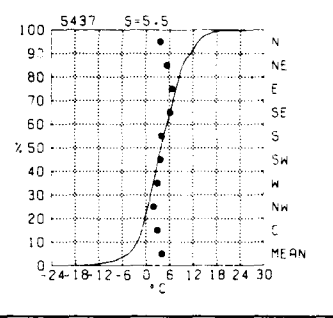
**Unalakleet**



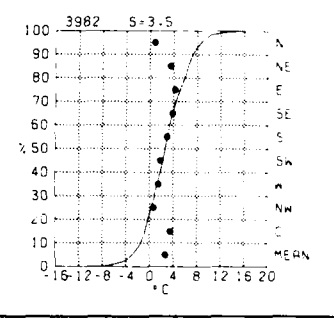
**Cape Romanzof**



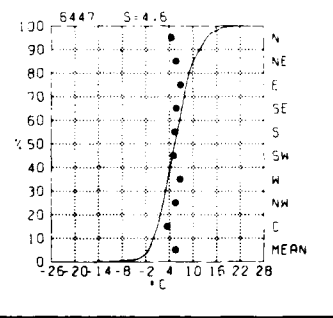
**Bethel**



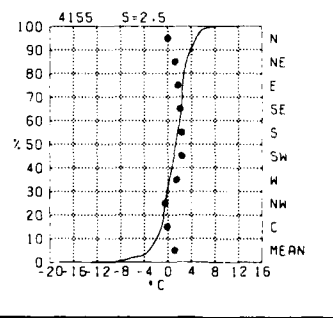
**Cape Newenham**



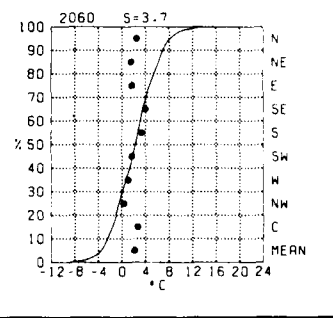
**King Salmon**



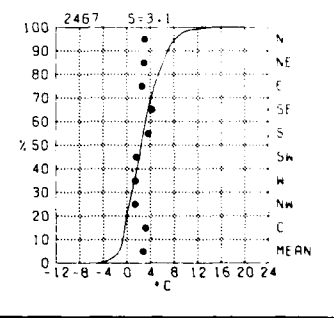
**St. Paul**



**Port Moller**

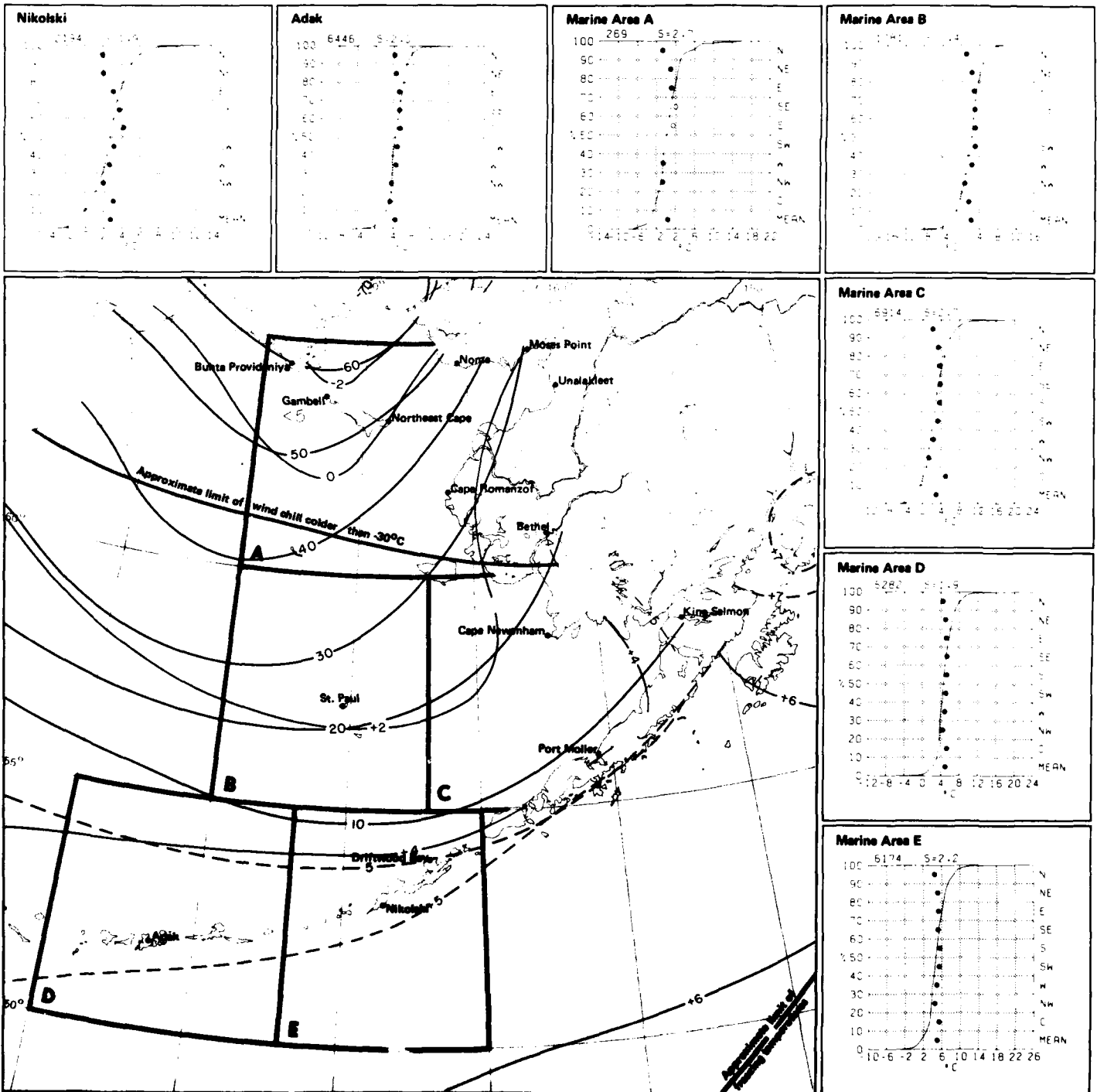


**Driftwood Bay**



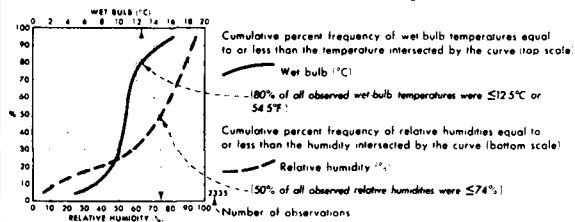
May

3 Air temperature/wind direction



**Legend**

**Wet bulb/relative humidity**



**Map - Mean dew point temperature**

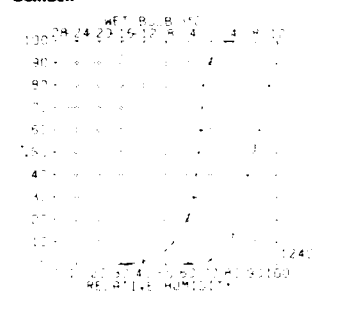
BLACK LINE Mean dew point temperature (°C)

The observation count of the graph reflects those observations reporting both air and wet bulb temperatures; both are required in computing the relative humidity. The percentage of observations of either element greater than a given value can be obtained by subtracting the cumulative percent frequency of that value from 100%.

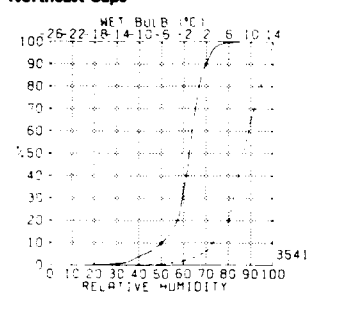
**Buhta Provideniya**

Insufficient Data

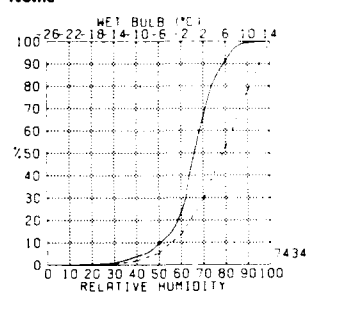
**Gambell**



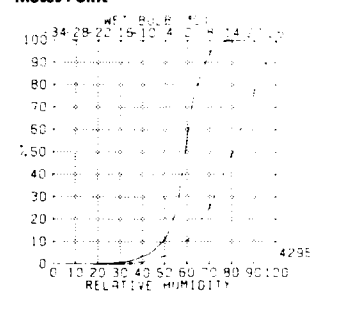
**Northeast Cape**



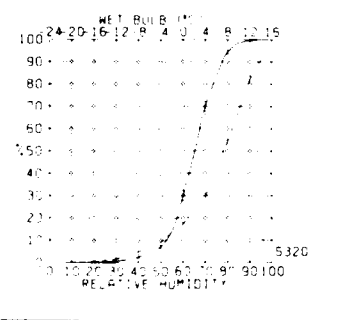
**Nome**



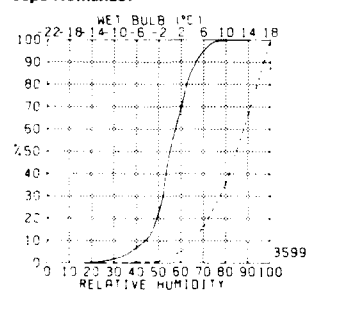
**Moses Point**



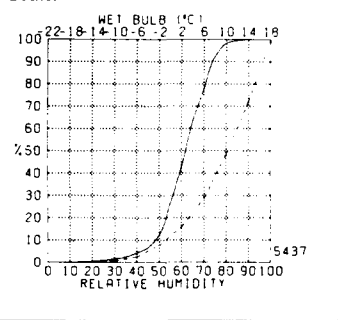
**Unalakleet**



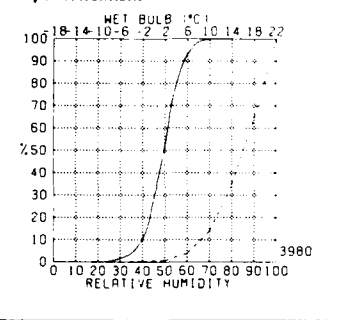
**Cape Romanzof**



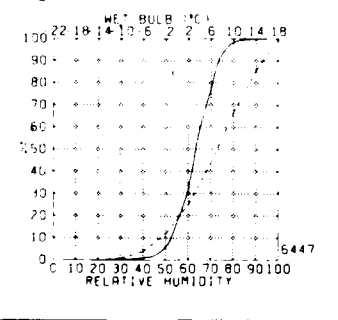
**Bethel**



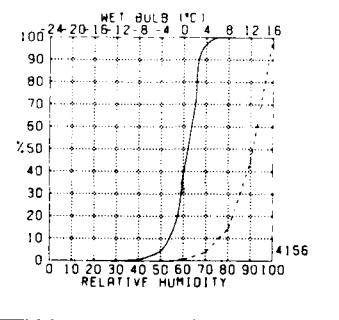
**Cape Newenham**



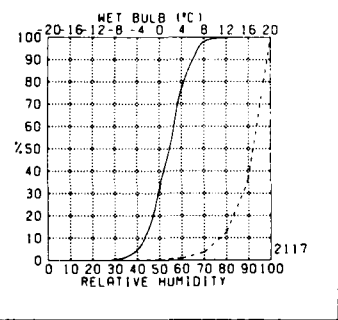
**King Salmon**



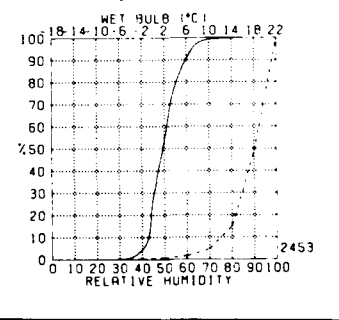
**St. Paul**



**Port Moller**

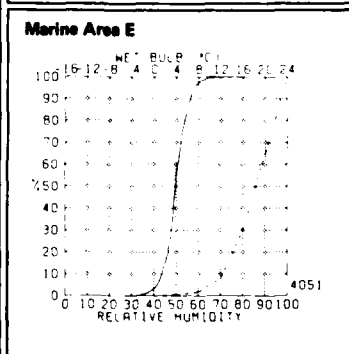
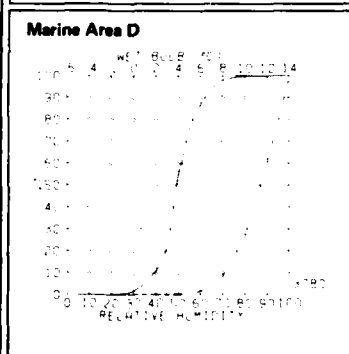
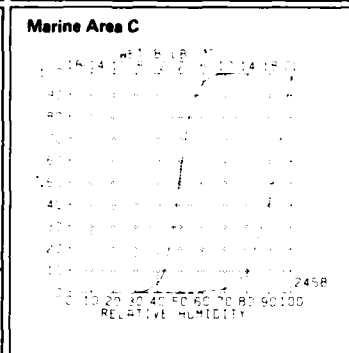
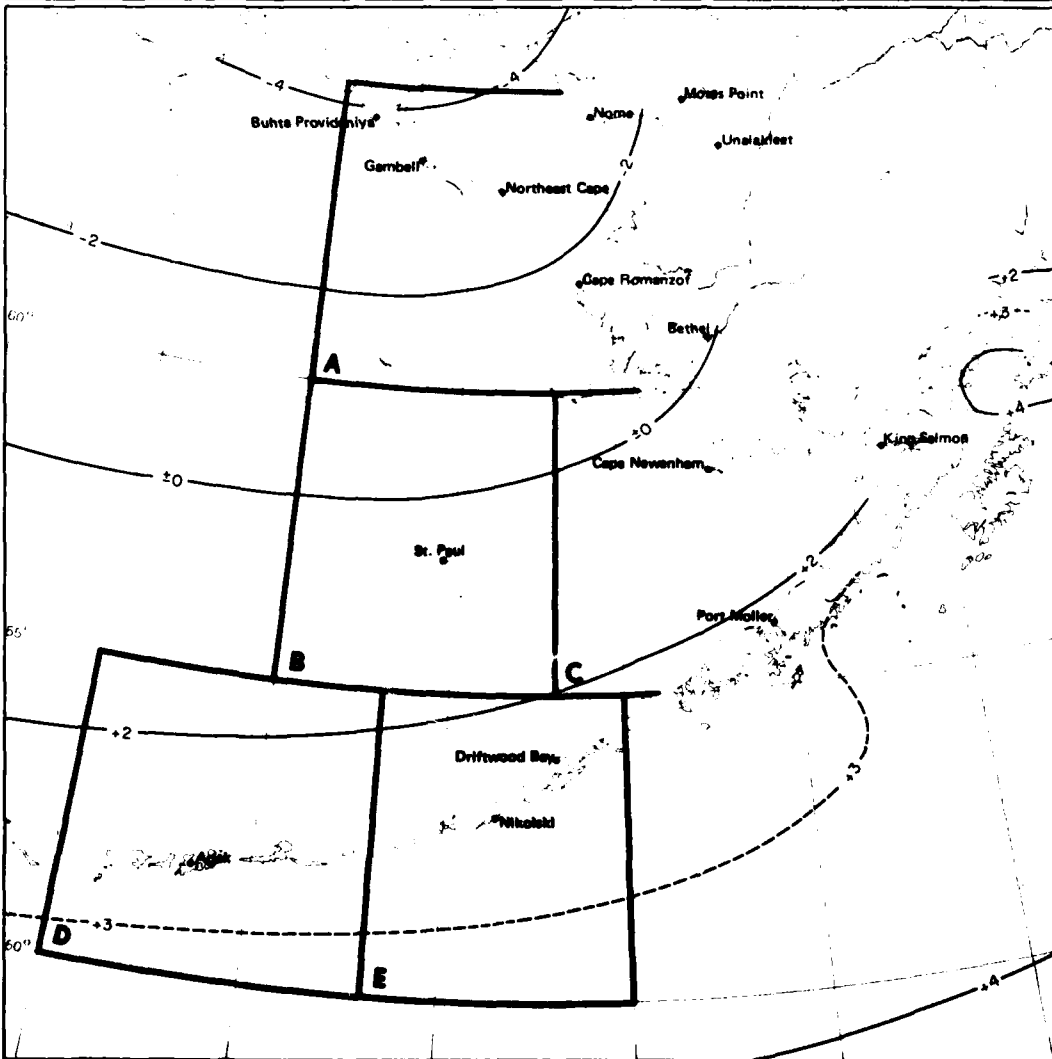
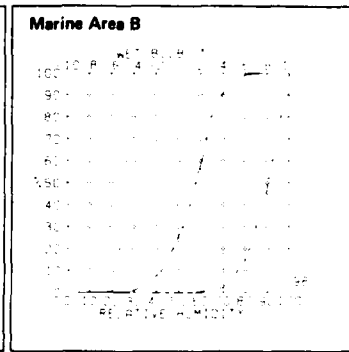
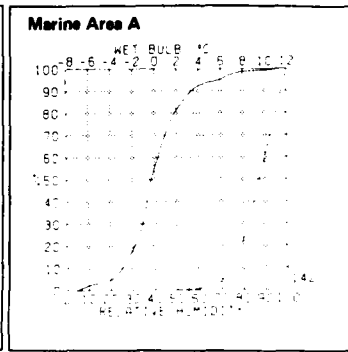
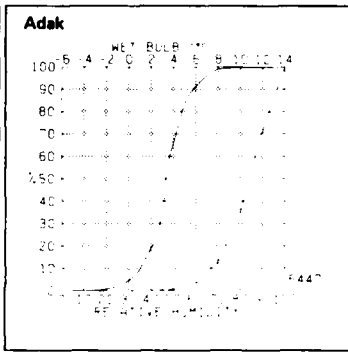
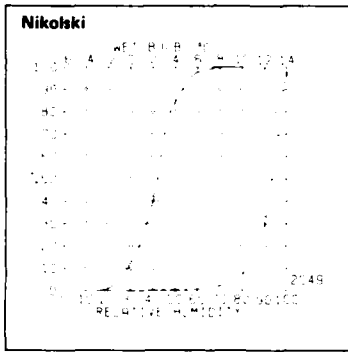


**Driftwood Bay**



May

4 Wet bulb/relative humidity



**4 Mean dew point temperature**

**May**



**Legend**

**Air temperature/wind speed**

Temp (°C)	0-3	4-10	11-21	22-33	≥ 34
26.27	0	0	0	0	0
24.25	0	0	0	0	0
22.23	0	0	0	0	0
20.21	0	0	0	0	0
18.19	0	0	0	0	0
16.17	0	0	0	0	0
14.15	0	0	0	0	0
12.13	0	0	0	0	0
10.11	0	0	0	0	0
8.9	0	0	0	0	0
6.7	0	0	0	0	0
4.5	0	0	0	0	0
2.3	0	0	0	0	0
0.1	0	0	0	0	0
-2.1	0	0	0	0	0
-4.3	0	0	0	0	0
-6.5	0	0	0	0	0
-8.7	0	0	0	0	0
-10.9	0	0	0	0	0
-12.11	0	0	0	0	0
Σ	0	0	0	0	0
3550					

Percent frequency of simultaneous occurrence of specified temperature (°C) and wind speed (knots)  
 --- 1% of all observations reported temperature 2-3°C simultaneously with wind speed of 22-33 kts.  
 --- Indicates < 5% but > 0  
 --- Number of observations

**Map - Air temperature extremes (°C)**

BLACK LINE: Maximum (99%) air temperature (1% of temperatures were greater than the given value)  
 BLUE LINE: Minimum (1%) air temperature (1% of temperatures were equal to or less than the given value)

The graph can be used to determine the extent of human discomfort from the combined effects of extreme heat or cold and winds ~ to estimate the likelihood of superstructure icing, long potential increases as the air temperature drops below freezing and the winds increase above 10 knots (12 mph) and may become quite severe with temperatures equal to or less than -9°C (16°F) and winds equal to or greater than 34 knots (39 mph)

**Buhta Provideniya**

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
24.25	0	0	0	0	0
22.23	0	0	0	0	0
20.21	0	0	0	0	0
18.19	0	0	0	0	0
16.17	0	0	0	0	0
14.15	0	0	0	0	0
12.13	0	0	0	0	0
10.11	0	0	0	0	0
8.9	0	0	0	0	0
6.7	0	0	0	0	0
4.5	0	0	0	0	0
2.3	0	0	0	0	0
0.1	0	0	0	0	0
-2.1	0	0	0	0	0
-4.3	0	0	0	0	0
-6.5	0	0	0	0	0
-8.7	0	0	0	0	0
Σ	0	0	0	0	0
2735					

**Gambell**

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
6.7	0	0	0	0	0
4.5	0	0	0	0	0
2.3	0	2	2	0	0
0.1	1	5	11	1	0
-2.1	2	11	21	7	0
-4.3	1	5	10	5	0
-6.5	1	1	4	0	0
-8.7	0	1	3	0	0
-10.9	0	1	1	0	0
-12.11	0	0	0	0	0
Σ	0	1	0	0	0
1240					

**Northeast Cape**

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
10.11	0	0	0	0	0
8.9	0	0	0	0	0
6.7	1	0	0	0	0
4.5	1	2	1	0	0
2.3	4	8	5	1	0
0.1	5	13	9	2	0
-2.1	5	11	8	1	0
-4.3	3	5	3	0	0
-6.5	1	2	1	0	0
-8.7	1	1	1	0	0
Σ	1	2	2	0	0
3541					

**Nome**

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
24.25	0	0	0	0	0
22.23	0	0	0	0	0
20.21	0	0	0	0	0
18.19	0	0	0	0	0
16.17	0	0	0	0	0
14.15	0	0	0	0	0
12.13	0	1	1	0	0
10.11	0	1	1	0	0
8.9	0	3	2	0	0
6.7	1	5	4	0	0
Σ	14	40	22	2	0
7434					

**Moses Point**

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
24.25	0	0	0	0	0
22.23	0	0	0	0	0
20.21	0	0	0	0	0
18.19	0	0	0	0	0
16.17	0	0	0	0	0
14.15	0	1	1	0	0
12.13	1	1	1	0	0
10.11	1	2	2	0	0
8.9	1	3	3	0	0
6.7	2	6	3	0	0
Σ	12	37	22	1	0
4296					

**Unalakleet**

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
26.27	0	0	0	0	0
24.25	0	0	0	0	0
22.23	0	0	0	0	0
20.21	0	0	0	0	0
18.19	0	0	0	0	0
16.17	0	0	0	0	0
14.15	0	1	1	0	0
12.13	0	2	2	0	0
10.11	0	3	2	0	0
8.9	1	5	3	0	0
6.7	14	43	21	1	0
Σ	14	43	21	1	0
5320					

**Cape Romanzof**

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
16.17	0	0	0	0	0
14.15	0	0	0	0	0
12.13	0	0	0	0	0
10.11	0	1	1	0	0
8.9	1	2	1	0	0
6.7	2	5	3	0	0
4.5	2	4	4	0	0
2.3	4	6	7	1	0
0.1	3	7	9	2	0
-2.1	4	6	7	1	0
Σ	2	6	5	2	0
3599					

**Bethel**

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
26.27	0	0	0	0	0
24.25	0	0	0	0	0
22.23	0	0	0	0	0
20.21	0	0	0	0	0
18.19	0	0	0	0	0
16.17	0	1	1	0	0
14.15	0	1	1	0	0
12.13	0	3	2	0	0
10.11	0	3	2	0	0
8.9	1	6	4	0	0
Σ	5	43	24	2	0
5437					

**Cape Newenham**

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
14.15	0	0	0	0	0
12.13	0	0	0	0	0
10.11	1	1	1	0	0
8.9	2	3	1	0	0
6.7	5	5	4	0	0
4.5	4	5	6	1	0
2.3	7	10	8	1	0
0.1	4	7	6	0	0
-2.1	3	4	4	0	0
-4.3	1	1	2	0	0
Σ	5	0	1	0	0
3982					

**King Salmon**

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
22.23	0	0	0	0	0
20.21	0	0	0	0	0
18.19	0	0	0	0	0
16.17	0	1	1	0	0
14.15	0	1	1	0	0
12.13	0	3	2	0	0
10.11	0	3	3	1	0
8.9	1	6	6	1	0
6.7	2	9	7	1	0
4.5	2	8	5	1	0
Σ	7	19	8	0	0
6447					

**St. Paul**

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
8.9	0	0	0	0	0
6.7	0	1	1	0	0
4.5	0	3	7	1	0
2.3	0	10	22	4	0
0.1	1	8	14	3	0
-2.1	0	5	8	3	0
-4.3	0	1	2	1	0
-6.5	0	0	0	0	0
-8.7	0	0	1	0	0
-10.9	0	0	0	0	0
Σ	11	0	0	0	0
4155					

**Port Moller**

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
18.19	0	0	0	0	0
16.17	0	0	0	0	0
14.15	0	0	0	0	0
12.13	0	0	0	0	0
10.11	0	1	0	0	0
8.9	1	3	1	0	0
6.7	4	6	3	0	0
4.5	4	7	5	0	0
2.3	7	12	4	0	0
0.1	4	9	3	0	0
Σ	4	13	7	1	0
2060					

**Driftwood Bay**

TEMP (°C)	0-3	4-10	11-21	22-33	≥ 34
18.19	0	0	0	0	0
16.17	0	0	0	0	0
14.15	0	0	0	0	0
12.13	0	0	0	0	0
10.11	0	1	0	0	0
8.9	1	2	2	0	0
6.7	3	6	3	0	0
4.5	5	8	2	0	0
2.3	8	15	5	0	0
0.1	5	12	5	0	0
Σ	1	8	4	0	0
2467					

**Nikolski**

WIND SPEED KTS

TEMP	1	2	3	4	10	11	21	22	33	34
14.15	0	0	0	0	0	0	0	0	0	0
12.13	0	0	0	0	0	0	0	0	0	0
10.11	0	0	0	0	0	0	0	0	0	0
8.9	1	1	1	1	1	1	1	1	1	1
6.7	1	3	2	2	2	2	2	2	2	2
4.5	2	10	10	10	10	10	10	10	10	10
2.3	3	15	22	6	6	6	6	6	6	6
0.1	1	4	8	4	4	4	4	4	4	4
-2.1	1	1	2	2	2	2	2	2	2	2
-4.3	0	0	0	0	0	0	0	0	0	0
-6.5	0	0	0	0	0	0	0	0	0	0

2194

**Adak**

WIND SPEED KTS

TEMP	1	2	3	4	10	11	21	22	33	34
16.17	0	0	0	0	0	0	0	0	0	0
14.15	0	0	0	0	0	0	0	0	0	0
12.13	0	0	0	0	0	0	0	0	0	0
10.11	0	0	0	0	0	0	0	0	0	0
8.9	2	2	2	2	2	2	2	2	2	2
6.7	2	11	12	3	3	3	3	3	3	3
4.5	4	14	13	4	4	4	4	4	4	4
2.3	4	9	9	3	3	3	3	3	3	3
0.1	1	1	1	1	1	1	1	1	1	1
-2.1	0	0	0	0	0	0	0	0	0	0
-4.3	0	0	0	0	0	0	0	0	0	0

6446

**Marine Area A**

WIND SPEED KTS

TEMP	1	2	3	4	10	11	21	22	33	34
14.15	0	0	0	0	0	0	0	0	0	0
12.13	0	0	0	0	0	0	0	0	0	0
10.11	0	0	0	0	0	0	0	0	0	0
8.9	0	0	0	0	0	0	0	0	0	0
6.7	0	0	0	0	0	0	0	0	0	0
4.5	0	0	0	0	0	0	0	0	0	0
2.3	0	0	0	0	0	0	0	0	0	0
0.1	0	0	0	0	0	0	0	0	0	0
-2.1	0	0	0	0	0	0	0	0	0	0
-4.3	0	0	0	0	0	0	0	0	0	0

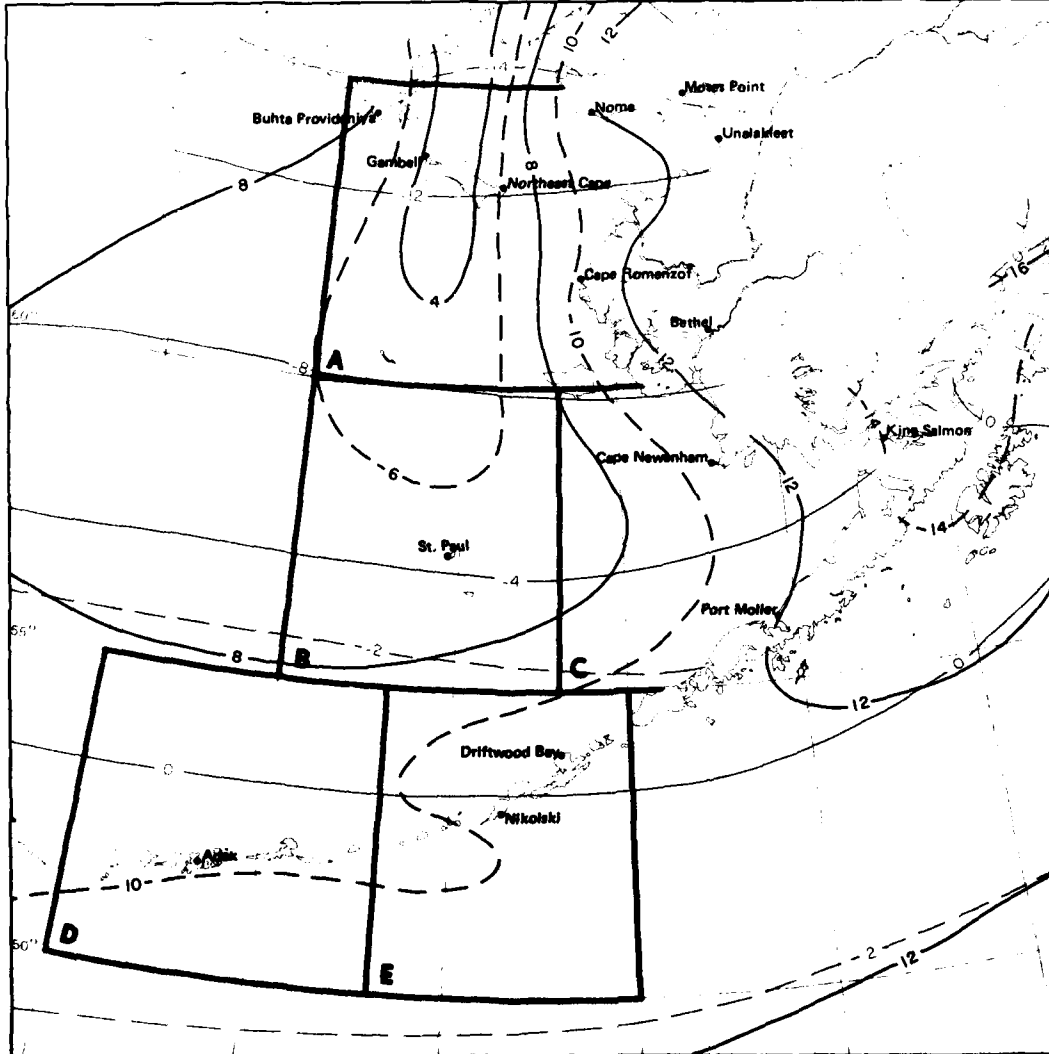
269

**Marine Area B**

WIND SPEED KTS

TEMP	1	2	3	4	10	11	21	22	33	34
14.15	0	0	0	0	0	0	0	0	0	0
12.13	0	0	0	0	0	0	0	0	0	0
10.11	0	0	0	0	0	0	0	0	0	0
8.9	0	0	0	0	0	0	0	0	0	0
6.7	0	0	0	0	0	0	0	0	0	0
4.5	0	0	0	0	0	0	0	0	0	0
2.3	0	0	0	0	0	0	0	0	0	0
0.1	0	0	0	0	0	0	0	0	0	0
-2.1	0	0	0	0	0	0	0	0	0	0
-4.3	0	0	0	0	0	0	0	0	0	0

1742



**Marine Area C**

WIND SPEED KTS

TEMP	1	2	3	4	10	11	21	22	33	34
14.15	0	0	0	0	0	0	0	0	0	0
12.13	0	0	0	0	0	0	0	0	0	0
10.11	0	0	0	0	0	0	0	0	0	0
8.9	0	0	0	0	0	0	0	0	0	0
6.7	0	0	0	0	0	0	0	0	0	0
4.5	0	0	0	0	0	0	0	0	0	0
2.3	0	0	0	0	0	0	0	0	0	0
0.1	0	0	0	0	0	0	0	0	0	0
-2.1	0	0	0	0	0	0	0	0	0	0
-4.3	0	0	0	0	0	0	0	0	0	0

6315

**Marine Area D**

WIND SPEED KTS

TEMP	1	2	3	4	10	11	21	22	33	34
14.15	0	0	0	0	0	0	0	0	0	0
12.13	0	0	0	0	0	0	0	0	0	0
10.11	0	0	0	0	0	0	0	0	0	0
8.9	1	3	3	1	1	1	1	1	1	1
6.7	1	8	12	4	4	4	4	4	4	4
4.5	2	12	21	9	9	9	9	9	9	9
2.3	1	4	5	4	4	4	4	4	4	4
0.1	0	0	0	0	0	0	0	0	0	0
-2.1	0	0	0	0	0	0	0	0	0	0
-4.3	0	0	0	0	0	0	0	0	0	0

S286

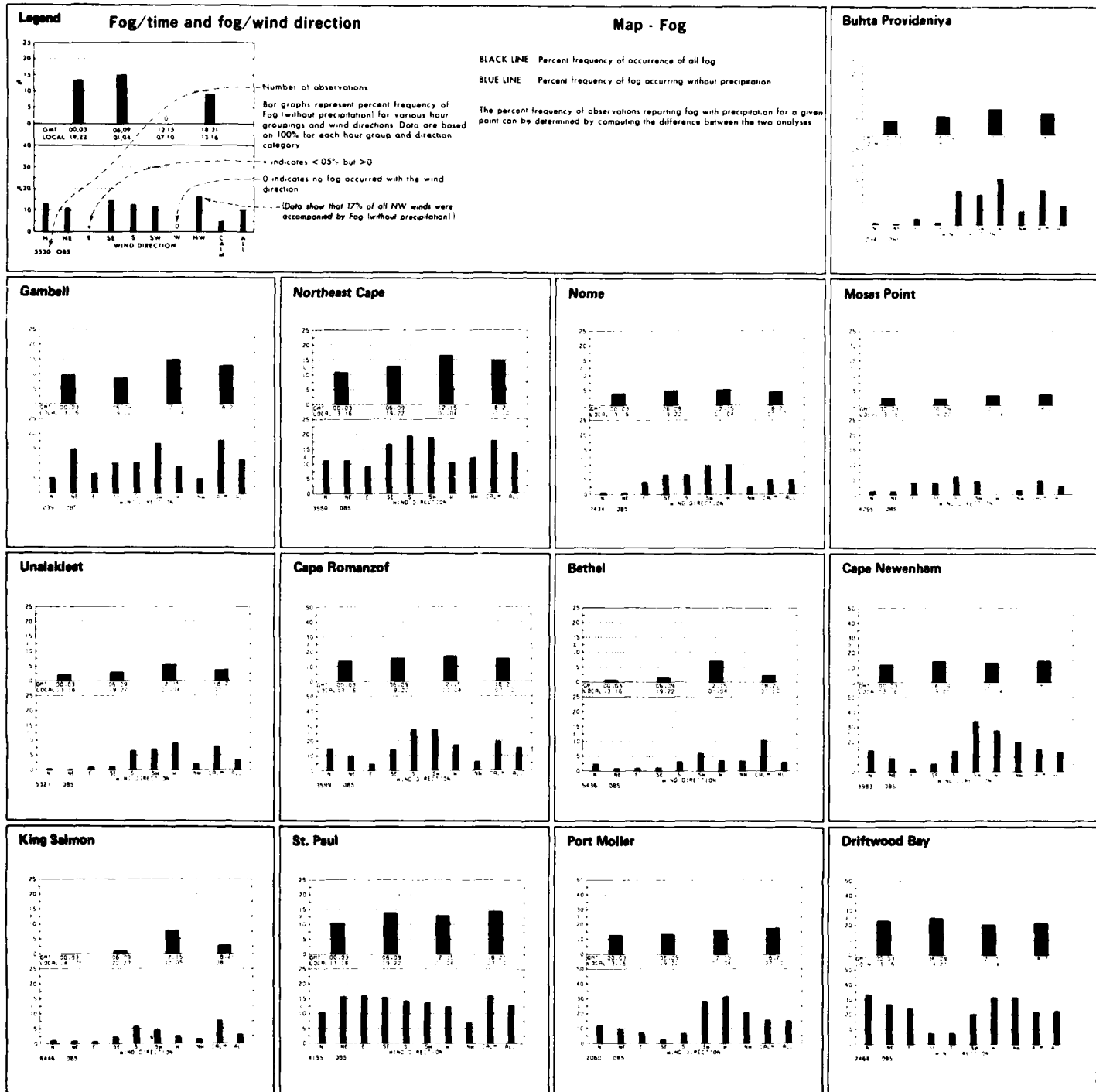
**Marine Area E**

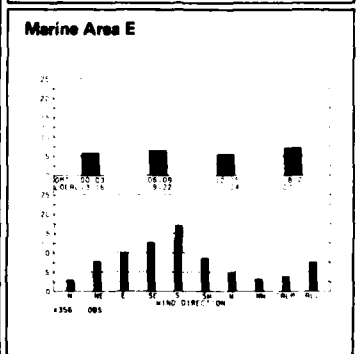
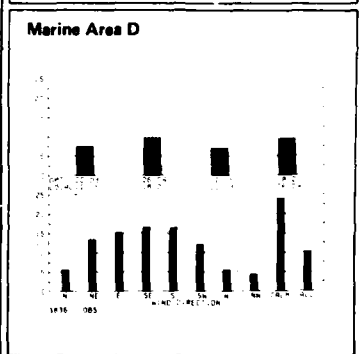
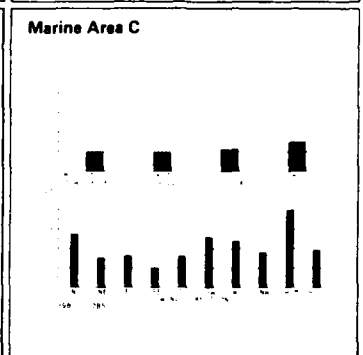
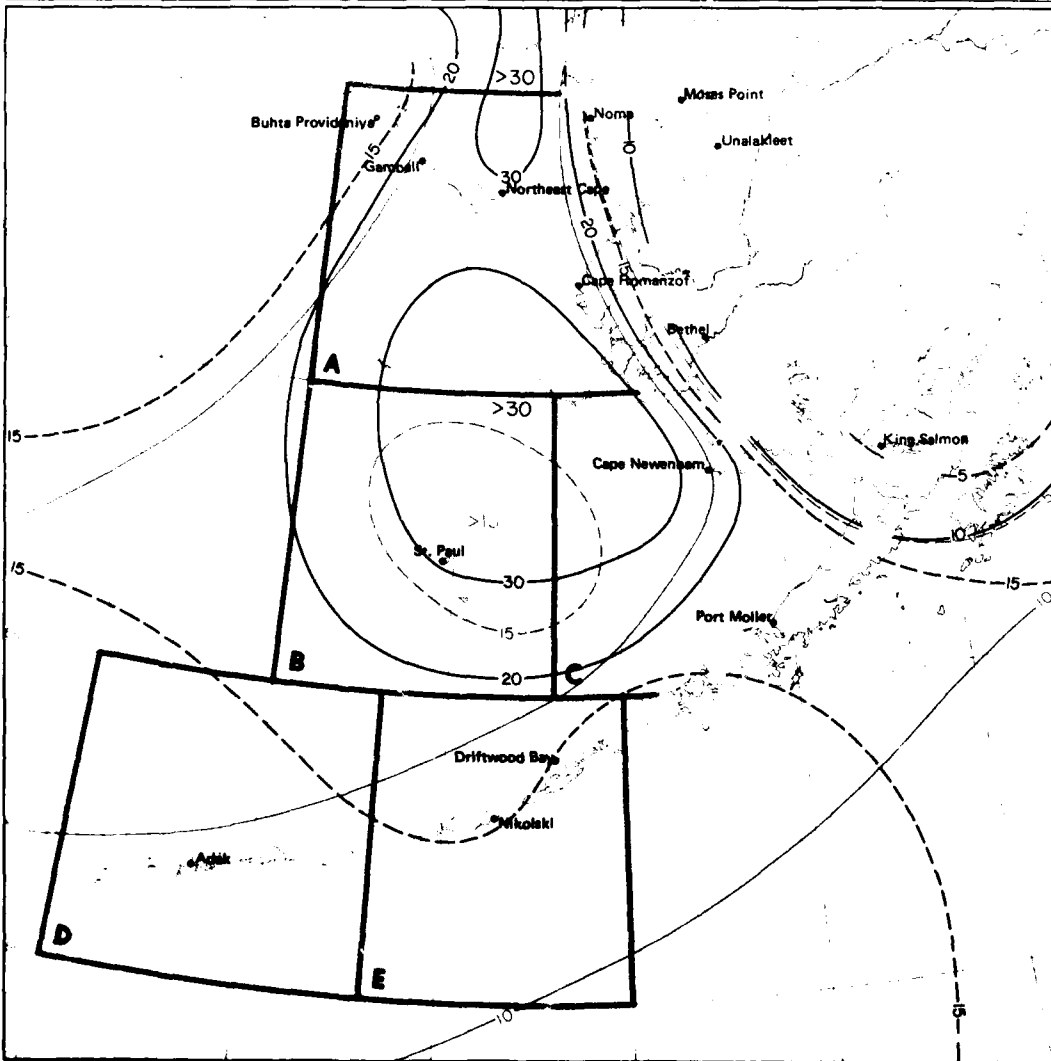
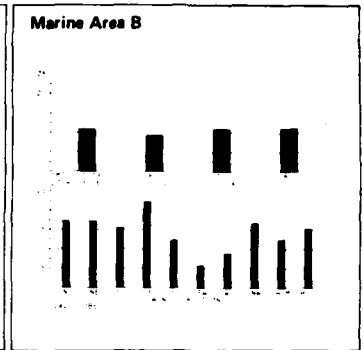
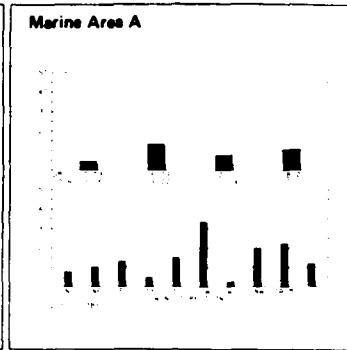
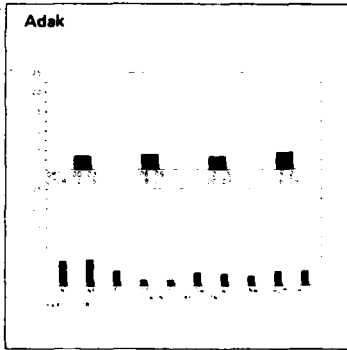
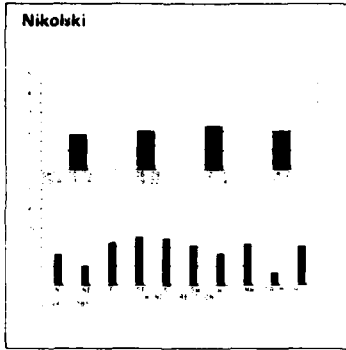
WIND SPEED KTS

TEMP	1	2	3	4	10	11	21	22	33	34
16.17	0	0	0	0	0	0	0	0	0	0
14.15	0	0	0	0	0	0	0	0	0	0
12.13	0	0	0	0	0	0	0	0	0	0
10.11	0	0	0	0	0	0	0	0	0	0
8.9	1	3	3	1	1	1	1	1	1	1
6.7	2	9	12	4	4	4	4	4	4	4
4.5	2	11	18	8	8	8	8	8	8	8
2.3	1	4	7	3	3	3	3	3	3	3
0.1	0	0	0	0	0	0	0	0	0	0
-2.1	0	0	0	0	0	0	0	0	0	0
-4.3	0	0	0	0	0	0	0	0	0	0

6179

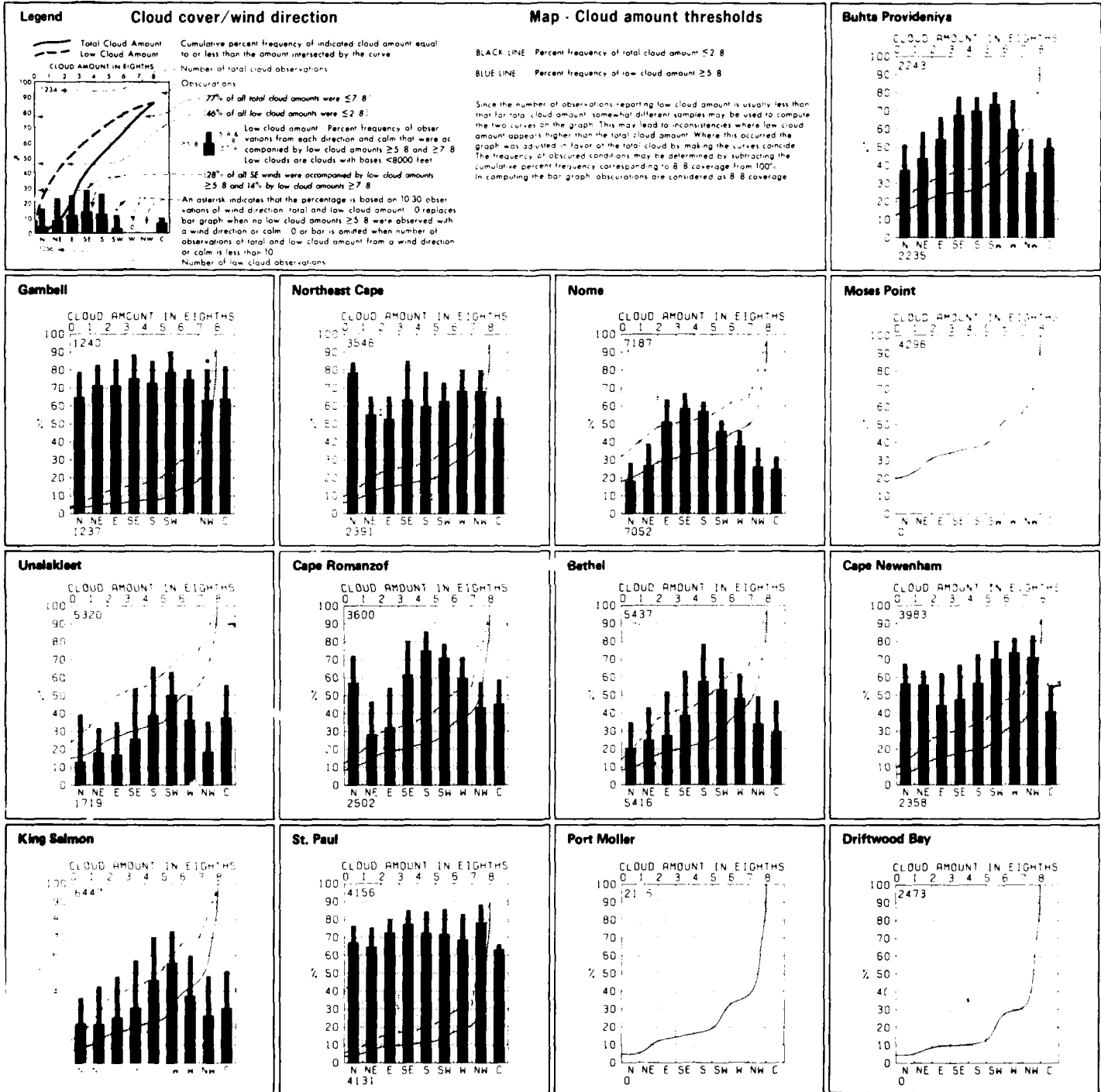
5 Air temperature extremes (°C)





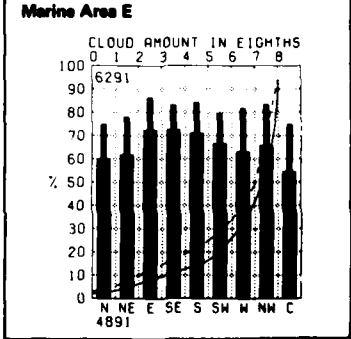
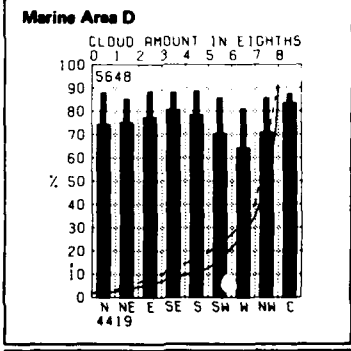
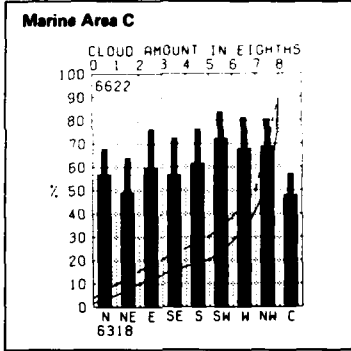
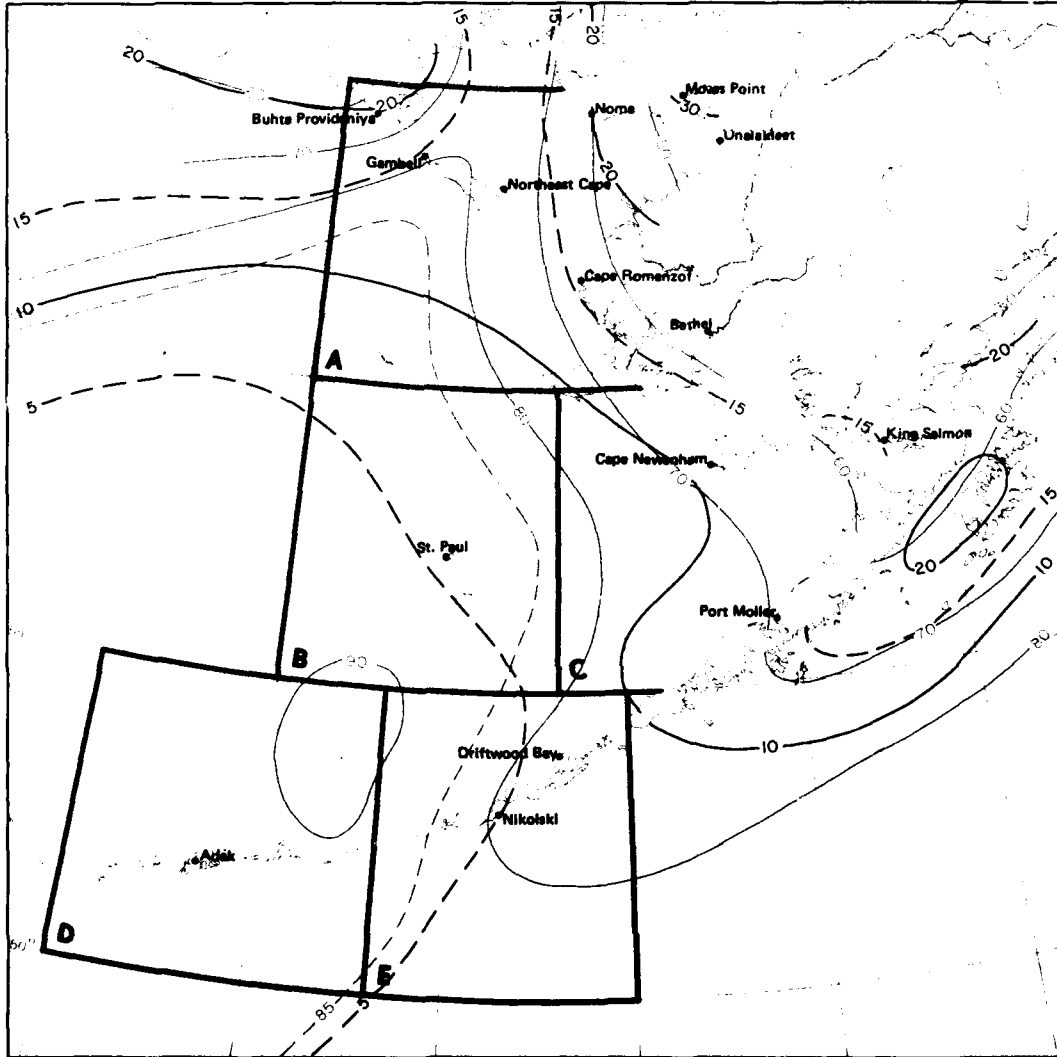
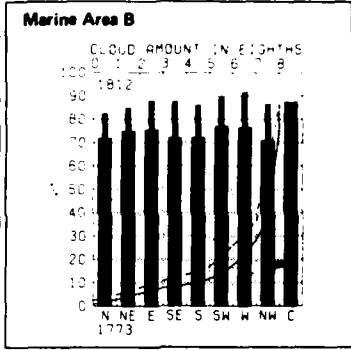
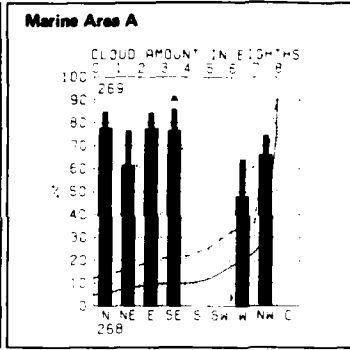
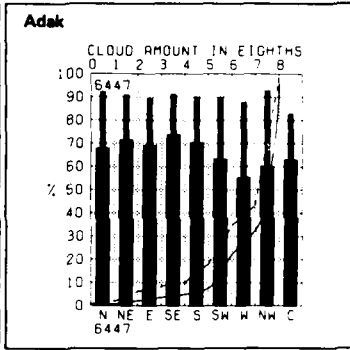
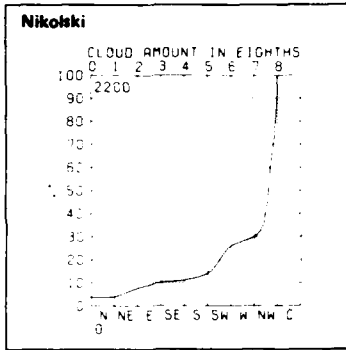
6 Fog

May

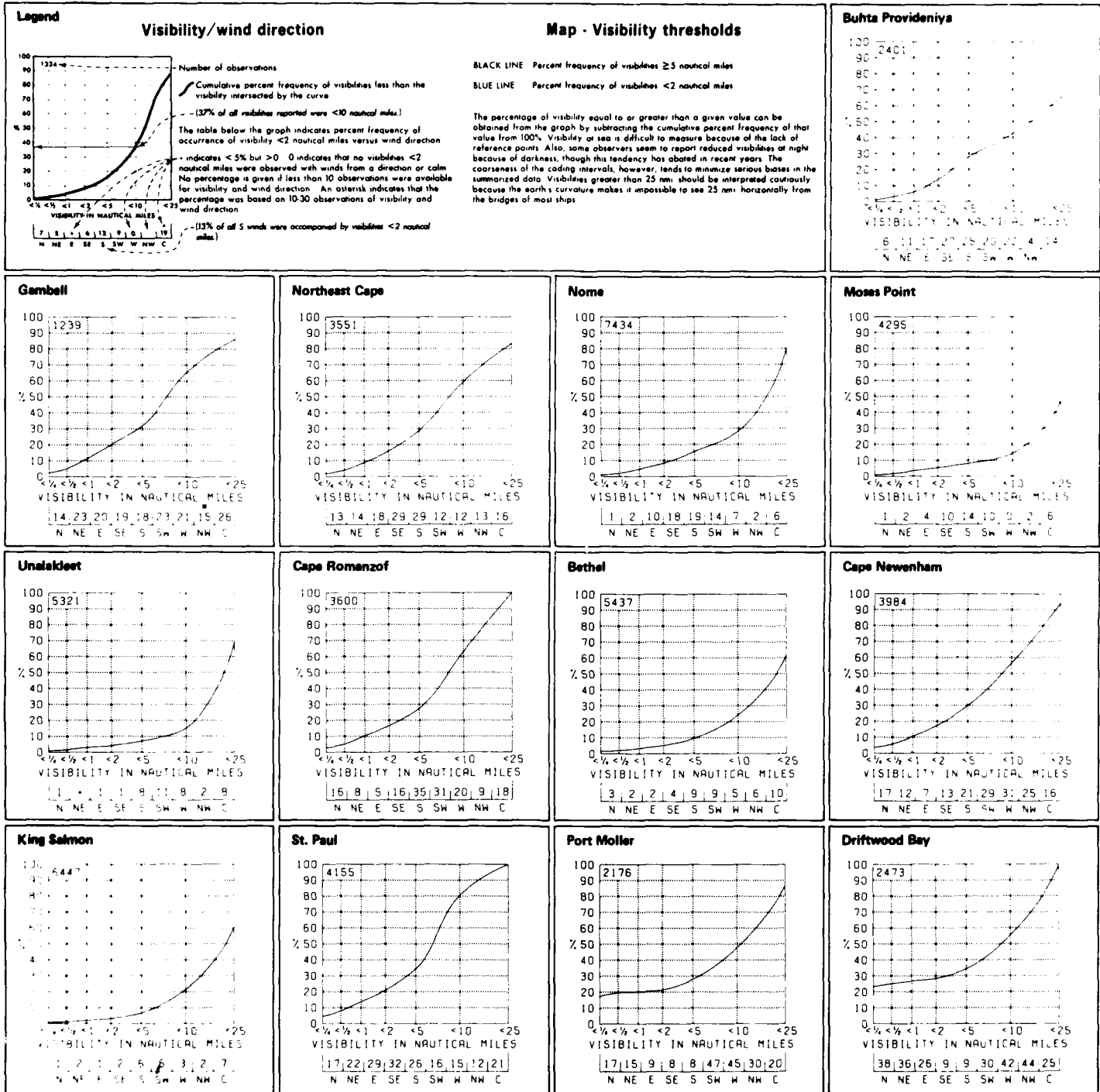


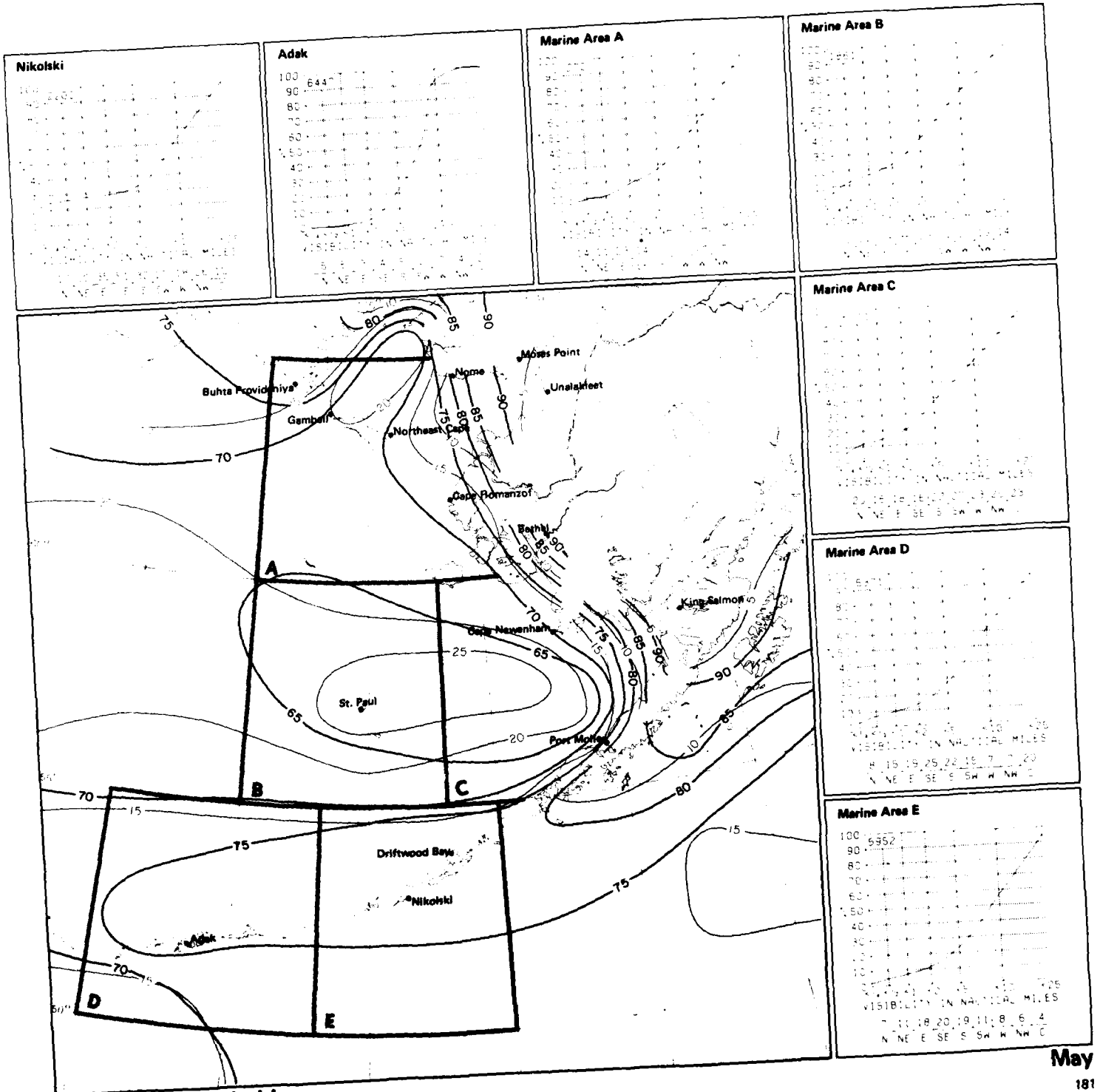
May

7 Cloud cover/wind direction

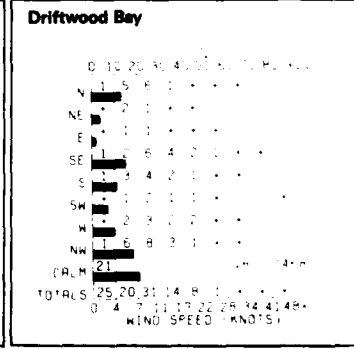
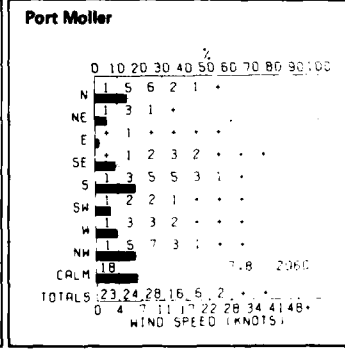
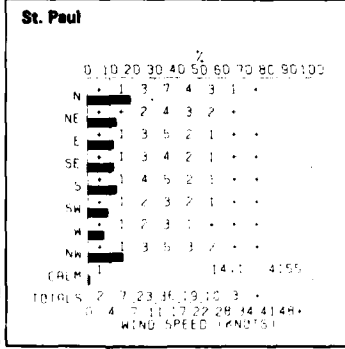
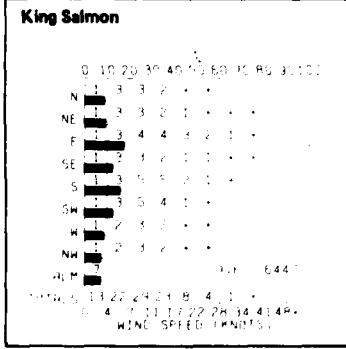
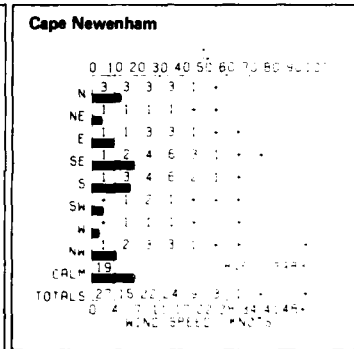
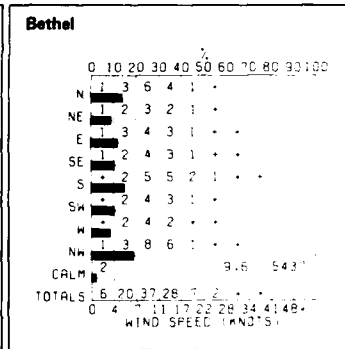
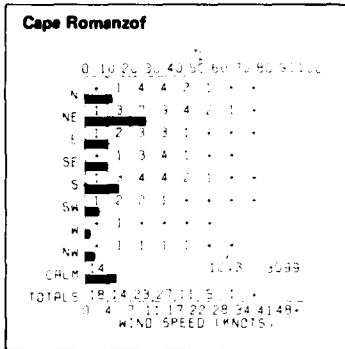
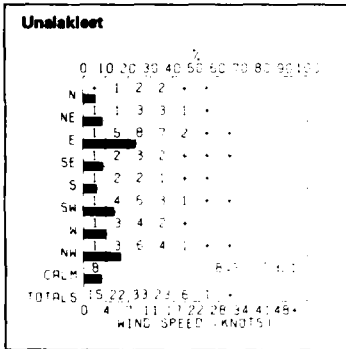
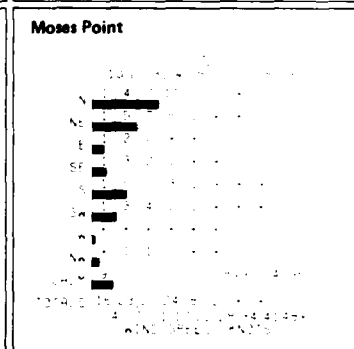
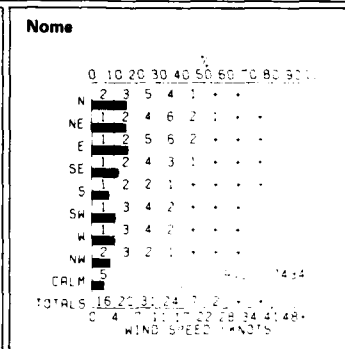
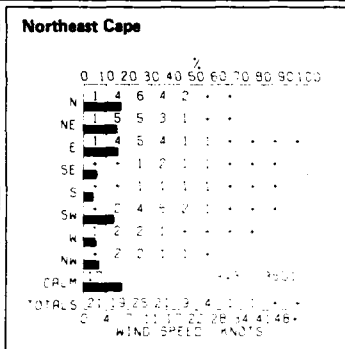
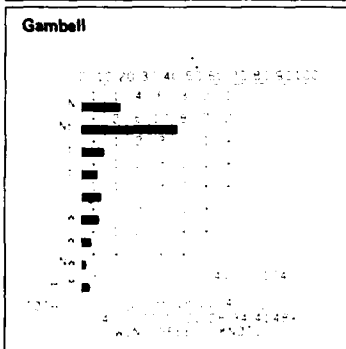
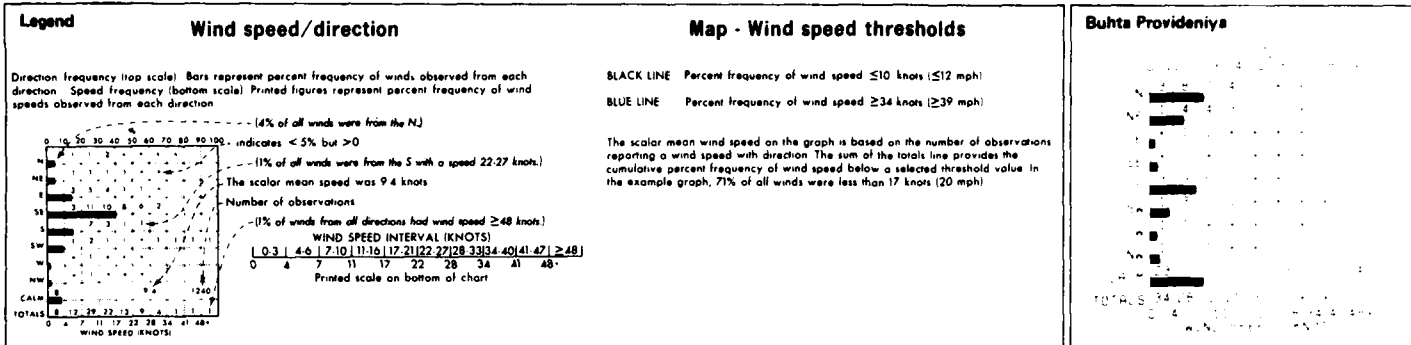


7 Cloud amount thresholds



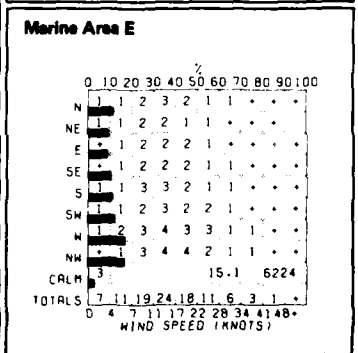
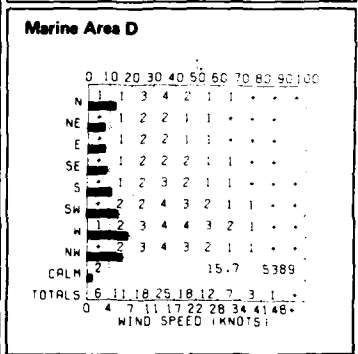
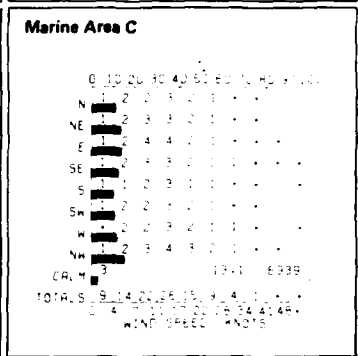
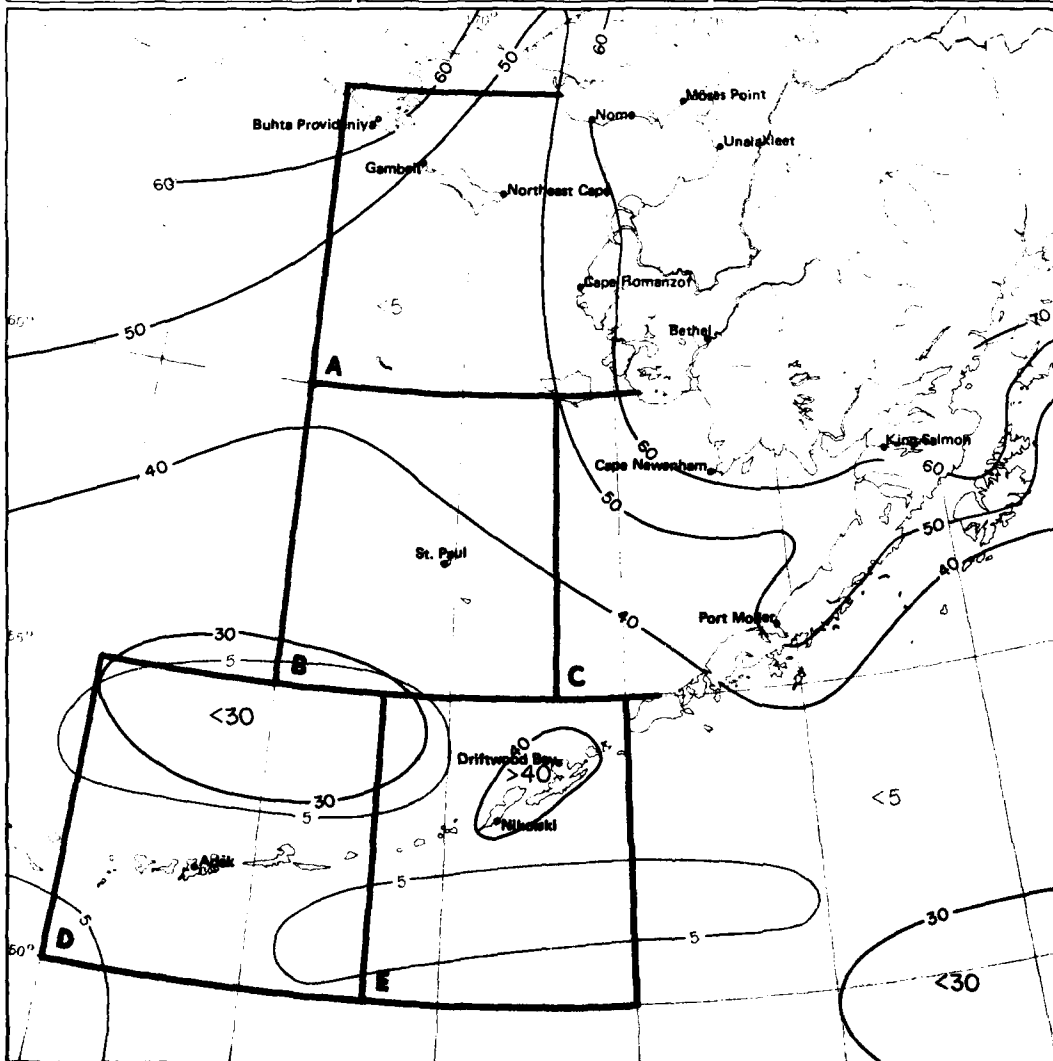
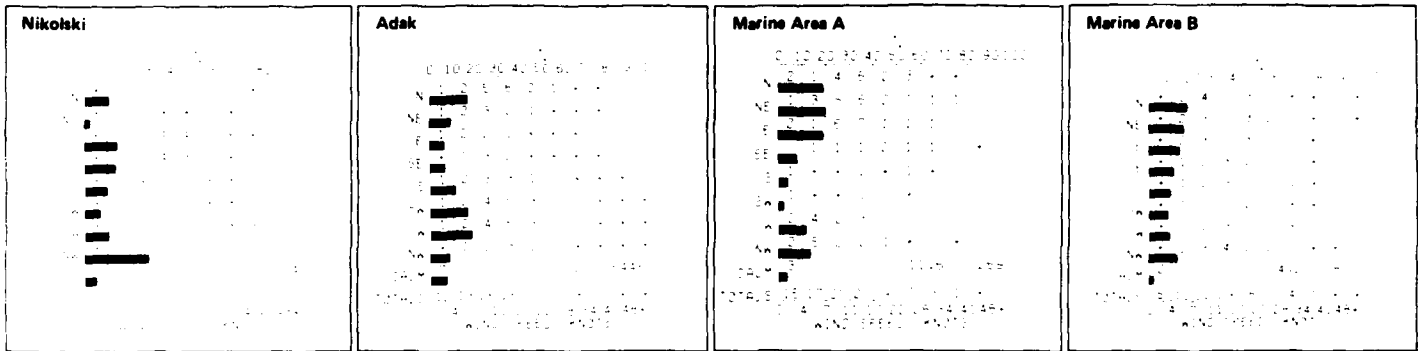




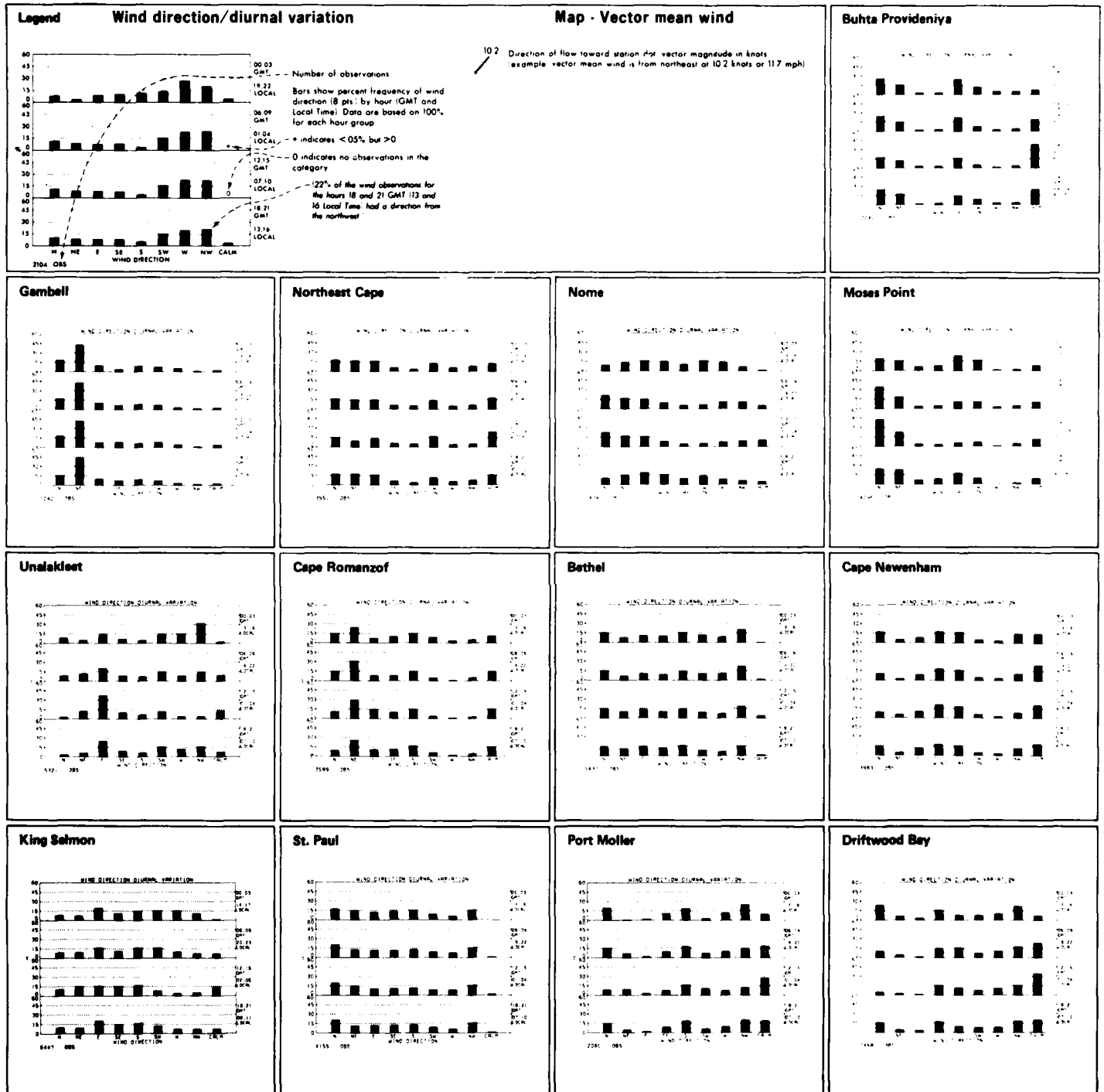


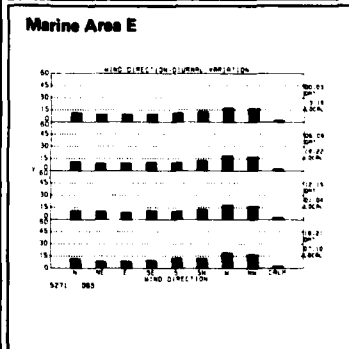
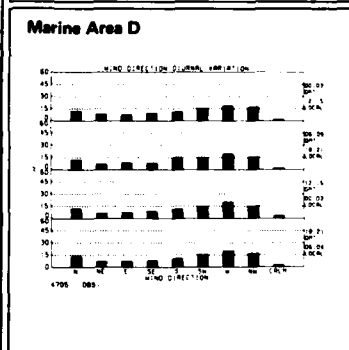
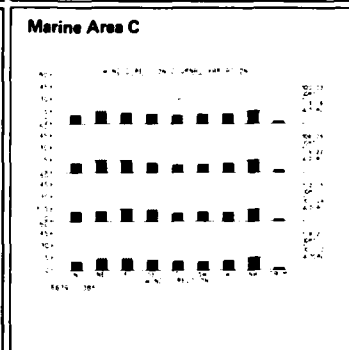
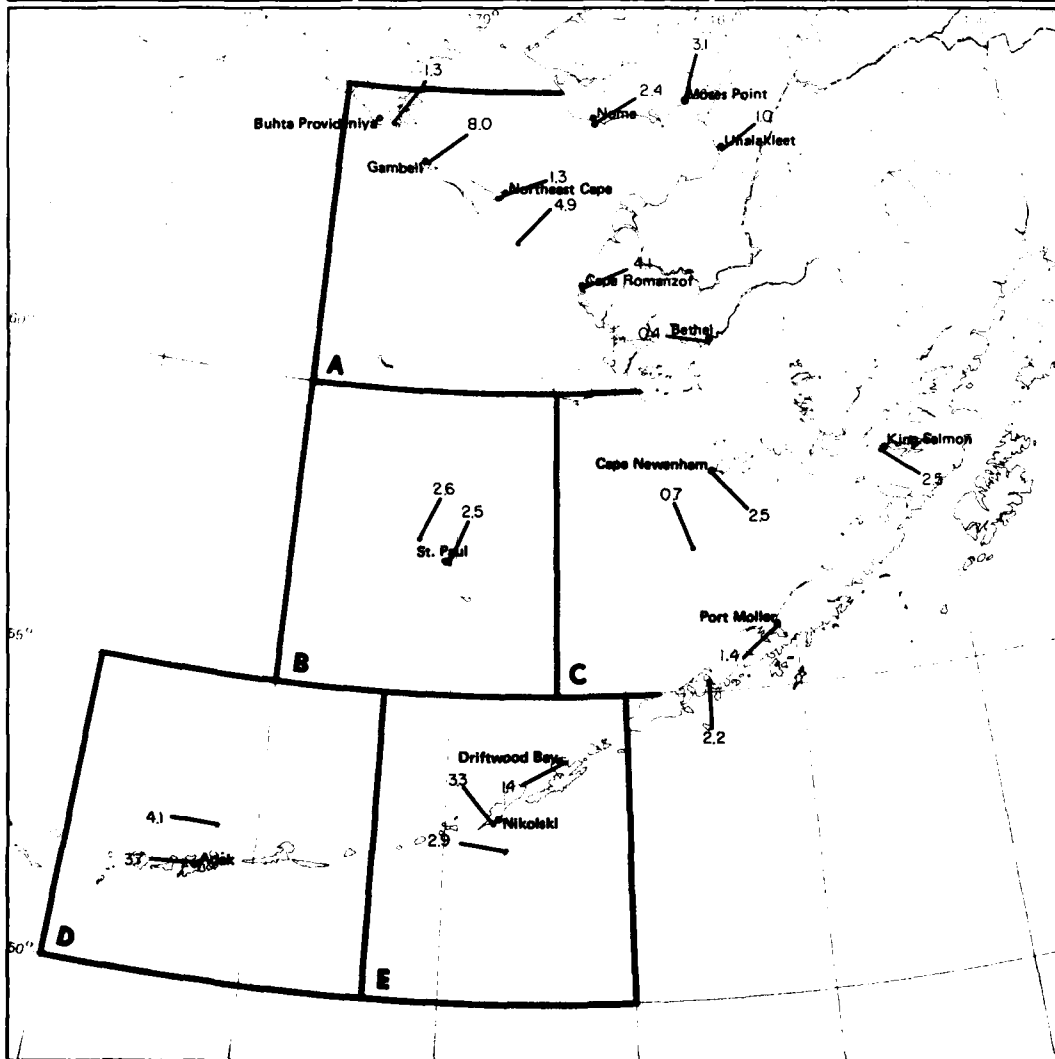
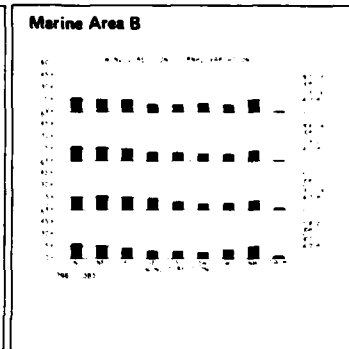
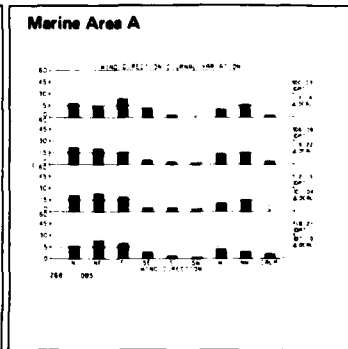
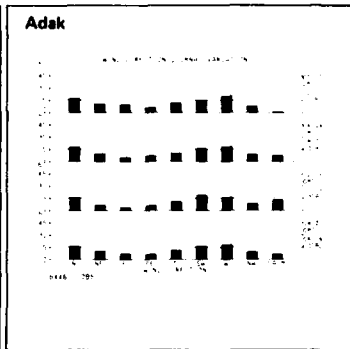
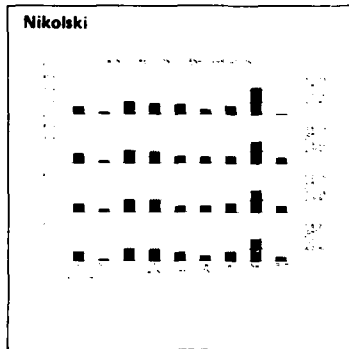
May  
182

9 Wind speed/direction



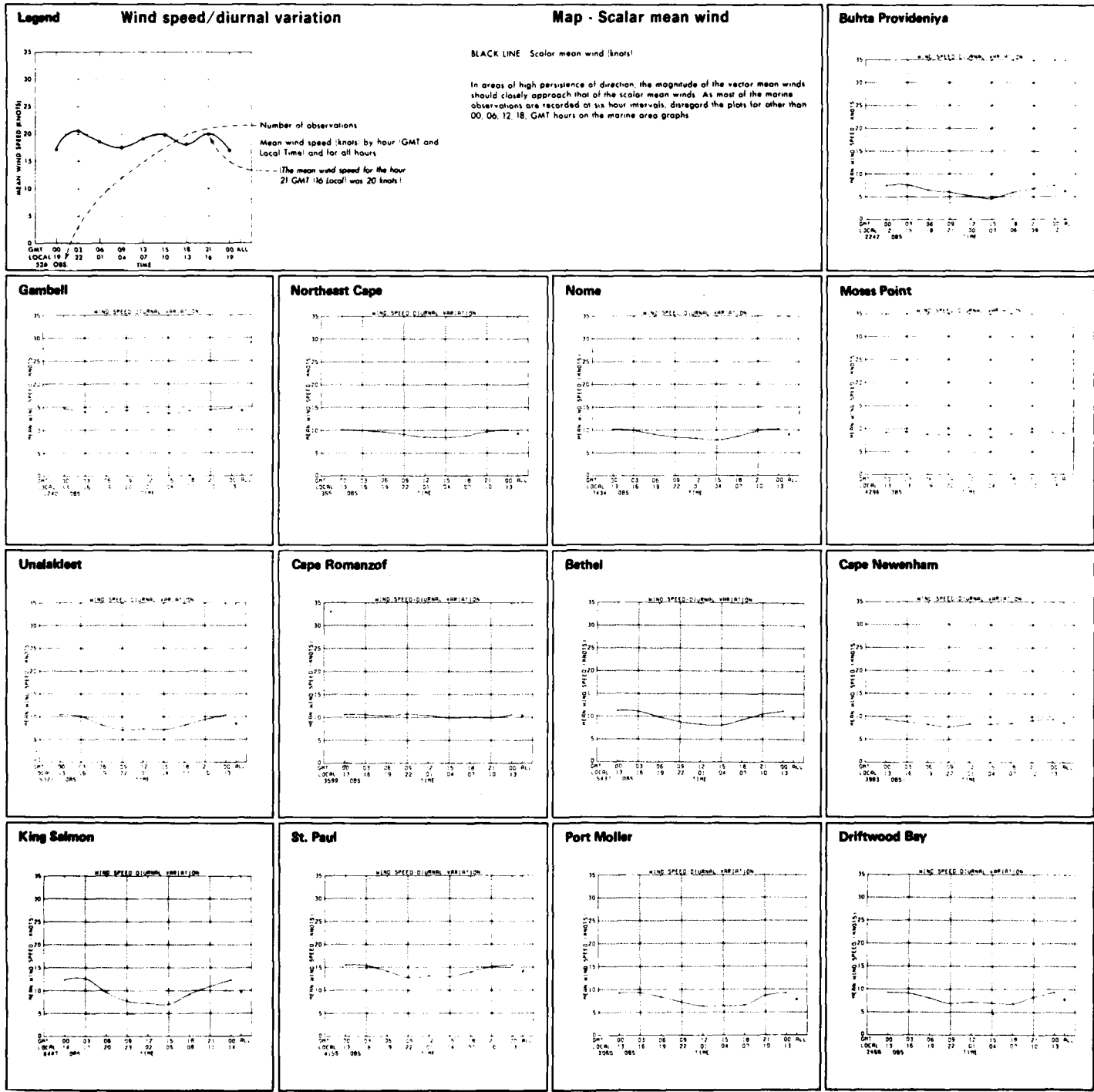
9 Wind speed thresholds

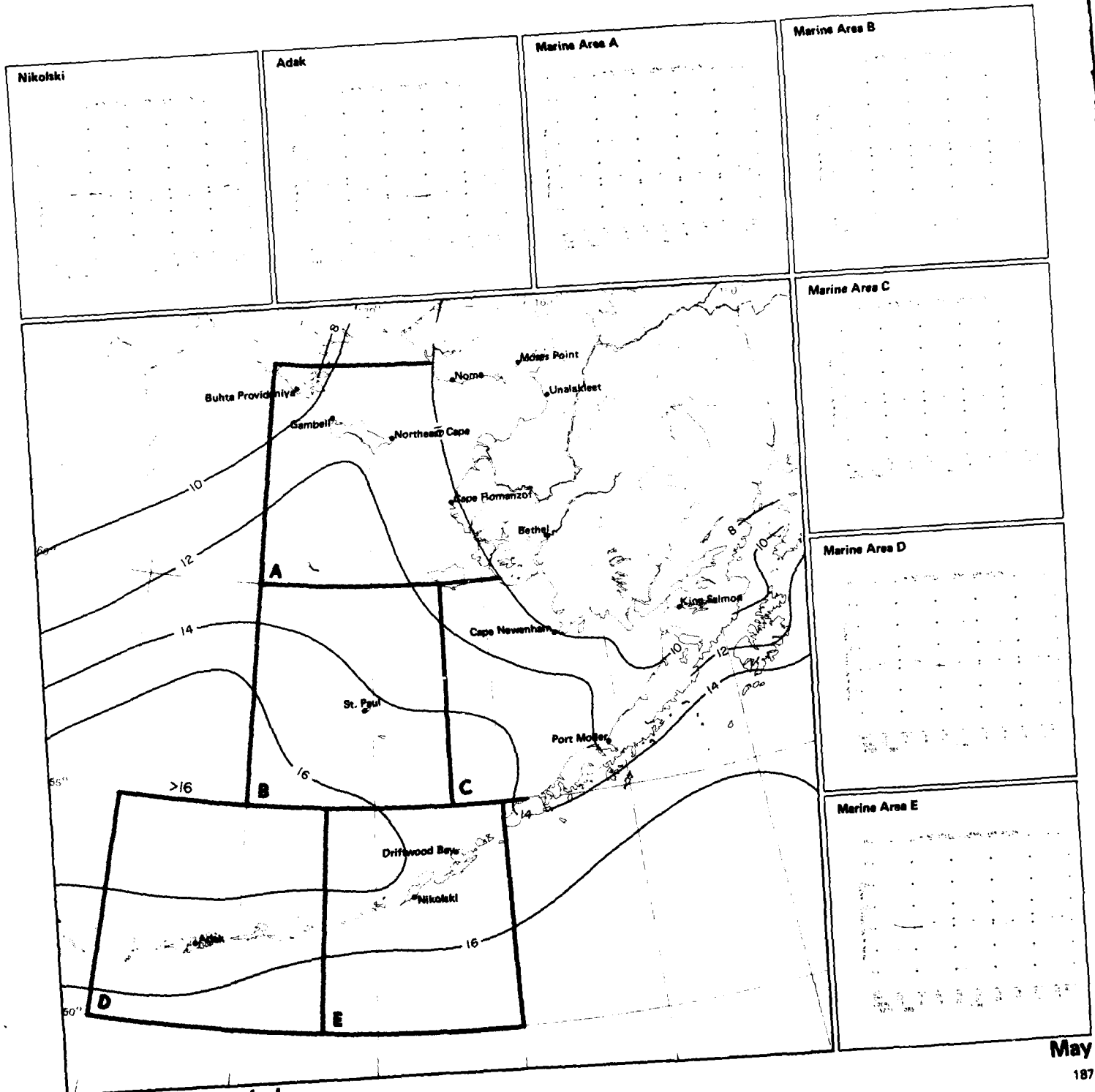




10 Vector mean wind

May



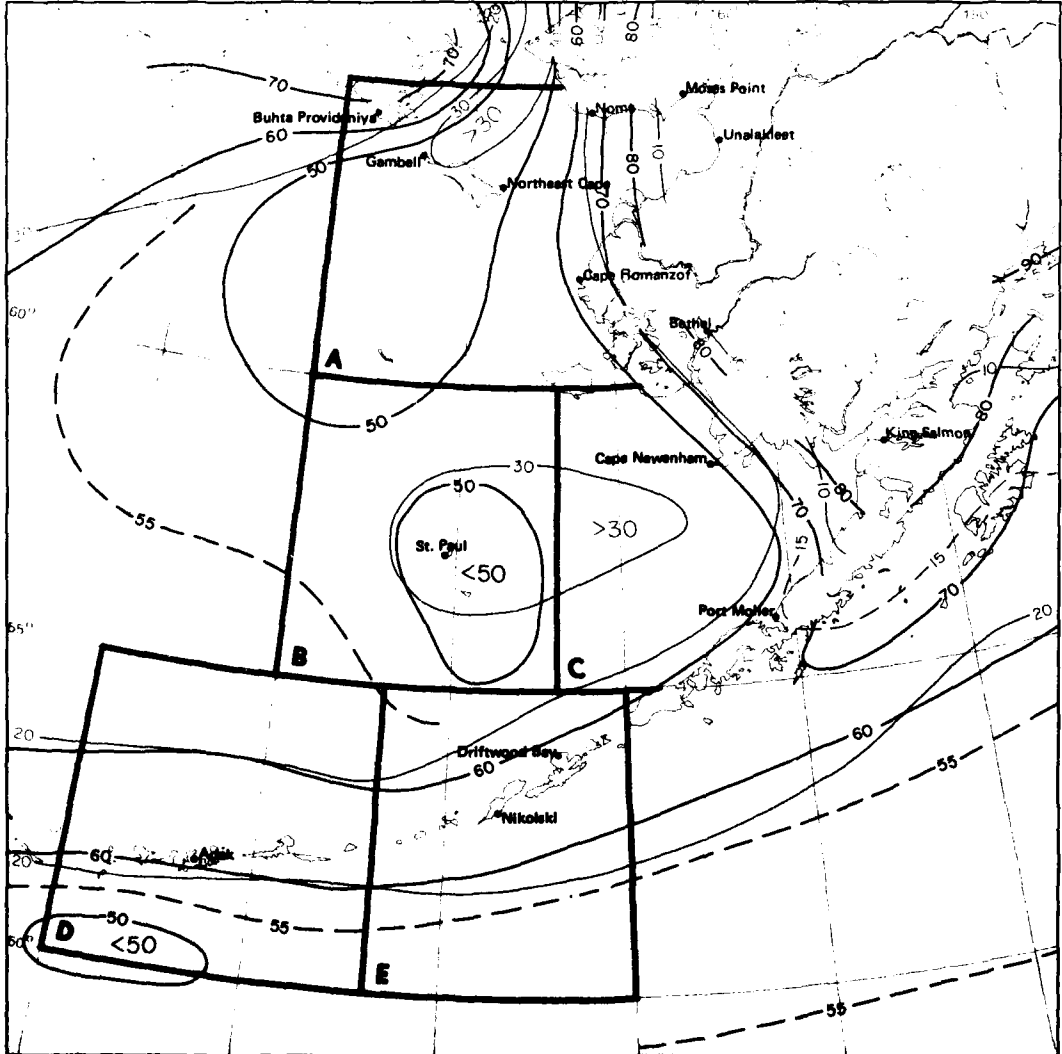


11 Scalar mean wind

May



<p><b>Nikolski</b></p> <p>Insufficient Data</p>	<p><b>Adak</b></p> <p>VISIBILITY</p> <p>1/2 1 2 2+5 6+10 &gt;10</p> <table border="1"> <tr> <td>50+80</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>3</td> </tr> <tr> <td>35+50</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>3</td> </tr> <tr> <td>20+45</td> <td>0</td> <td>0</td> <td>0</td> <td>21</td> <td>2</td> </tr> <tr> <td>10+20</td> <td>0</td> <td>0</td> <td>0</td> <td>21</td> <td>2</td> </tr> <tr> <td>6+10</td> <td>0</td> <td>0</td> <td>0</td> <td>2</td> <td>2</td> </tr> <tr> <td>3+6</td> <td>0</td> <td>0</td> <td>0</td> <td>2</td> <td>2</td> </tr> <tr> <td>1.5+3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>0+1.5</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> </table> <p>6446</p>	50+80	0	0	0	0	3	35+50	0	0	0	0	3	20+45	0	0	0	21	2	10+20	0	0	0	21	2	6+10	0	0	0	2	2	3+6	0	0	0	2	2	1.5+3	0	0	0	0	0	0+1.5	0	0	0	0	0	<p><b>Marine Area A</b></p> <p>VISIBILITY</p> <p>1/2 1 2 2+5 6+10 &gt;10</p> <table border="1"> <tr> <td>50+80</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>35+50</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>20+45</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>10+20</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>6+10</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>3+6</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>1.5+3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>0+1.5</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> </table> <p>6446</p>	50+80	0	0	0	0	0	35+50	0	0	0	0	0	20+45	0	0	0	0	0	10+20	0	0	0	0	0	6+10	0	0	0	0	0	3+6	0	0	0	0	0	1.5+3	0	0	0	0	0	0+1.5	0	0	0	0	0	<p><b>Marine Area B</b></p> <p>VISIBILITY</p> <p>1/2 1 2 2+5 6+10 &gt;10</p> <table border="1"> <tr> <td>50+80</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>35+50</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>20+45</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>10+20</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>6+10</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>3+6</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>1.5+3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>0+1.5</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> </table> <p>6446</p>	50+80	0	0	0	0	0	35+50	0	0	0	0	0	20+45	0	0	0	0	0	10+20	0	0	0	0	0	6+10	0	0	0	0	0	3+6	0	0	0	0	0	1.5+3	0	0	0	0	0	0+1.5	0	0	0	0	0
50+80	0	0	0	0	3																																																																																																																																														
35+50	0	0	0	0	3																																																																																																																																														
20+45	0	0	0	21	2																																																																																																																																														
10+20	0	0	0	21	2																																																																																																																																														
6+10	0	0	0	2	2																																																																																																																																														
3+6	0	0	0	2	2																																																																																																																																														
1.5+3	0	0	0	0	0																																																																																																																																														
0+1.5	0	0	0	0	0																																																																																																																																														
50+80	0	0	0	0	0																																																																																																																																														
35+50	0	0	0	0	0																																																																																																																																														
20+45	0	0	0	0	0																																																																																																																																														
10+20	0	0	0	0	0																																																																																																																																														
6+10	0	0	0	0	0																																																																																																																																														
3+6	0	0	0	0	0																																																																																																																																														
1.5+3	0	0	0	0	0																																																																																																																																														
0+1.5	0	0	0	0	0																																																																																																																																														
50+80	0	0	0	0	0																																																																																																																																														
35+50	0	0	0	0	0																																																																																																																																														
20+45	0	0	0	0	0																																																																																																																																														
10+20	0	0	0	0	0																																																																																																																																														
6+10	0	0	0	0	0																																																																																																																																														
3+6	0	0	0	0	0																																																																																																																																														
1.5+3	0	0	0	0	0																																																																																																																																														
0+1.5	0	0	0	0	0																																																																																																																																														



**Marine Area C**

VISIBILITY

1/2 1 2 2+5 6+10 >10

50+80	0	0	0	0	0
35+50	0	0	0	0	0
20+45	0	0	0	0	0
10+20	0	0	0	0	0
6+10	0	0	0	0	0
3+6	0	0	0	0	0
1.5+3	0	0	0	0	0
0+1.5	0	0	0	0	0

6446

**Marine Area D**

VISIBILITY

1/2 1 2 2+5 6+10 >10

50+80	0	0	0	0	0
35+50	0	0	0	0	0
20+45	0	0	0	0	0
10+20	0	0	0	0	0
6+10	0	0	0	0	0
3+6	0	0	0	0	0
1.5+3	0	0	0	0	0
0+1.5	0	0	0	0	0

6446

**Marine Area E**

VISIBILITY

1/2 1 2 2+5 6+10 >10

50+80	0	0	0	0	0
35+50	0	0	0	0	0
20+45	0	0	0	0	0
10+20	0	0	0	0	0
6+10	0	0	0	0	0
3+6	0	0	0	0	0
1.5+3	0	0	0	0	0
0+1.5	0	0	0	0	0

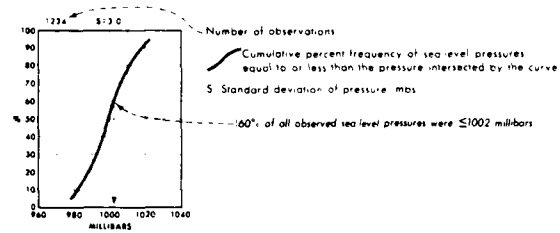
6446

12 Low cloud ceiling and visibility thresholds



**Legend**

**Sea level pressure**



**Map - Mean sea level pressure**

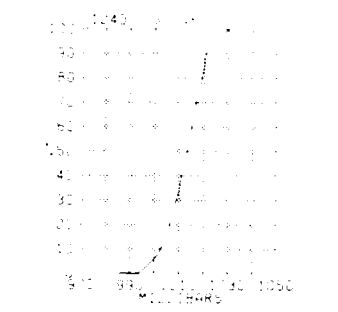
BLACK LINE Mean sea level pressure, millibars

Sea level pressure is one of the most frequently recorded elements but one of the least accurate because of instrument and coding errors. Despite the inaccuracies of the individual readings, however, the large scale patterns and mean gradients of the isobaric analyses are relatively accurate.

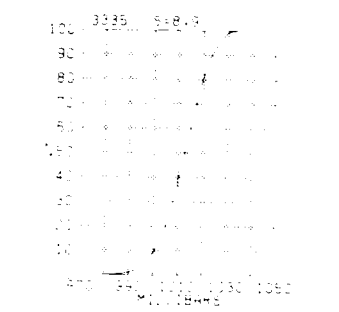
**Buhta Provideniya**



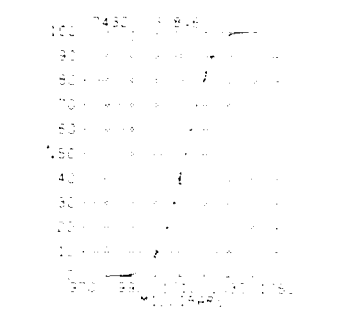
**Gambell**



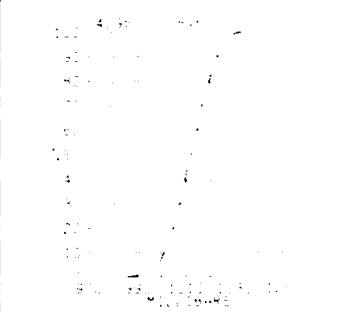
**Northeast Cape**



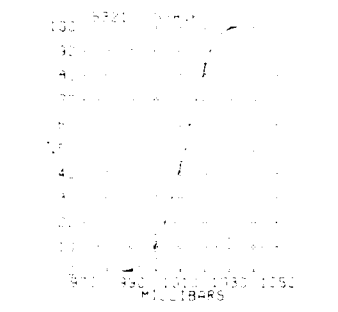
**Nome**



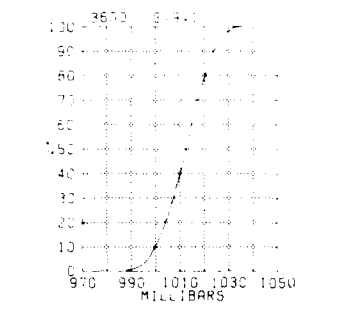
**Moses Point**



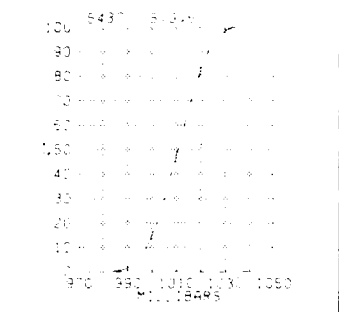
**Unalakleet**



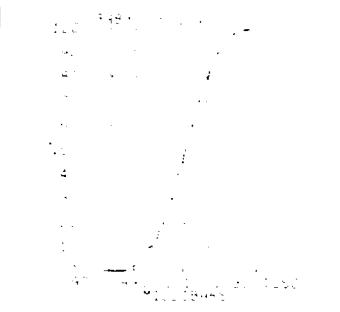
**Cape Romanzof**



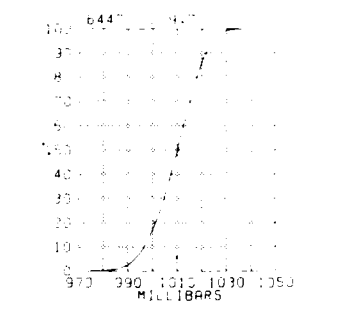
**Bethel**



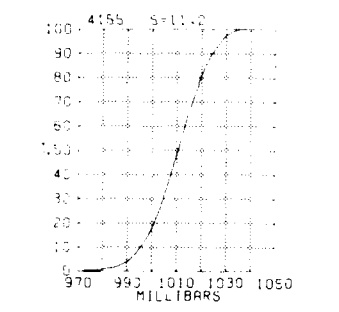
**Cape Newenham**



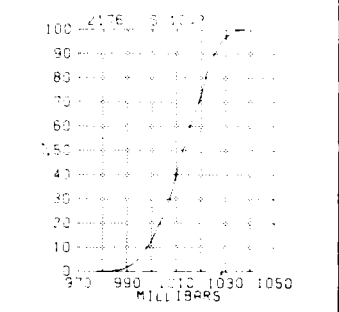
**King Salmon**



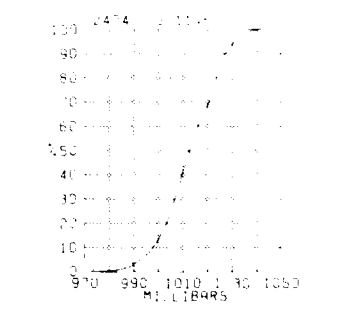
**St. Paul**



**Port Moller**

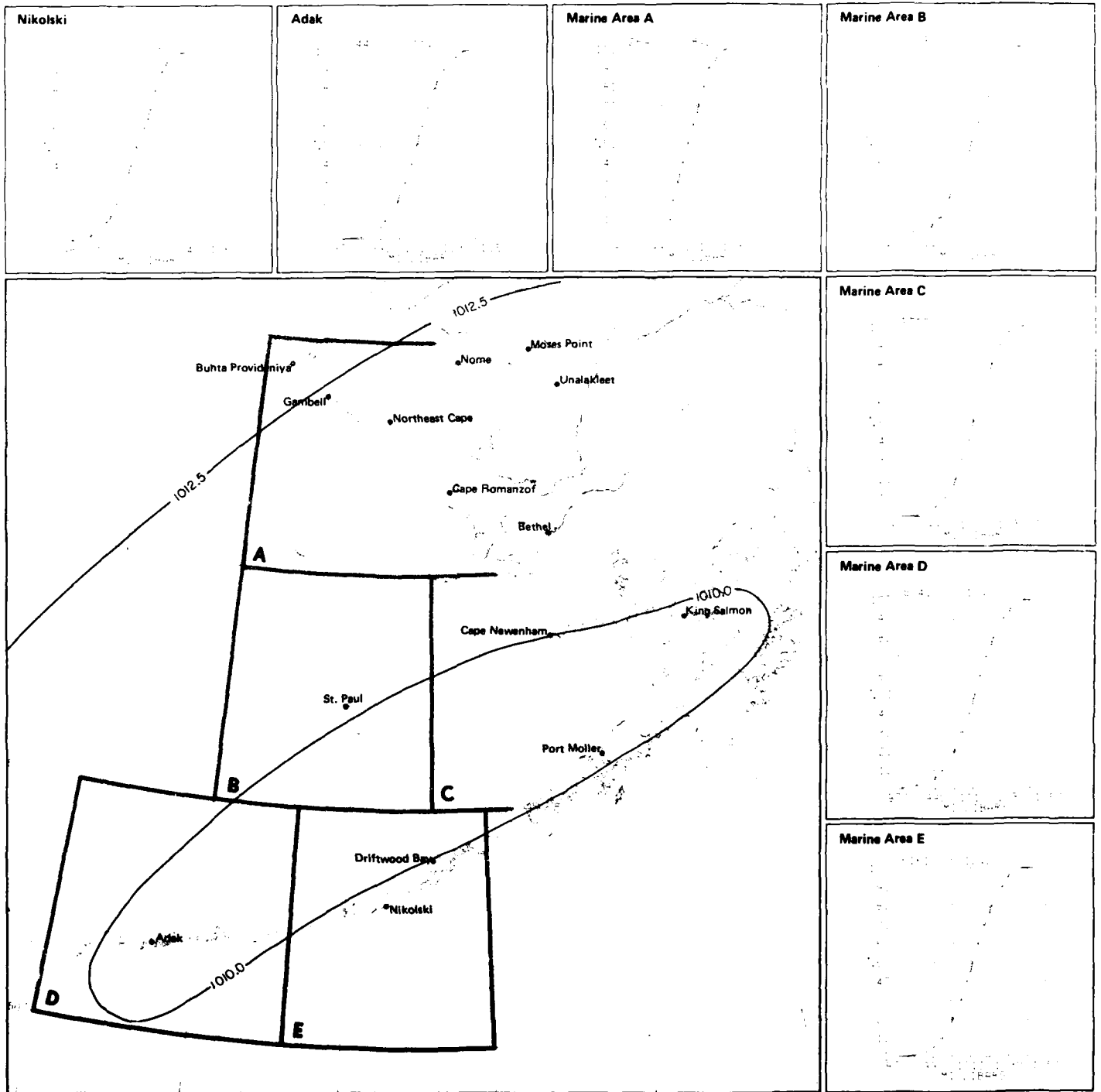


**Driftwood Bay**



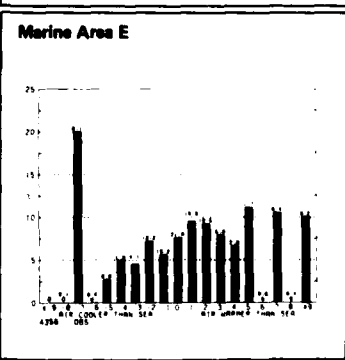
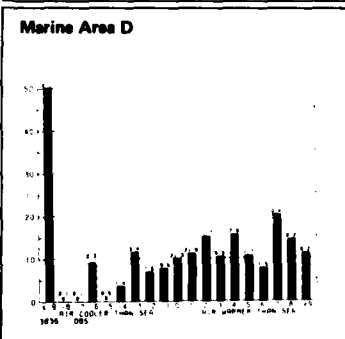
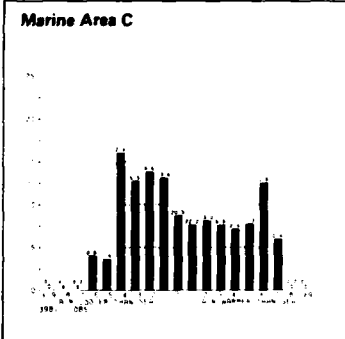
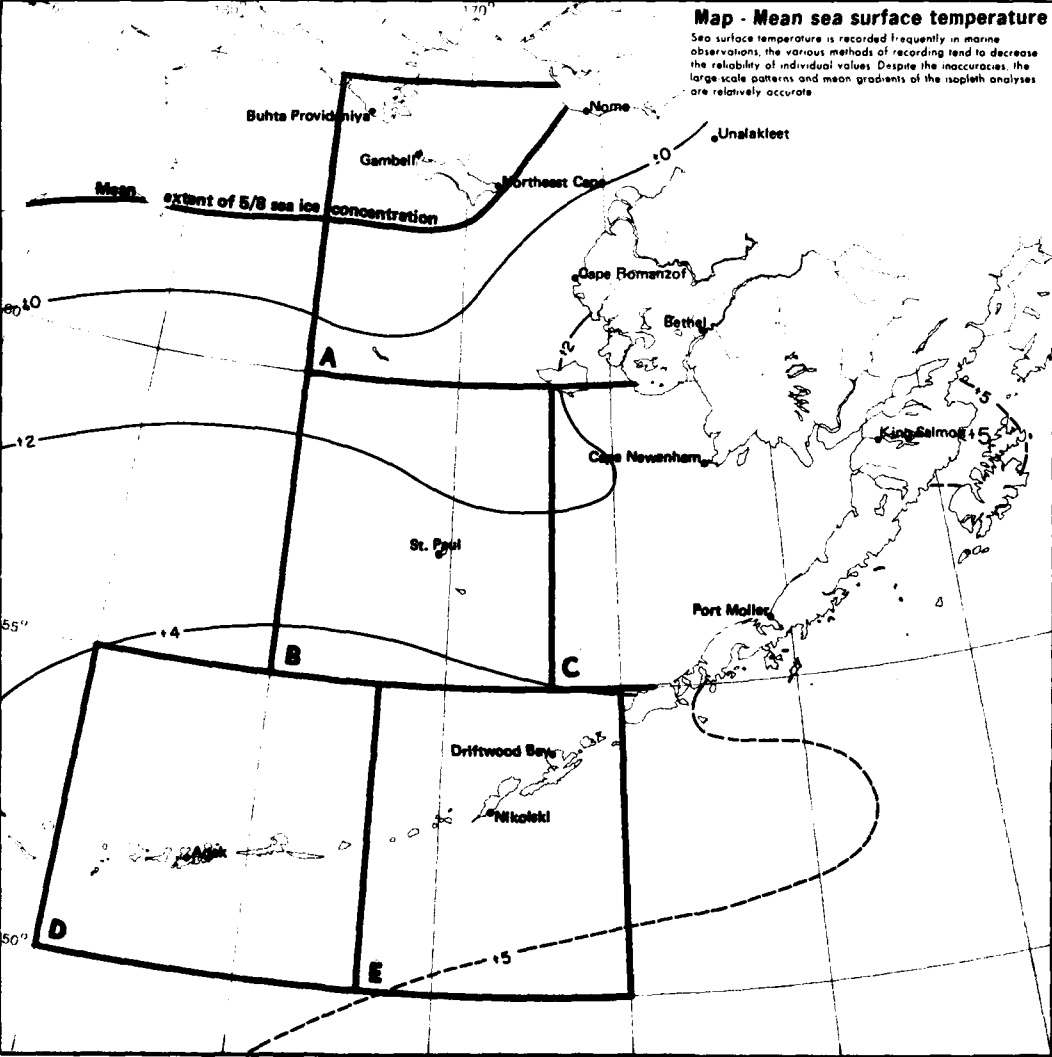
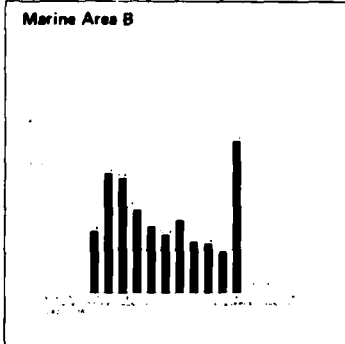
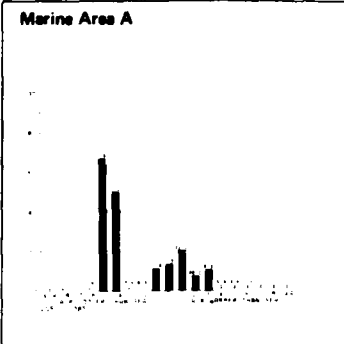
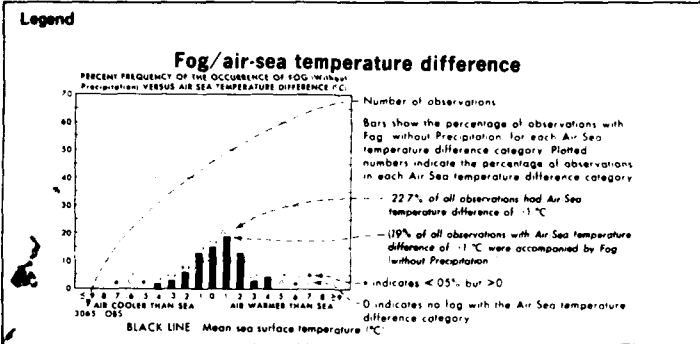
May

13 Sea level pressure



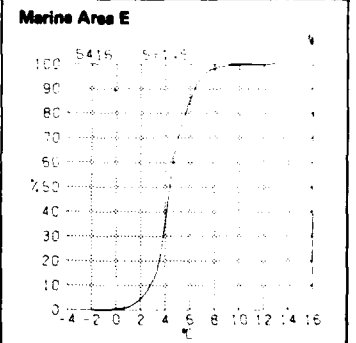
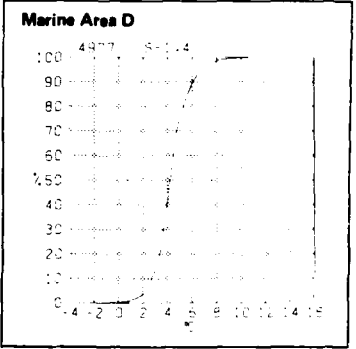
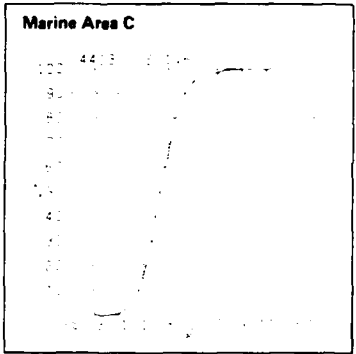
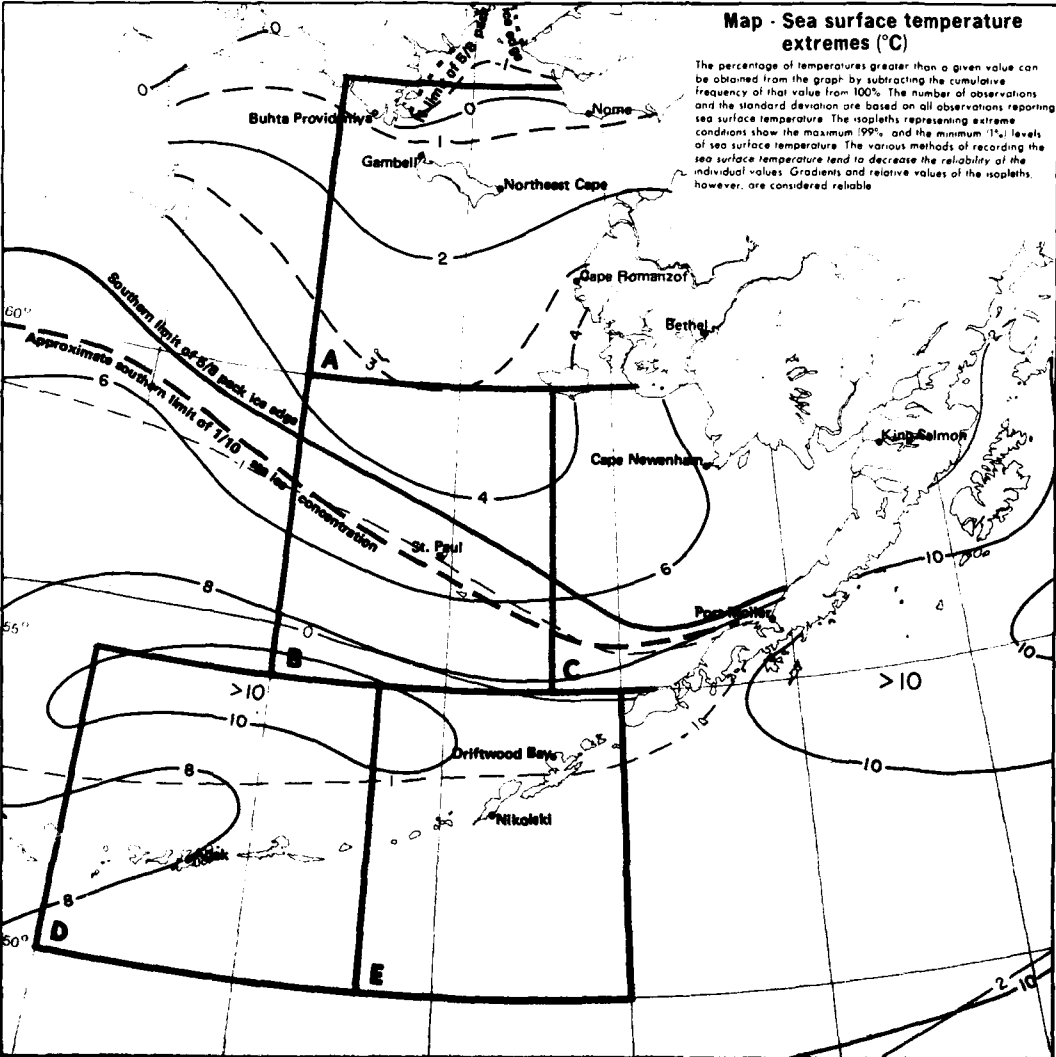
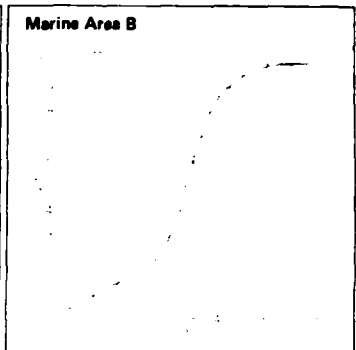
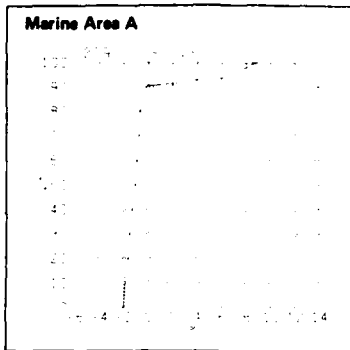
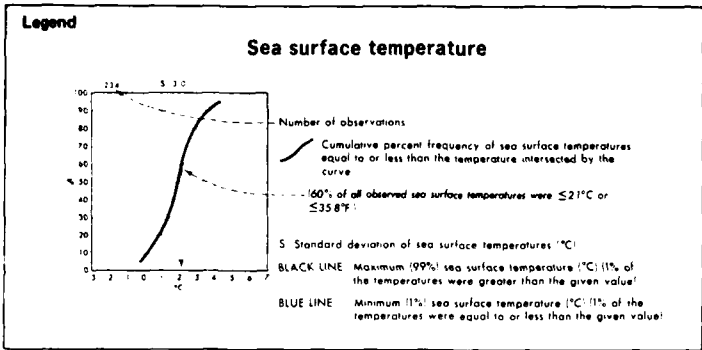
13 Mean sea level pressure



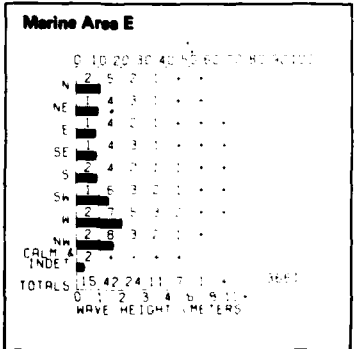
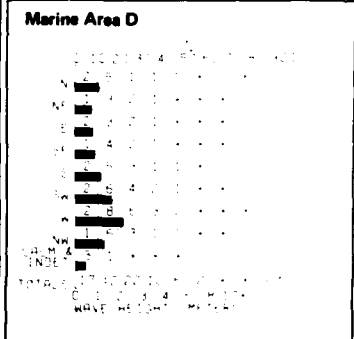
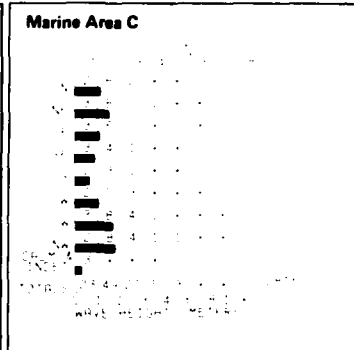
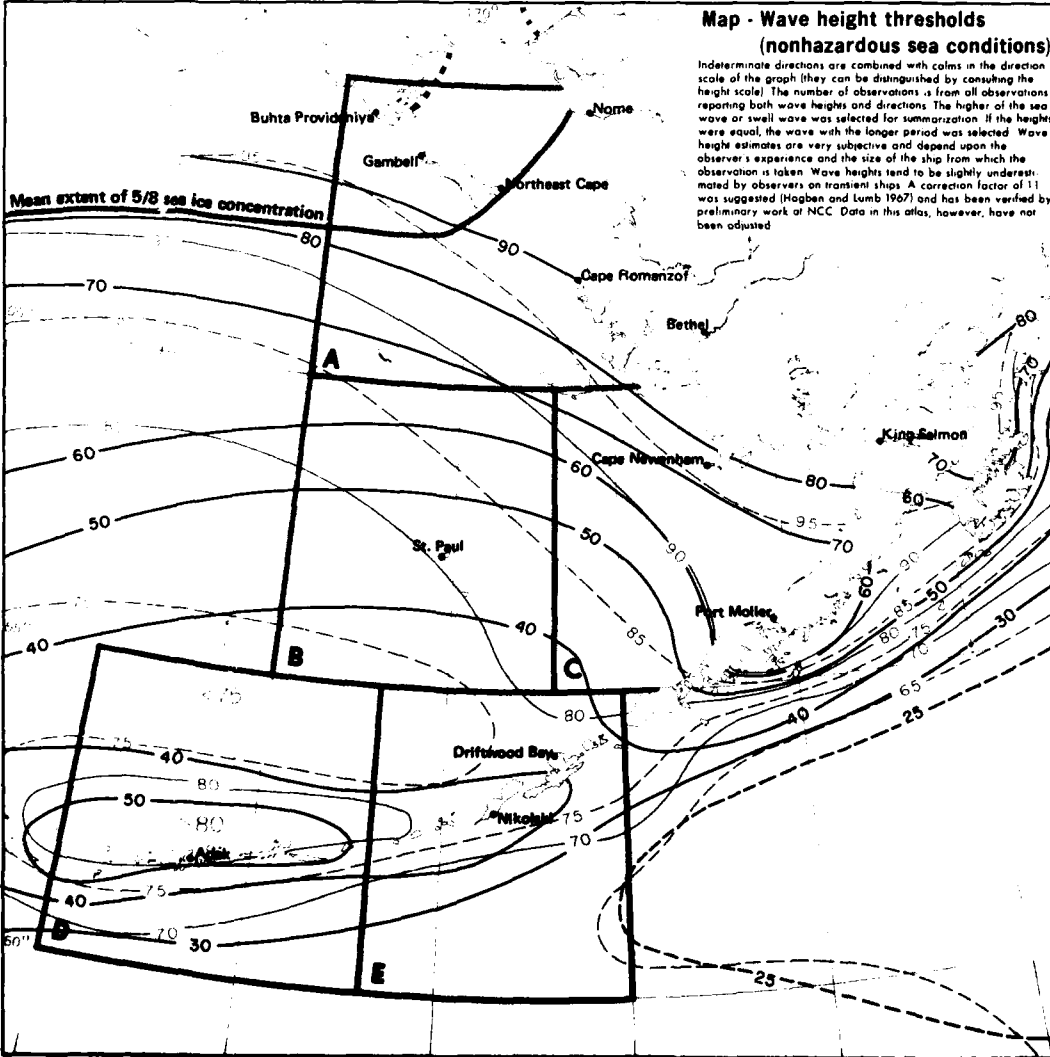
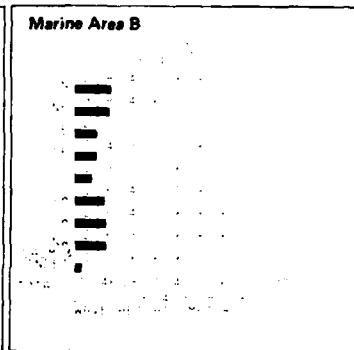
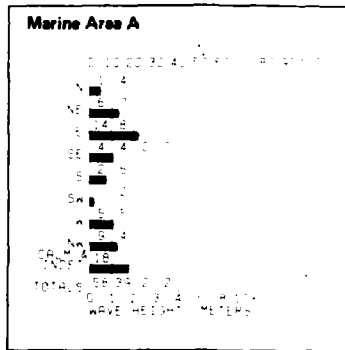
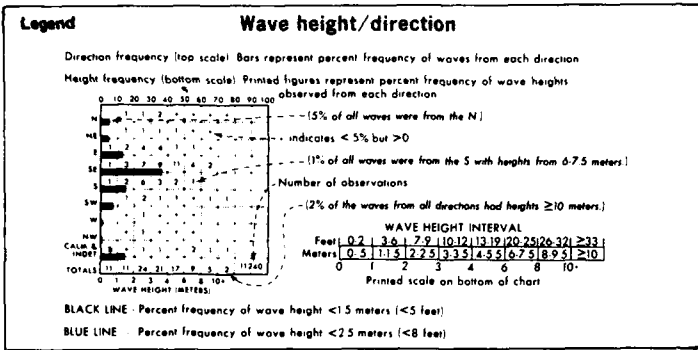


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14 Fog/air-sea temperature difference  
Mean sea surface temperature

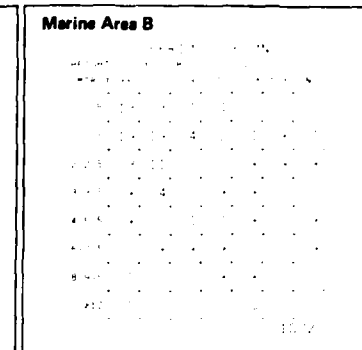
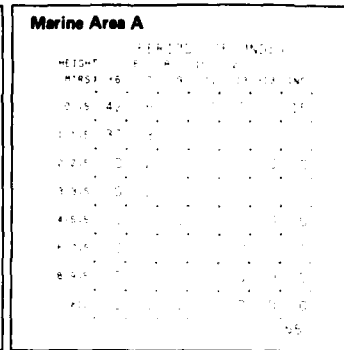
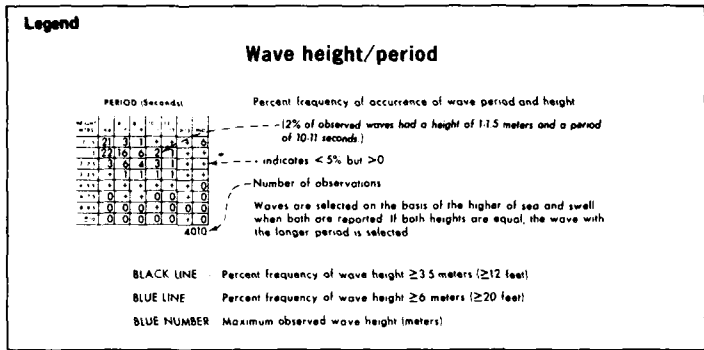


**15 Sea surface temperature extremes**



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16 Wave height thresholds (nonhazardous)



**Legend**

**Low pressure center movement**

2-hour movement of low pressure centers considering only observed circulation.

Mean speed: Printed figure at the end of each bar represents the mean speed of movement in knots toward the indicated direction.

Low pressure centers moving toward the N had a mean speed of 11 knots.

Direction frequency: Bars represent percent frequency of 2-hour movements toward each direction. Each circle represents 20%.

41% of all 2-hour movements were toward the NE.

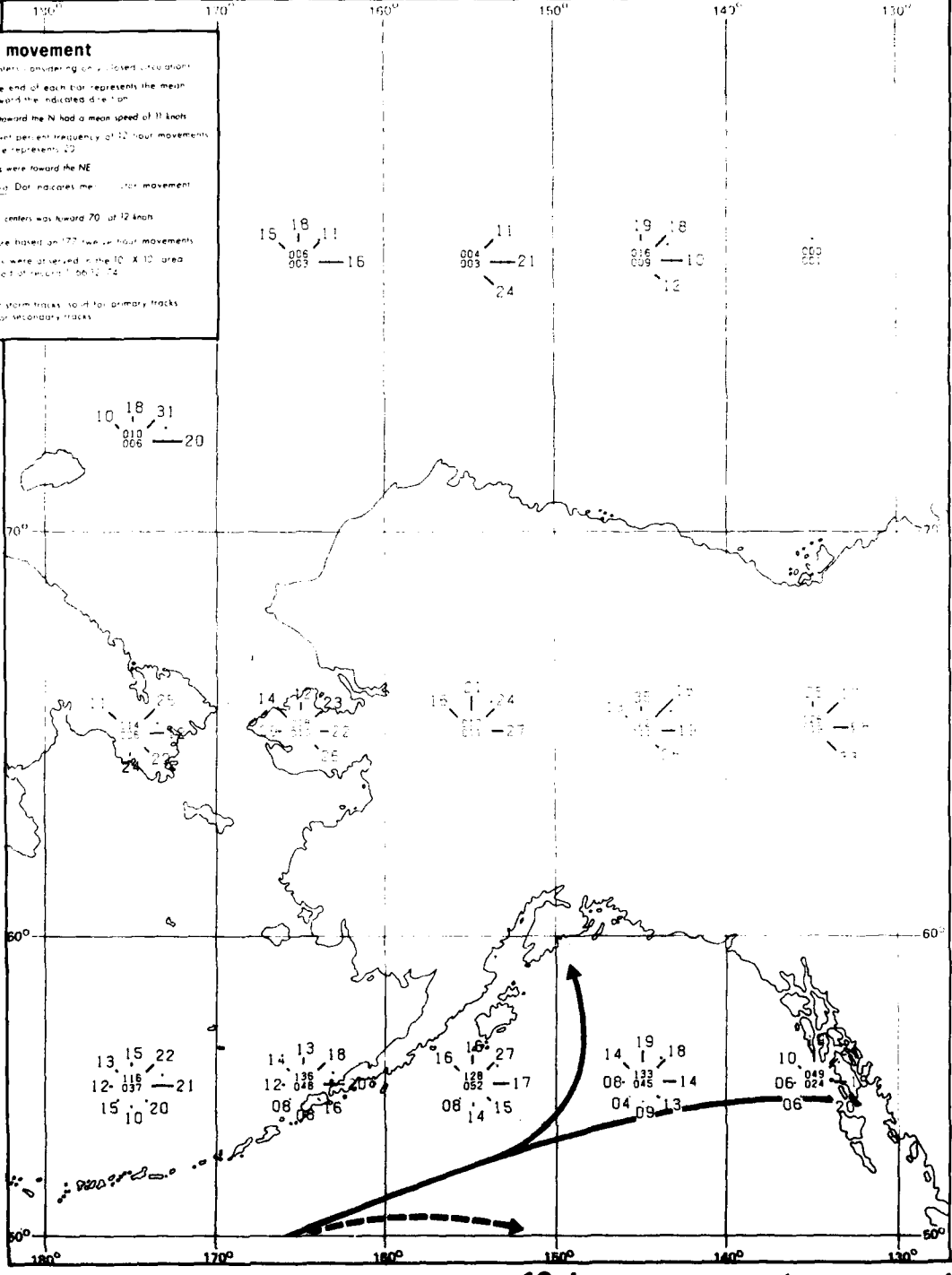
Vector for the mean direction and speed: Dot indicates mean direction movement. Bar indicates mean speed.

Mean vector movement of all centers was toward 70° at 12 knots.

Statistics for this rose are listed on 177 two-hour movements.

81 low pressure centers were observed in the 10° X 10° area during the 9-year period of records 1956-1974.

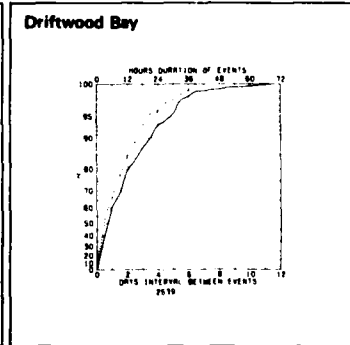
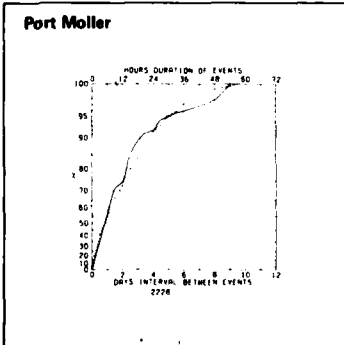
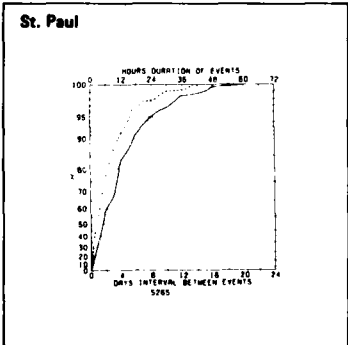
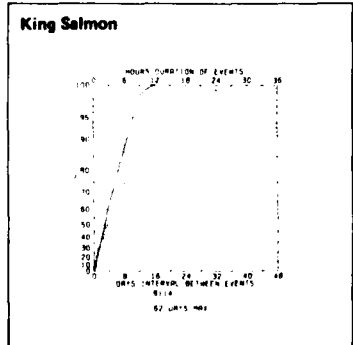
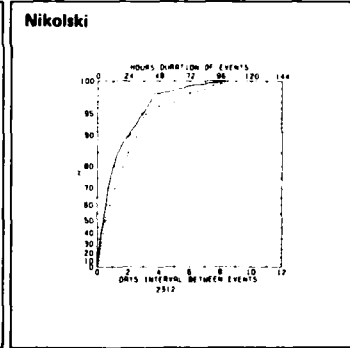
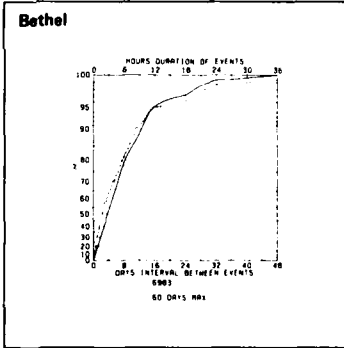
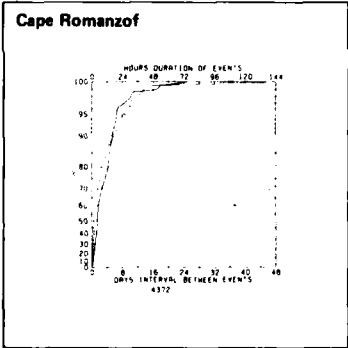
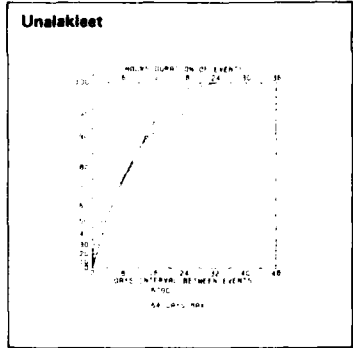
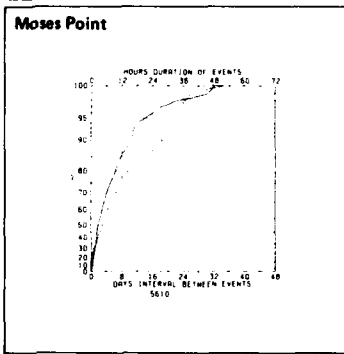
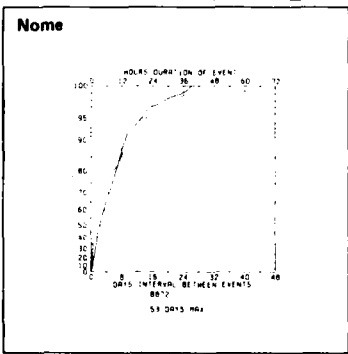
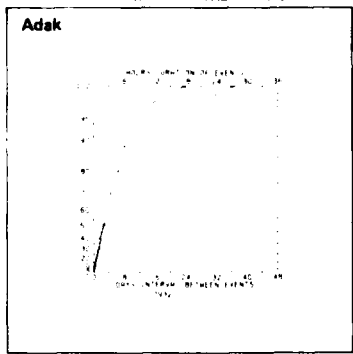
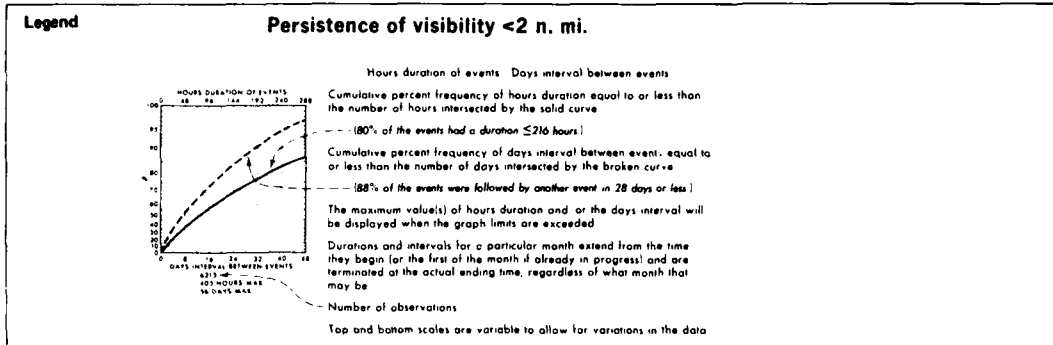
BLACK ARROWS: Preferred storm tracks used for primary tracks dashed for secondary tracks.



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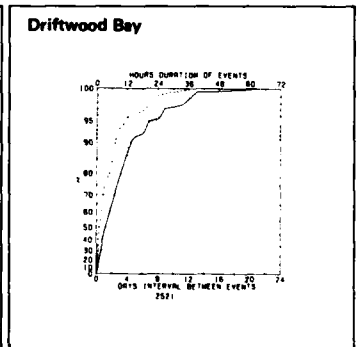
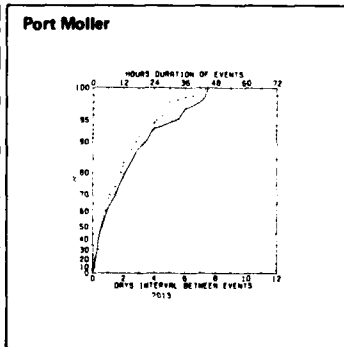
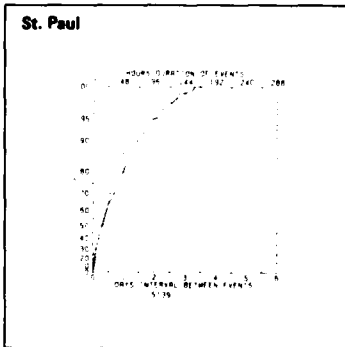
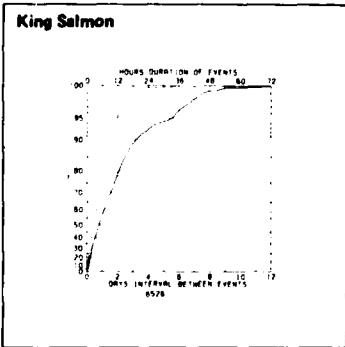
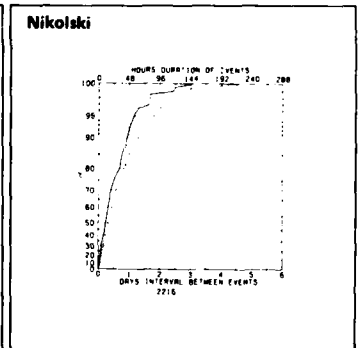
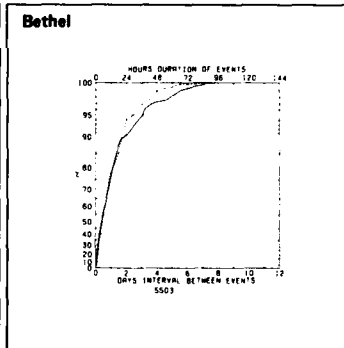
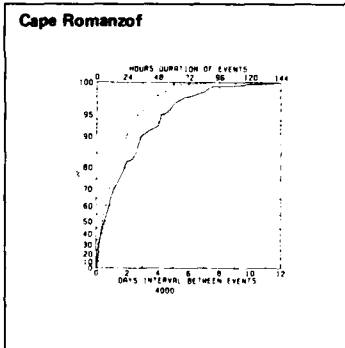
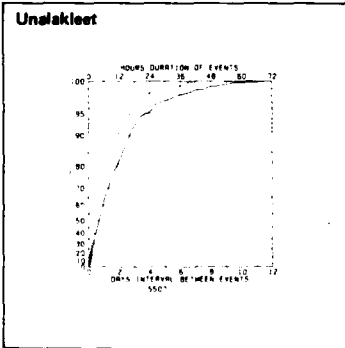
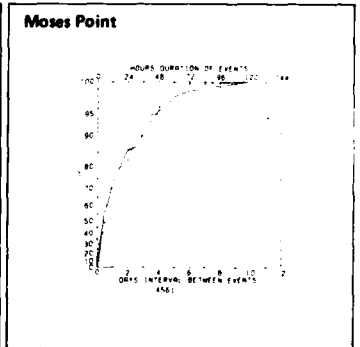
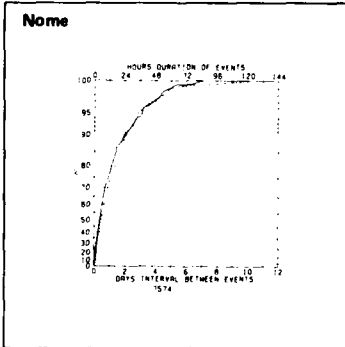
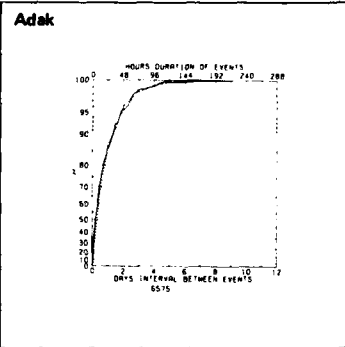
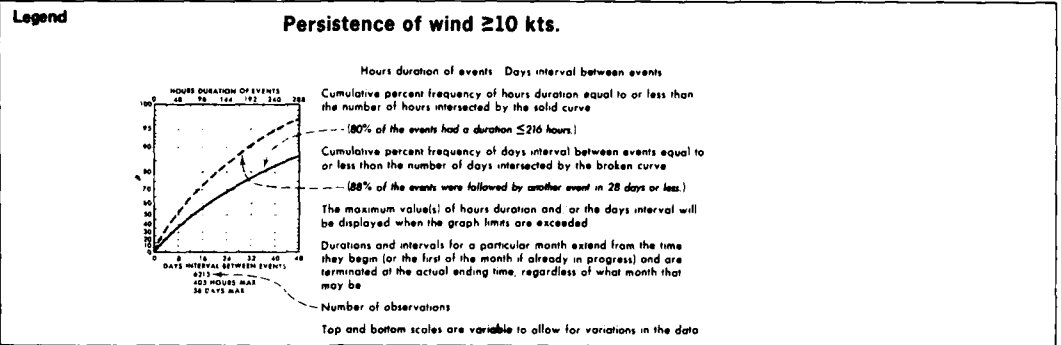
18 Low pressure center movement





19 Persistence of visibility <2 n. mi.

May

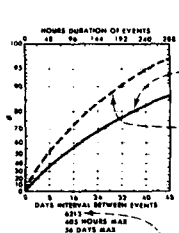


May

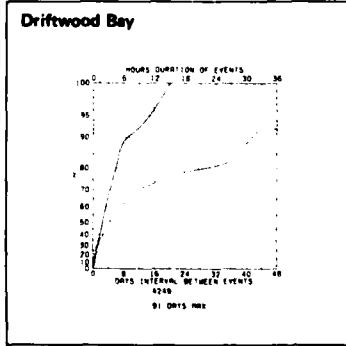
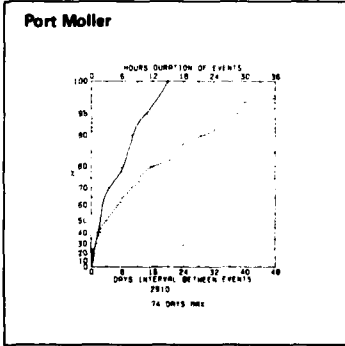
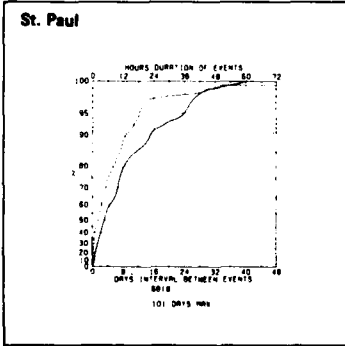
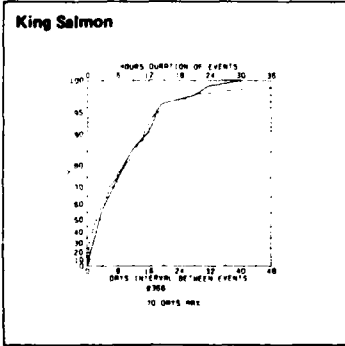
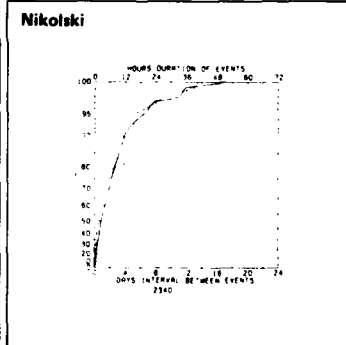
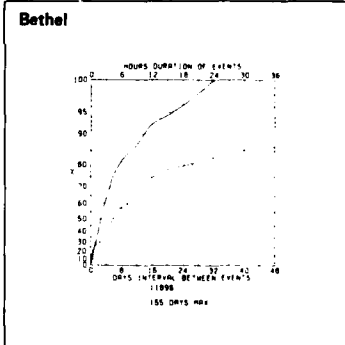
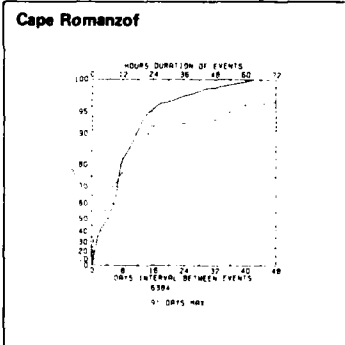
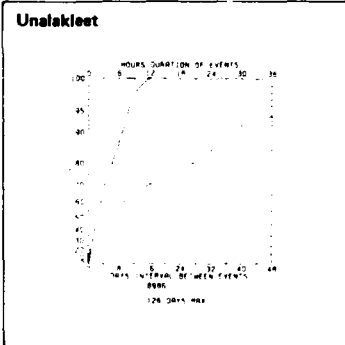
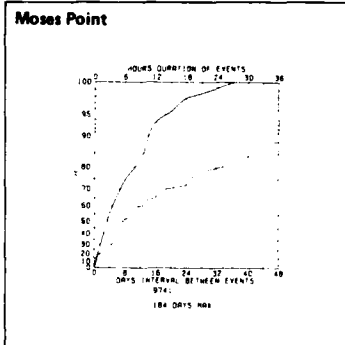
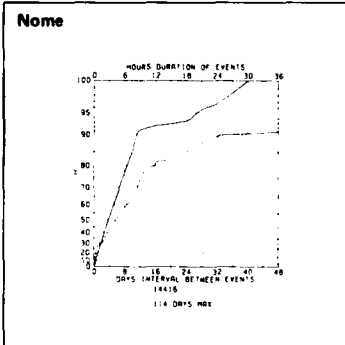
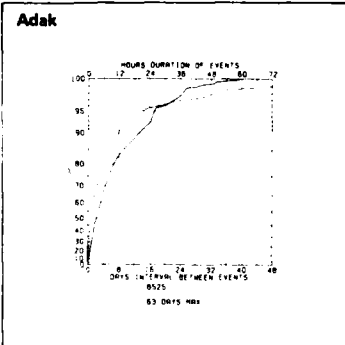
20 Persistence of wind  $\geq 10$  kts.

**Legend**

**Persistence of wind  $\geq 20$  kts.**

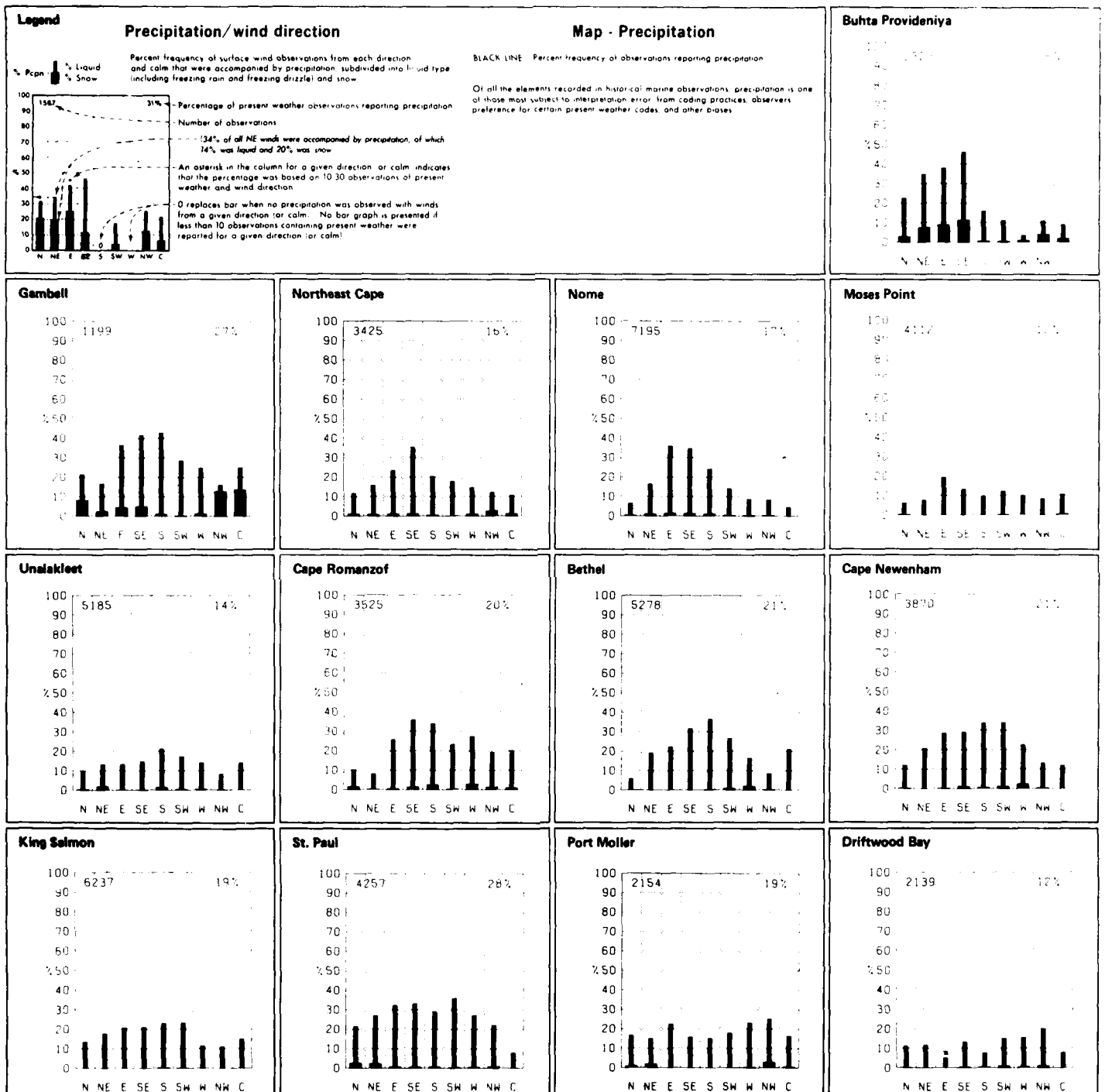


Hours duration of events - Days interval between events.  
 Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve.  
 --- (80% of the events had a duration  $\leq 216$  hours.)  
 Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve.  
 --- (88% of the events were followed by another event in 28 days or less.)  
 The maximum value(s) of hours duration and/or the days interval will be displayed when the graph limits are exceeded.  
 Durations and intervals for a particular month extend from the time they begin (or the first of the month if already in progress) and are terminated at the actual ending time, regardless of what month that may be.  
 Number of observations.  
 Top and bottom scales are variable to allow for variations in the data.



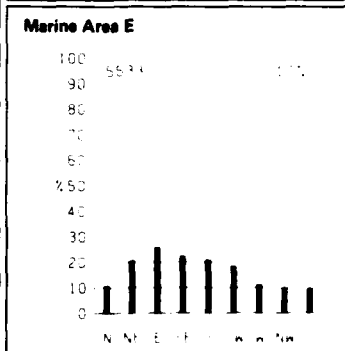
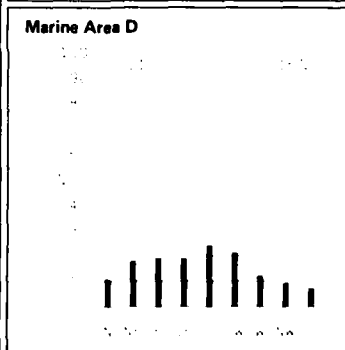
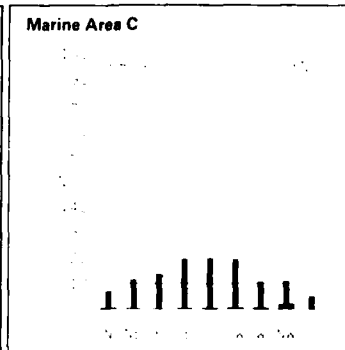
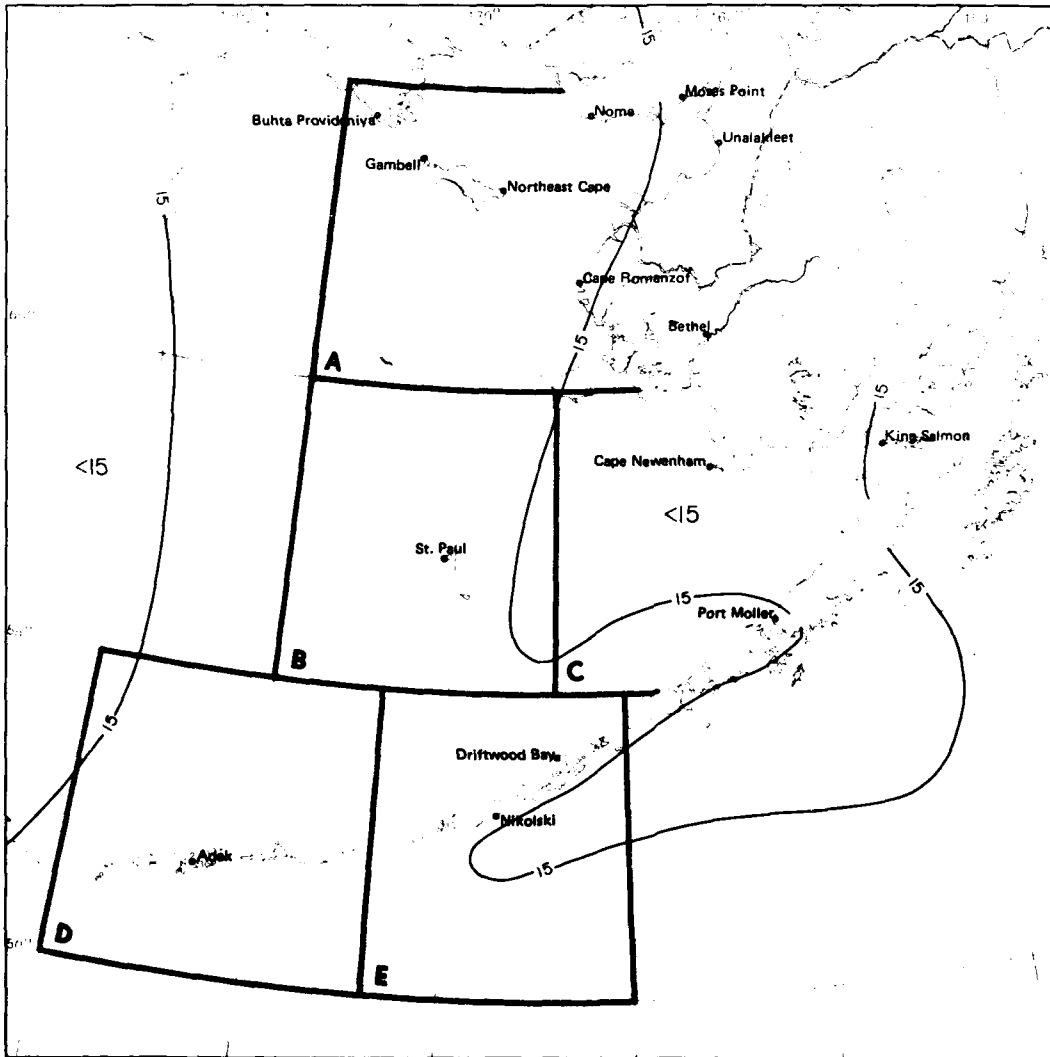
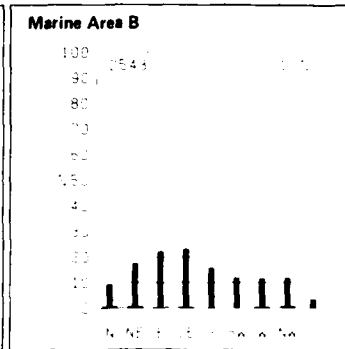
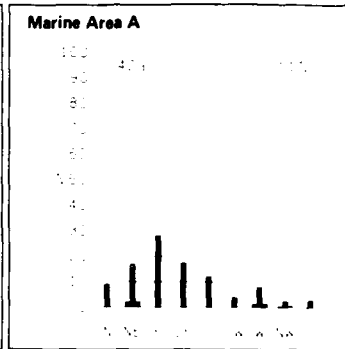
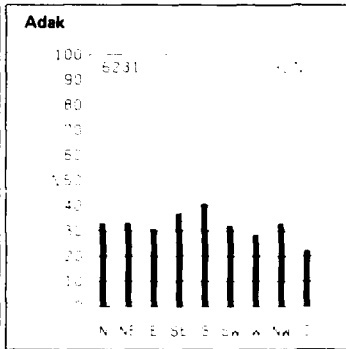
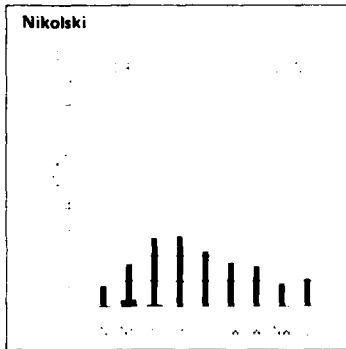
**21 Persistence of wind  $\geq 20$  kts.**

**May**



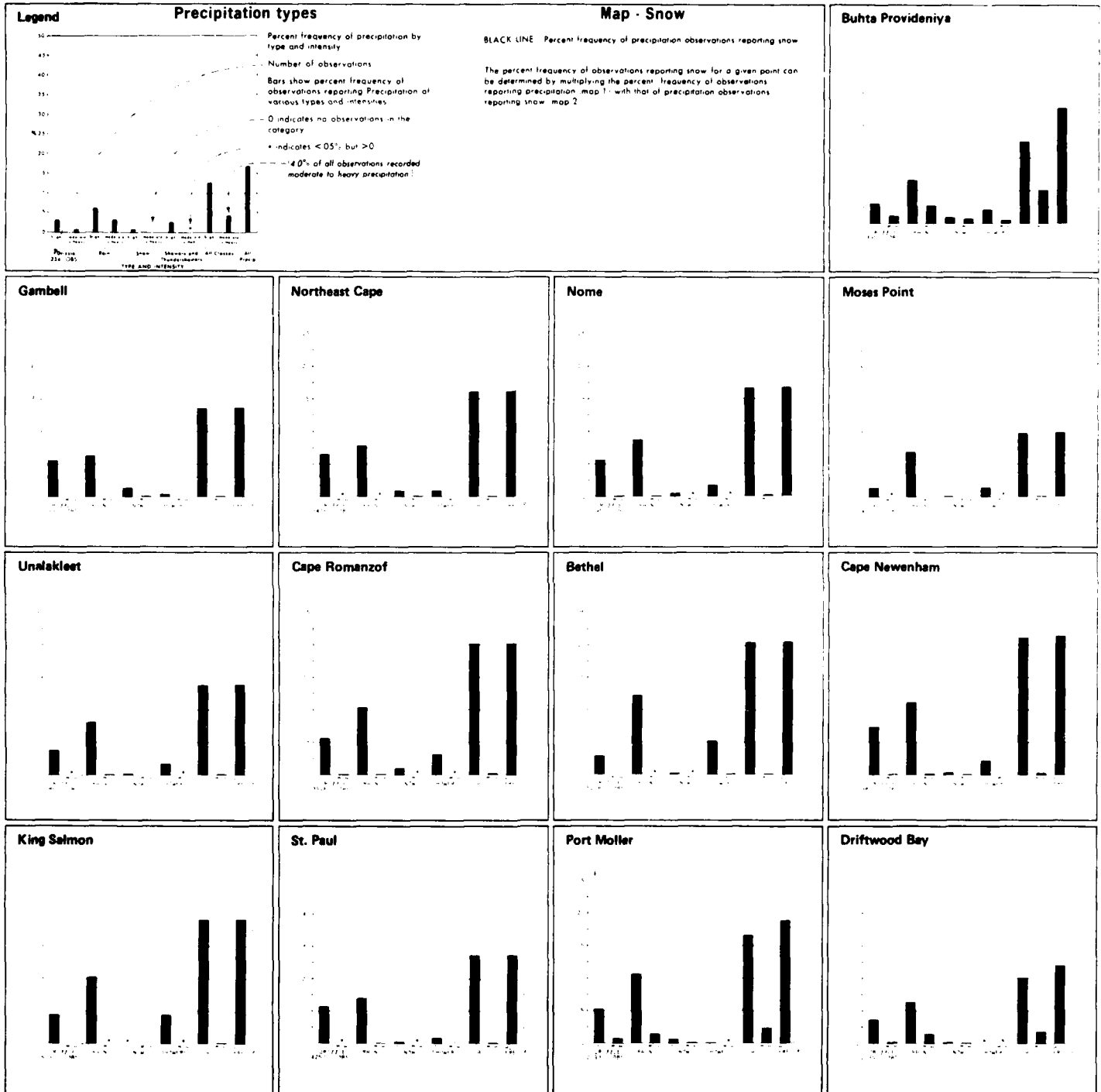
June

1 Precipitation/wind direction



1 Precipitation

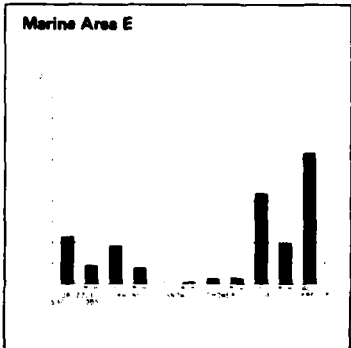
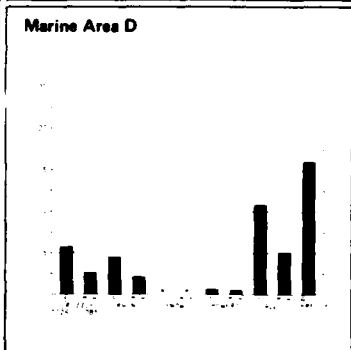
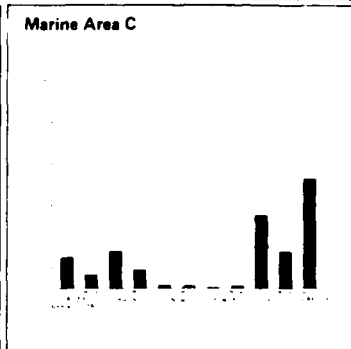
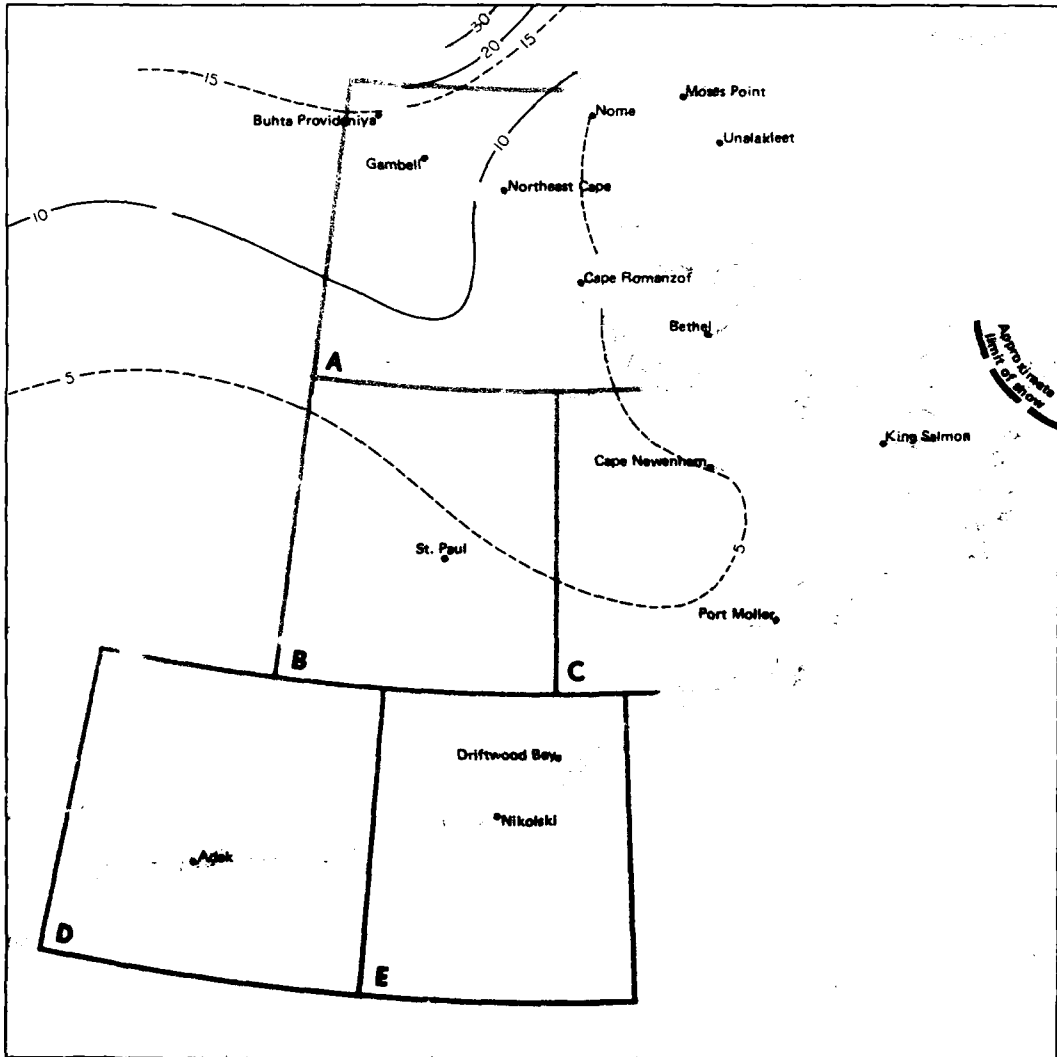
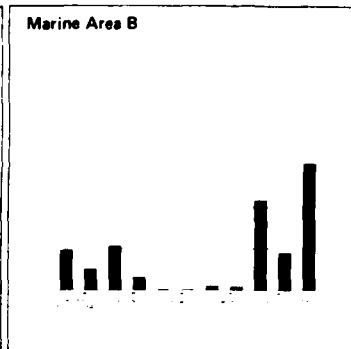
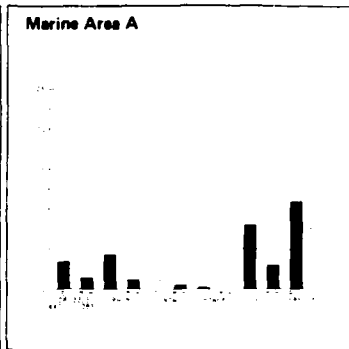
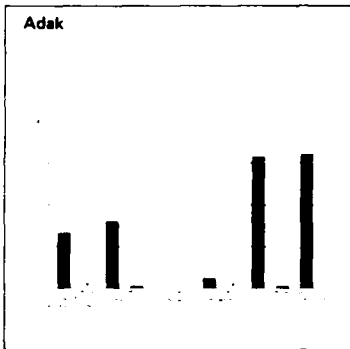
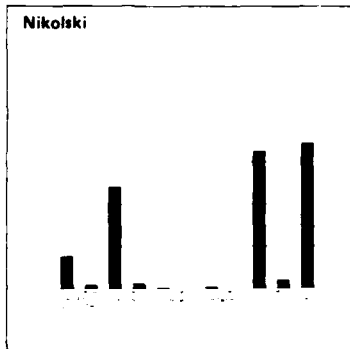
June



June

202

2 Precipitation types

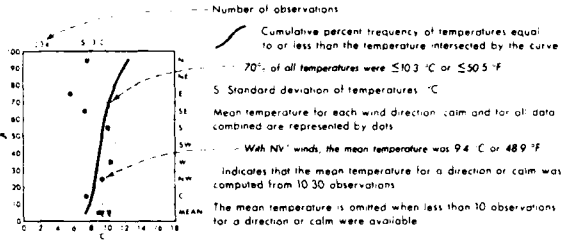


2 Snow

June

**Legend**

**Air temperature/wind direction**



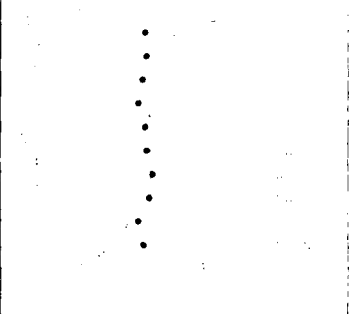
**Map - Air temperature mean and thresholds**

BLACK LINE Percent frequency of temperature  $\leq 0^{\circ}\text{C}$   $\leq 32^{\circ}\text{F}$   
 RED LINE Mean air temperature  $^{\circ}\text{C}$   
 BLUE LINE Percent frequency of wind chill temperature  $\leq 30^{\circ}\text{C}$   $\leq 22^{\circ}\text{F}$

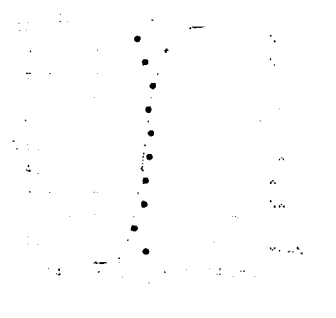
Air temperature readings recorded on transient ships in warm sunny weather appear biased toward high temperatures apparently because of improper instrument exposure and ventilation. Despite the inaccuracies the large scale patterns and mean gradients of the isopleth analyses are relatively accurate.

The temperature scale of the graph may vary in both range and class interval. The percentage of temperature observations greater than a given value can be obtained by subtracting the cumulative percent frequency of that value from 100%. The number of observations and the standard deviation plus the plotted points on the graphs are based on those observations reporting both temperature and wind direction. The cumulative curve is based on all observations reporting temperature with or without wind direction.

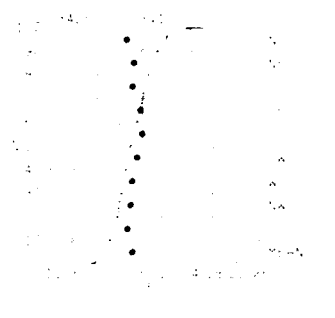
**Buhta Provideniya**



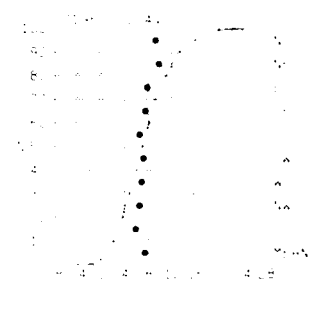
**Gambell**



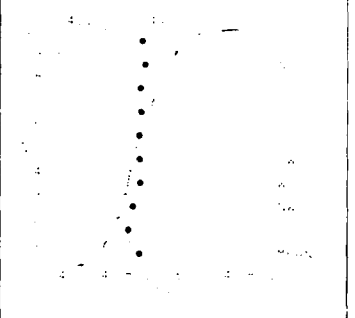
**Northeast Cape**



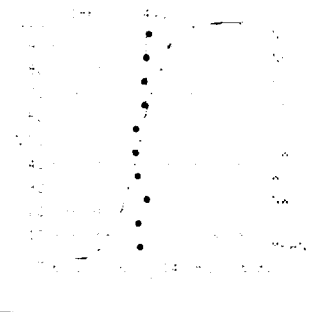
**Nome**



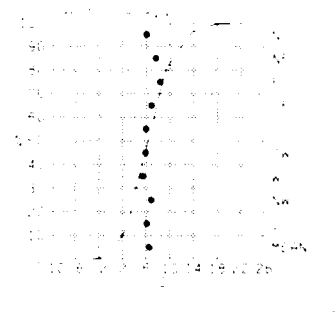
**Moses Point**



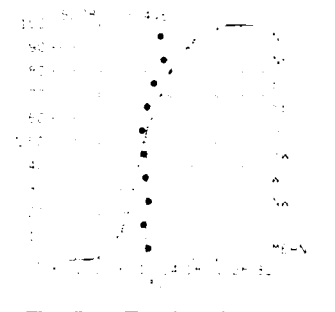
**Unalakleet**



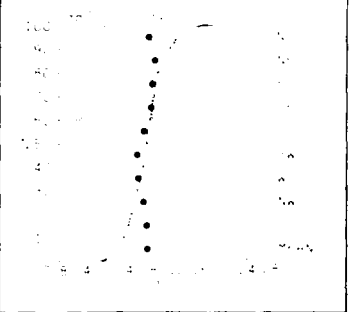
**Cape Romanzof**



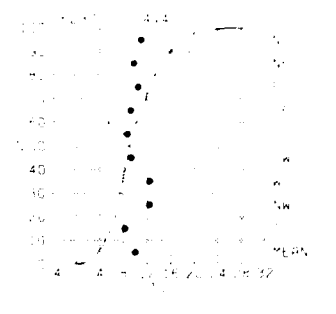
**Bethel**



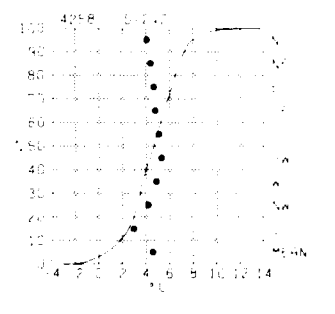
**Cape Newenham**



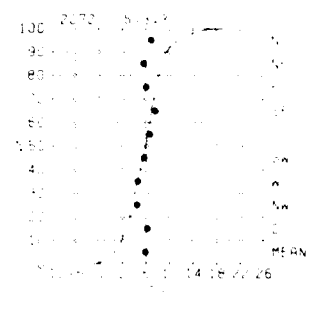
**King Salmon**



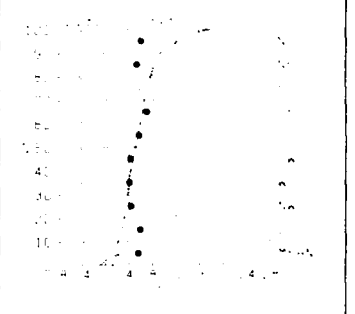
**St. Paul**



**Port Moller**



**Driftwood Bay**

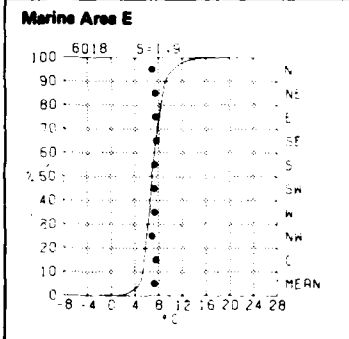
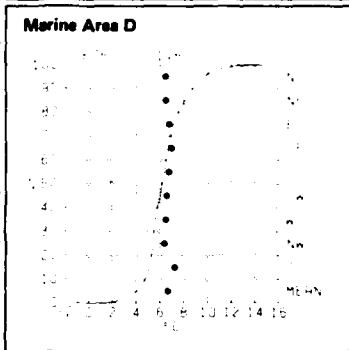
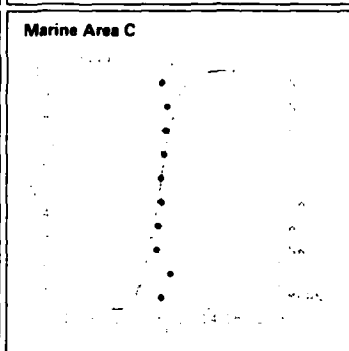
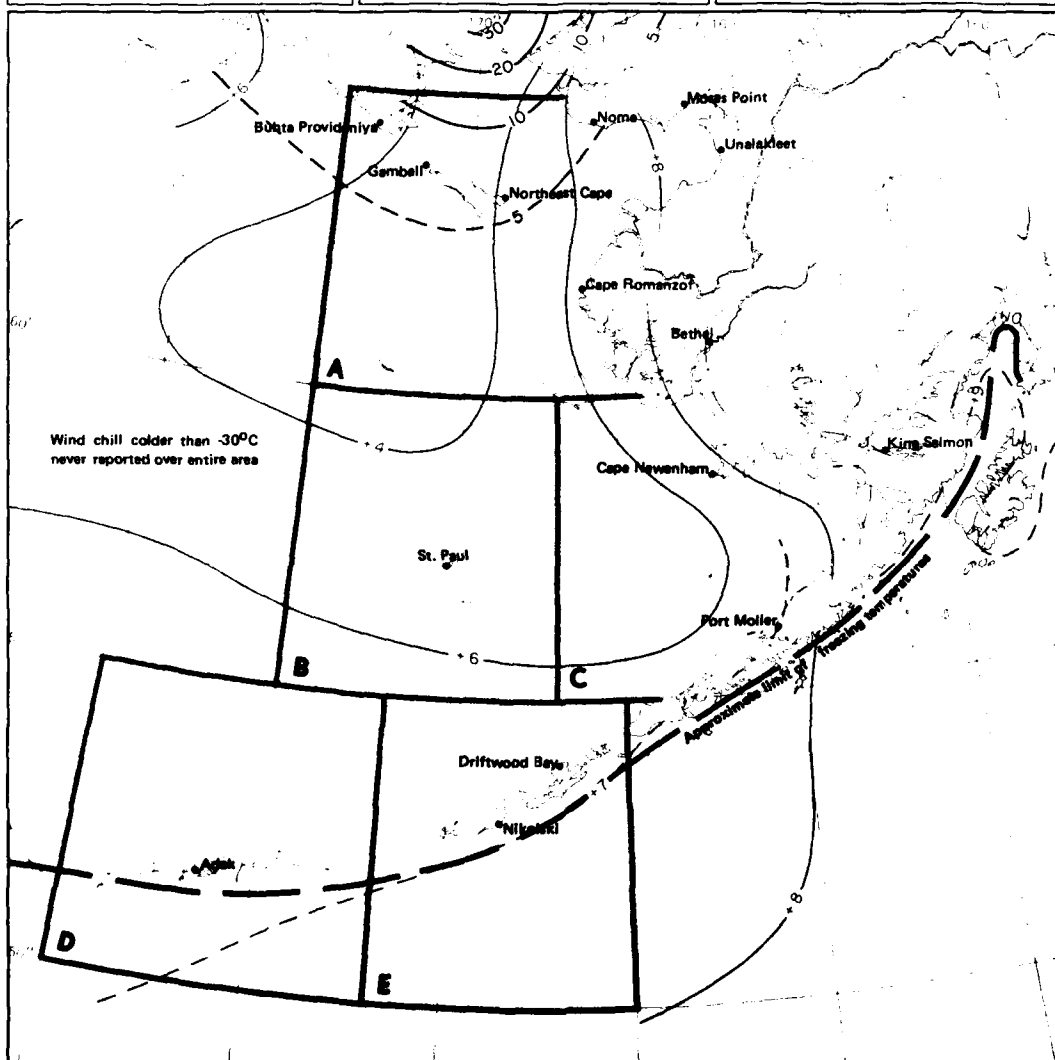
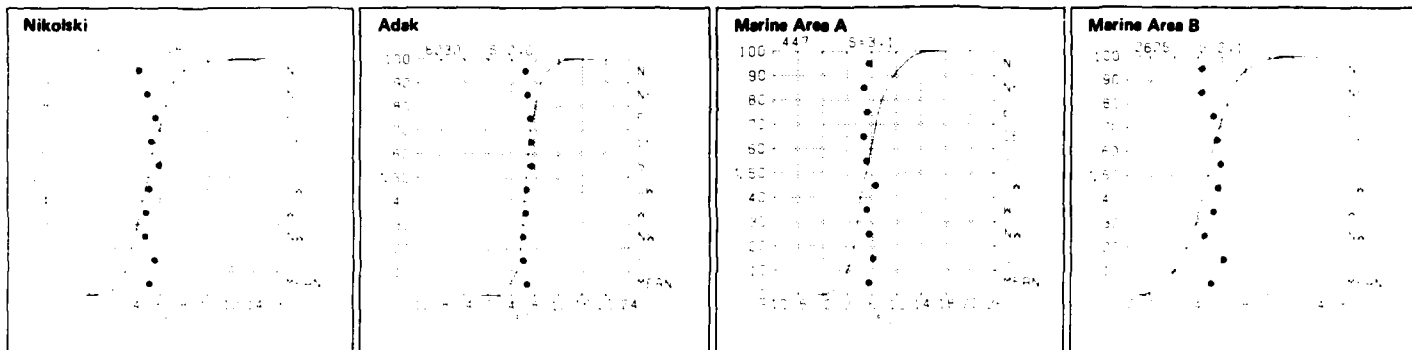


June

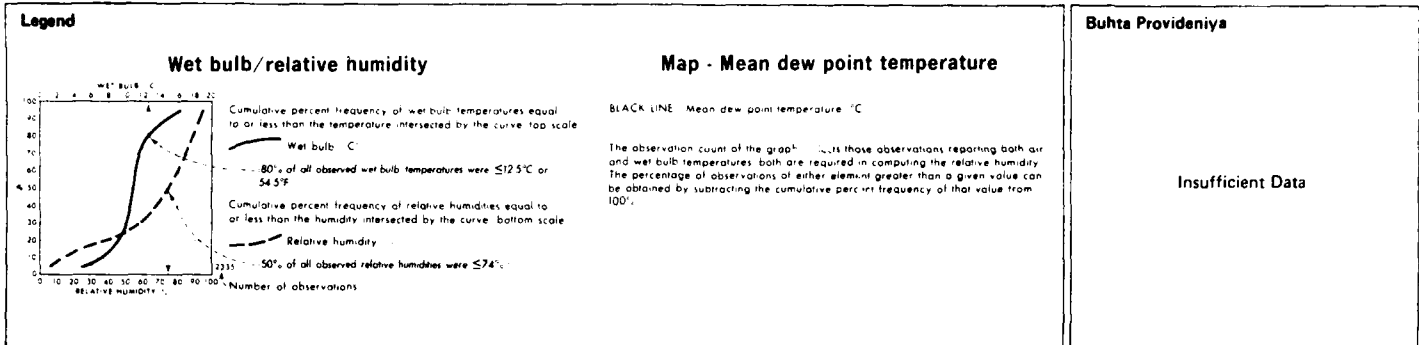
204

3 Air temperature/wind direction



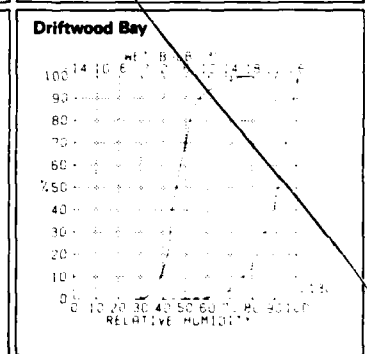
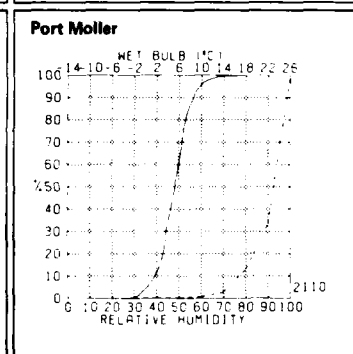
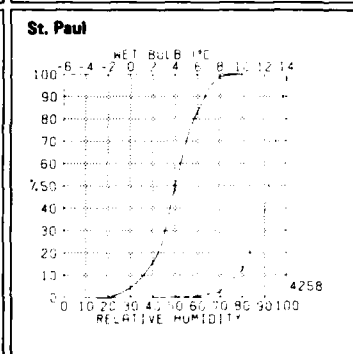
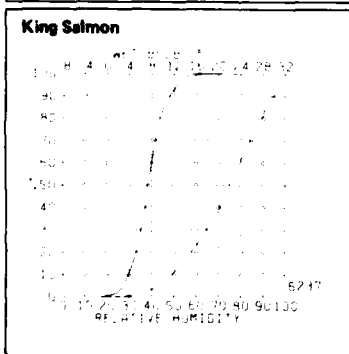
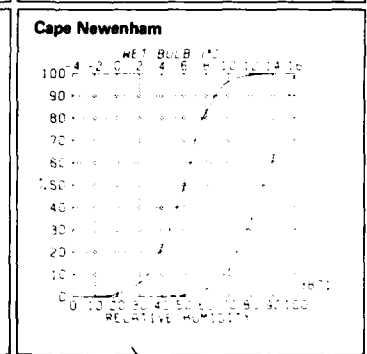
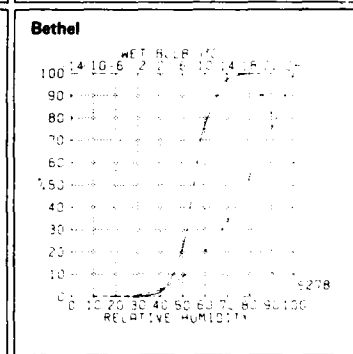
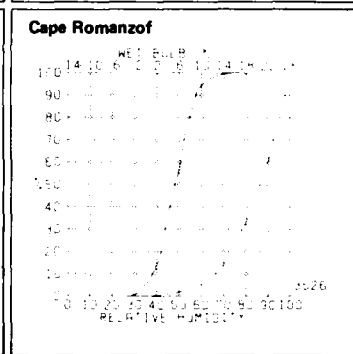
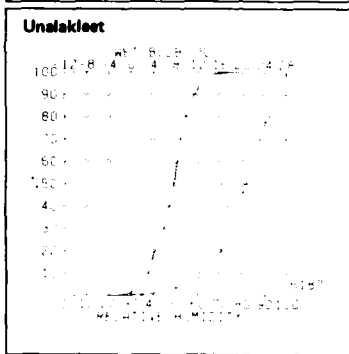
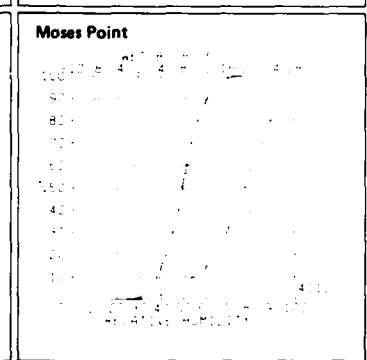
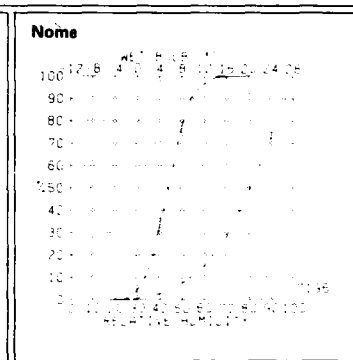
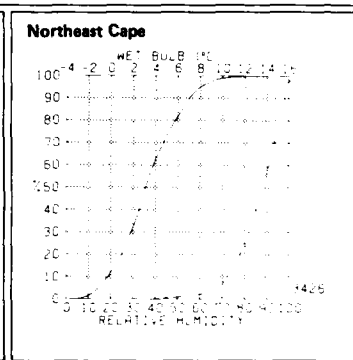
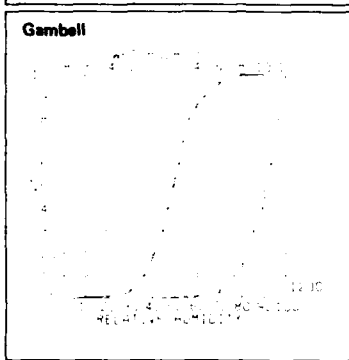


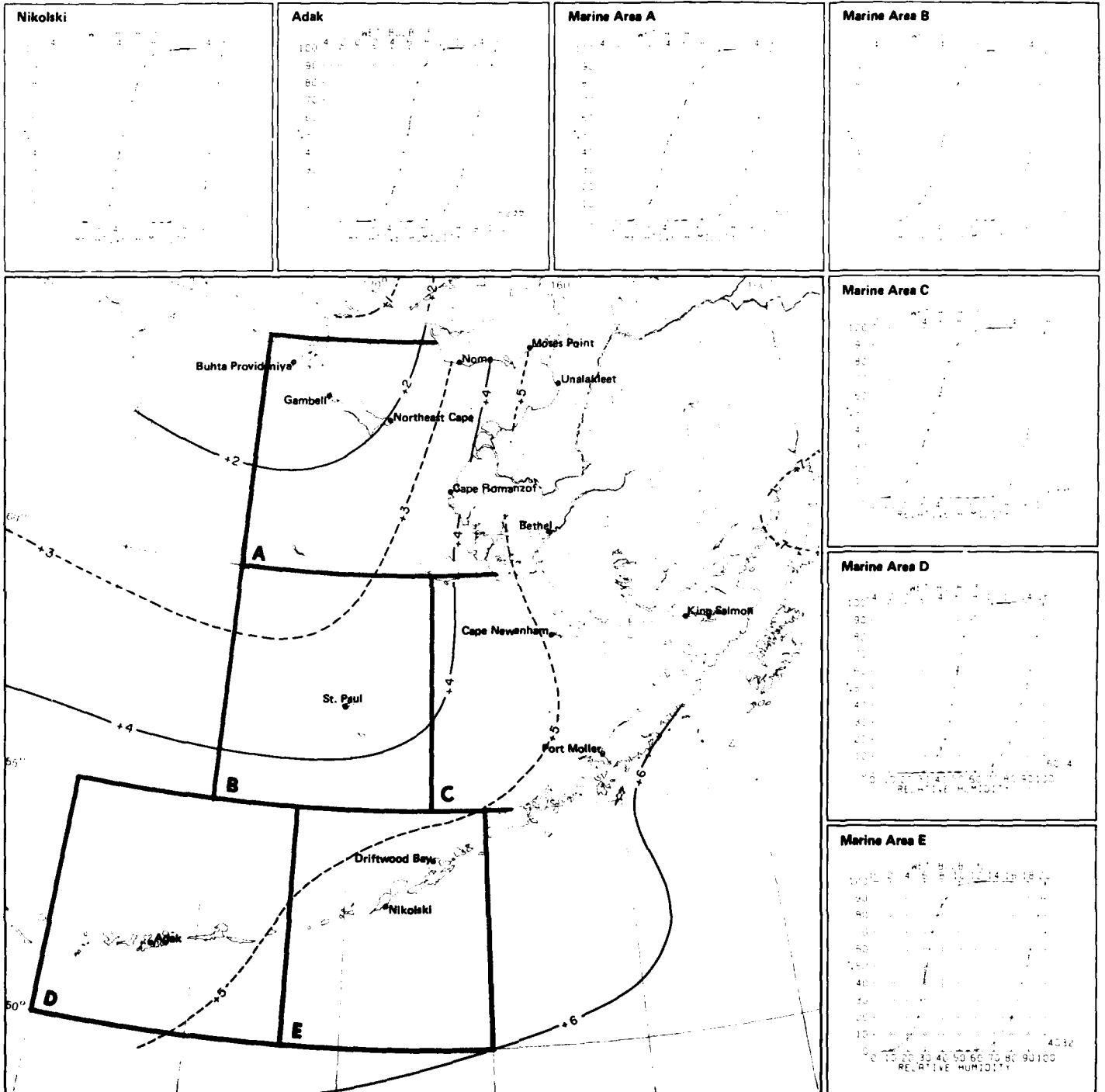
3 Air temperature mean and thresholds



**Buhta Provideniya**

Insufficient Data





4 Mean dew point temperature

June

**Legend**

**Air temperature/wind speed**

WIND SPEED (KTS)	
0-3	4-10
11-21	22-33
34	

Percent frequency of simultaneous occurrence of specified temperature (°C) and wind speed (knots)

--- 1% of all observations reported temperature 2.3°C simultaneously with wind speed of 22.33 kts

--- Indicates < 5% but > 0

--- Number of observations

**Map - Air temperature extremes (°C)**

BLACK LINE Maximum 199% air temperature (1% of temperatures were greater than the given value)

BLUE LINE Minimum 1% air temperature (1% of temperatures were equal to or less than the given value)

The graph can be used to determine the extent of human discomfort from the combined effects of extreme heat or cold and winds or to estimate the likelihood of superstructure icing (icing potential increases as the air temperature drops below freezing and the winds increase above 10 knots (12 mph) and may become quite severe with temperatures equal to or less than 9°C (16°F) and winds equal to or greater than 34 knot (39 mph)

**Buhta Provideniya**

**Gambell**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	34
12.13	+	+	0	0	0
10.11	0	1	0	0	0
8.9	+	2	1	0	0
6.7	1	4	3	+	0
4.5	1	9	5	+	0
2.3	4	15	18	3	0
0.1	2	9	10	1	0
-2.1	2	4	2	+	0
-4.3	+	+	+	+	0
-6.5	0	+	+	+	0
-8.7	0	0	0	0	0

1200

**Northeast Cape**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	34
16.17	0	+	+	0	0
14.15	+	+	+	+	0
12.13	+	1	1	+	0
10.11	+	2	1	+	0
8.9	2	5	3	+	0
6.7	4	10	6	1	+
4.5	4	10	6	1	+
2.3	7	13	5	1	0
0.1	4	7	1	+	0
-2.1	2	2	1	0	0
-4.3	+	+	+	0	0

3425

**Nome**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	34
26.27	0	+	+	0	0
24.25	+	+	+	0	0
22.23	+	+	+	+	0
20.21	+	+	+	0	0
18.19	+	1	1	+	0
16.17	+	2	1	+	0
14.15	+	2	1	+	0
12.13	1	5	3	+	0
10.11	1	6	3	+	0
8.9	2	9	5	+	0
6.7	8	31	15	1	0

7196

**Moses Point**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	34
28.29	0	+	+	0	0
26.27	0	+	+	0	0
24.25	0	+	+	0	0
22.23	0	+	+	0	0
20.21	+	+	+	0	0
18.19	+	2	2	0	0
16.17	+	3	3	+	0
14.15	1	5	3	+	0
12.13	2	9	5	+	0
10.11	2	8	4	+	0
8.9	8	26	16	1	0

4112

**Unalakleet**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	34
28.29	0	+	+	0	0
26.27	0	+	+	0	0
24.25	0	+	+	0	0
22.23	0	+	+	0	0
20.21	0	+	+	0	0
18.19	+	1	1	0	+
16.17	+	2	1	+	0
14.15	+	4	2	0	0
12.13	2	9	4	+	+
10.11	2	10	4	+	0
8.9	8	34	13	1	0

5186

**Cape Romanzof**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	34
22.23	+	0	0	0	0
20.21	+	+	0	0	0
18.19	+	+	+	0	0
16.17	+	1	1	+	0
14.15	1	1	1	+	0
12.13	1	3	3	+	0
10.11	2	4	3	+	0
8.9	3	8	6	+	0
6.7	5	10	6	+	0
4.5	3	10	6	+	0
2.3	5	10	7	+	0

3525

**Bethel**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	34
28.29	0	0	+	0	0
26.27	0	+	+	0	0
24.25	+	+	+	0	0
22.23	+	1	+	0	0
20.21	+	1	1	0	0
18.19	+	3	2	0	0
16.17	+	4	2	0	0
14.15	+	4	3	+	0
12.13	1	9	4	+	0
10.11	1	9	4	+	0
8.9	3	28	17	+	0

5278

**Cape Newenham**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	34
22.23	0	0	+	0	0
20.21	0	0	0	0	0
18.19	+	+	+	0	0
16.17	+	+	+	0	0
14.15	1	1	1	+	0
12.13	2	3	1	+	0
10.11	3	4	2	+	0
8.9	7	10	5	1	0
6.7	6	15	8	1	0
4.5	4	6	4	+	0
2.3	3	5	4	+	+

3870

**King Salmon**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	34
30.31	0	+	0	0	0
28.29	0	+	+	0	0
26.27	+	+	+	0	0
24.25	+	+	+	0	0
22.23	0	1	+	+	0
20.21	+	1	+	+	0
18.19	+	2	1	+	0
16.17	+	3	2	+	0
14.15	+	4	2	+	0
12.13	1	7	5	1	0
8.9	9	38	18	2	+

6237

**St. Paul**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	34
12.13	0	+	+	+	0
10.11	0	+	+	+	0
8.9	+	3	3	+	0
6.7	+	14	16	1	+
4.5	1	12	15	2	0
2.3	1	9	14	2	+
0.1	+	2	3	1	0
-2.1	+	1	+	+	0
-4.3	0	+	+	+	0
-6.5	0	0	0	0	0
-8.7	0	0	0	0	0

4258

**Port Moller**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	34
18.19	+	+	0	0	0
16.17	+	+	+	0	0
14.15	+	1	+	0	0
12.13	1	2	+	+	0
10.11	1	3	1	0	0
8.9	4	10	3	+	0
6.7	7	17	5	+	0
4.5	6	12	3	+	0
2.3	2	10	2	0	0
0.1	1	4	1	0	0
-1	+	1	1	0	0

2072

**Driftwood Bay**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	34
18.19	+	+	+	0	0
16.17	1	1	+	+	0
14.15	1	+	+	0	0
12.13	1	1	1	0	0
10.11	1	2	1	+	0
8.9	3	7	2	+	0
6.7	7	13	4	0	0
4.5	7	14	5	+	0
2.3	7	12	2	0	0
0.1	1	3	1	+	0
-2.1	+	+	+	0	0

2130

**Nikolski**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	34
16-17	0	0	0	0	0
14-15	0	0	0	0	0
12-13	0	0	0	0	0
10-11	0	0	0	0	0
8-9	3	2	0	0	0
6-7	3	13	2	0	0
4-5	3	1	4	0	0
2-3	5	8	2	0	0
0-1	0	1	0	0	0
-2-1	0	0	0	0	0
-4-3	0	0	0	0	0

2195

**Adak**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	34
16-17	0	0	0	0	0
14-15	0	0	0	0	0
12-13	1	1	1	0	0
10-11	1	3	2	0	0
8-9	2	11	8	1	0
6-7	6	23	16	3	0
4-5	3	9	6	1	0
2-3	1	1	1	0	0
0-1	0	0	0	0	0
-2-1	0	0	0	0	0
-4-3	0	0	0	0	0

6230

**Marine Area A**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	34
16-17	0	0	0	0	0
14-15	0	0	0	0	0
12-13	1	2	0	0	0
10-11	1	3	1	0	0
8-9	2	4	4	1	0
6-7	2	9	10	2	0
4-5	4	11	11	2	0
2-3	2	8	10	2	0
0-1	0	1	2	0	0
-2-1	0	0	0	0	0
-4-3	0	0	0	0	0

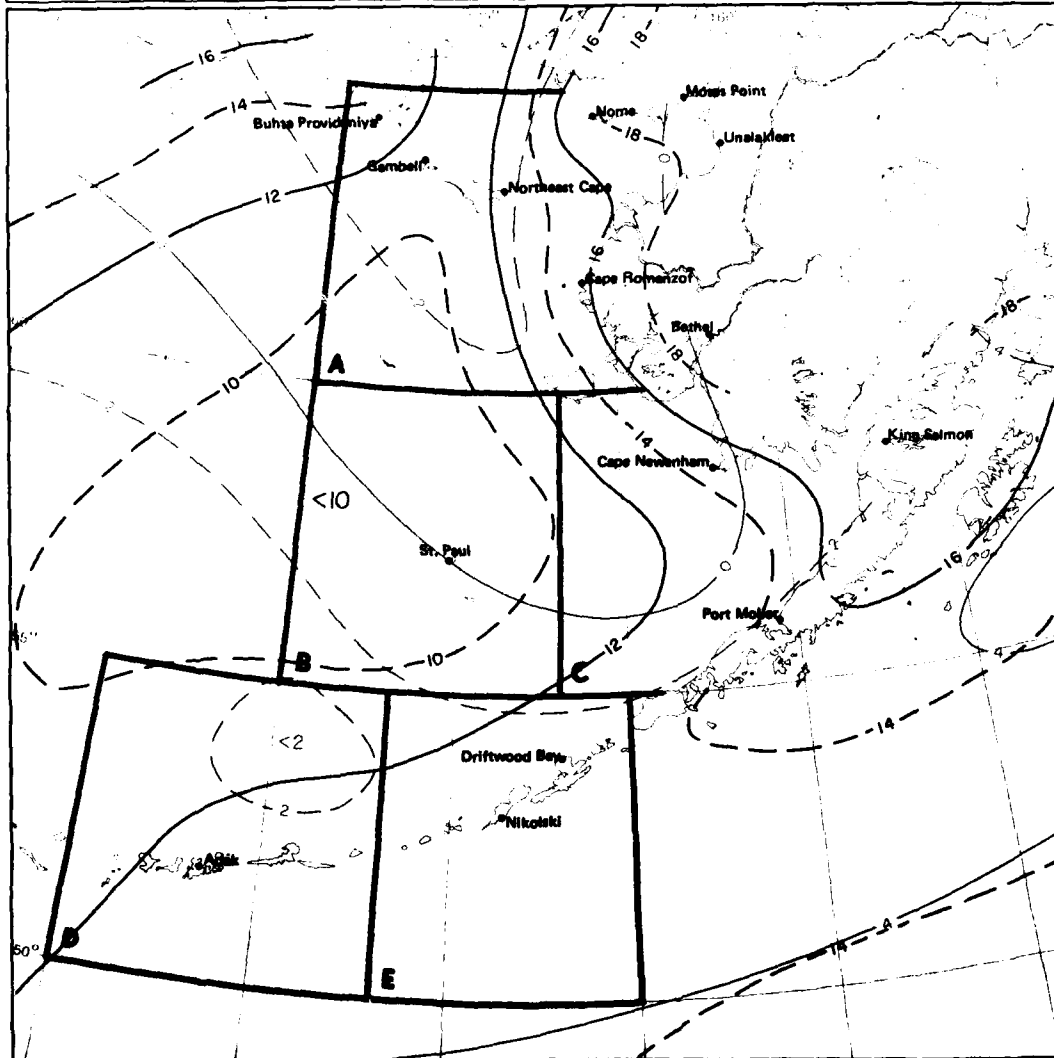
447

**Marine Area B**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	34
16-17	0	0	0	0	0
14-15	0	0	0	0	0
12-13	0	0	0	0	0
10-11	0	0	0	0	0
8-9	0	4	3	1	0
6-7	3	13	16	3	0
4-5	3	13	16	3	0
2-3	0	0	0	0	0
0-1	0	0	0	0	0
-2-1	0	0	0	0	0
-4-3	0	0	0	0	0

2625



**Marine Area C**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	34
16-17	0	0	0	0	0
14-15	0	0	0	0	0
12-13	1	1	1	0	0
10-11	2	3	0	0	0
8-9	3	8	5	1	0
6-7	4	14	11	2	0
4-5	2	10	11	0	0
2-3	1	4	1	0	0
0-1	0	1	2	1	0
-2-1	0	0	0	0	0
-4-3	0	0	0	0	0

7333

**Marine Area D**

WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	34
16-17	0	0	0	0	0
14-15	0	0	0	0	0
12-13	0	1	0	0	0
10-11	1	2	1	0	0
8-9	2	8	7	2	0
6-7	4	18	23	5	0
4-5	1	7	10	3	0
2-3	0	1	1	0	0
0-1	0	0	0	0	0
-2-1	0	0	0	0	0
-4-3	0	0	0	0	0

7676

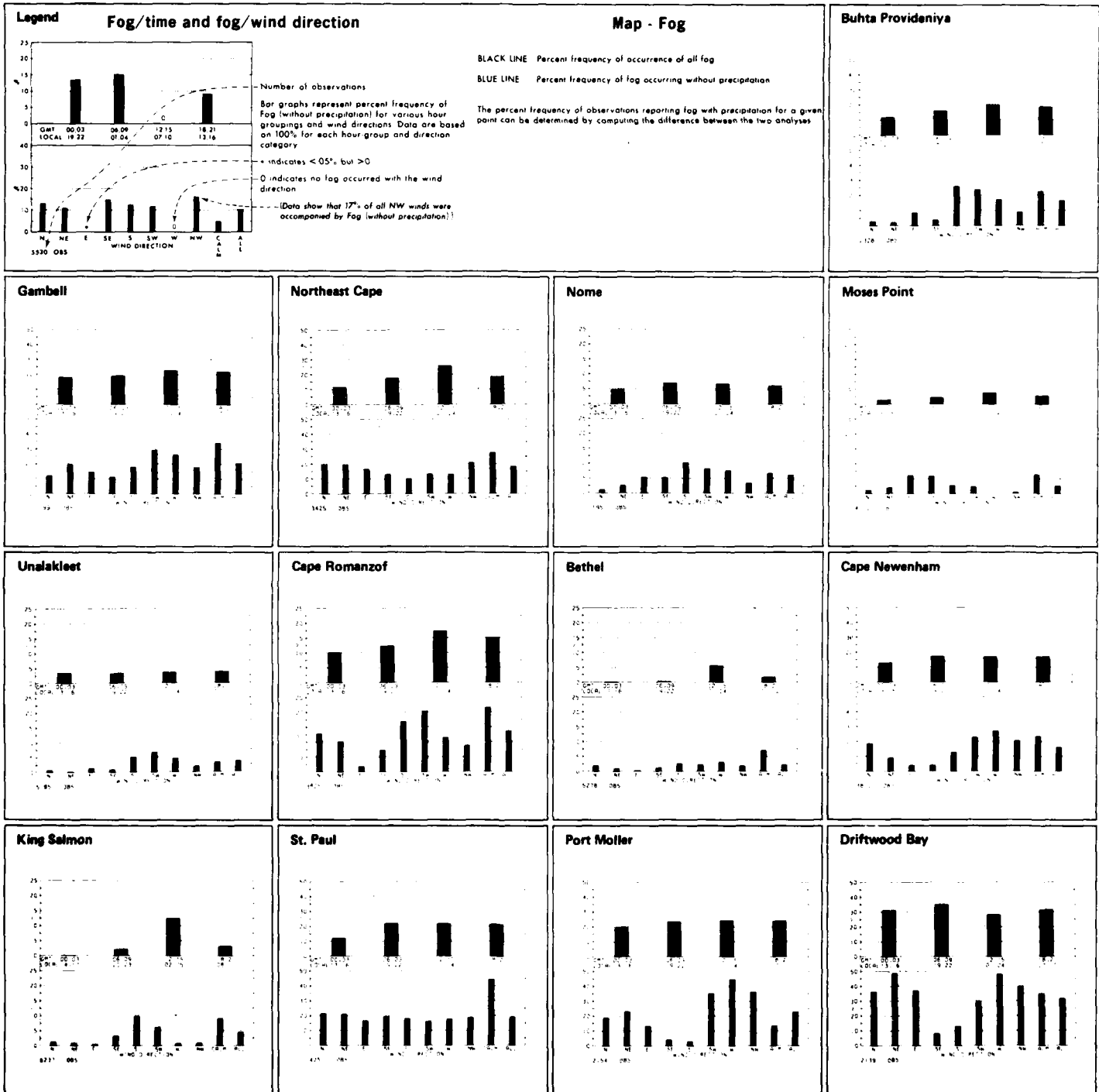
**Marine Area E**

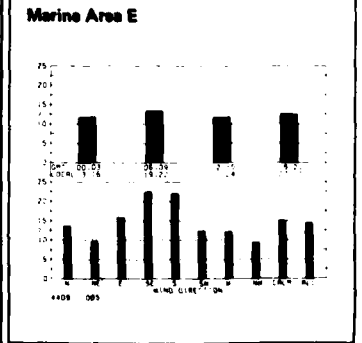
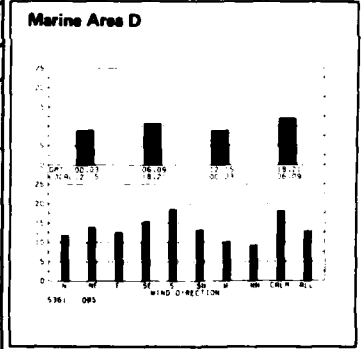
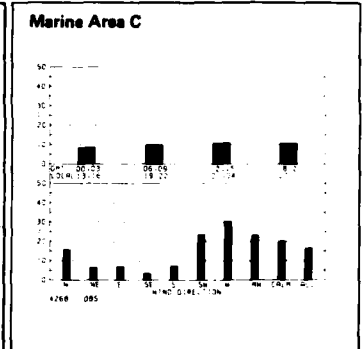
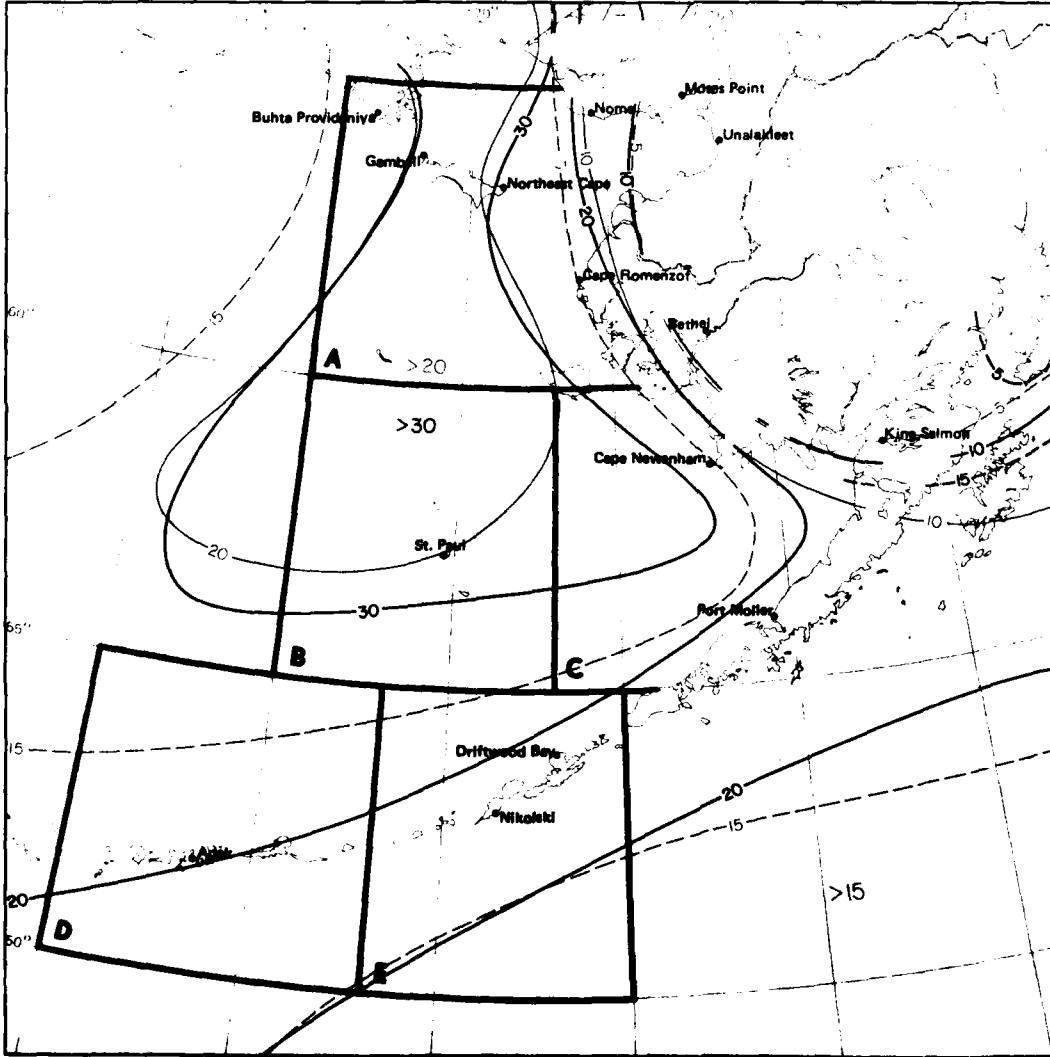
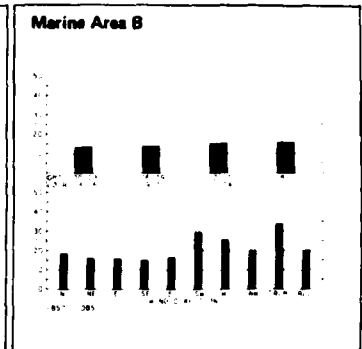
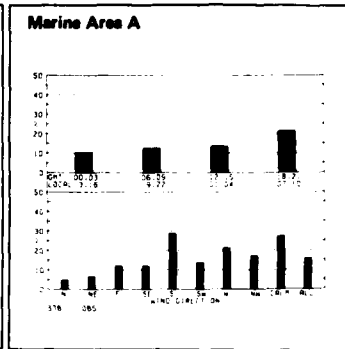
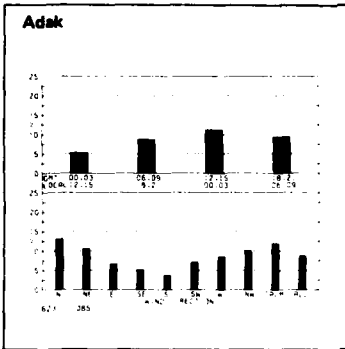
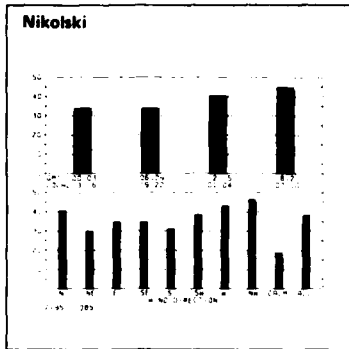
WIND SPEED (KTS)

TEMP (°C)	0-3	4-10	11-21	22-33	34
16-17	0	0	0	0	0
14-15	0	0	0	0	0
12-13	1	1	1	0	0
10-11	1	4	3	0	0
8-9	3	13	12	2	0
6-7	4	15	14	5	1
4-5	1	4	5	1	0
2-3	0	0	0	0	0
0-1	0	0	0	0	0
-2-1	0	0	0	0	0
-4-3	0	0	0	0	0

6026

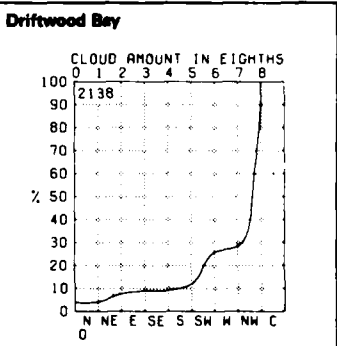
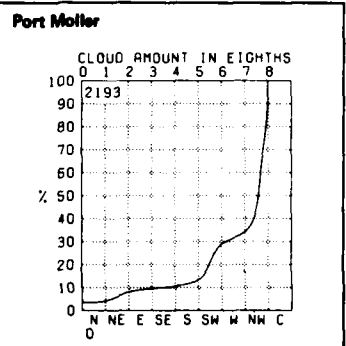
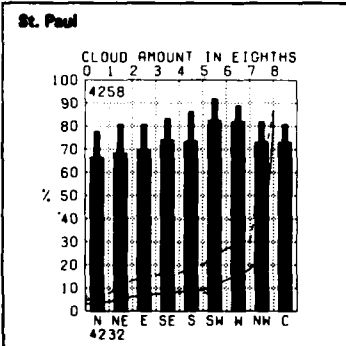
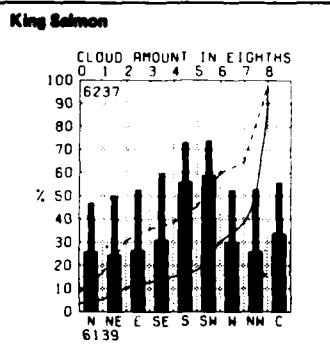
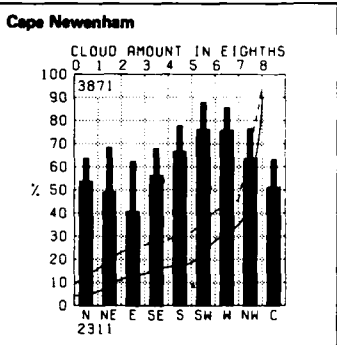
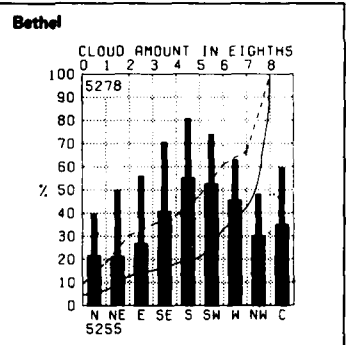
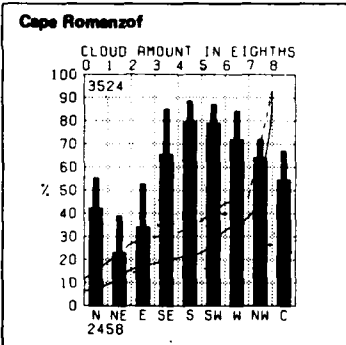
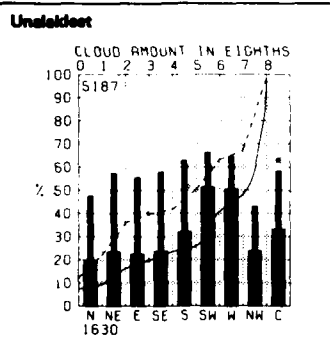
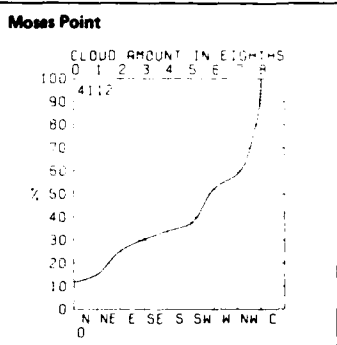
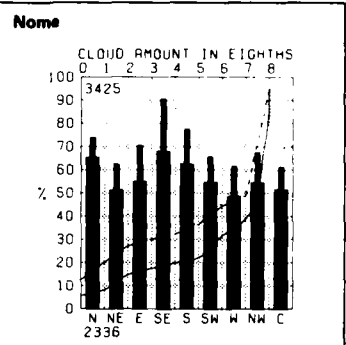
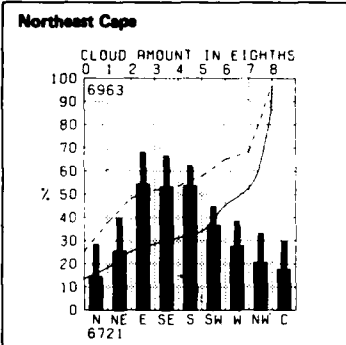
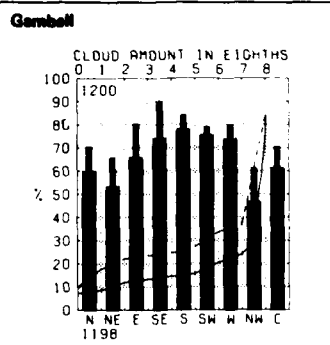
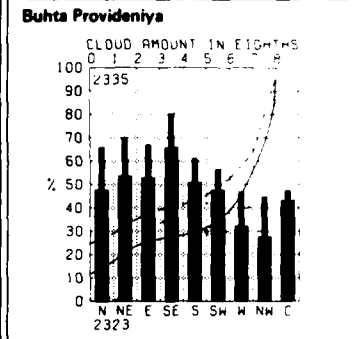
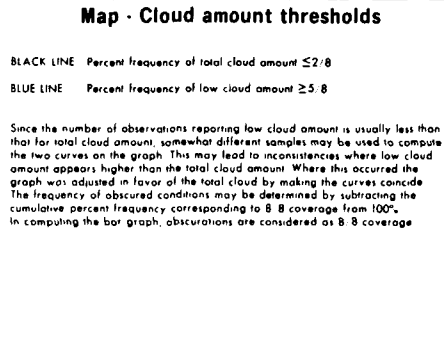
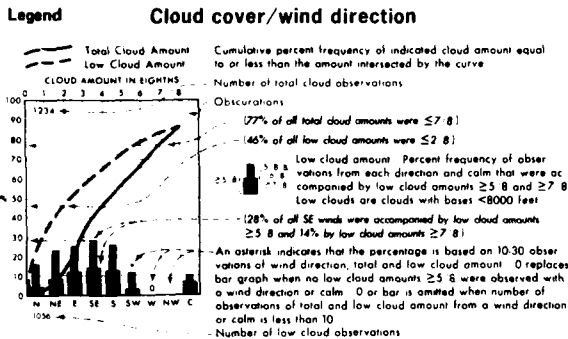
5 Air temperature extremes (°C)



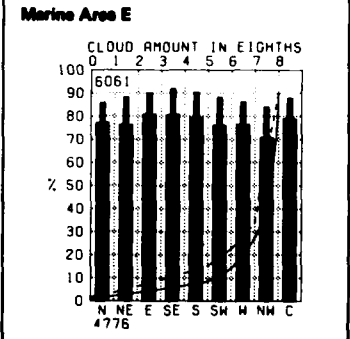
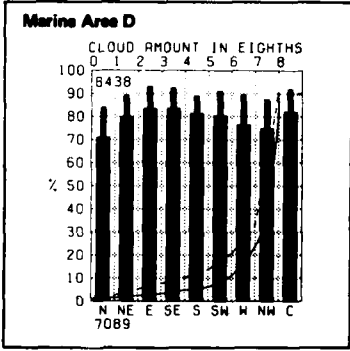
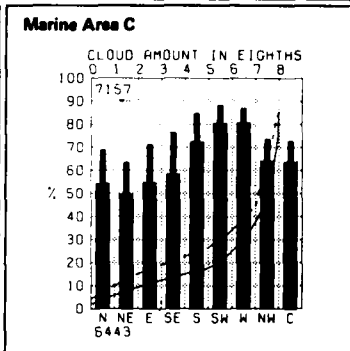
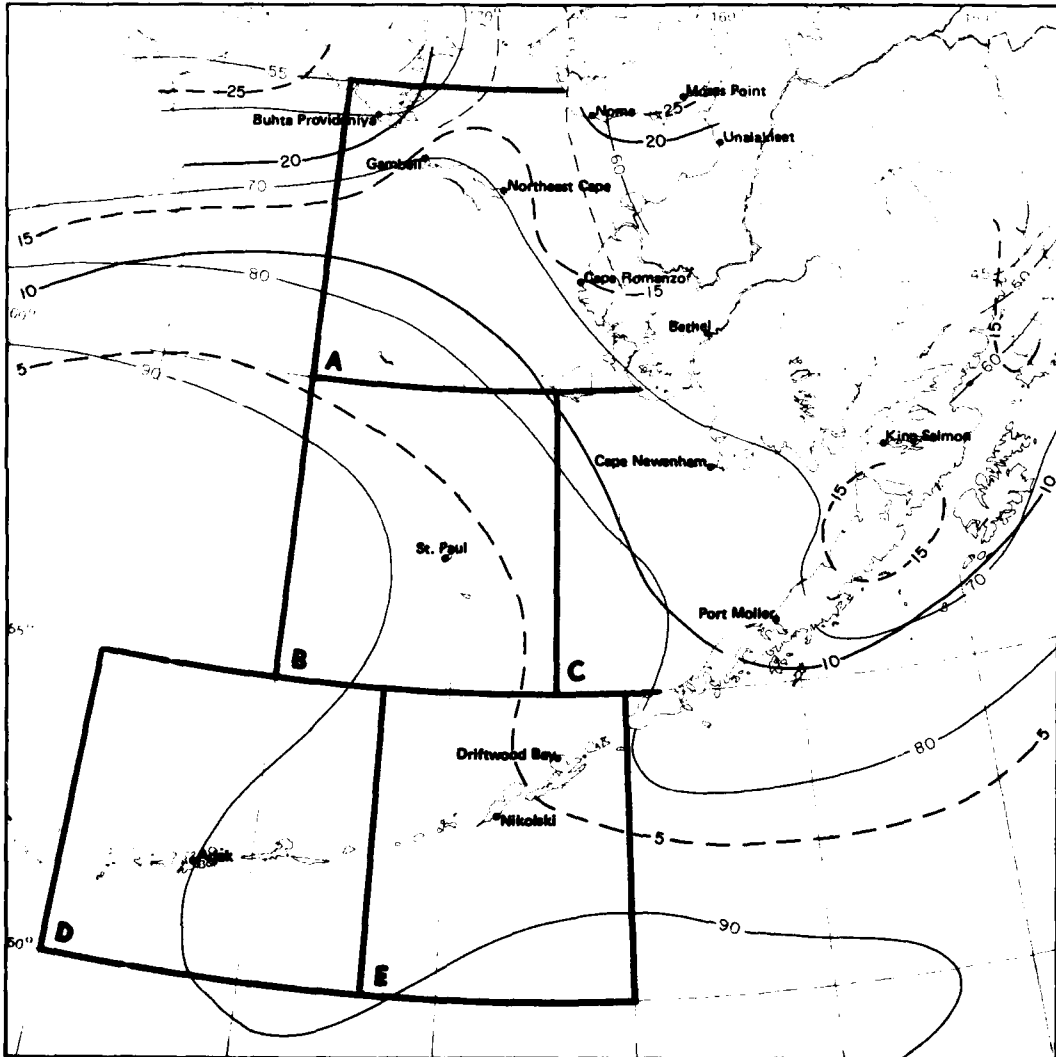
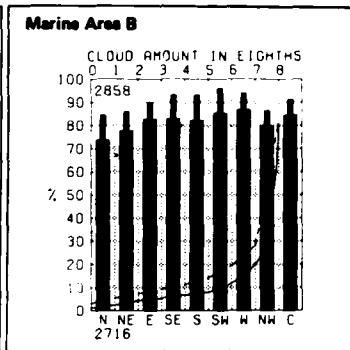
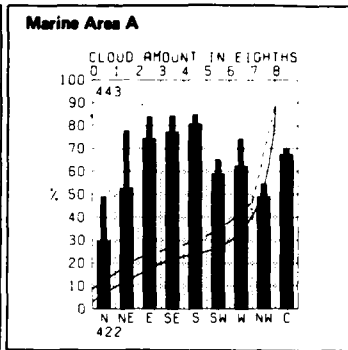
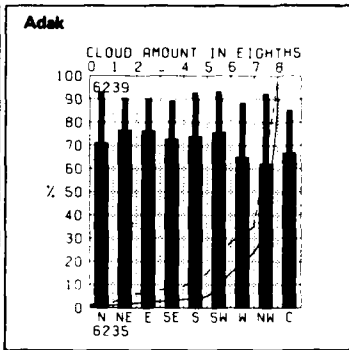
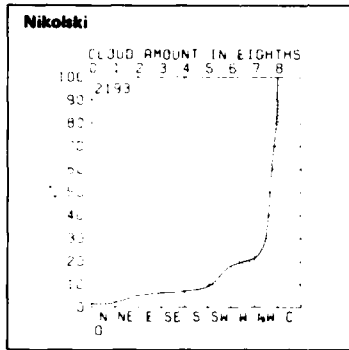


6 Fog

June







7 Cloud amount thresholds

June

**Legend**

**Visibility/wind direction**

Number of observations

Cumulative percent frequency of visibilities less than the visibility intersected by the curve

132% of all visibilities reported were <10 nautical miles

The table below the graph indicates percent frequency of occurrence of visibility <2 nautical miles versus wind direction

indicates < 5% but > 0 indicates that no visibilities <2 nautical miles were observed with winds from a direction or calm

No percentage is given if less than 10 observations were available for visibility and wind direction. An asterisk indicates that the percentage was based on 10-30 observations of visibility and wind direction

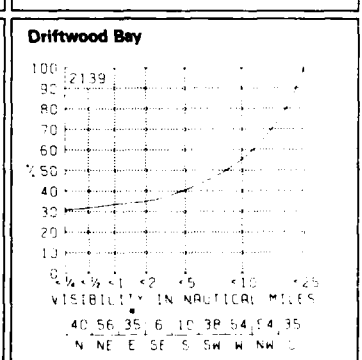
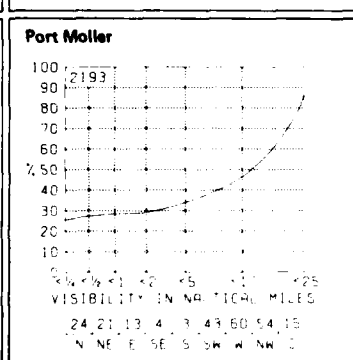
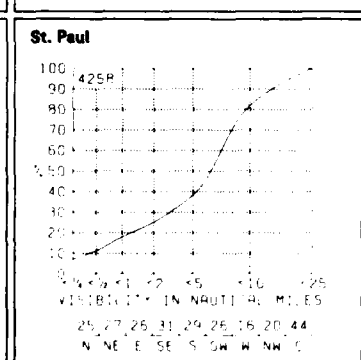
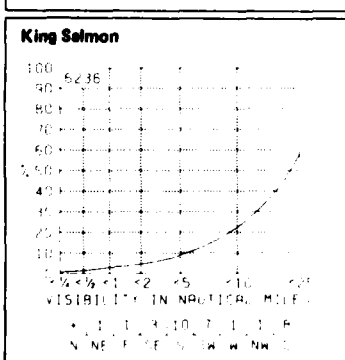
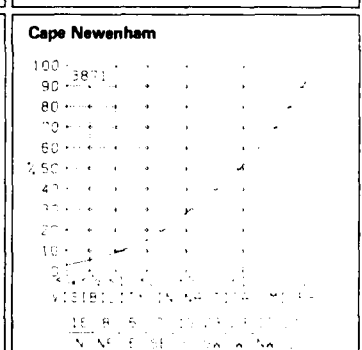
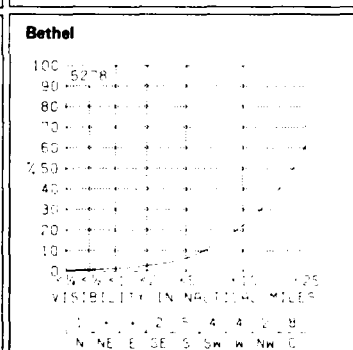
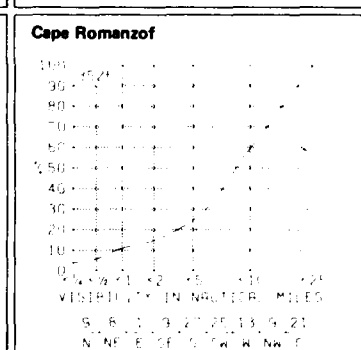
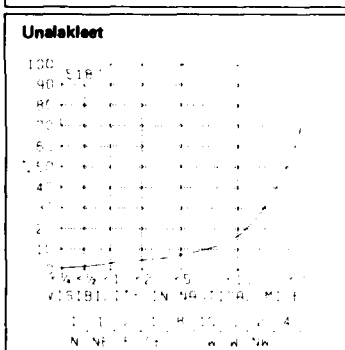
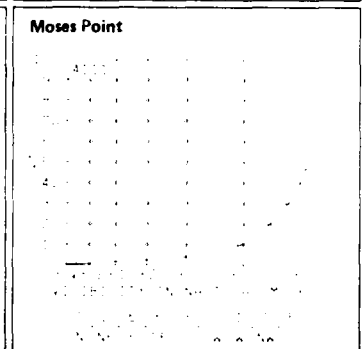
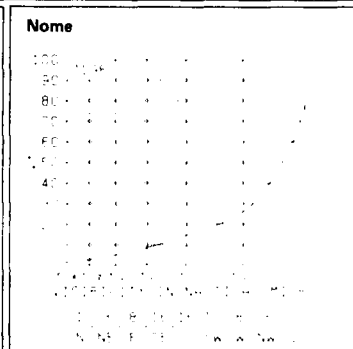
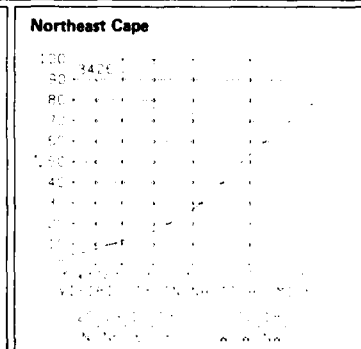
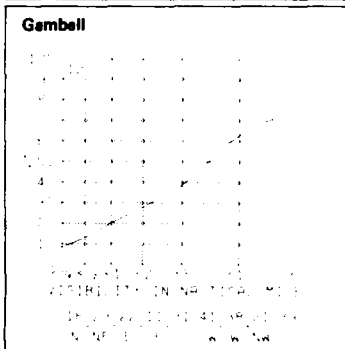
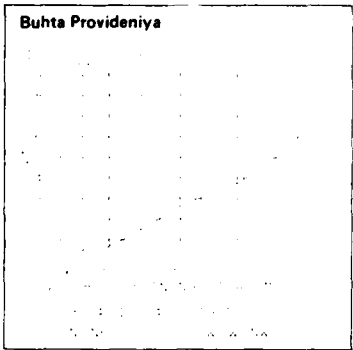
13% of all 5 winds were accompanied by visibilities <2 nautical miles

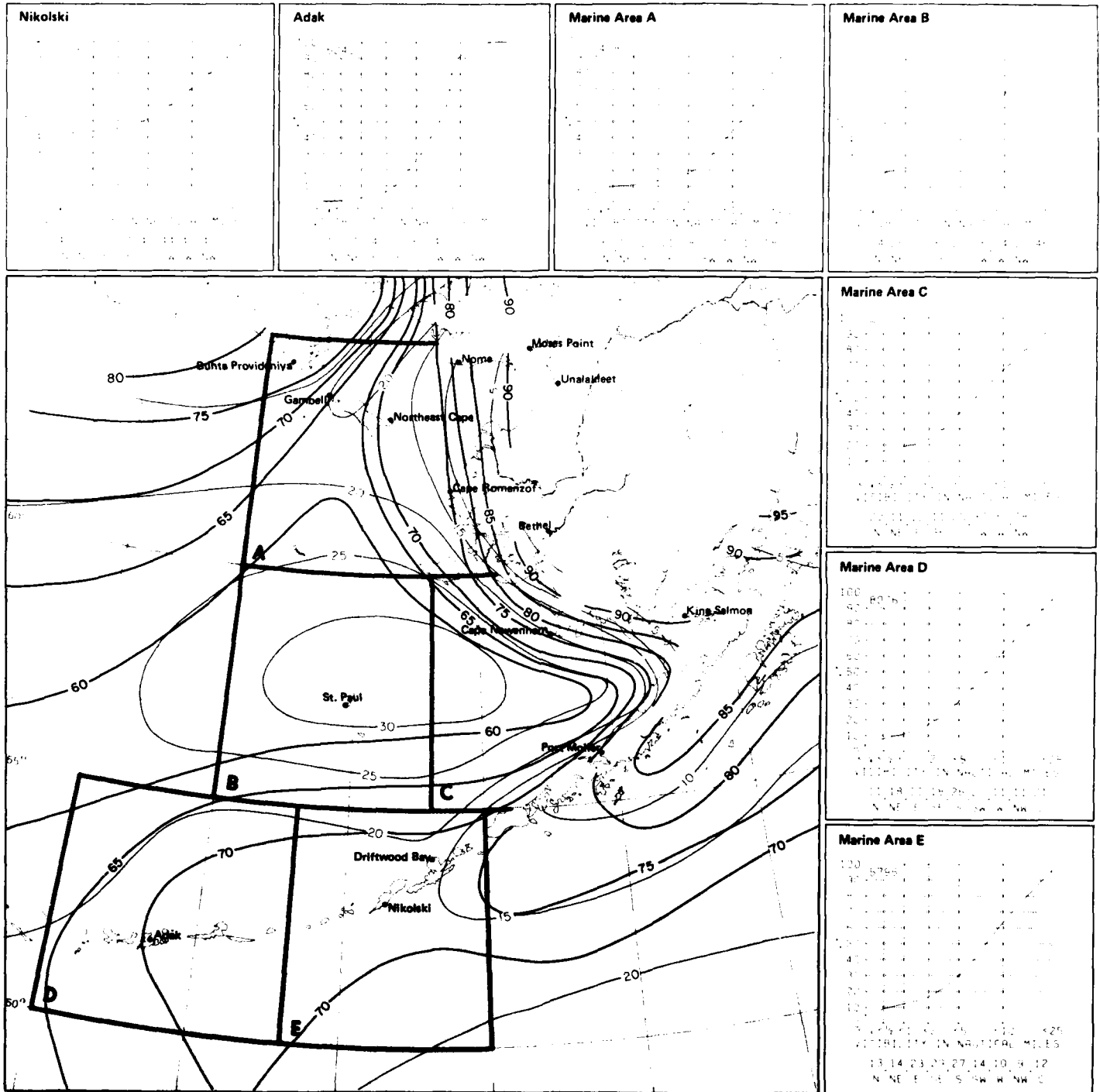
**Map - Visibility thresholds**

BLACK LINE - Percent frequency of visibilities ≥ 25 nautical miles

BLUE LINE - Percent frequency of visibilities < 2 nautical miles

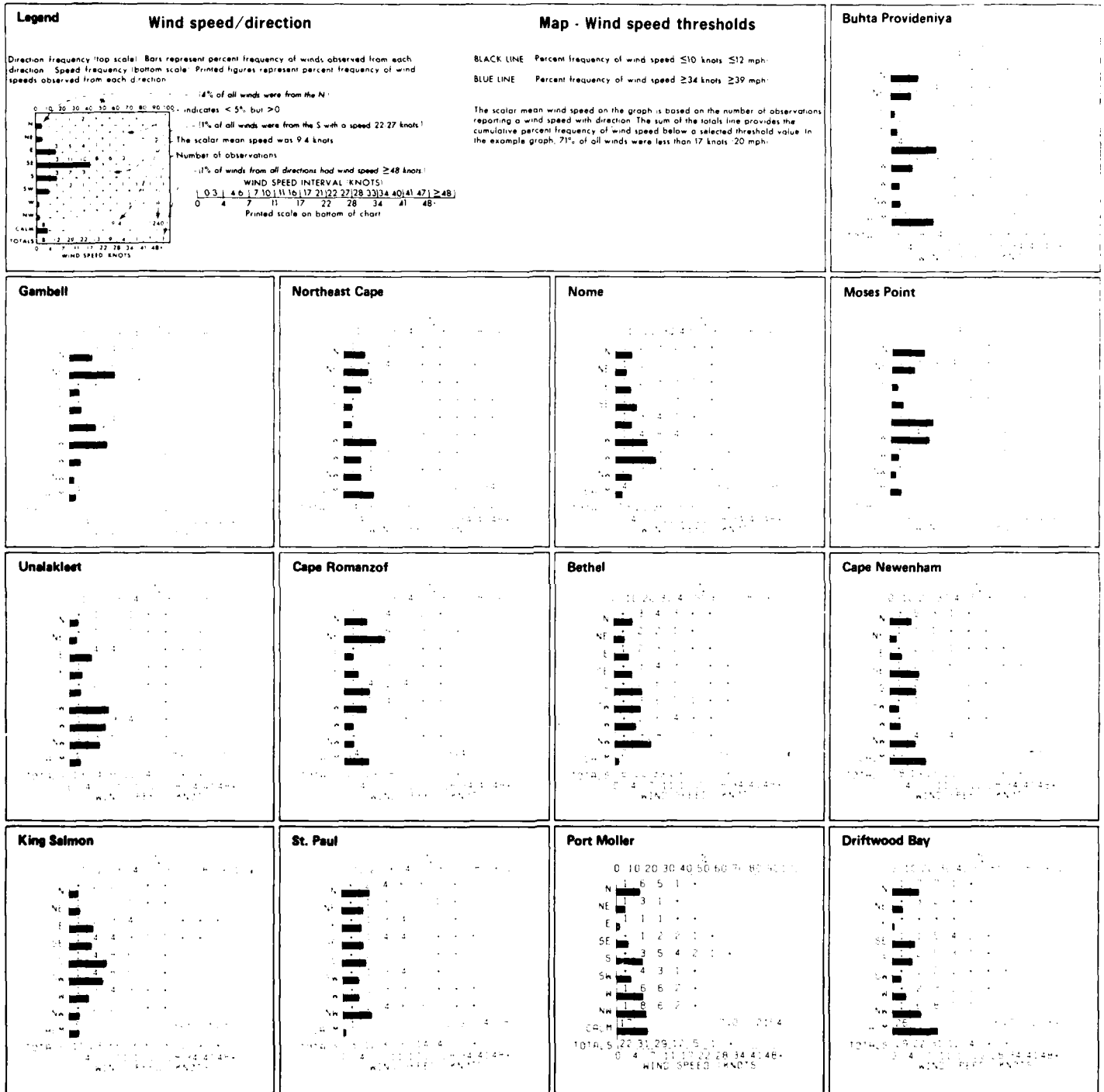
The percentage of visibility equal to or greater than a given value can be obtained from the graph by subtracting the cumulative percent frequency of that value from 100. Visibility at sea is difficult to measure because of the lack of reference points. Also, some observers seem to report reduced visibilities at night because of darkness, though this tendency has abated in recent years. The coarseness of the coding intervals, however, tends to minimize serious biases in the summarized data. Visibilities greater than 25 nmi should be interpreted cautiously because the earth's curvature makes it impossible to see 25 nmi horizontally from the bridges of most ships.

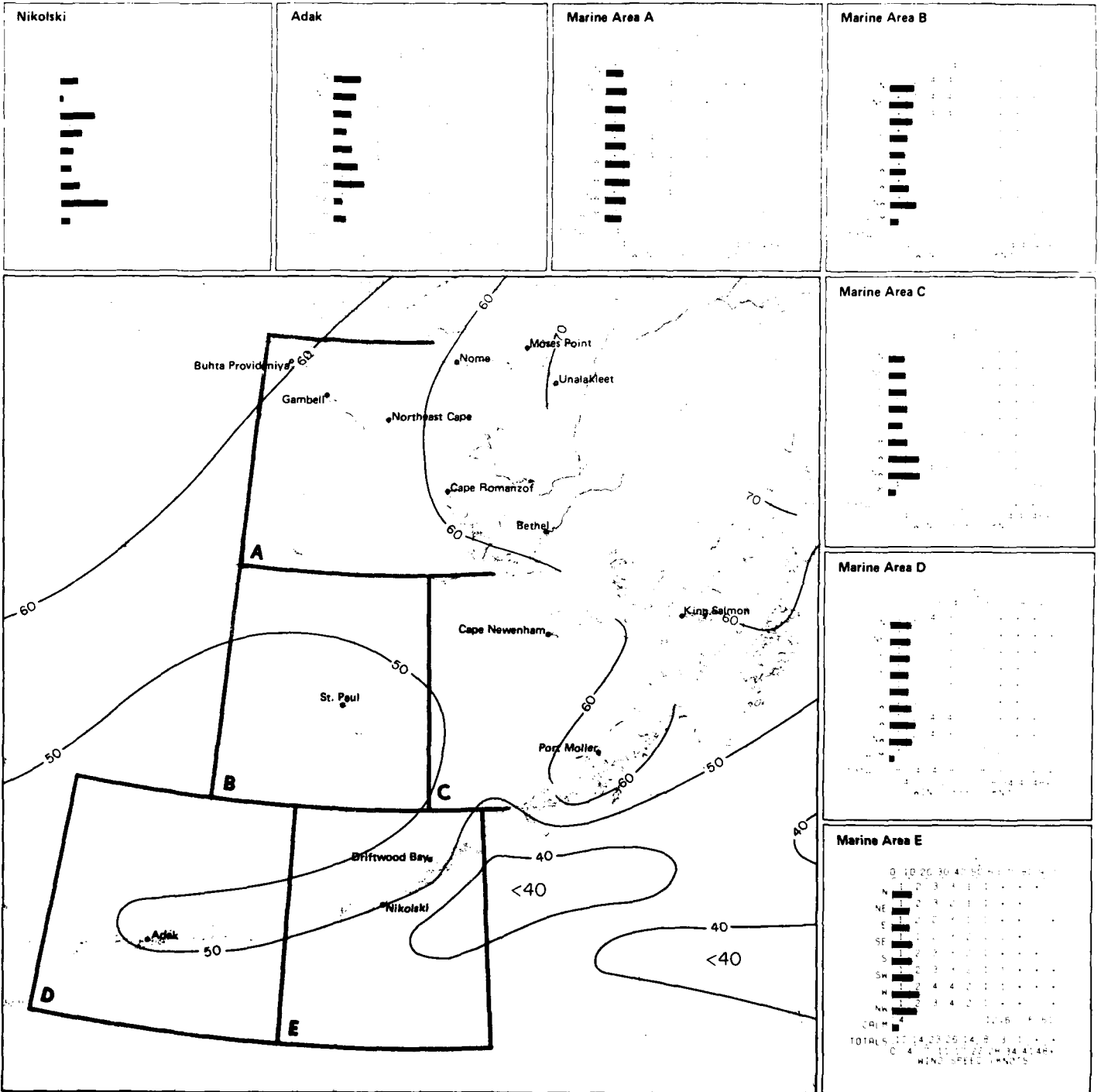


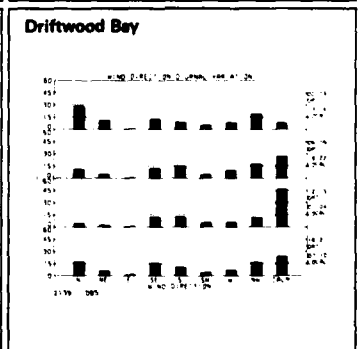
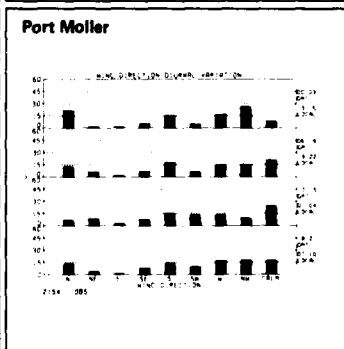
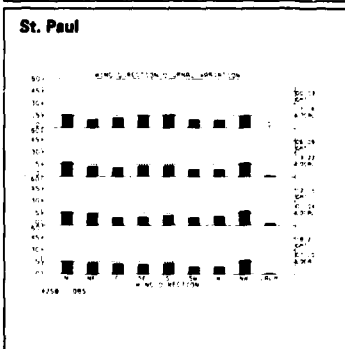
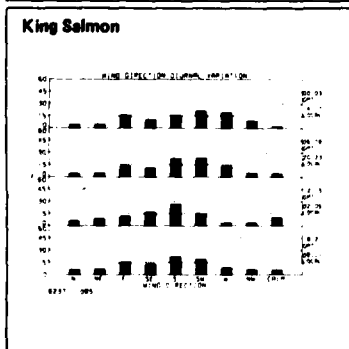
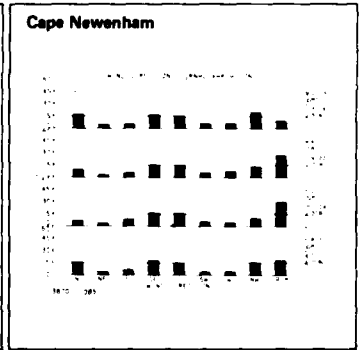
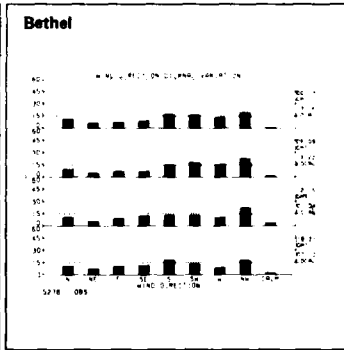
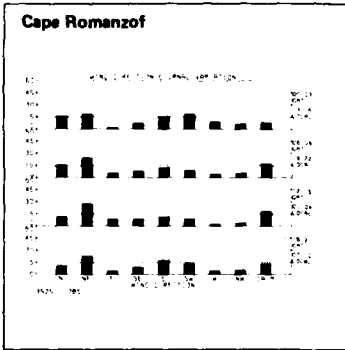
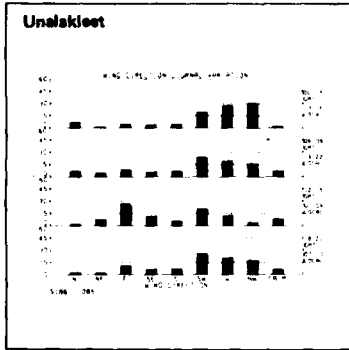
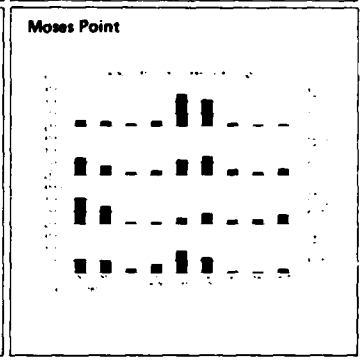
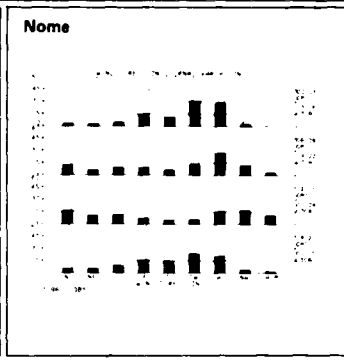
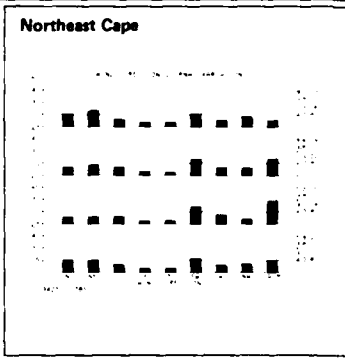
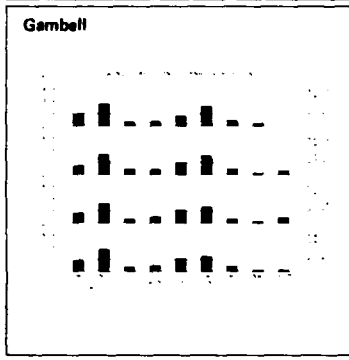
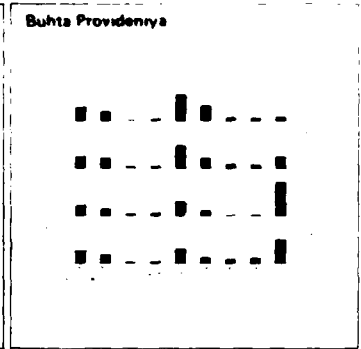
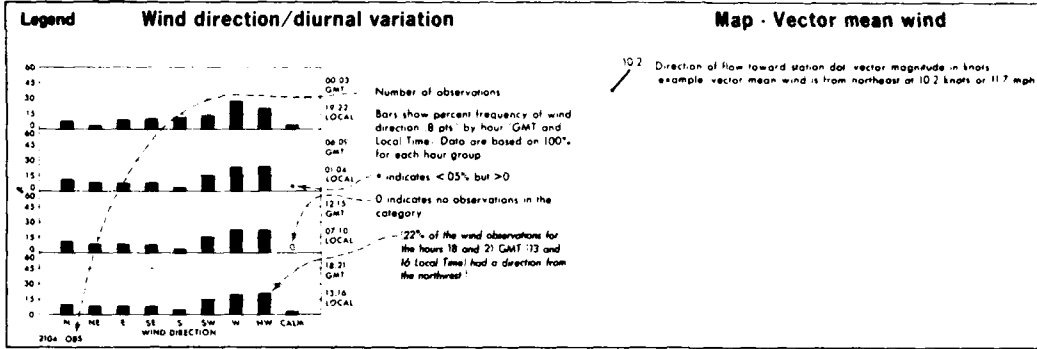


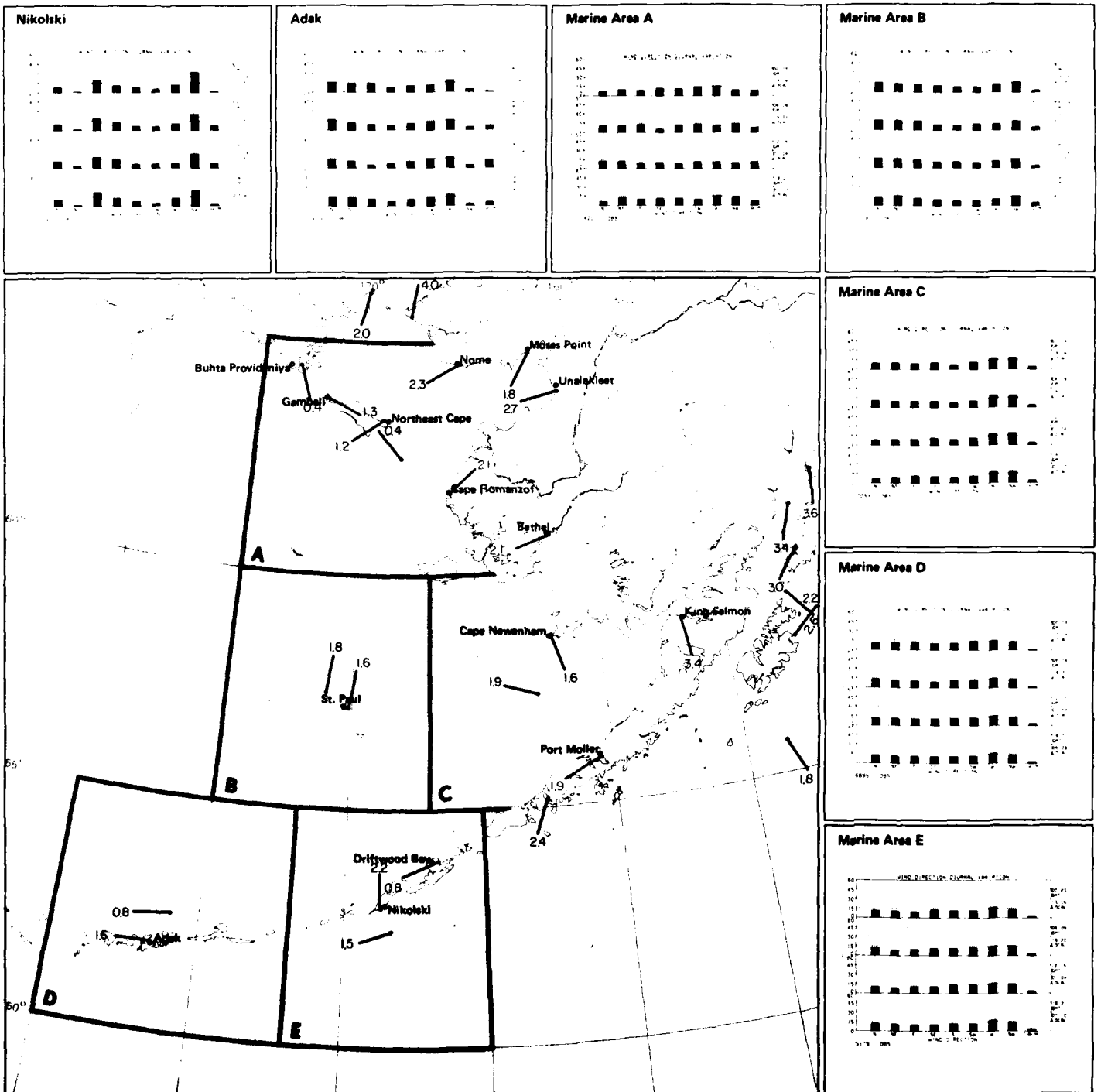
8 Visibility thresholds

June



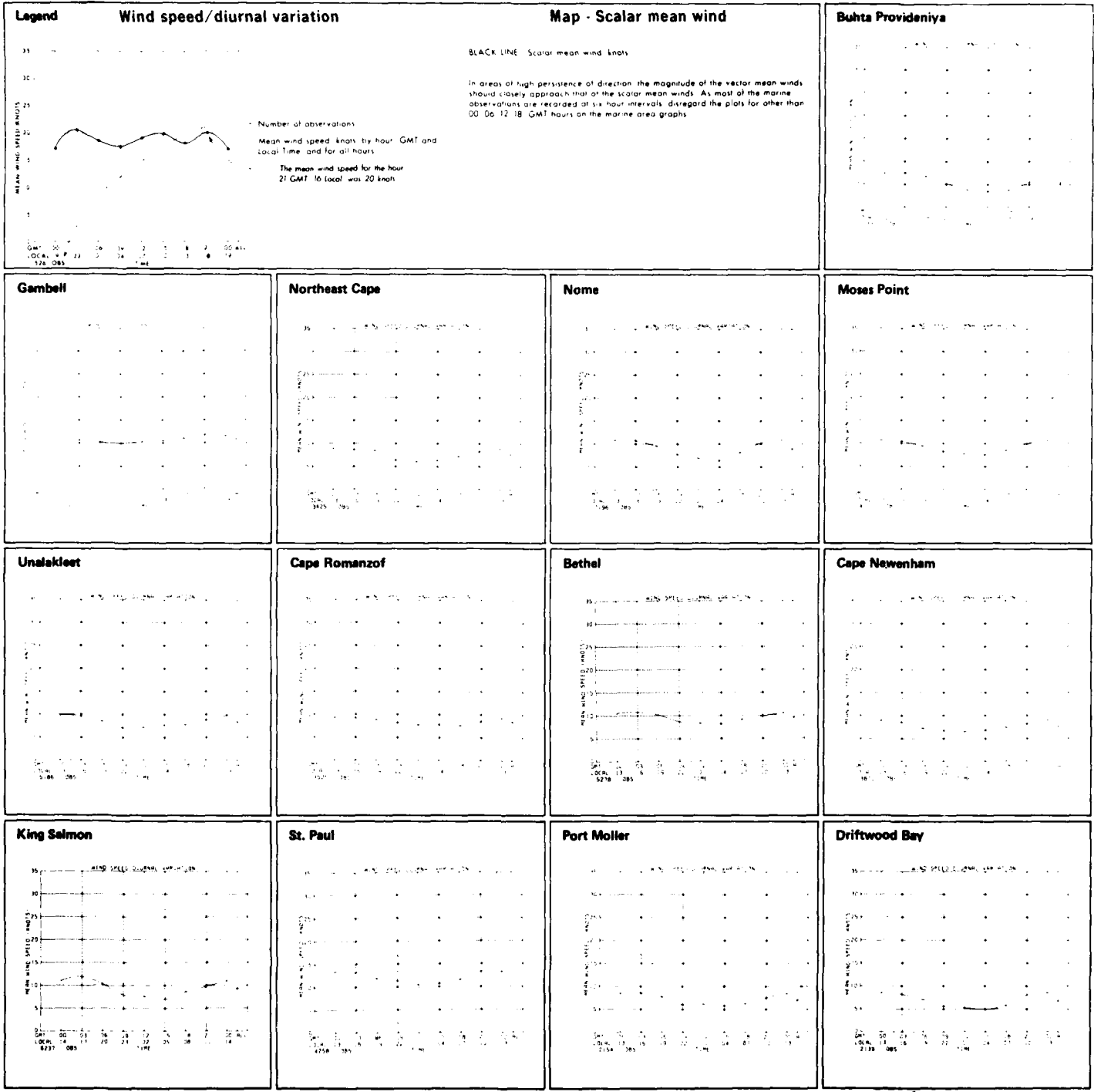






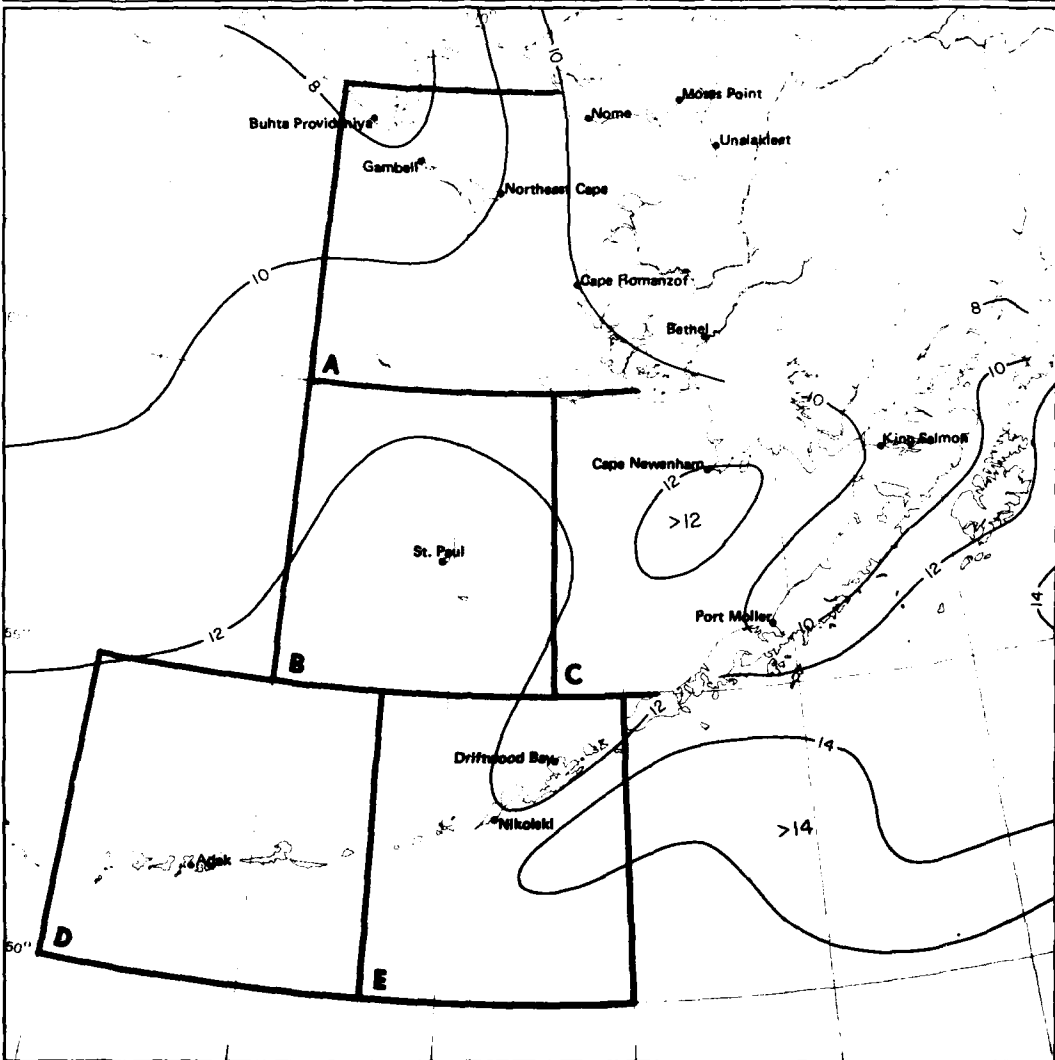
10 Vector mean wind

June





<p><b>Nikolski</b></p>	<p><b>Adak</b></p>	<p><b>Marine Area A</b></p>	<p><b>Marine Area B</b></p>
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**Marine Area C**

**Marine Area D**

**Marine Area E**

**11 Scalar mean wind**

**Legend** **Low cloud ceiling/visibility**

Percent frequency of simultaneous occurrence of specified low cloud ceilings (hundreds of feet) and visibilities (nautical miles).

Low cloud ceiling heights are estimated from the height of low clouds (N) when low cloud amount (N<sub>L</sub>) is  $\geq 5.8$ .

Obscurations are included under ceiling 0 < 1.5.

N.C. (no ceiling) includes bases of clouds  $\geq 8000$  feet as well as occurrences of N<sub>L</sub> < 5.8.

(2% of all observations reported ceiling  $\geq 1000$  but < 2000 feet simultaneously with visibility  $\geq 5$  but < 10 nautical miles.)

— indicates < 5% but > 0.

— Number of observations

**Map - Low cloud ceiling and visibility thresholds**

BLACK LINE Percent frequency of low cloud ceiling  $\geq 1000$  feet for no low cloud ceiling and visibility  $\geq 5$  nautical miles.

BLUE LINE Percent frequency of low cloud ceiling < 600 feet and/or visibility < 2 nautical miles.

**Buhta Provideniya**

**Gambell**

LOW CLOUD CEILING	VISIBILITY						Total
	N.C.	1	2	3	4	5	
50*80	0	0	0	0	0	0	22
35*50	0	0	0	0	0	0	1
20*35	0	0	0	0	0	0	2
10*20	0	0	0	1	3	4	4
6*10	0	1	4	9	5	7	2
3*6	0	1	4	5	7	2	1
1.5*3	0	1	1	0	0	0	0
0*1.5	12	4	1	0	0	0	1198

**Northeast Cape**

LOW CLOUD CEILING	VISIBILITY						Total
	N.C.	1	2	3	4	5	
50*80	0	0	0	0	0	0	26
35*50	0	0	0	0	0	0	2
20*35	0	0	0	0	1	4	4
10*20	0	0	0	3	8	12	12
6*10	0	0	2	3	8	4	4
3*6	0	1	2	3	4	1	1
1.5*3	0	0	0	0	0	0	0
0*1.5	5	1	1	0	0	0	2336

**Nome**

LOW CLOUD CEILING	VISIBILITY						Total
	N.C.	1	2	3	4	5	
50*80	0	0	0	0	0	0	54
35*50	0	0	0	0	0	0	4
20*35	0	0	0	0	1	5	3
10*20	0	0	0	1	3	4	5
6*10	0	1	2	4	2	1	4
3*6	0	1	2	3	2	1	2
1.5*3	0	0	0	0	0	0	1
0*1.5	2	1	0	0	0	0	6721

**Moss Point**

LOW CLOUD CEILING	VISIBILITY						Total
	N.C.	1	2	3	4	5	
50*80	0	0	0	0	0	0	45
35*50	0	0	0	0	0	0	8
20*35	0	0	0	0	0	1	15
10*20	0	0	0	0	3	5	4
6*10	0	0	0	0	1	3	3
3*6	0	0	0	0	0	0	0
1.5*3	0	0	0	0	0	0	0
0*1.5	1	1	0	0	0	0	239

**Unalakleet**

LOW CLOUD CEILING	VISIBILITY						Total
	N.C.	1	2	3	4	5	
50*80	0	0	0	0	0	0	44
35*50	0	0	0	0	0	0	1
20*35	0	0	0	0	0	0	4
10*20	0	0	0	0	0	0	1
6*10	0	0	0	0	0	0	1
3*6	0	0	0	0	0	0	1
1.5*3	0	0	0	0	0	0	0
0*1.5	1	1	0	0	0	0	1630

**Cape Romanzof**

LOW CLOUD CEILING	VISIBILITY						Total
	N.C.	1	2	3	4	5	
50*80	0	0	0	0	0	0	17
35*50	0	0	0	0	0	0	1
20*35	0	0	0	0	0	3	4
10*20	0	0	0	0	2	8	4
6*10	0	0	1	4	10	4	4
3*6	0	1	1	3	5	1	1
1.5*3	0	0	0	0	0	0	0
0*1.5	5	3	1	1	0	0	2458

**Bethel**

LOW CLOUD CEILING	VISIBILITY						Total
	N.C.	1	2	3	4	5	
50*80	0	0	0	0	0	0	37
35*50	0	0	0	0	0	1	7
20*35	0	0	0	0	0	2	14
10*20	0	0	0	0	0	4	11
6*10	0	0	0	1	4	3	3
3*6	0	0	1	1	2	1	1
1.5*3	0	0	0	0	0	0	0
0*1.5	0	0	0	0	0	0	5255

**Cape Newenham**

LOW CLOUD CEILING	VISIBILITY						Total
	N.C.	1	2	3	4	5	
50*80	0	0	0	0	0	0	20
35*50	0	0	0	0	0	0	1
20*35	0	0	0	0	0	0	3
10*20	0	0	0	0	2	4	5
6*10	0	0	1	4	7	7	7
3*6	0	0	3	7	6	3	3
1.5*3	0	0	0	1	0	0	0
0*1.5	6	2	2	1	0	0	2311

**King Salmon**

LOW CLOUD CEILING	VISIBILITY						Total
	N.C.	1	2	3	4	5	
50*80	0	0	0	0	0	0	39
35*50	0	0	0	0	0	0	6
20*35	0	0	0	0	0	2	13
10*20	0	0	0	0	0	3	8
6*10	0	0	0	1	3	3	3
3*6	0	0	1	2	2	1	1
1.5*3	0	0	0	0	0	0	0
0*1.5	1	1	0	0	0	0	6138

**St. Paul**

LOW CLOUD CEILING	VISIBILITY						Total
	N.C.	1	2	3	4	5	
50*80	0	0	0	0	0	0	7
35*50	0	0	0	0	0	0	1
20*35	0	0	0	0	0	4	3
10*20	0	0	0	0	1	13	5
6*10	0	0	1	3	7	1	1
3*6	1	2	4	8	8	1	1
1.5*3	0	1	1	1	0	0	0
0*1.5	9	3	1	0	0	0	4232

**Port Moller**

Insufficient Data

**Driftwood Bay**

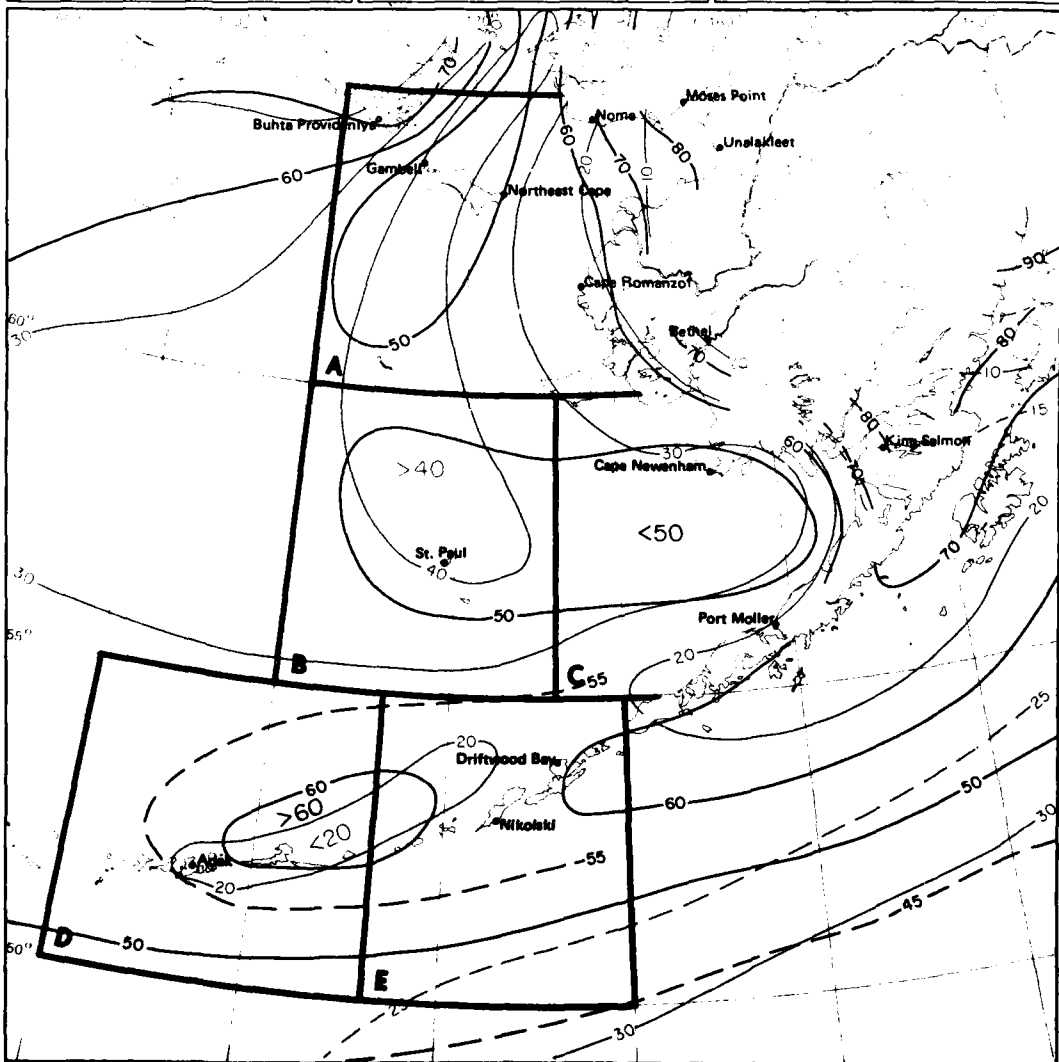
Insufficient Data

Nikolski	
Insufficient Data	

Adak	
VISIBILITY	
Miles 1 2 3 4 5 6 10 15	
NC	1 6 3
50+80	0 0 0
35+50	0 0 0 1
20+35	0 0 12 3
10+20	1 7 31 2
6+10	3 1 12
3+6	1 4 3
1.5+3	1 1 1 0 0
0+1.5	1 1 1 0 0
6235	

Marine Area A	
Insufficient Data	

Marine Area B	
Insufficient Data	



Marine Area C	
Insufficient Data	

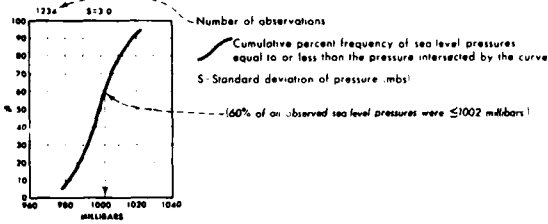
Marine Area D	
Insufficient Data	

Marine Area E	
VISIBILITY	
Miles 1 2 3 4 5 6 10 15	
NC	1 2 2 1 1 1 1 1
50+80	0 0 0 0 0 0 0 0
35+50	0 0 0 0 0 0 0 0
20+35	0 0 0 0 0 0 0 0
10+20	0 0 0 0 0 0 0 0
6+10	0 0 0 0 0 0 0 0
3+6	0 0 0 0 0 0 0 0
1.5+3	0 0 0 0 0 0 0 0
0+1.5	0 0 0 0 0 0 0 0
4440	

12 Low cloud ceiling and visibility thresholds

**Legend**

**Sea level pressure**



**Map - Mean sea level pressure**

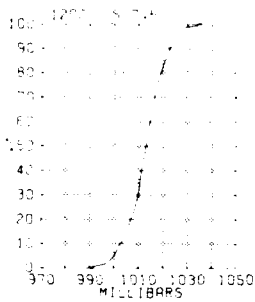
BLACK LINE Mean sea level pressure (millibars)

Sea level pressure is one of the most frequently recorded elements but one of the least accurate because of instrument and coding errors. Despite the inaccuracies of the individual readings, however, the large-scale patterns and mean gradients of the isopleth analyses are relatively accurate.

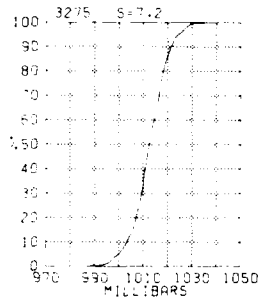
**Buhta Provideniya**



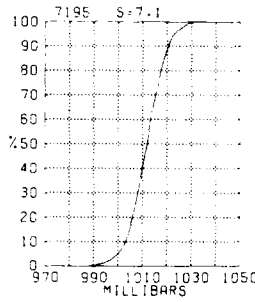
**Gambell**



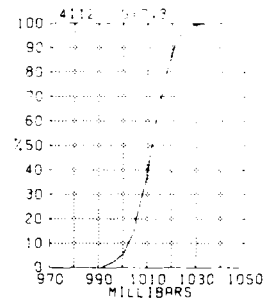
**Northeast Cape**



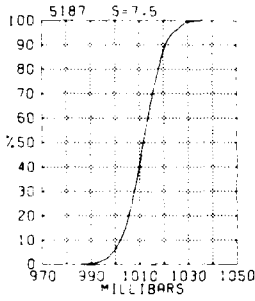
**Nome**



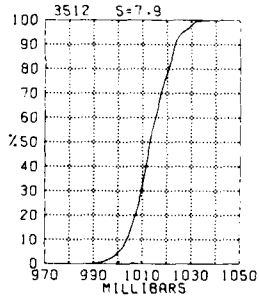
**Moss Point**



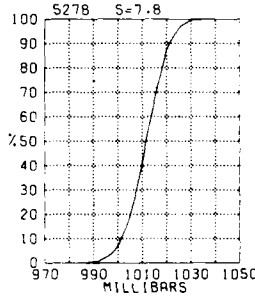
**Unalakleet**



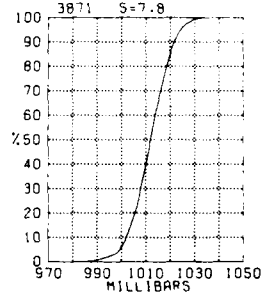
**Cape Romanzof**



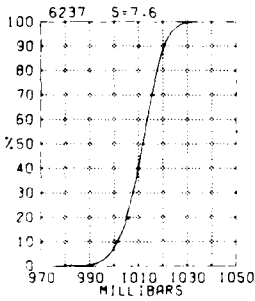
**Bethel**



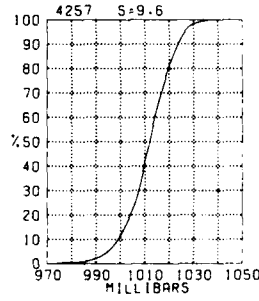
**Cape Newenham**



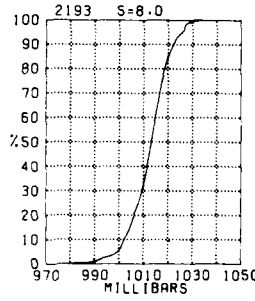
**King Salmon**



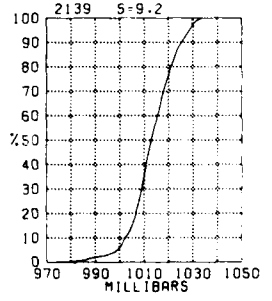
**St. Paul**

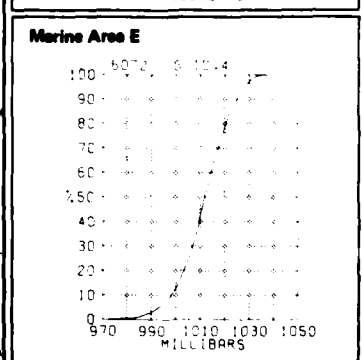
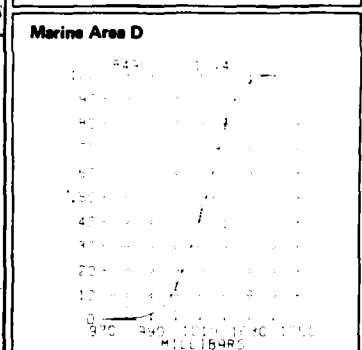
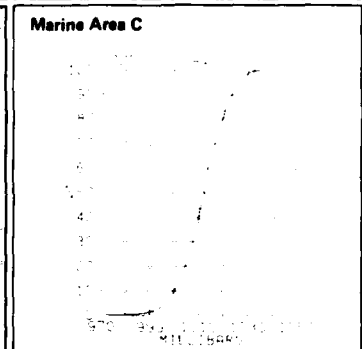
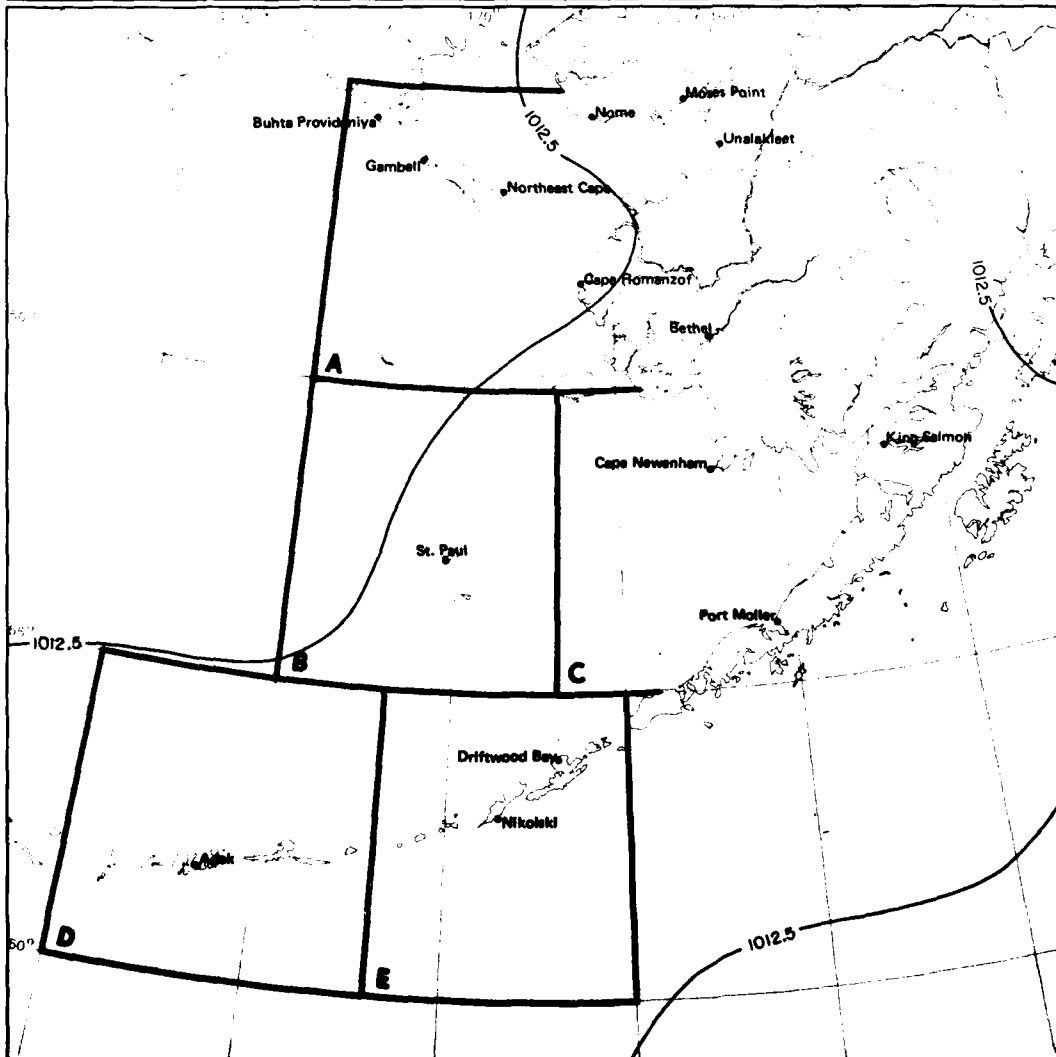
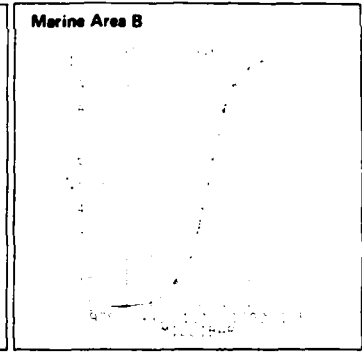
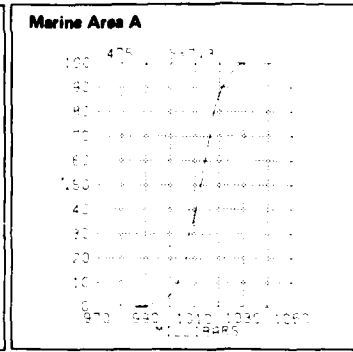
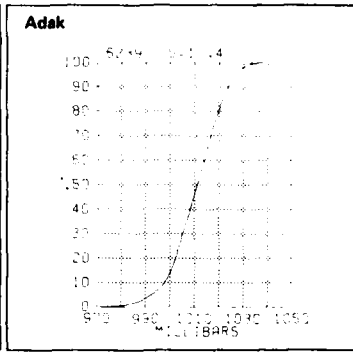
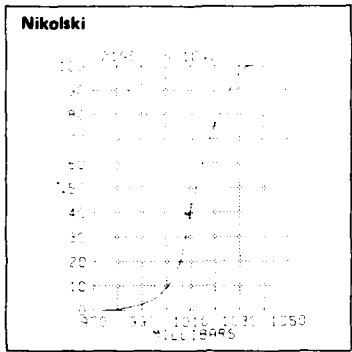


**Port Moller**



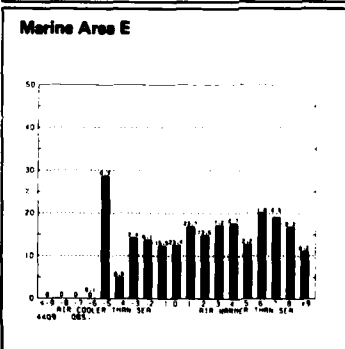
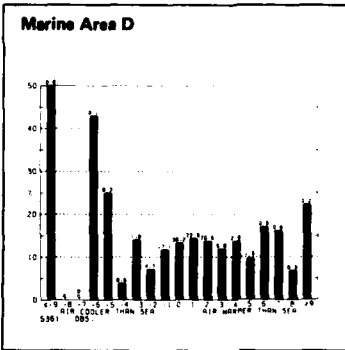
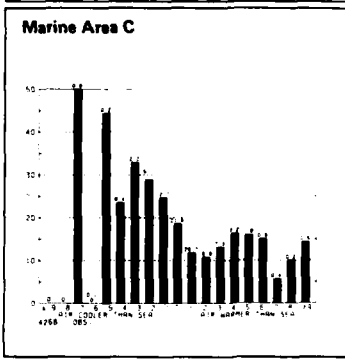
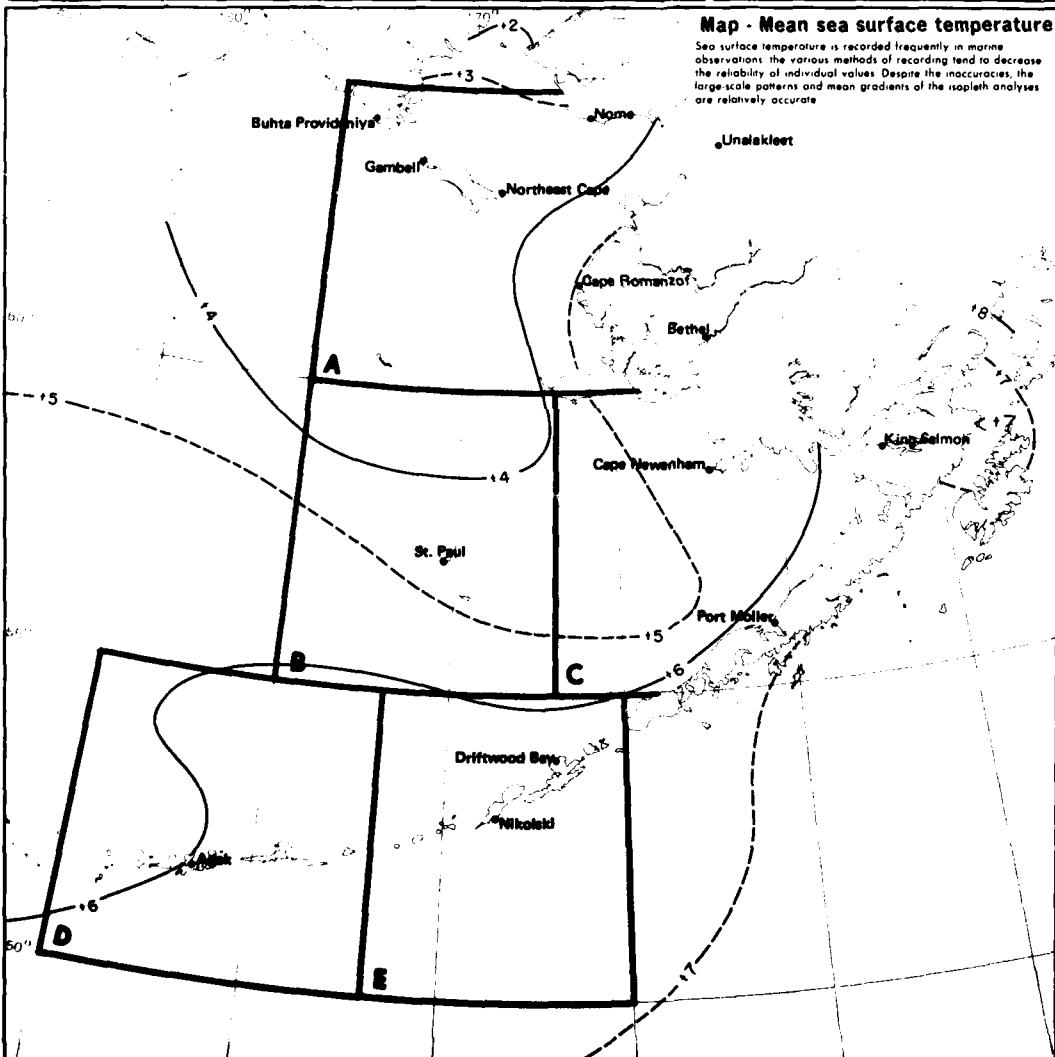
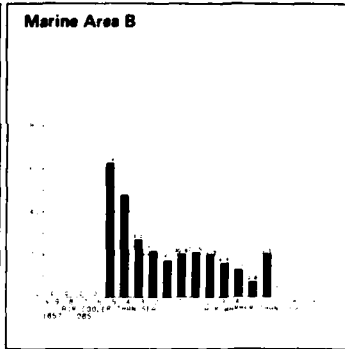
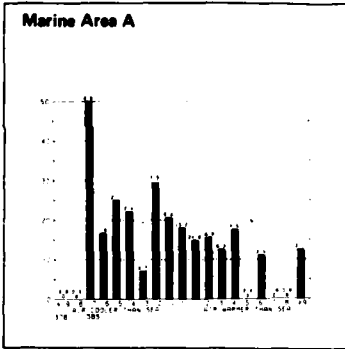
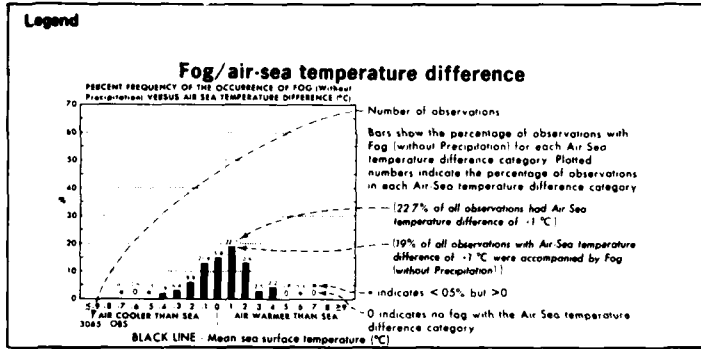
**Driftwood Bay**





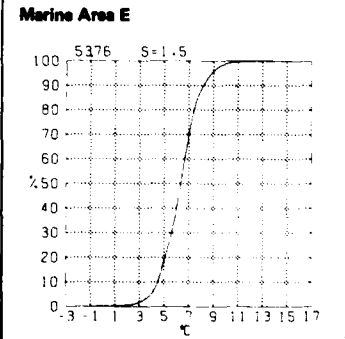
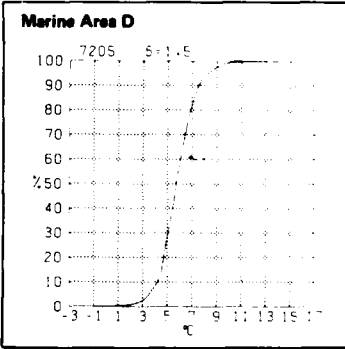
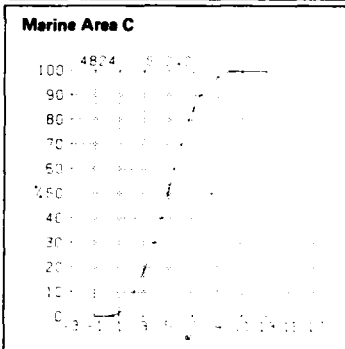
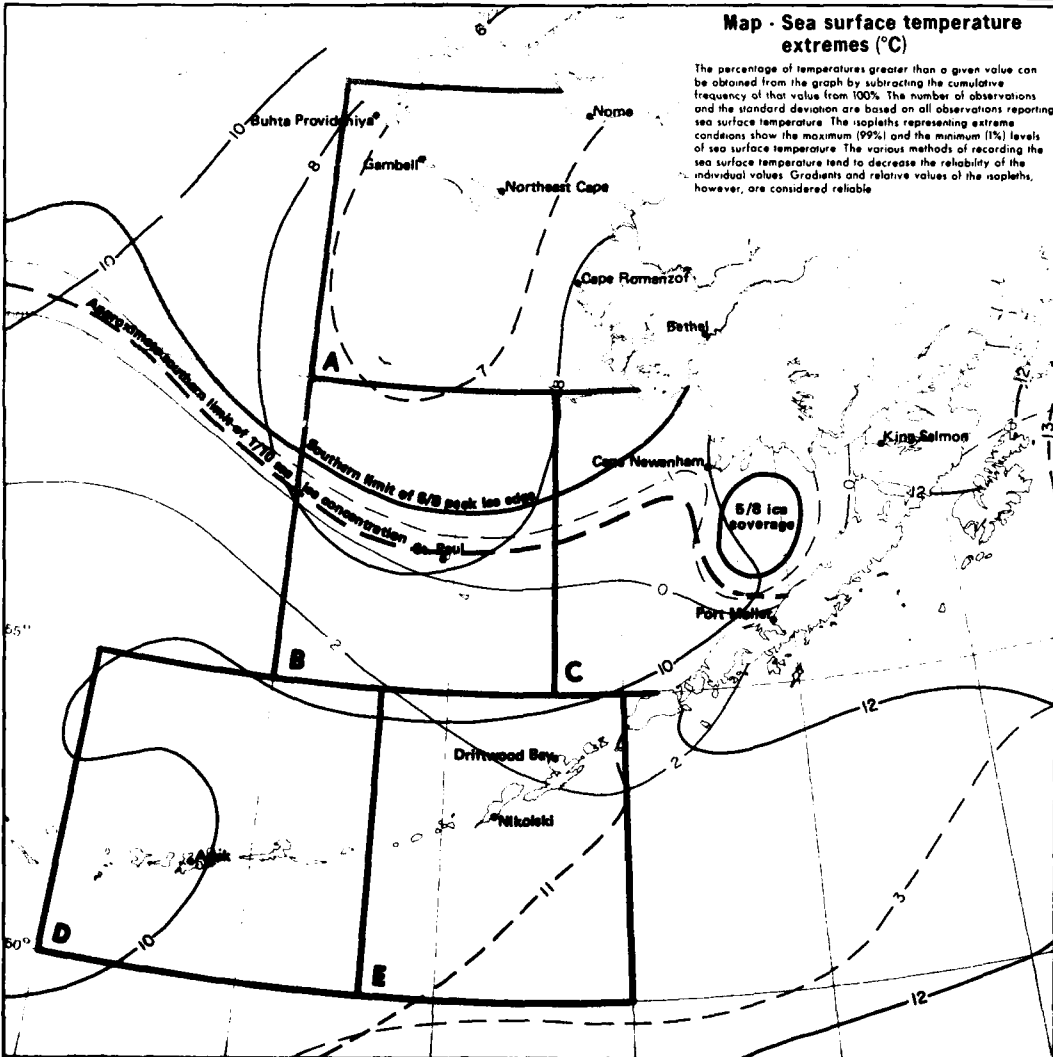
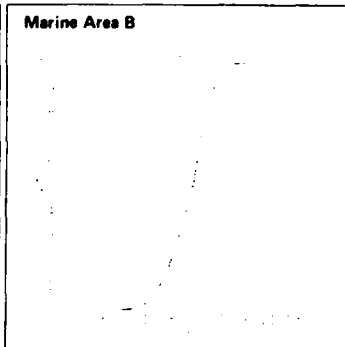
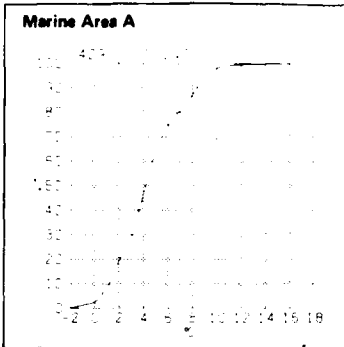
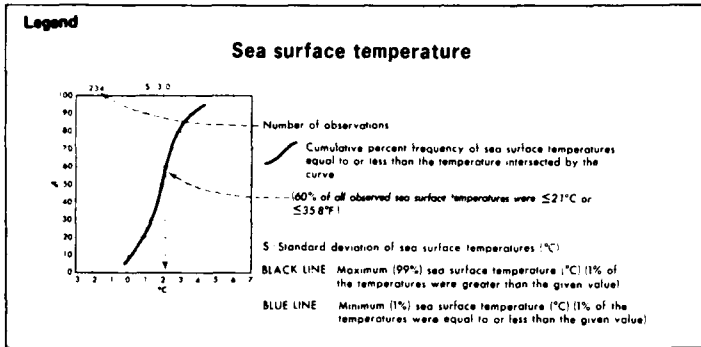
13 Mean sea level pressure

June

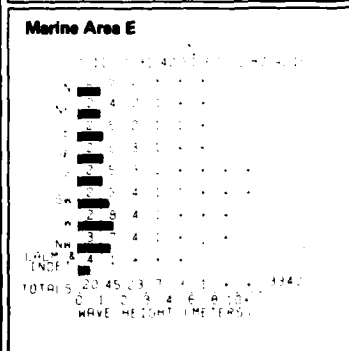
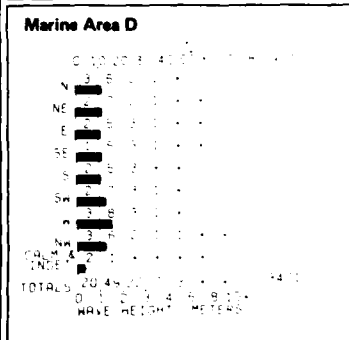
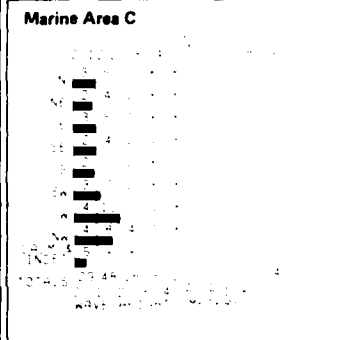
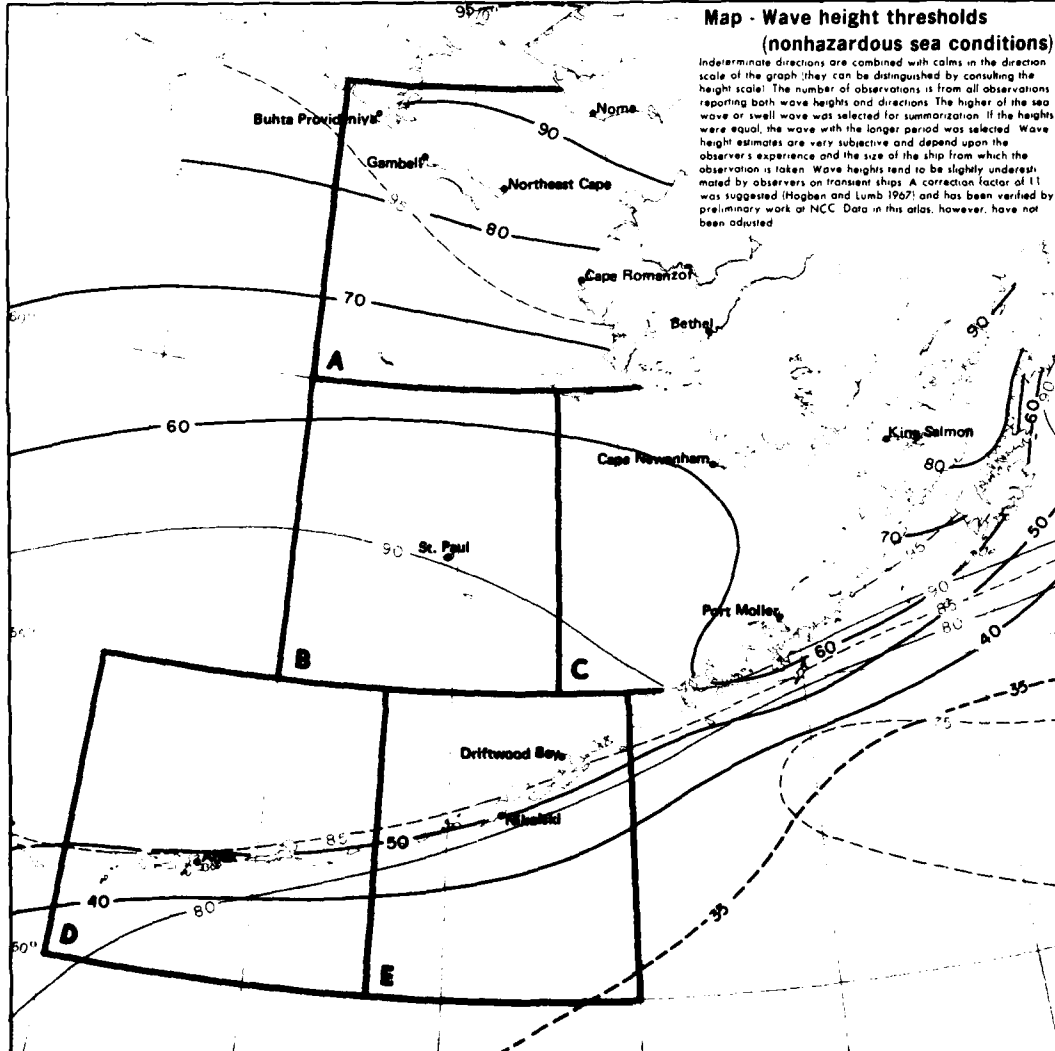
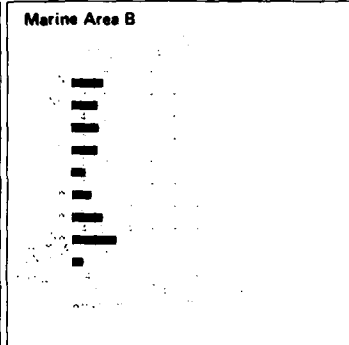
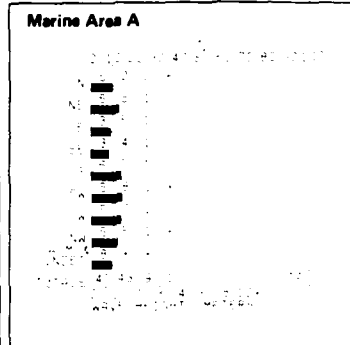
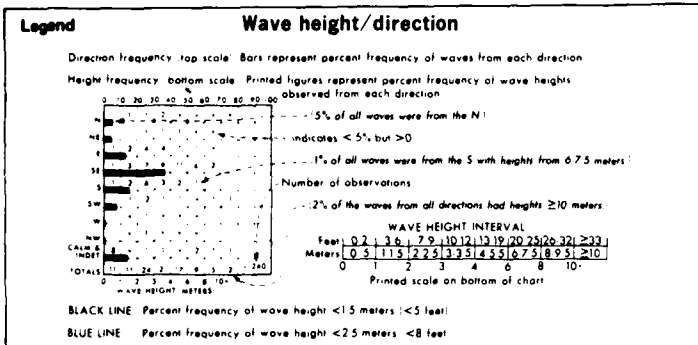


June  
226

14 Fog/air-sea temperature difference  
Mean sea surface temperature



**15 Sea surface temperature extremes**





**Legend**

**Wave height/period**



PERIOD SECONDS  
Percent frequency of occurrence of wave period and height  
2% of observed waves had a height of 11.5 meters and a period of 10.11 seconds  
indicates < 5" but > 0  
Number of observations  
Waves are selected on the basis of the higher of sea and swell when both are reported. If both heights are equal the wave with the longer period is selected.

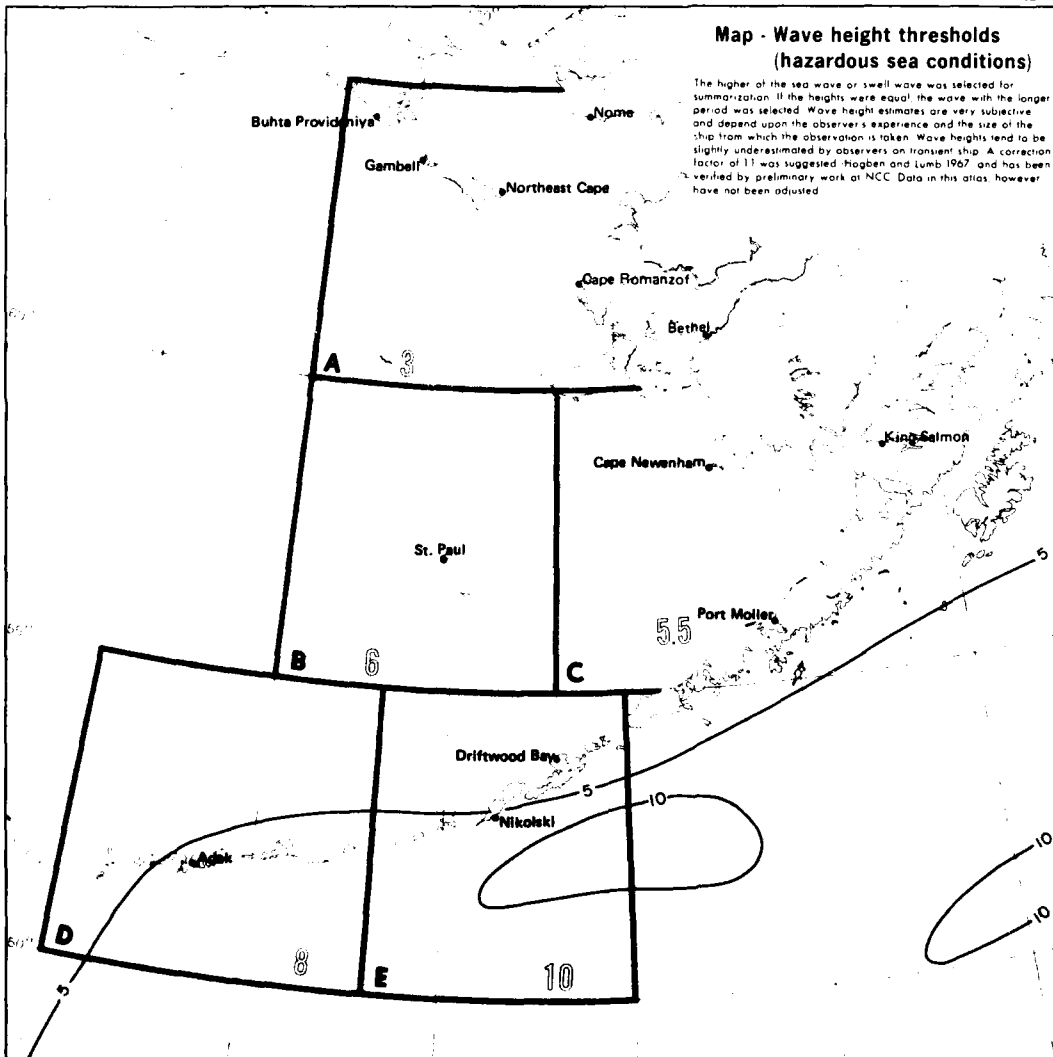
BLACK LINE Percent frequency of wave height  $\geq 3.5$  meters ( $\geq 12$  feet)  
BLUE LINE Percent frequency of wave height  $\geq 6$  meters ( $\geq 20$  feet)  
BLUE NUMBER Maximum observed wave height, meters

**Marine Area A**

**Marine Area B**

**Map - Wave height thresholds (hazardous sea conditions)**

The higher of the sea wave or swell wave was selected for summarization. If the heights were equal the wave with the longer period was selected. Wave height estimates are very subjective and depend upon the observer's experience and the size of the ship from which the observation is taken. Wave heights tend to be slightly underestimated by observers on transient ship. A correction factor of 1.1 was suggested by Hogben and Lumb 1967 and has been verified by preliminary work at NCC. Data in this atlas, however, have not been adjusted.



**Marine Area C**

**Marine Area D**

**Marine Area E**

**17 Wave height thresholds (hazardous)**

**June**

**Legend**

**Low pressure center movement**

1. Direction of movement of low pressure centers (indicated by arrow)

2. Mean speed (Plotted figure at the end of each bar represents the mean speed of movement in knots toward the indicated direction)

3. The pressure centers moving toward the N had a mean speed of 11 knots

4. Direction of frequency (Bar represents per cent frequency of 12-hour movements toward each direction. Each bar represents 1%)

5. 41 out of 12-hour movements were toward the NE

6. 20 out of 12-hour movements were toward the E

7. Mean 12-hour movement of all centers was toward N of 12 knots

8. 21 out of 12-hour movements were toward the E

9. 27 low pressure centers were observed in the 12-hour period during the observation period from 06-12-74

10. 21 out of 12-hour movements were toward the NE

11. 20 out of 12-hour movements were toward the E

12. 27 out of 12-hour movements were toward the N

13. 20 out of 12-hour movements were toward the E

14. 27 out of 12-hour movements were toward the N

15. 20 out of 12-hour movements were toward the E

16. 27 out of 12-hour movements were toward the N

17. 20 out of 12-hour movements were toward the E

18. 27 out of 12-hour movements were toward the N

19. 20 out of 12-hour movements were toward the E

20. 27 out of 12-hour movements were toward the N

21. 20 out of 12-hour movements were toward the E

22. 27 out of 12-hour movements were toward the N

23. 20 out of 12-hour movements were toward the E

24. 27 out of 12-hour movements were toward the N

25. 20 out of 12-hour movements were toward the E

26. 27 out of 12-hour movements were toward the N

27. 20 out of 12-hour movements were toward the E

28. 27 out of 12-hour movements were toward the N

29. 20 out of 12-hour movements were toward the E

30. 27 out of 12-hour movements were toward the N

31. 20 out of 12-hour movements were toward the E

32. 27 out of 12-hour movements were toward the N

33. 20 out of 12-hour movements were toward the E

34. 27 out of 12-hour movements were toward the N

35. 20 out of 12-hour movements were toward the E

36. 27 out of 12-hour movements were toward the N

37. 20 out of 12-hour movements were toward the E

38. 27 out of 12-hour movements were toward the N

39. 20 out of 12-hour movements were toward the E

40. 27 out of 12-hour movements were toward the N

41. 20 out of 12-hour movements were toward the E

42. 27 out of 12-hour movements were toward the N

43. 20 out of 12-hour movements were toward the E

44. 27 out of 12-hour movements were toward the N

45. 20 out of 12-hour movements were toward the E

46. 27 out of 12-hour movements were toward the N

47. 20 out of 12-hour movements were toward the E

48. 27 out of 12-hour movements were toward the N

49. 20 out of 12-hour movements were toward the E

50. 27 out of 12-hour movements were toward the N

51. 20 out of 12-hour movements were toward the E

52. 27 out of 12-hour movements were toward the N

53. 20 out of 12-hour movements were toward the E

54. 27 out of 12-hour movements were toward the N

55. 20 out of 12-hour movements were toward the E

56. 27 out of 12-hour movements were toward the N

57. 20 out of 12-hour movements were toward the E

58. 27 out of 12-hour movements were toward the N

59. 20 out of 12-hour movements were toward the E

60. 27 out of 12-hour movements were toward the N

61. 20 out of 12-hour movements were toward the E

62. 27 out of 12-hour movements were toward the N

63. 20 out of 12-hour movements were toward the E

64. 27 out of 12-hour movements were toward the N

65. 20 out of 12-hour movements were toward the E

66. 27 out of 12-hour movements were toward the N

67. 20 out of 12-hour movements were toward the E

68. 27 out of 12-hour movements were toward the N

69. 20 out of 12-hour movements were toward the E

70. 27 out of 12-hour movements were toward the N

71. 20 out of 12-hour movements were toward the E

72. 27 out of 12-hour movements were toward the N

73. 20 out of 12-hour movements were toward the E

74. 27 out of 12-hour movements were toward the N

75. 20 out of 12-hour movements were toward the E

76. 27 out of 12-hour movements were toward the N

77. 20 out of 12-hour movements were toward the E

78. 27 out of 12-hour movements were toward the N

79. 20 out of 12-hour movements were toward the E

80. 27 out of 12-hour movements were toward the N

81. 20 out of 12-hour movements were toward the E

82. 27 out of 12-hour movements were toward the N

83. 20 out of 12-hour movements were toward the E

84. 27 out of 12-hour movements were toward the N

85. 20 out of 12-hour movements were toward the E

86. 27 out of 12-hour movements were toward the N

87. 20 out of 12-hour movements were toward the E

88. 27 out of 12-hour movements were toward the N

89. 20 out of 12-hour movements were toward the E

90. 27 out of 12-hour movements were toward the N

91. 20 out of 12-hour movements were toward the E

92. 27 out of 12-hour movements were toward the N

93. 20 out of 12-hour movements were toward the E

94. 27 out of 12-hour movements were toward the N

95. 20 out of 12-hour movements were toward the E

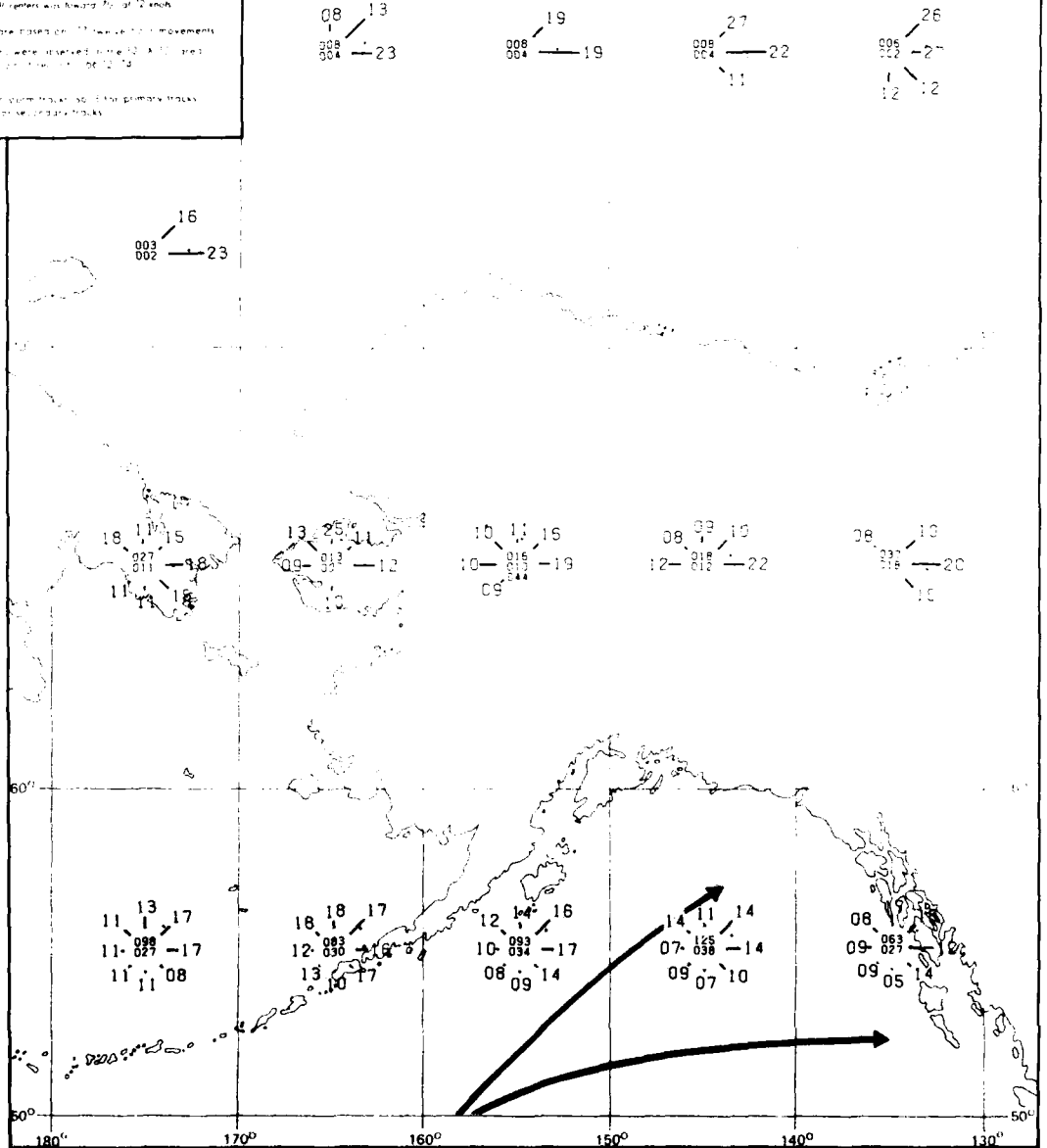
96. 27 out of 12-hour movements were toward the N

97. 20 out of 12-hour movements were toward the E

98. 27 out of 12-hour movements were toward the N

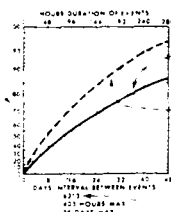
99. 20 out of 12-hour movements were toward the E

100. 27 out of 12-hour movements were toward the N



**Legend**

**Persistence of visibility <2 n. mi.**



Hours duration of events Days interval between events

Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve

80% of the events had a duration ≤ 216 hours

Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve

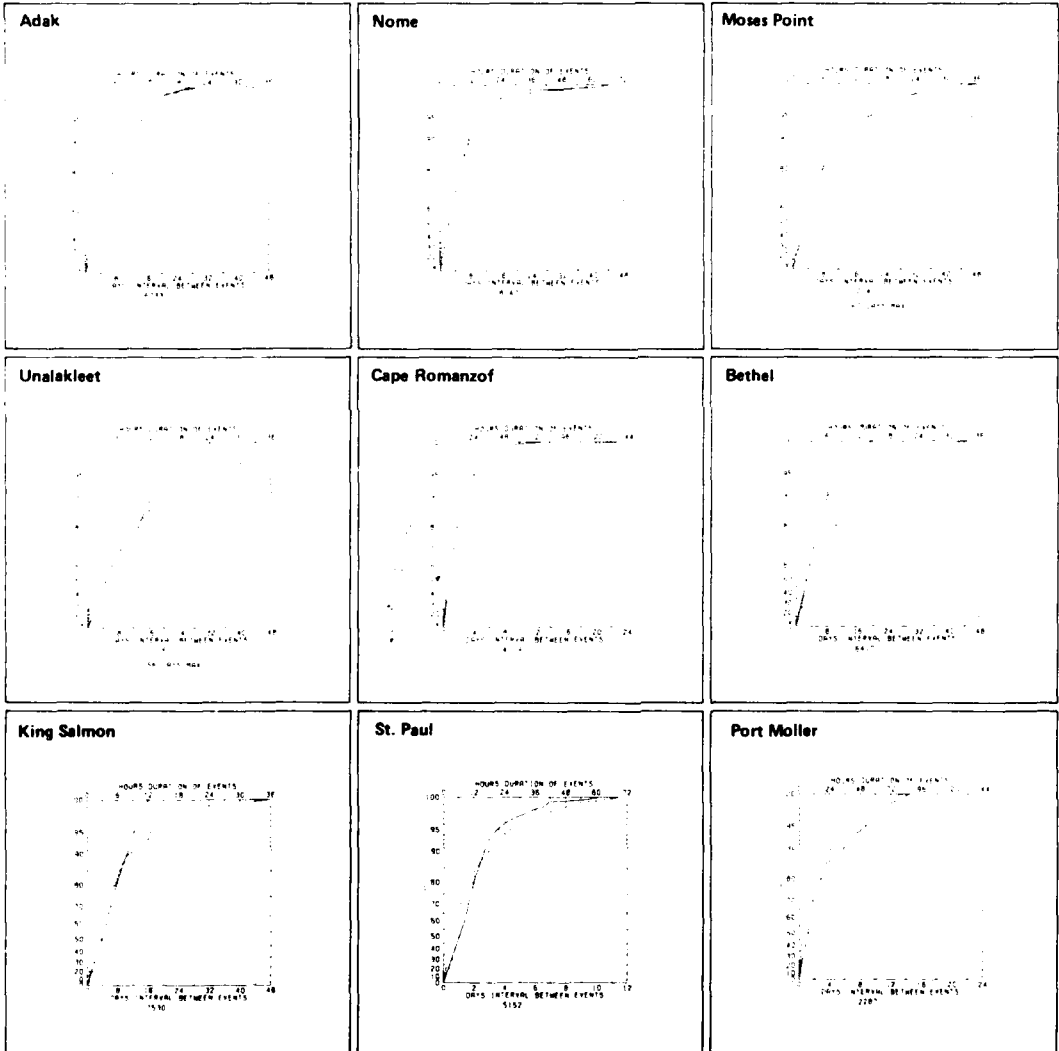
88% of the events were followed by another event in 28 days or less

The maximum values of hours duration and/or the days interval will be displayed when the graph limits are exceeded

Durations and intervals for a particular month extend from the time they begin or the first of the month if already in progress, and are terminated at the actual ending time, regardless of what month that may be

Number of observations

Top and bottom scales are variable to allow for variations in the data

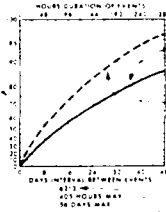


**19 Persistence of visibility <2 n. mi.**

**June**

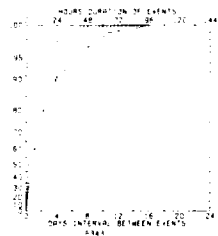
**Legend**

**Persistence of wind  $\geq 10$  kts.**



Hours duration of events Days interval between events  
 Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve  
 — 80% of the events had a duration  $\leq 216$  hours  
 Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve  
 - - - 88% of the events were followed by another event in 28 days or less  
 The maximum values of hours duration and/or the days interval will be displayed when the graph limits are exceeded  
 Durations and intervals for a particular month extend from the time they begin or the first of the month if already in progress, and are terminated at the actual ending time, regardless of what month that may be  
 Number of observations  
 Top and bottom scales are variable to allow for variations in the data

**Adak**



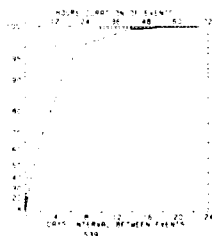
**Nome**



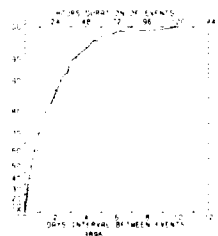
**Moses Point**



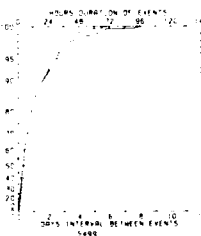
**Unalakleet**



**Cape Romanzof**



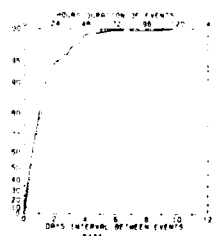
**Bethel**



**Nikolski**



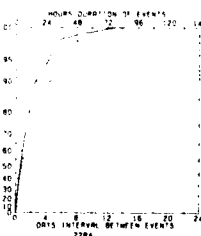
**King Salmon**



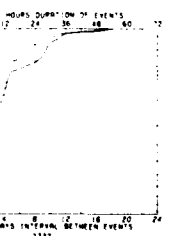
**St. Paul**



**Port Moller**



**Driftwood Bay**

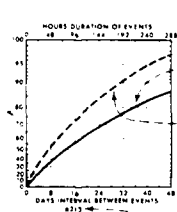


**June**

**20 Persistence of wind  $\geq 10$  kts.**

**Legend**

**Persistence of wind  $\geq 20$  kts.**



Hours duration of events Days interval between events

Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve

— 80% of the events had a duration  $\leq 216$  hours

Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve

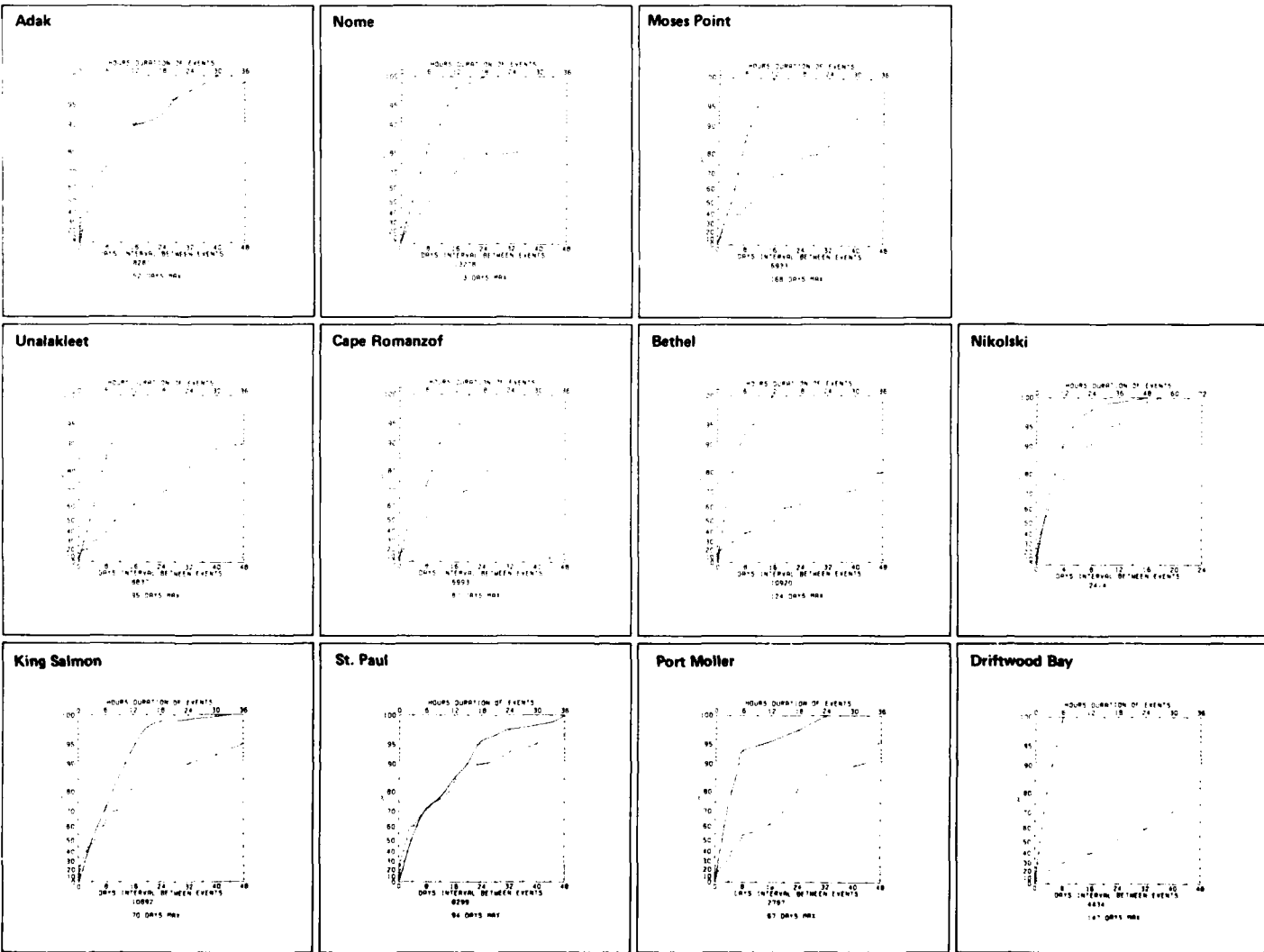
— 88% of the events were followed by another event in 28 days or less

The maximum value(s) of hours duration and/or the days interval will be displayed when the graph limits are exceeded

Durations and intervals for a particular month extend from the time they begin for the first of a month if already in progress; and are terminated at the actual ending time, regardless of what month that may be

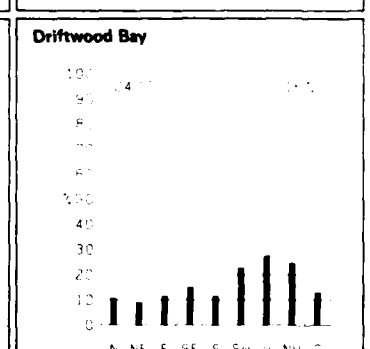
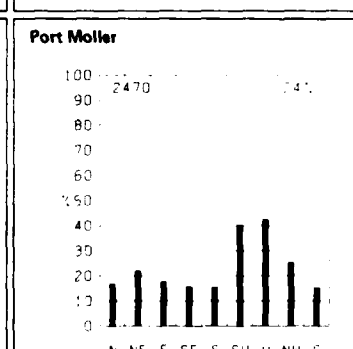
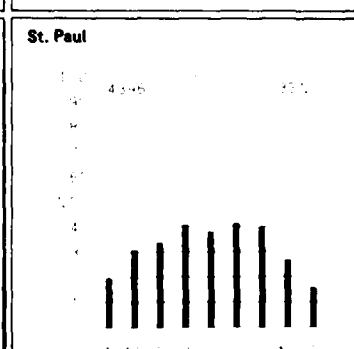
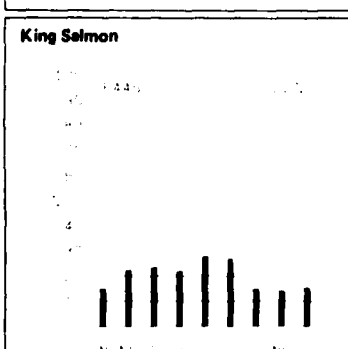
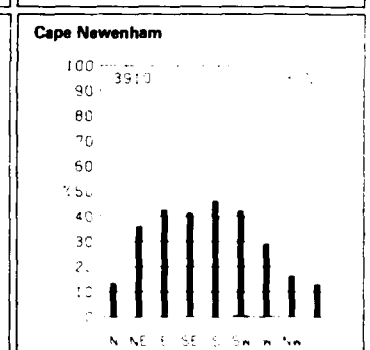
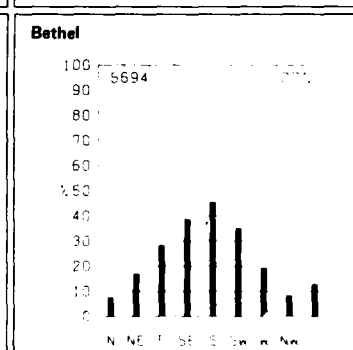
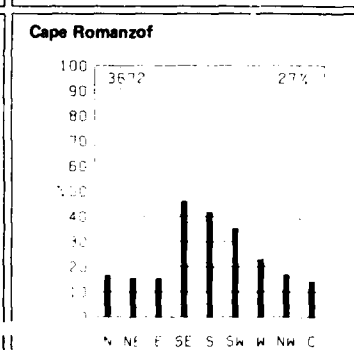
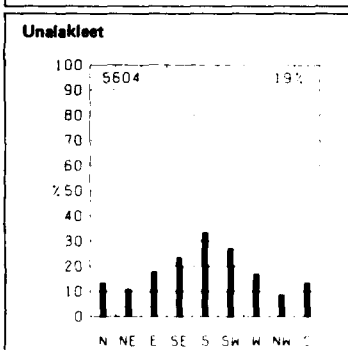
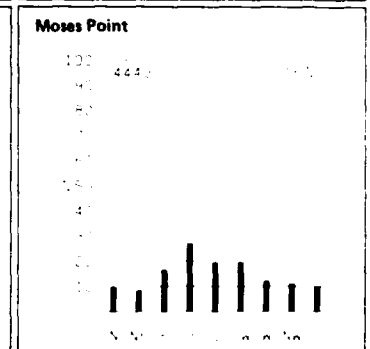
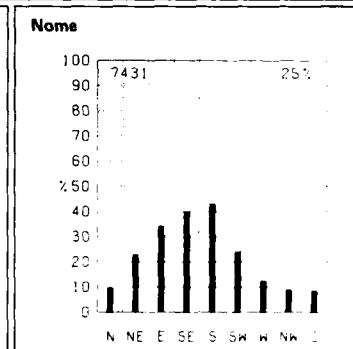
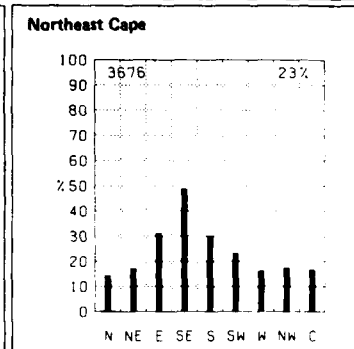
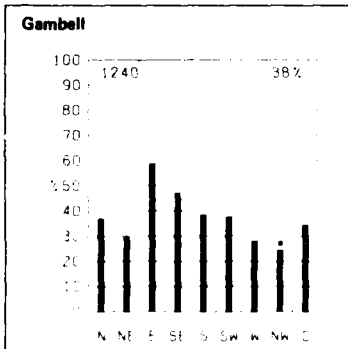
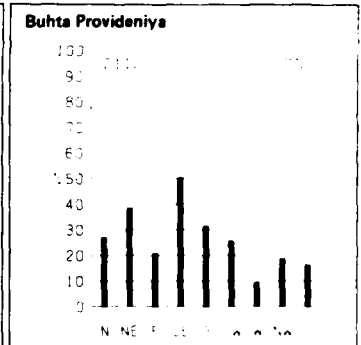
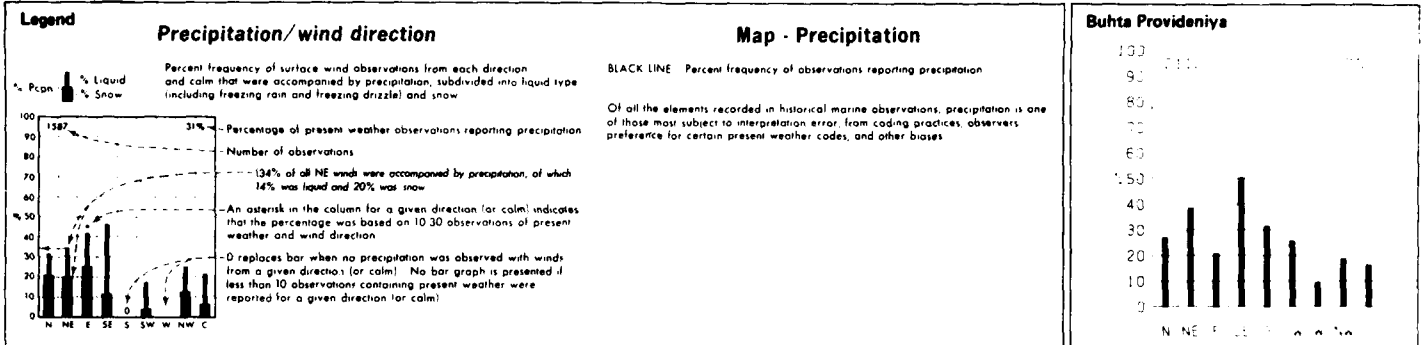
Number of observations

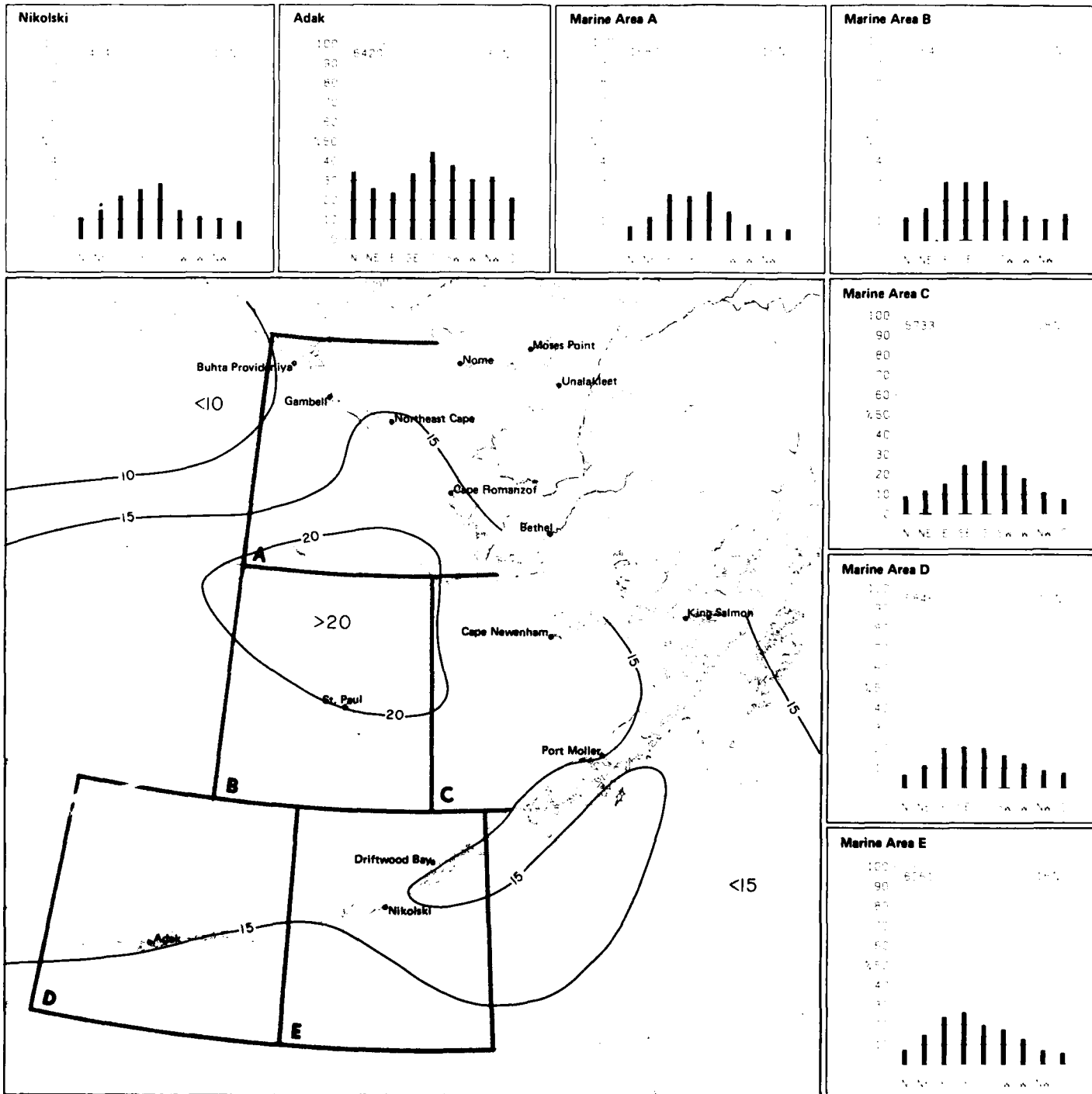
Top and bottom scales are variable to allow for variations in the data

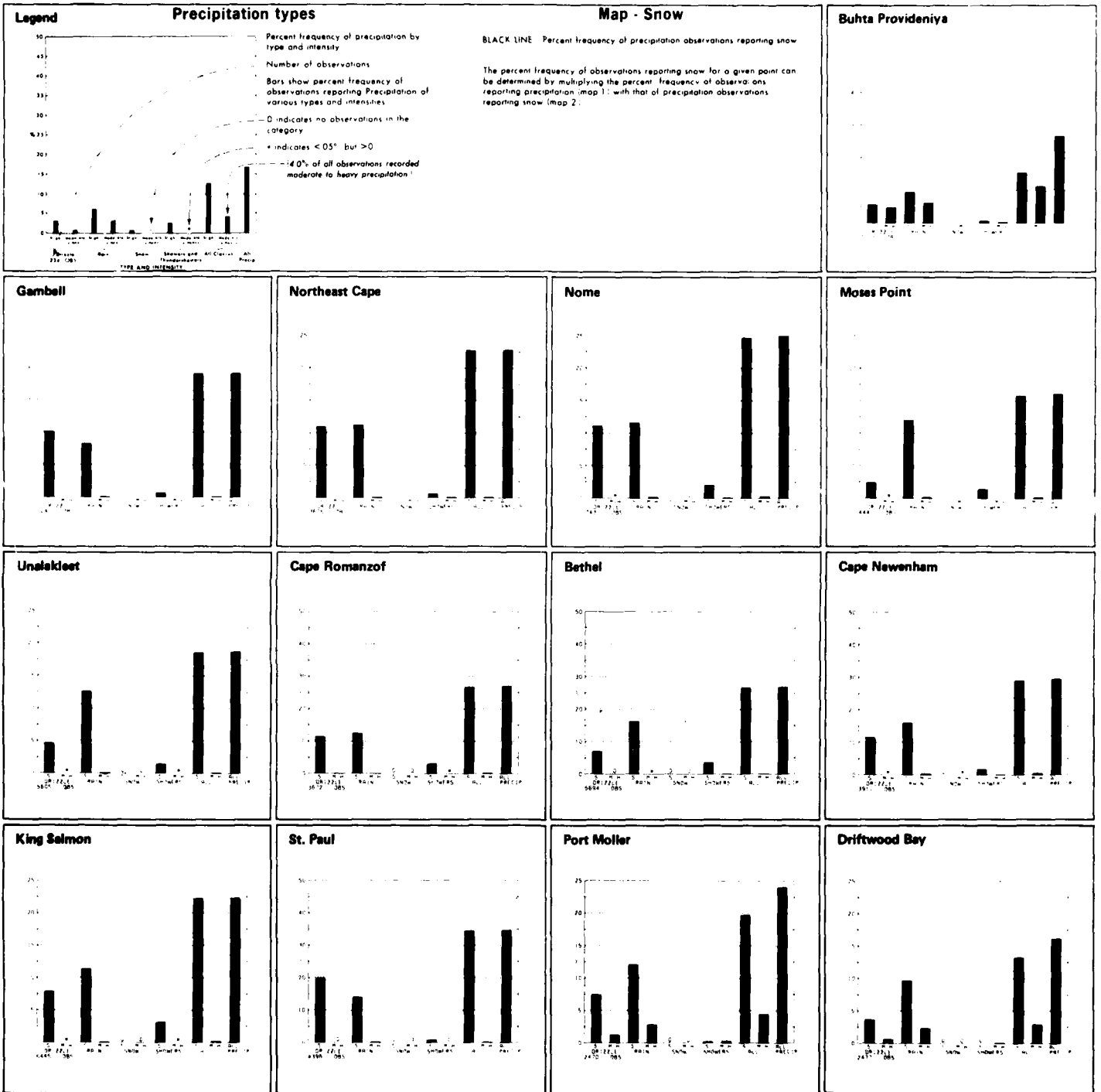


**21 Persistence of wind  $\geq 20$  kts.**

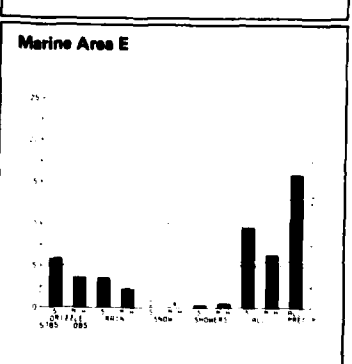
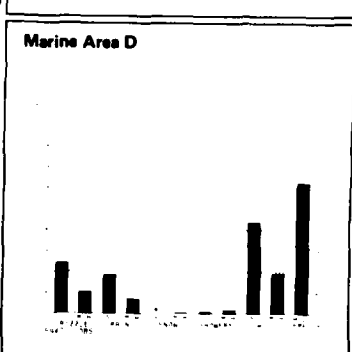
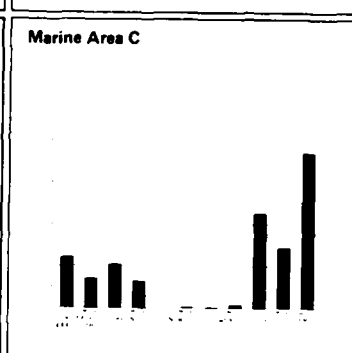
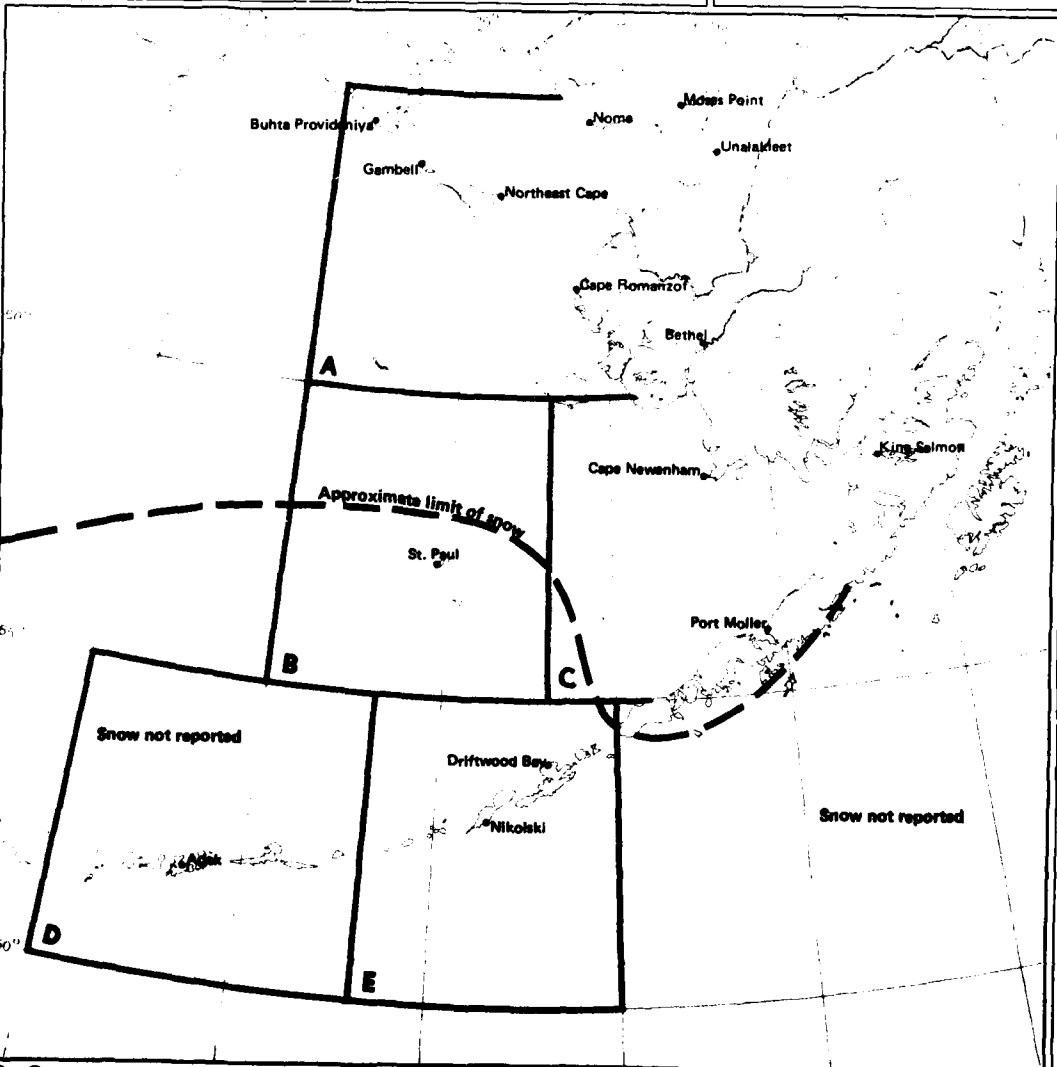
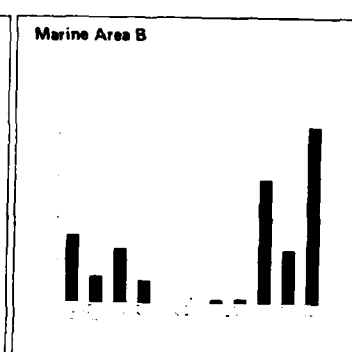
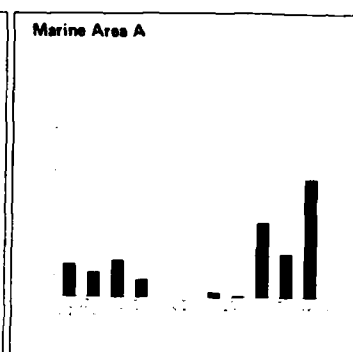
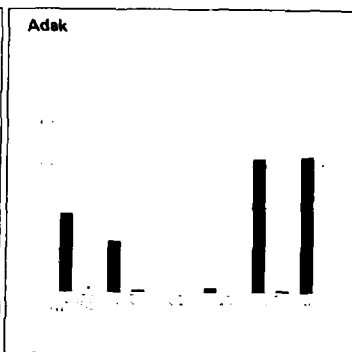
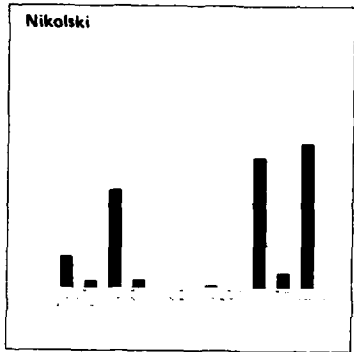
**June**











2 Snow

July

**Legend**

**Air temperature/wind direction**

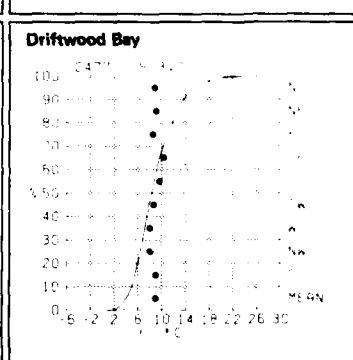
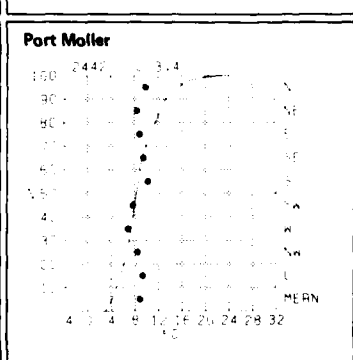
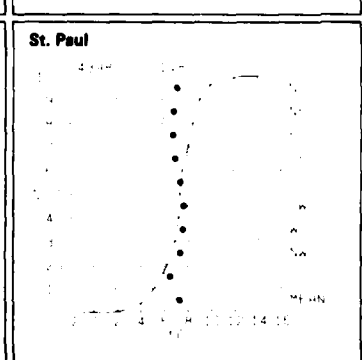
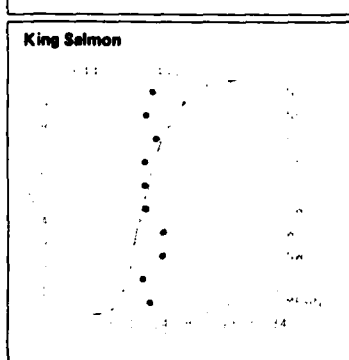
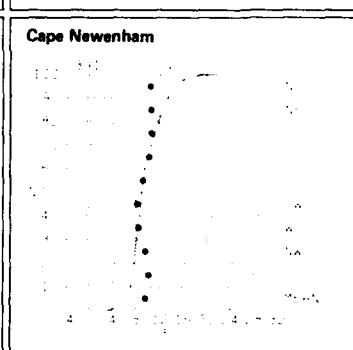
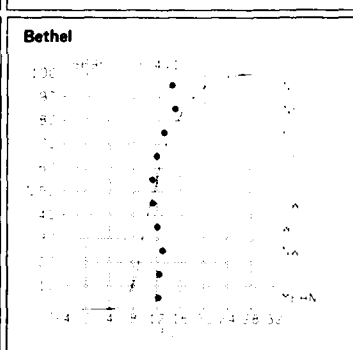
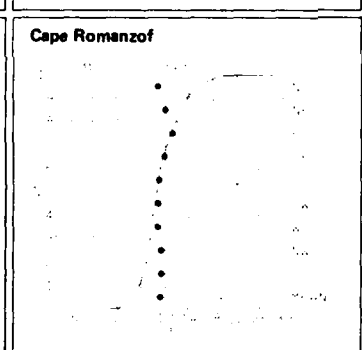
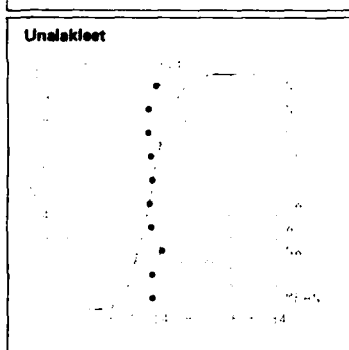
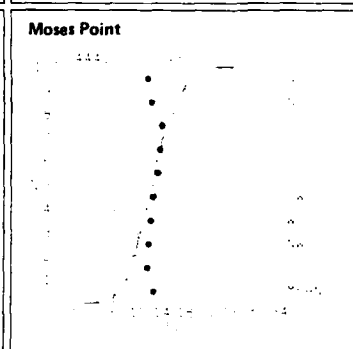
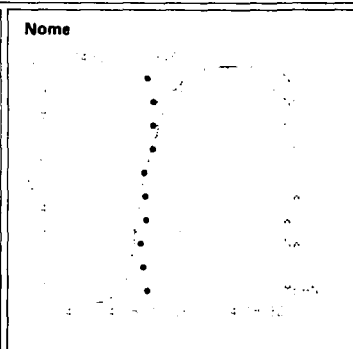
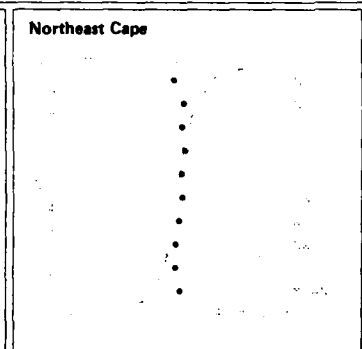
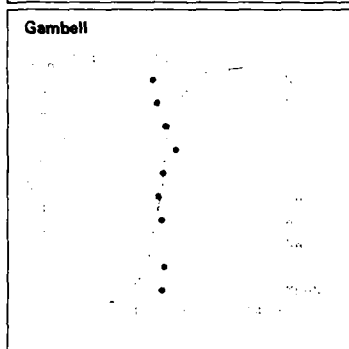
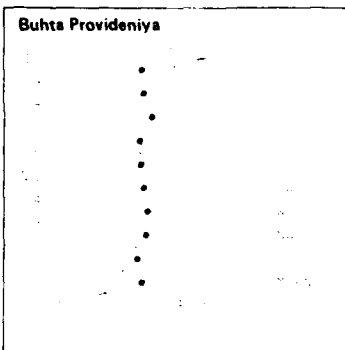
Number of observations  
 Cumulative percent frequency of temperatures equal to or less than the temperature intersected by the curve  
 70% of all temperatures were  $\leq 10.3^\circ\text{C}$  or  $\leq 50.5^\circ\text{F}$   
 Standard deviation of temperatures  $^\circ\text{C}$   
 Mean temperature for each wind direction, calm and for all data combined are represented by dots  
 With NW winds, the mean temperature was  $9.4^\circ\text{C}$  or  $48.9^\circ\text{F}$   
 Indicates that the mean temperature for a direction or calm was computed from 10-30 observations  
 The mean temperature is omitted when less than 10 observations for a direction or calm were available

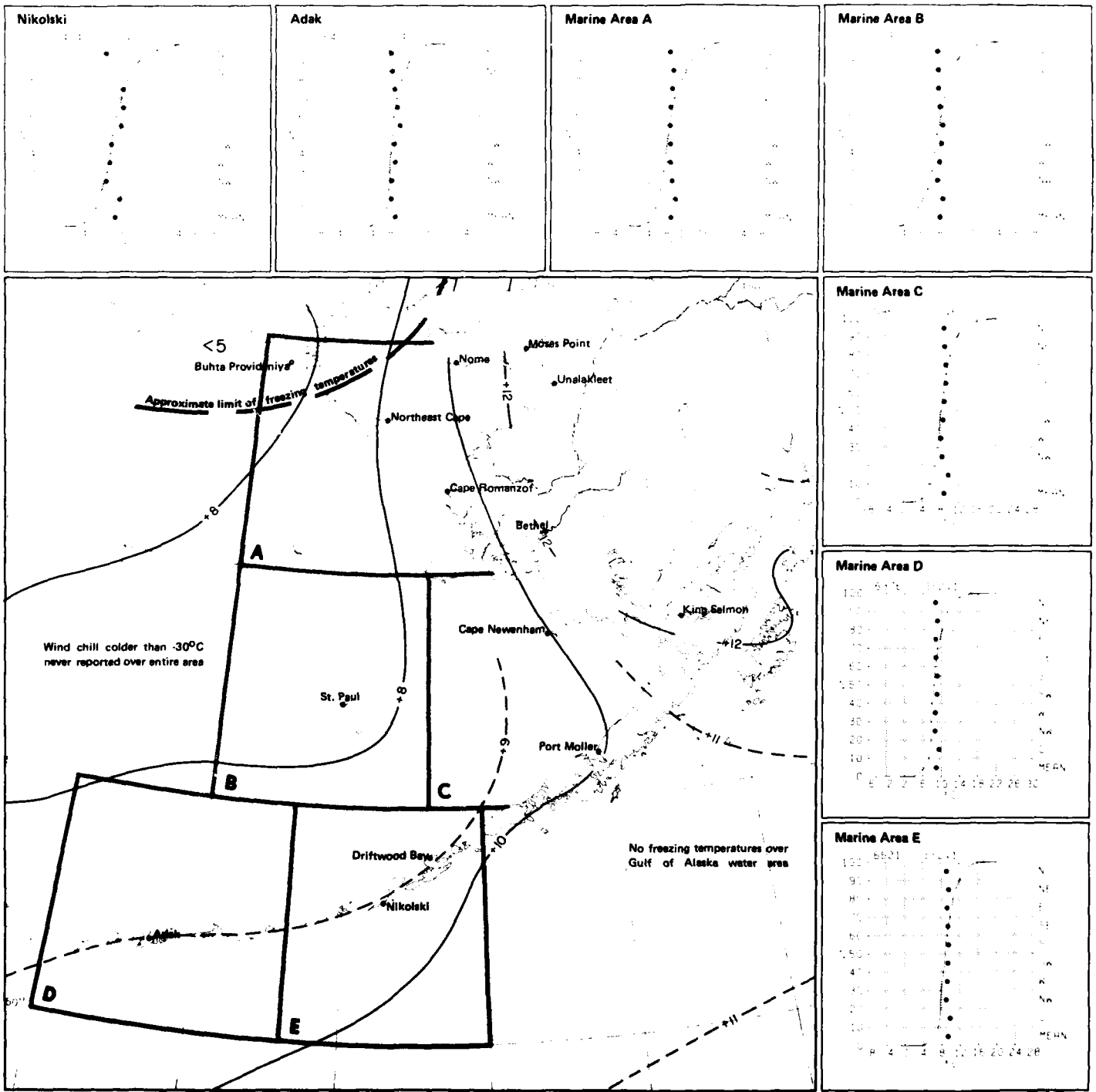
**Map - Air temperature mean and thresholds**

BLACK LINE Percent frequency of temperature  $\leq 0^\circ\text{C}$   $\leq 32^\circ\text{F}$   
 RED LINE Mean air temperature  $^\circ\text{C}$   
 BLUE LINE Percent frequency of wind chill temperature  $\leq 30^\circ\text{C}$   $\leq 22^\circ\text{F}$

Air temperature readings recorded on transient ships in warm, sunny weather appear biased toward high temperatures, apparently because of improper instrument exposure and ventilation. Despite the inaccuracies, the large scale patterns and mean gradients of the isopleth analyses are relatively accurate.

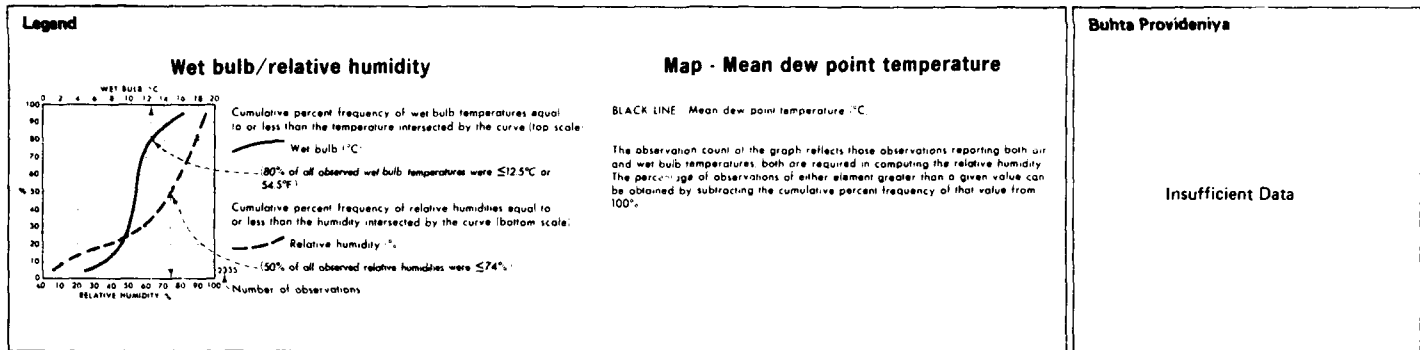
The temperature scale of the graph may vary in both range and class interval. The percentage of temperature observations greater than a given value can be obtained by subtracting the cumulative percent frequency of that value from 100%. The number of observations and the standard deviation plus the plotted points on the graphs are based on those observations reporting both temperature and wind direction. The cumulative curve is based on all observations reporting temperature with or without wind direction.





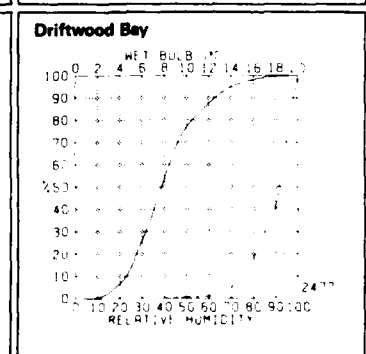
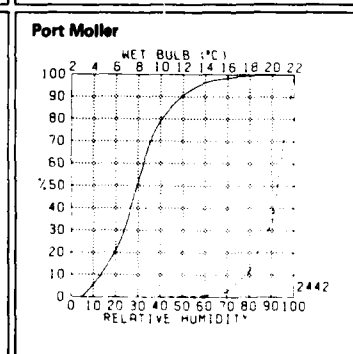
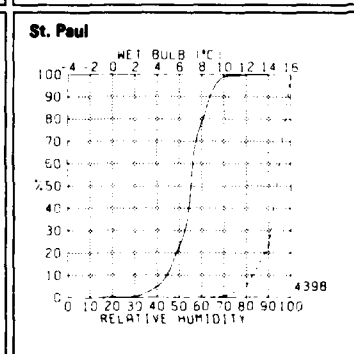
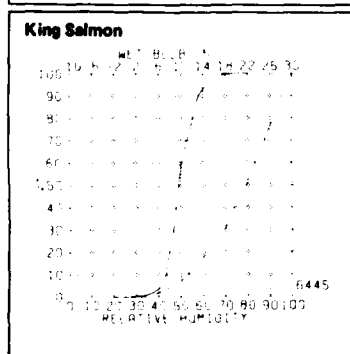
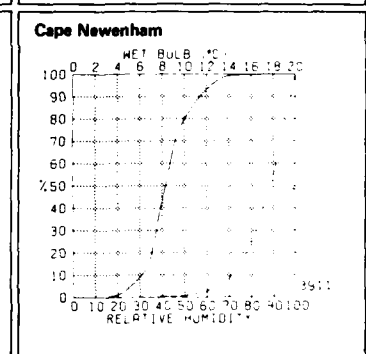
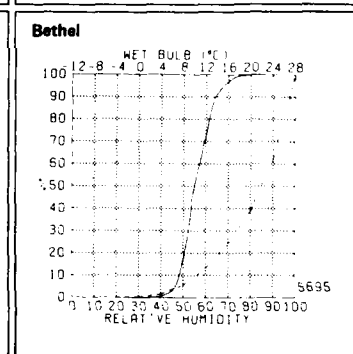
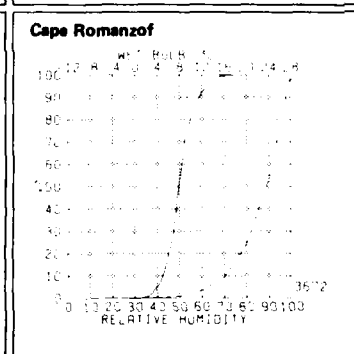
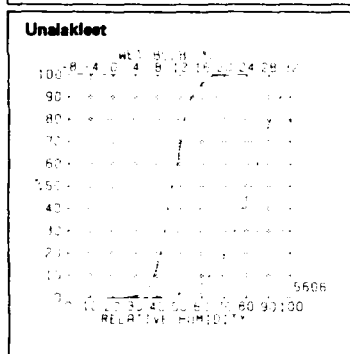
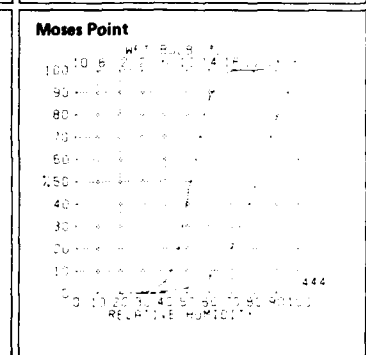
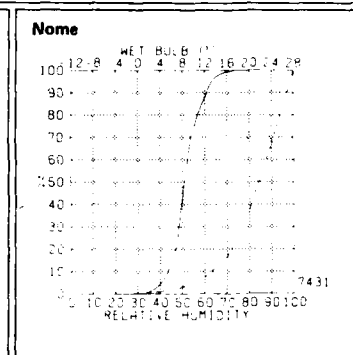
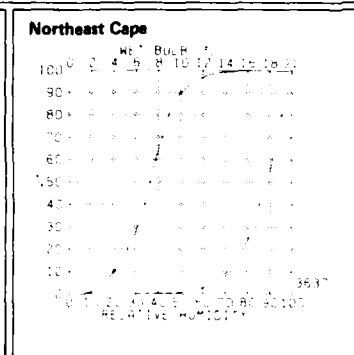
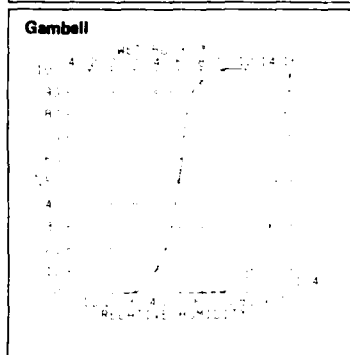
3 Air temperature mean and thresholds

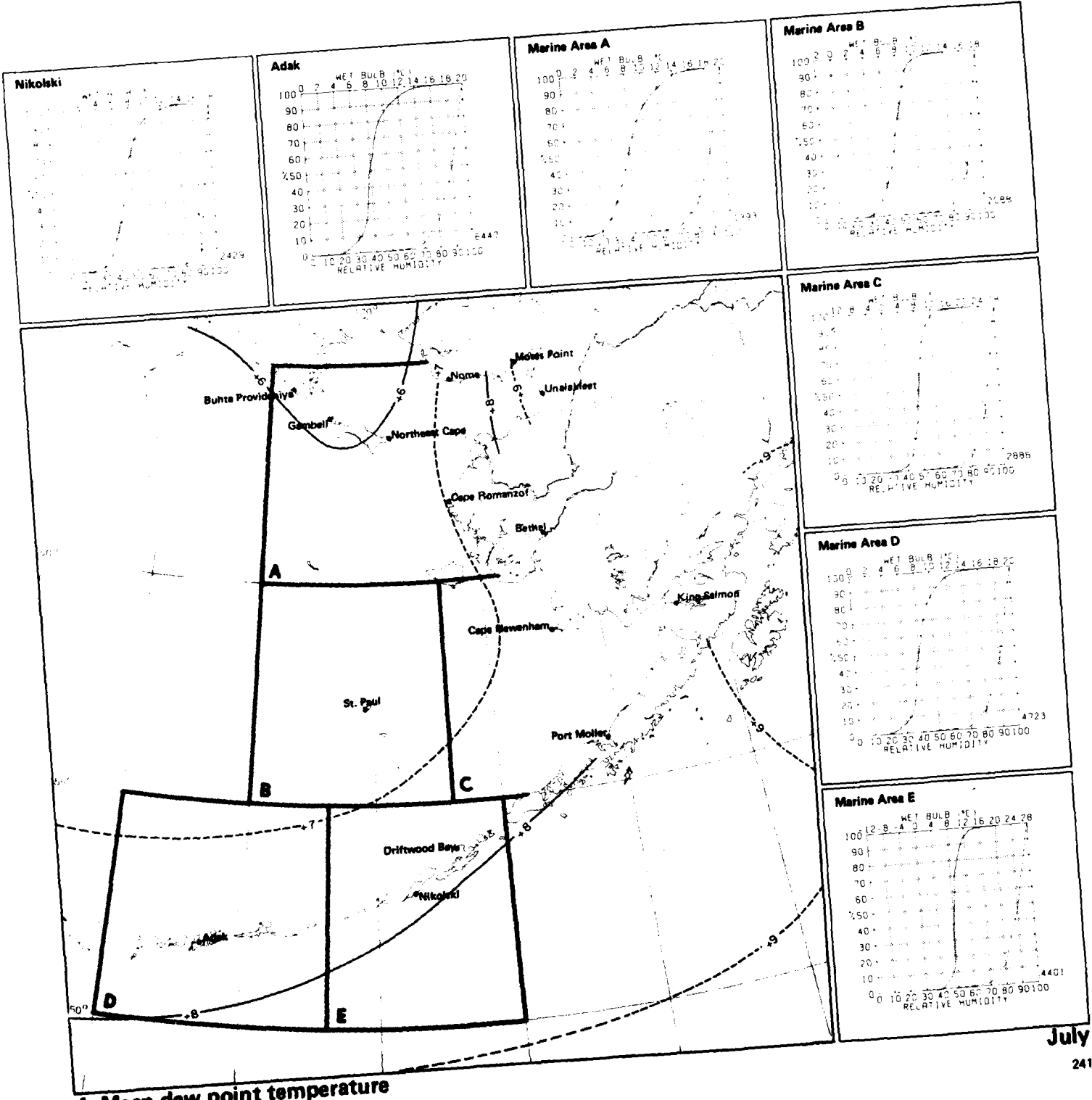
July



**Buhta Provideniya**

Insufficient Data

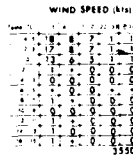




4 Mean dew point temperature

**Legend**

**Air temperature/wind speed**



Percent frequency of simultaneous occurrence of specified temperature (°C) and wind speed (knots)  
 \* = 1% of all observations reported temperature 2.3°C simultaneously with wind speed of 22-33 kts  
 - indicates < 5% but > 0  
 - Number of observations

**Map - Air temperature extremes (°C)**

BLACK LINE Maximum 99% air temperature 1% of temperatures were greater than the given value  
 BLUE LINE Minimum 1% air temperature 99% of temperatures were equal to or less than the given value

The graph can be used to determine the extent of human discomfort from the combined effects of extreme heat or cold and winds or to estimate the likelihood of superstructure icing (icing potential increases as the air temperature drops below freezing and the winds increase above 10 knots [12 mph] and may become quite severe with temperatures equal to or less than 9°C [16°F] and winds equal to or greater than 34 knots [39 mph]

**Buhta Provideniya**



**Gambell**

TEMP (°C)	0-3	4-10	11-21	22-33	34
28-29	0	0	0	0	0
24-25	0	0	0	0	0
20-21	0	0	0	0	0
16-17	1	3	2	0	0
12-13	2	8	3	0	0
8-9	2	9	4	0	0
4-5	4	15	8	0	0
0	4	20	11	1	0
Σ	5	16	5	0	0

1240

**Northeast Cape**

TEMP (°C)	0-3	4-10	11-21	22-33	34
28-29	0	0	0	0	0
24-25	0	0	0	0	0
20-21	0	0	0	0	0
16-17	1	2	1	0	0
12-13	3	6	3	0	0
8-9	1	2	1	0	0
4-5	4	13	10	0	0
0	1	2	1	0	0
Σ	10	36	32	0	0

3657

**Nome**

TEMP (°C)	0-3	4-10	11-21	22-33	34
28-29	0	0	0	0	0
24-25	0	0	0	0	0
20-21	0	0	0	0	0
16-17	1	6	2	0	0
12-13	1	7	3	0	0
8-9	2	13	6	0	0
4-5	2	11	5	0	0
0	6	27	15	1	0
Σ	24	70	32	1	0

7431

**Moses Point**

TEMP (°C)	0-3	4-10	11-21	22-33	34
28-29	0	0	0	0	0
24-25	0	0	0	0	0
20-21	0	0	0	0	0
16-17	1	3	2	0	0
12-13	2	8	3	0	0
8-9	2	9	4	0	0
4-5	4	15	8	0	0
0	4	20	11	1	0
Σ	13	35	20	1	0

4441

**Unalakleet**

TEMP (°C)	0-3	4-10	11-21	22-33	34
28-29	0	0	0	0	0
24-25	0	0	0	0	0
20-21	0	0	0	0	0
16-17	1	3	2	0	0
12-13	2	8	3	0	0
8-9	2	9	4	0	0
4-5	4	15	8	0	0
0	4	20	11	1	0
Σ	13	35	20	1	0

5605

**Cape Romanzof**

TEMP (°C)	0-3	4-10	11-21	22-33	34
28-29	0	0	0	0	0
24-25	0	0	0	0	0
20-21	0	0	0	0	0
16-17	1	2	1	0	0
12-13	3	6	3	0	0
8-9	1	2	1	0	0
4-5	4	13	10	0	0
0	1	2	1	0	0
Σ	10	36	32	0	0

3672

**Bethel**

TEMP (°C)	0-3	4-10	11-21	22-33	34
28-29	0	0	0	0	0
24-25	0	0	0	0	0
20-21	0	0	0	0	0
16-17	1	6	2	0	0
12-13	1	7	3	0	0
8-9	2	13	6	0	0
4-5	2	11	5	0	0
0	6	27	15	1	0
Σ	24	70	32	1	0

5695

**Cape Newenham**

TEMP (°C)	0-3	4-10	11-21	22-33	34
28-29	0	0	0	0	0
24-25	0	0	0	0	0
20-21	0	0	0	0	0
16-17	1	3	2	0	0
12-13	2	8	3	0	0
8-9	2	9	4	0	0
4-5	4	15	8	0	0
0	4	20	11	1	0
Σ	13	35	20	1	0

3910

**King Salmon**

TEMP (°C)	0-3	4-10	11-21	22-33	34
28-29	0	0	0	0	0
24-25	0	0	0	0	0
20-21	0	0	0	0	0
16-17	1	4	1	0	0
12-13	1	6	3	0	0
8-9	1	6	3	0	0
4-5	3	13	6	1	0
0	3	12	5	0	0
Σ	10	36	25	1	0

6445

**St. Paul**

TEMP (°C)	0-3	4-10	11-21	22-33	34
28-29	0	0	0	0	0
24-25	0	0	0	0	0
20-21	0	0	0	0	0
16-17	0	0	0	0	0
12-13	0	1	0	0	0
8-9	1	3	4	0	0
4-5	1	5	3	0	0
0	1	2	1	0	0
Σ	3	11	8	0	0

4398

**Port Moller**

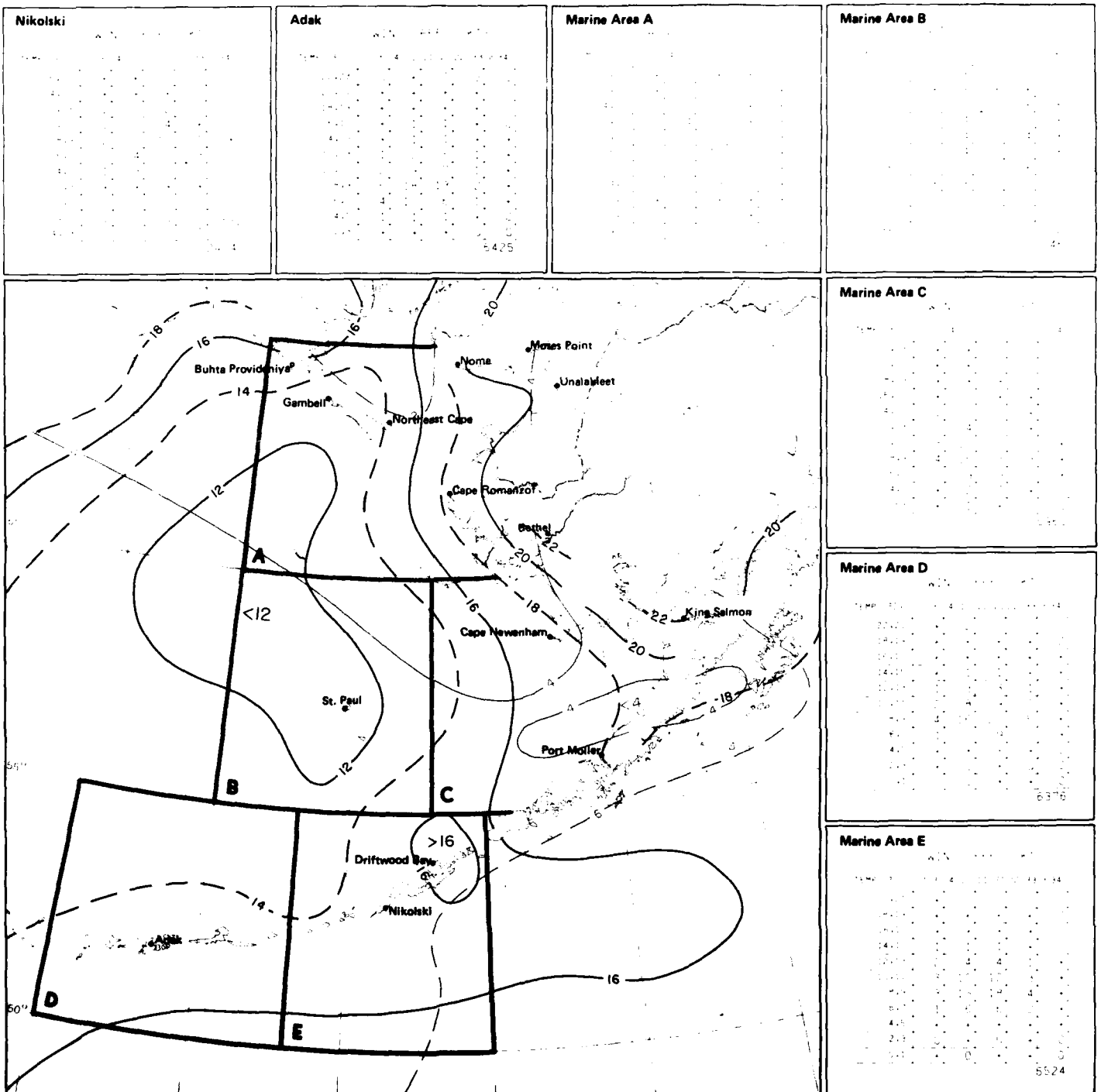
TEMP (°C)	0-3	4-10	11-21	22-33	34
28-29	0	0	0	0	0
24-25	0	0	0	0	0
20-21	0	0	0	0	0
16-17	1	2	0	0	0
12-13	1	2	0	0	0
8-9	5	12	6	1	0
4-5	5	16	5	0	0
0	2	6	2	0	0
Σ	15	44	25	1	0

2442

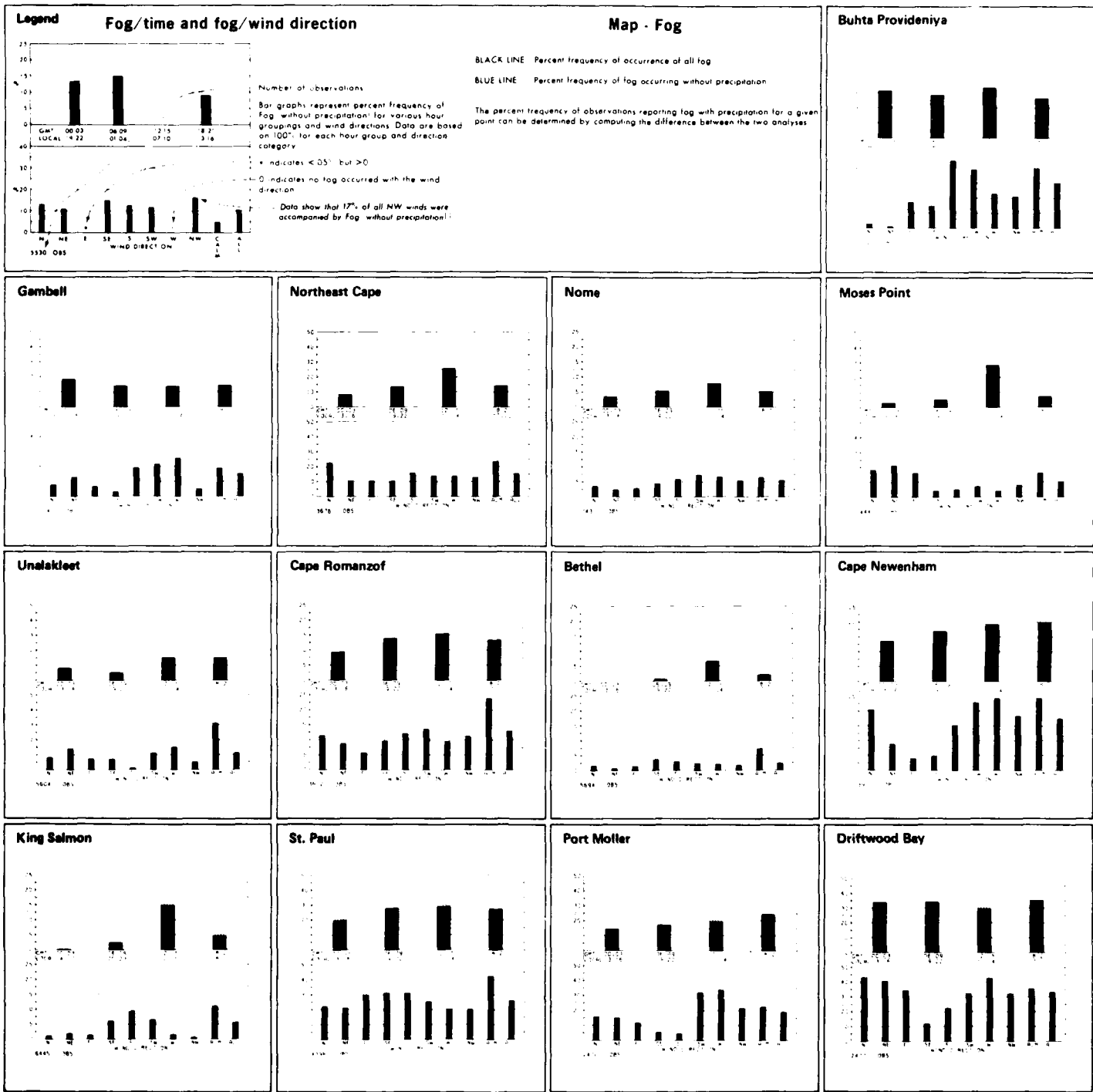
**Driftwood Bay**

TEMP (°C)	0-3	4-10	11-21	22-33	34
28-29	0	0	0	0	0
24-25	0	0	0	0	0
20-21	0	0	0	0	0
16-17	1	1	0	0	0
12-13	1	1	0	0	0
8-9	8	9	4	0	0
4-5	8	9	4	0	0
0	10	12	4	0	0
Σ	27	24	8	0	0

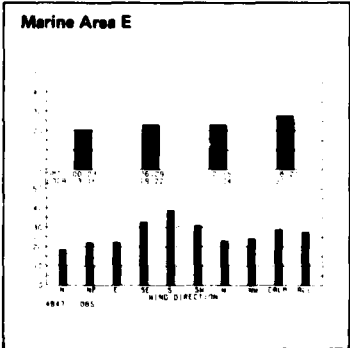
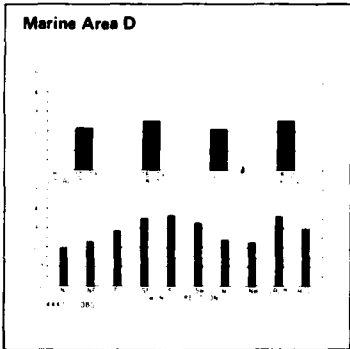
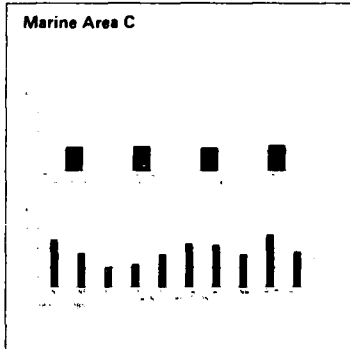
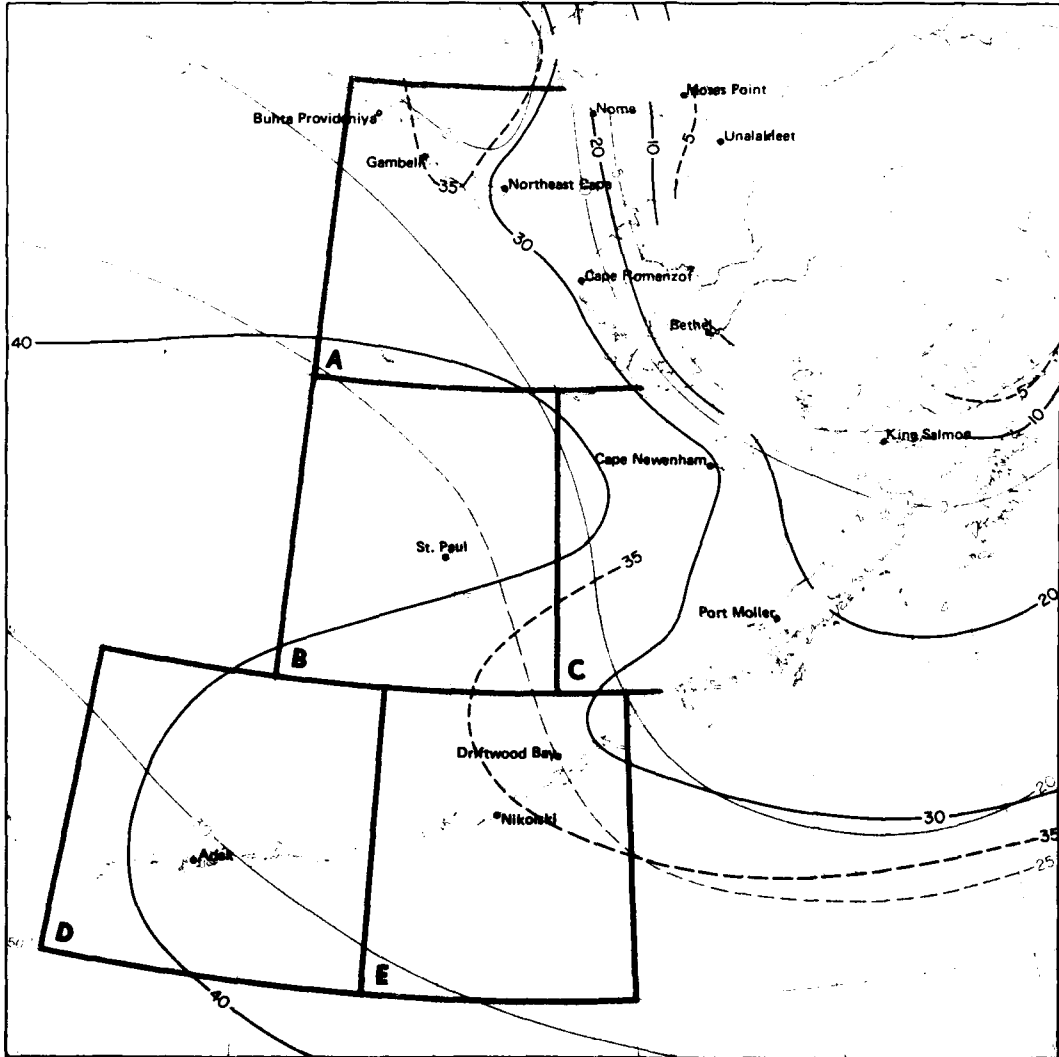
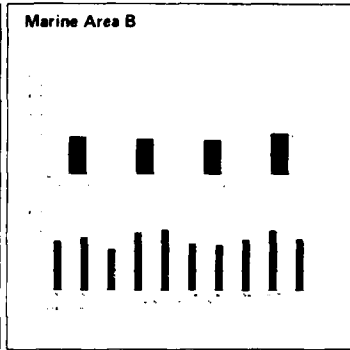
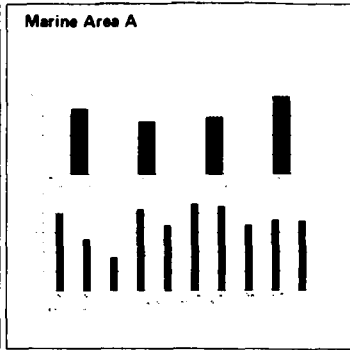
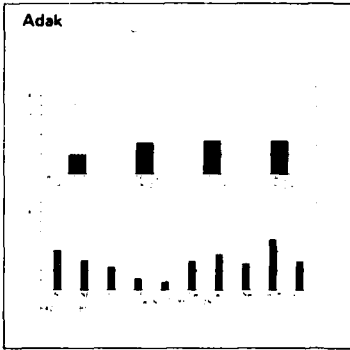
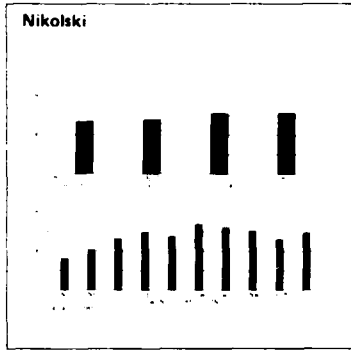
2477



5 Air temperature extremes (°C)





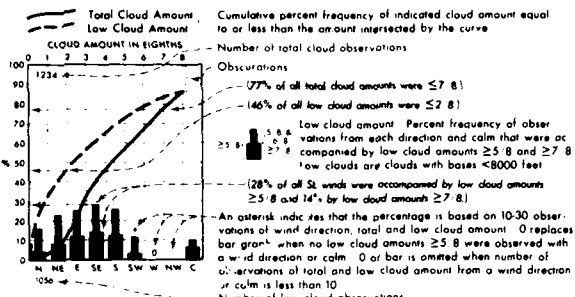


6 Fog

July

**Legend**

**Cloud cover/wind direction**

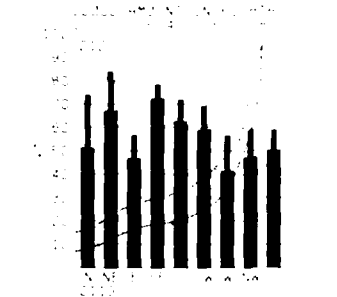


**Map - Cloud amount thresholds**

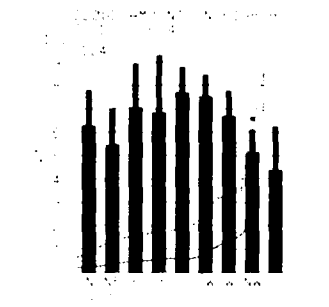
BLACK LINE Percent frequency of total cloud amount  $\leq 2.8$   
 BLUE LINE Percent frequency of low cloud amount  $\geq 5.8$

Since the number of observations reporting low cloud amount is usually less than that for total cloud amount, somewhat different samples may be used to compute the two curves on the graph. This may lead to inconsistencies where low cloud amount appears higher than the total cloud amount. Where this occurred the graph was adjusted in favor of the total cloud by making the curves coincide. The frequency of obscured conditions may be determined by subtracting the cumulative percent frequency corresponding to 8.8 coverage from 100%. In computing the bar graph, observations are considered as 8.8 coverage.

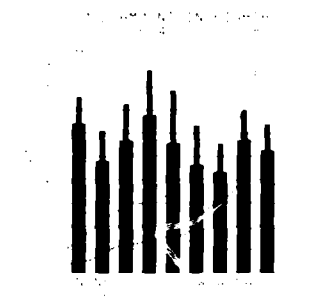
**Buhta Provideniya**



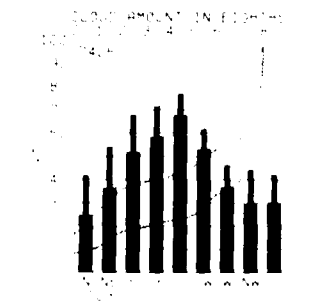
**Gambell**



**Northeast Cape**



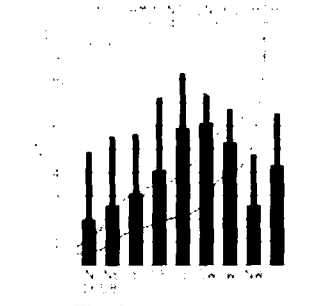
**Nome**



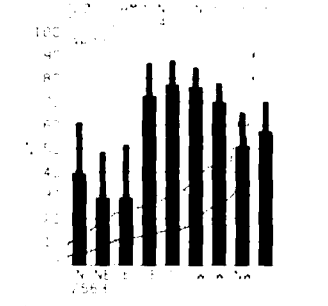
**Moses Point**



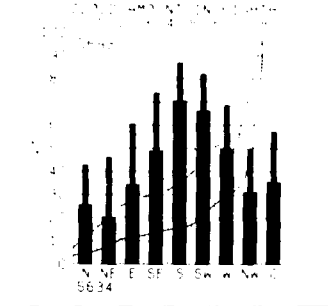
**Unalakleet**



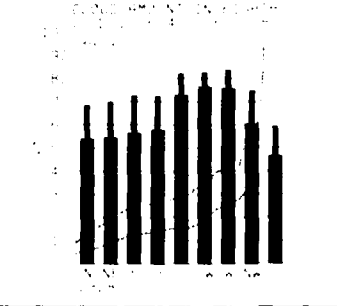
**Cape Romanzof**



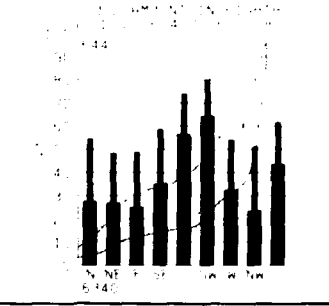
**Bethel**



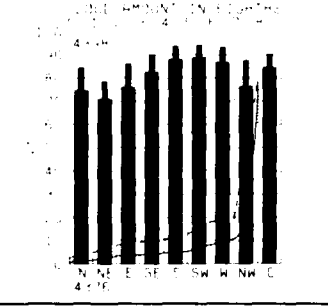
**Cape Newenham**



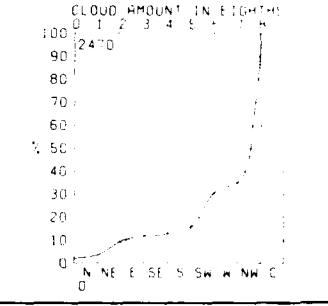
**King Salmon**



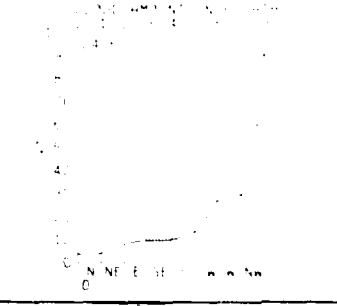
**St. Paul**

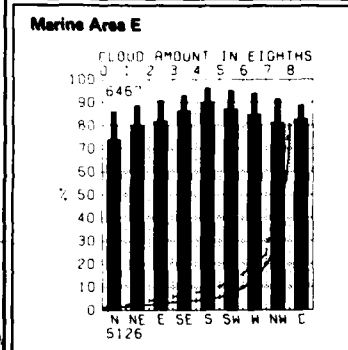
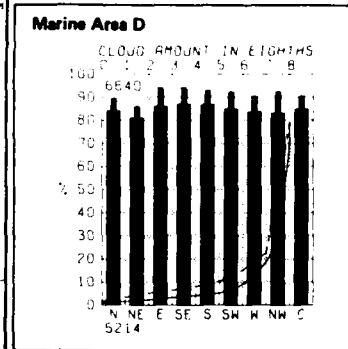
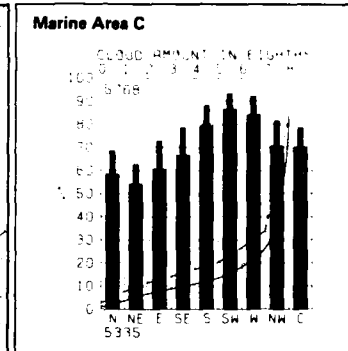
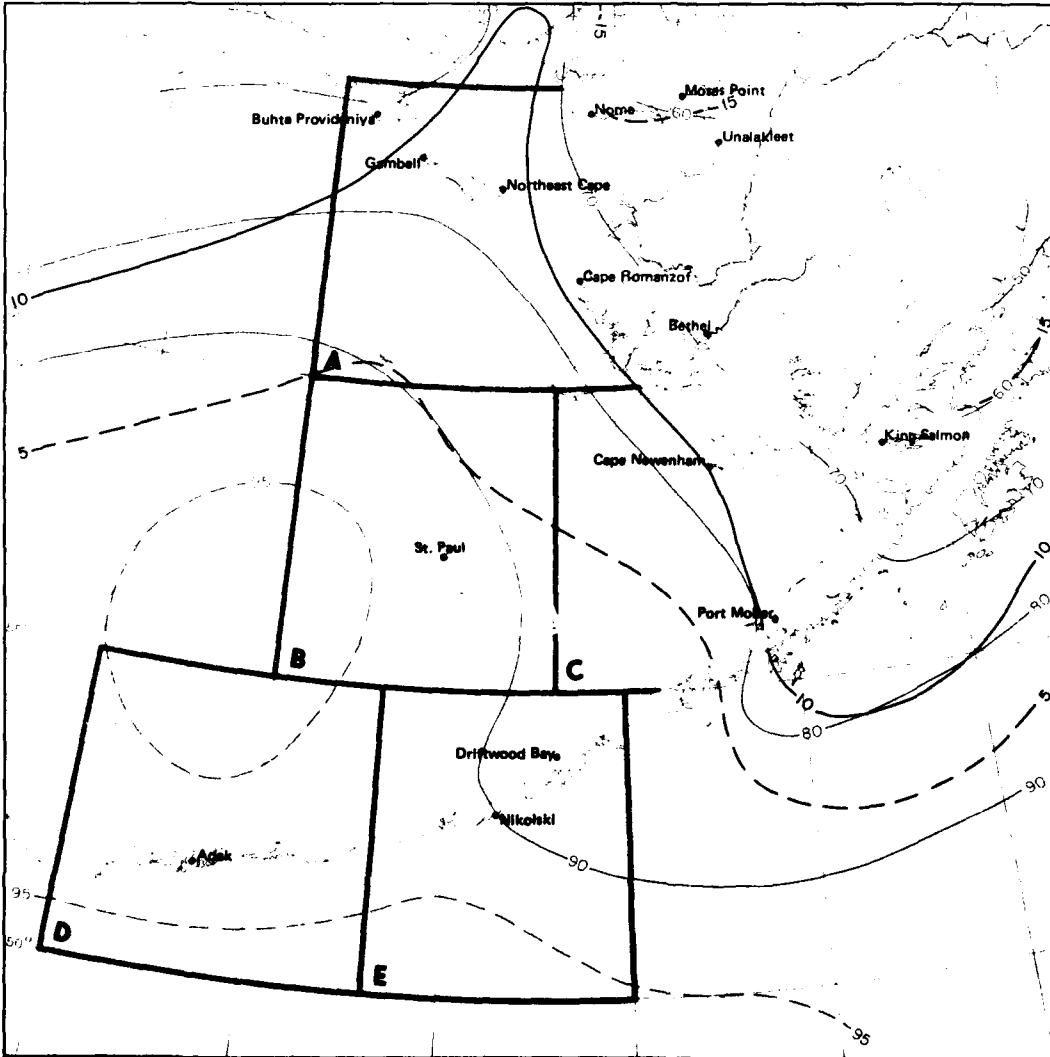
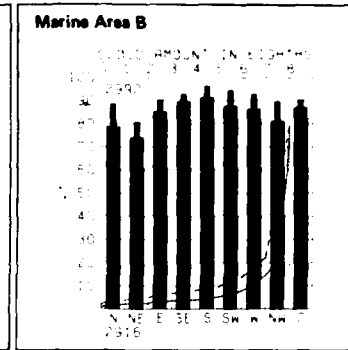
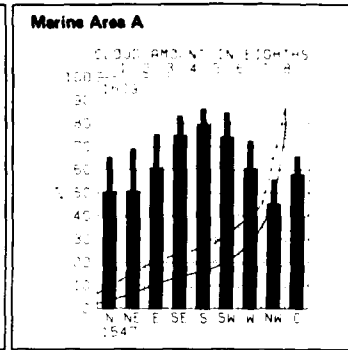
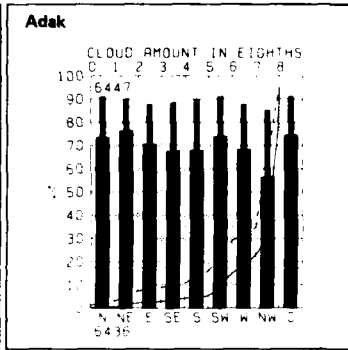
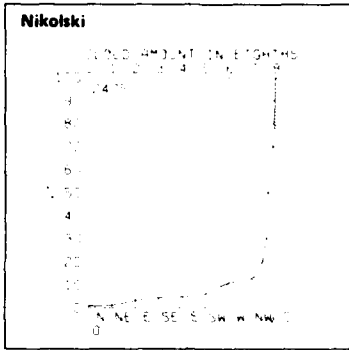


**Port Moller**



**Driftwood Bay**

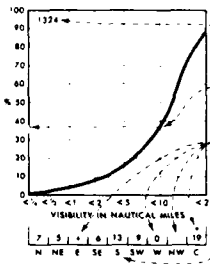




7 Cloud amount thresholds

**Legend**

**Visibility/wind direction**



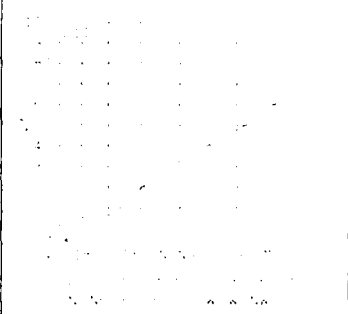
Number of observations  
 Cumulative percent frequency of visibilities less than the visibility intersected by the curve  
 32% of all visibilities reported were <math><10</math> nautical miles  
 The table below the graph indicates percent frequency of occurrence of visibility <math><2</math> nautical miles versus wind direction  
 indicates <math><5\%</math> but > 0 indicates that no visibilities <math><2</math> nautical miles were observed with winds from a direction or calm  
 No percentage is given if less than 10 observations were available for visibility and wind direction. An asterisk indicates that the percentage was based on 10-30 observations of visibility and wind direction  
 13% of all S winds were accompanied by visibilities <math><2</math> nautical miles.

**Map - Visibility thresholds**

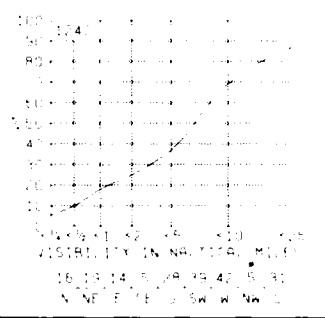
BLACK LINE Percent frequency of visibilities  $\geq 5$  nautical miles  
 BLUE LINE Percent frequency of visibilities  $< 2$  nautical miles

The percentage of visibility equal to or greater than a given value can be obtained from the graph by subtracting the cumulative percent frequency of that value from 100. Visibility at sea is difficult to measure because of the lack of reference points. Also, some observers seem to report reduced visibilities at night because of darkness, though this tendency has abated in recent years. The coarseness of the coding intervals, however, tends to minimize serious biases in the summarized data. Visibilities greater than 25 nm. should be interpreted cautiously because the earth's curvature makes it impossible to see 25 nm. horizontally from the bridges of most ships.

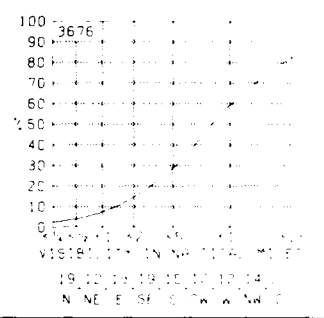
**Buhta Provideniya**



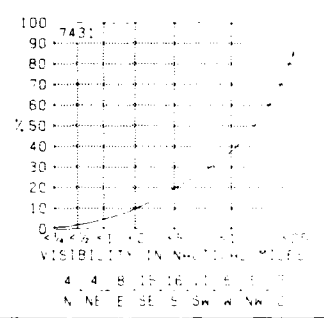
**Gambell**



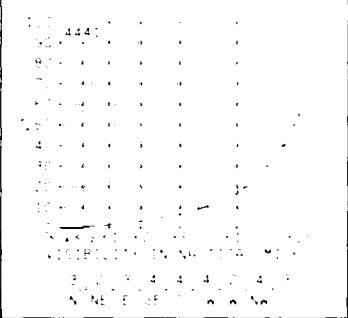
**Northeast Cape**



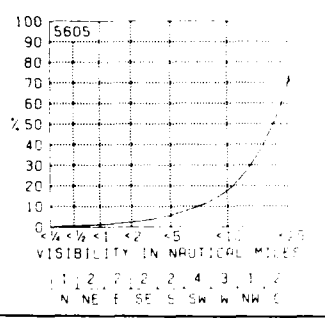
**Nome**



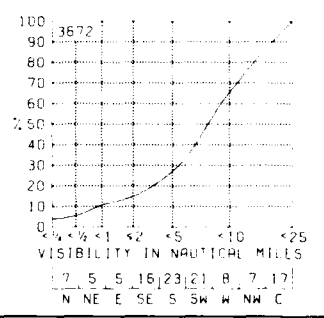
**Moses Point**



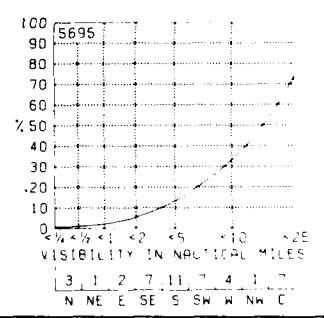
**Unalakleet**



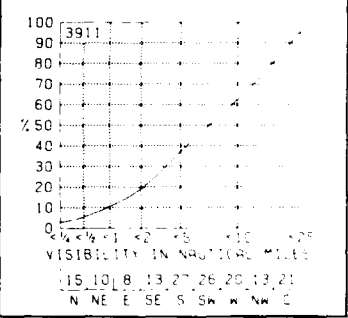
**Cape Romanzof**



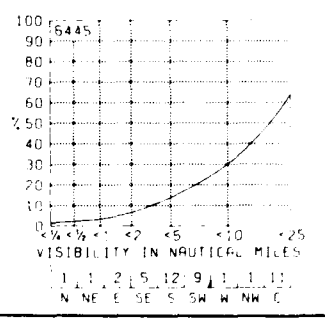
**Bethel**



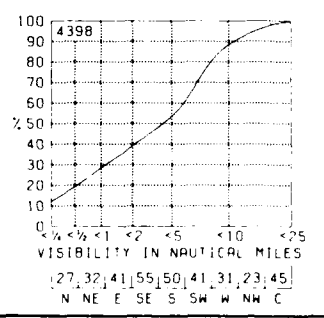
**Cape Newenham**



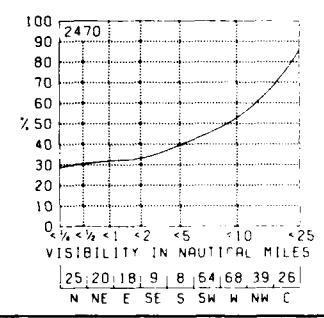
**King Salmon**



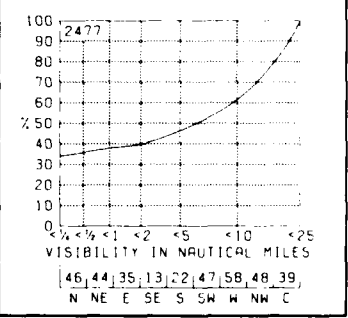
**St. Paul**



**Port Moller**



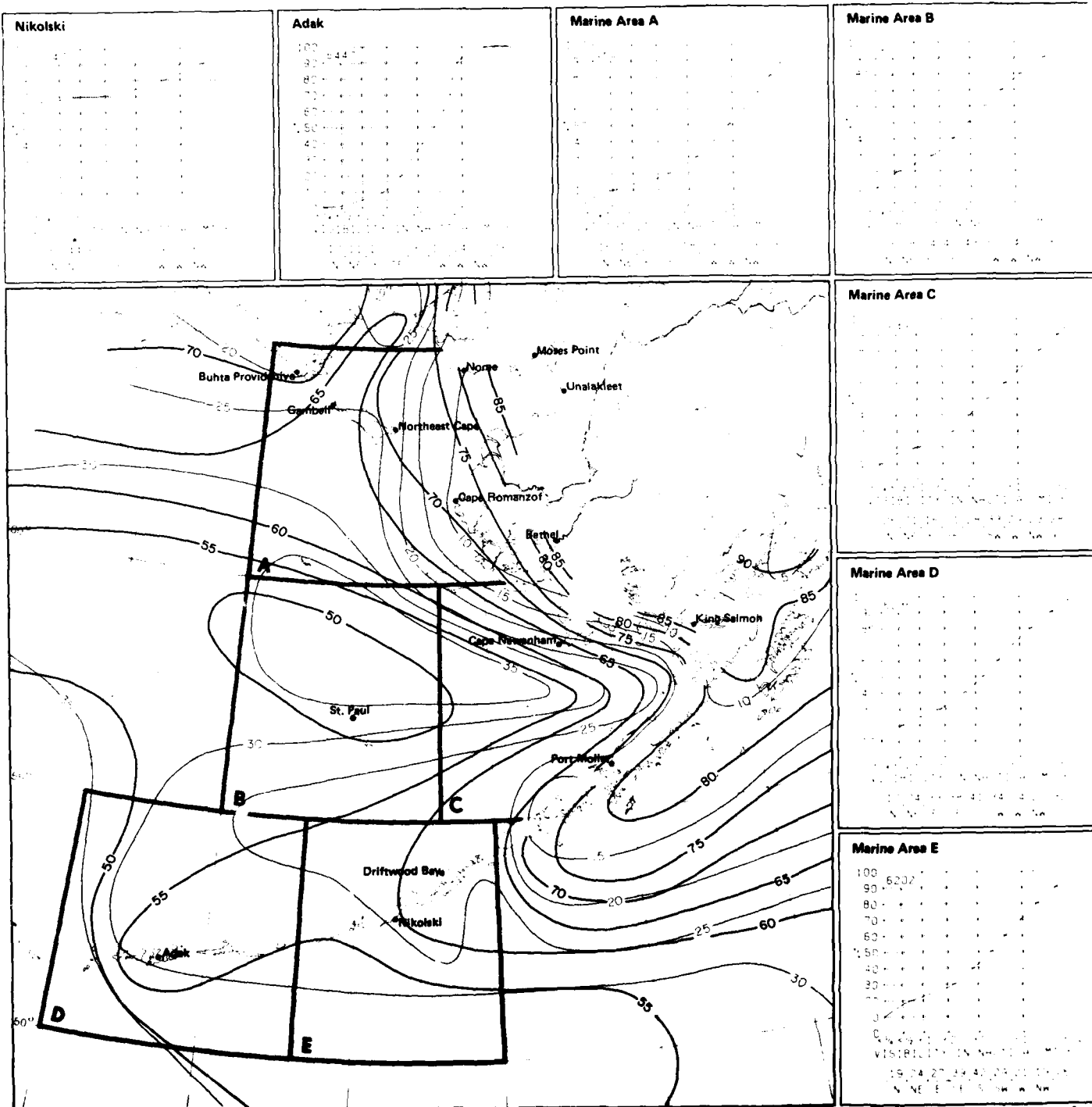
**Driftwood Bay**



**July**

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**8 Visibility/wind direction**



**Nikolski**

100	.....
90	.....
80	.....
70	.....
60	.....
50	.....
40	.....
30	.....
20	.....
10	.....

**Adak**

100	.....
90	.....
80	.....
70	.....
60	.....
50	.....
40	.....
30	.....
20	.....
10	.....

**Marine Area A**

100	.....
90	.....
80	.....
70	.....
60	.....
50	.....
40	.....
30	.....
20	.....
10	.....

**Marine Area B**

100	.....
90	.....
80	.....
70	.....
60	.....
50	.....
40	.....
30	.....
20	.....
10	.....

**Marine Area C**

100	.....
90	.....
80	.....
70	.....
60	.....
50	.....
40	.....
30	.....
20	.....
10	.....

**Marine Area D**

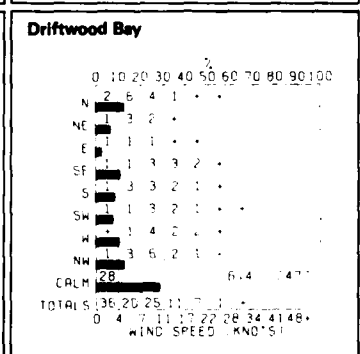
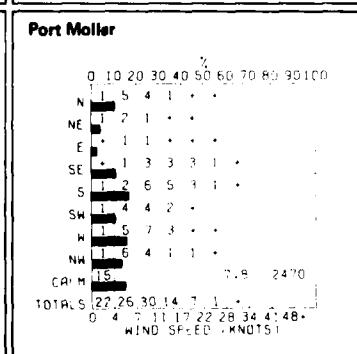
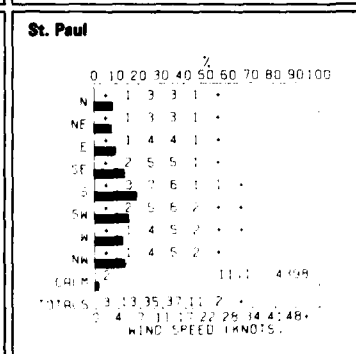
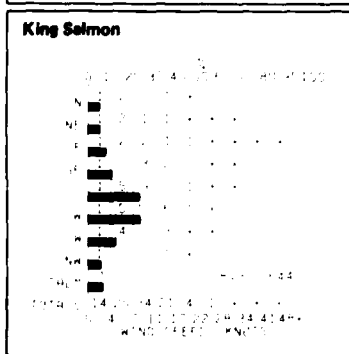
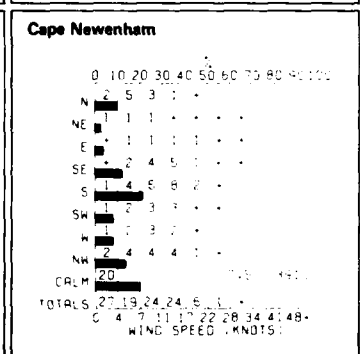
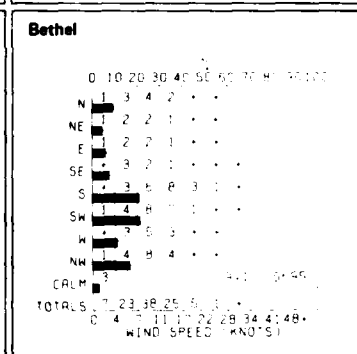
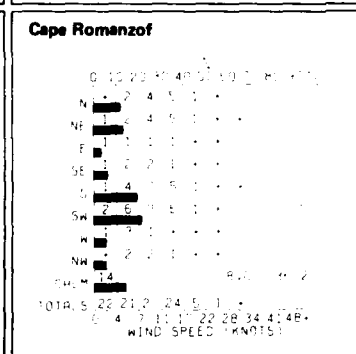
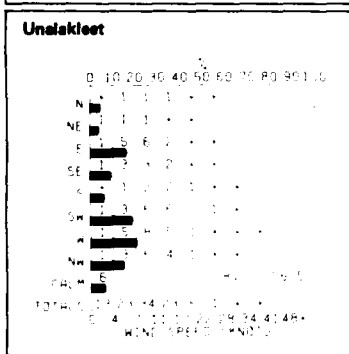
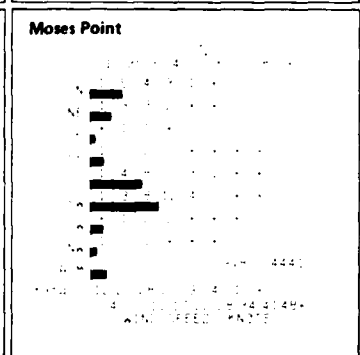
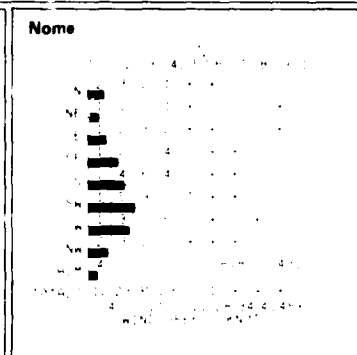
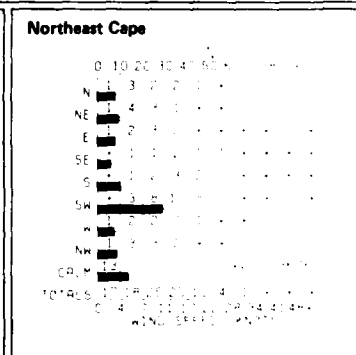
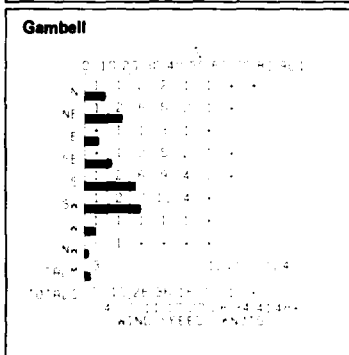
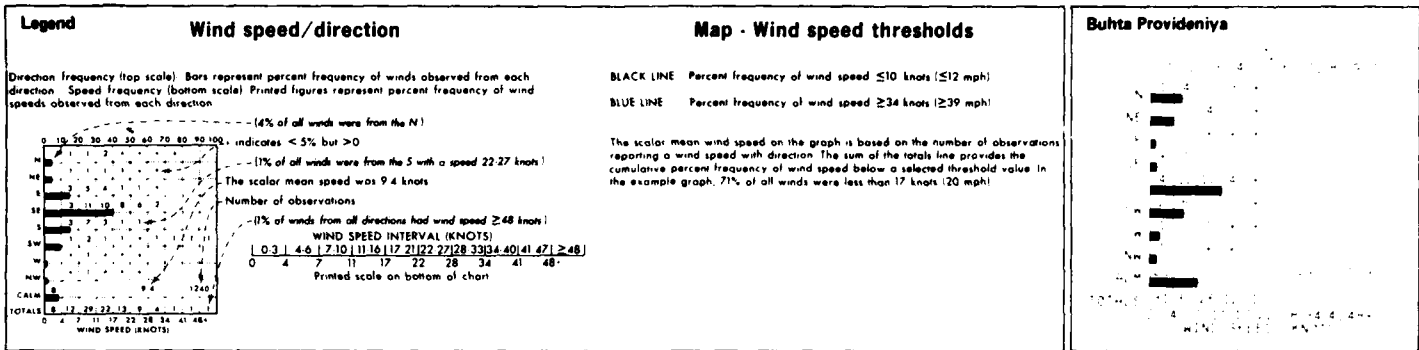
100	.....
90	.....
80	.....
70	.....
60	.....
50	.....
40	.....
30	.....
20	.....
10	.....

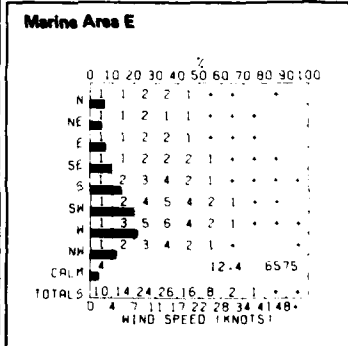
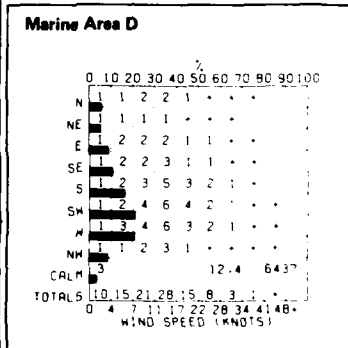
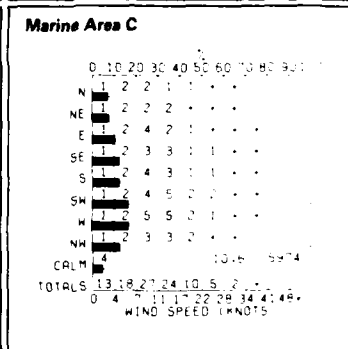
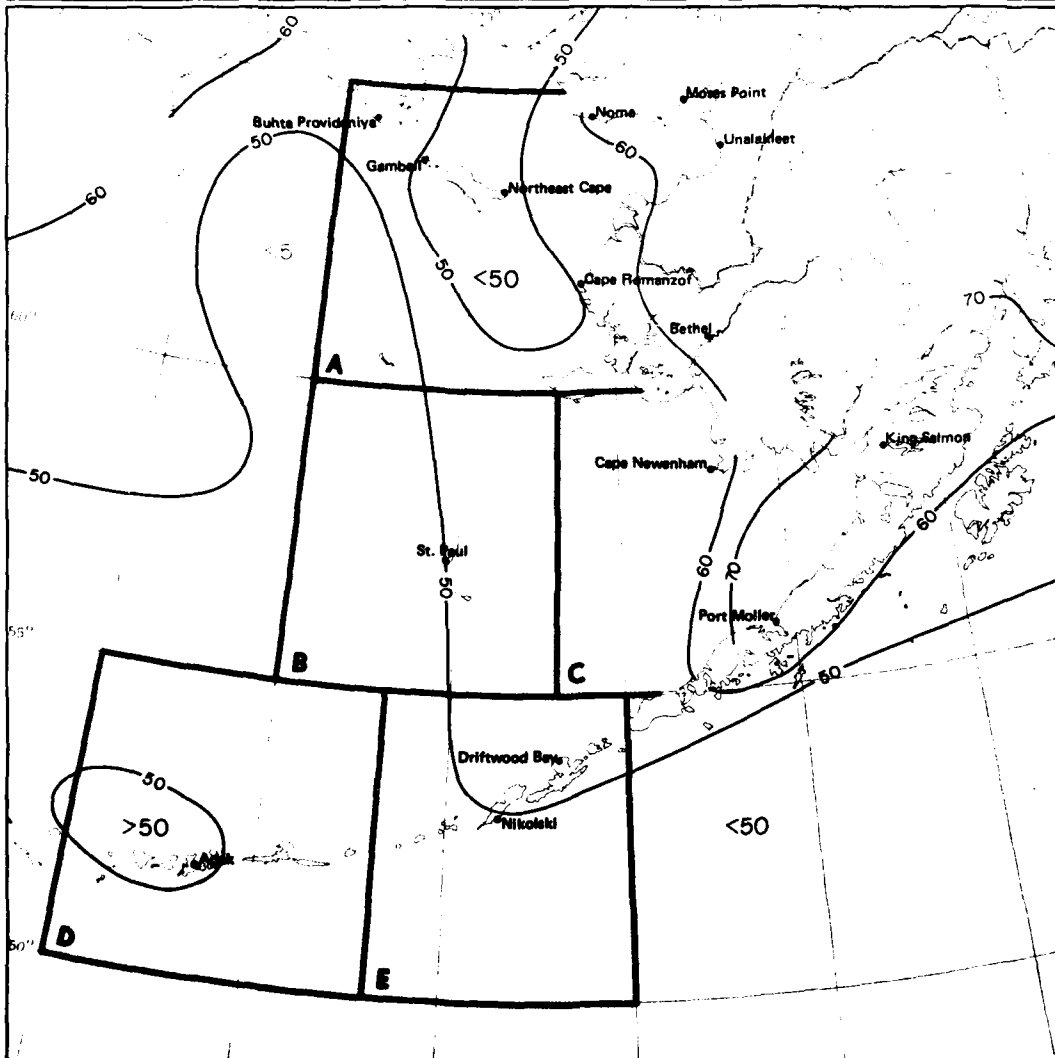
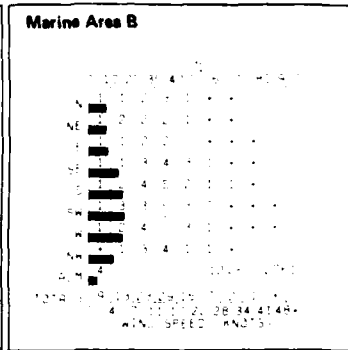
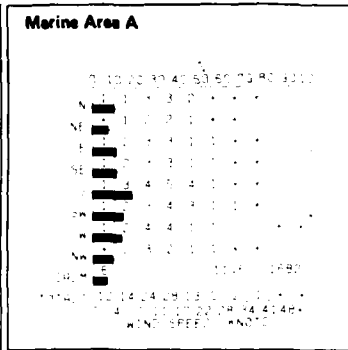
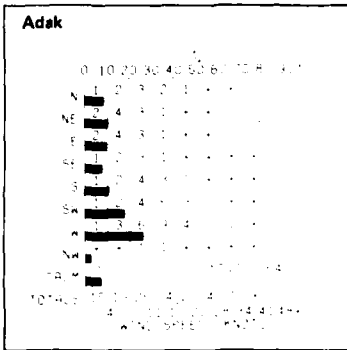
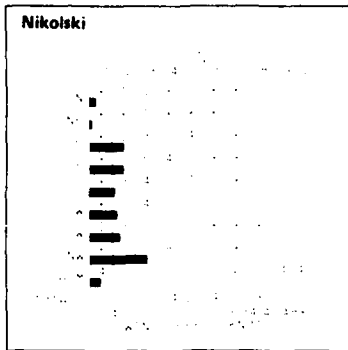
**Marine Area E**

100	6207
90	.....
80	.....
70	.....
60	.....
50	.....
40	.....
30	.....
20	.....
10	.....

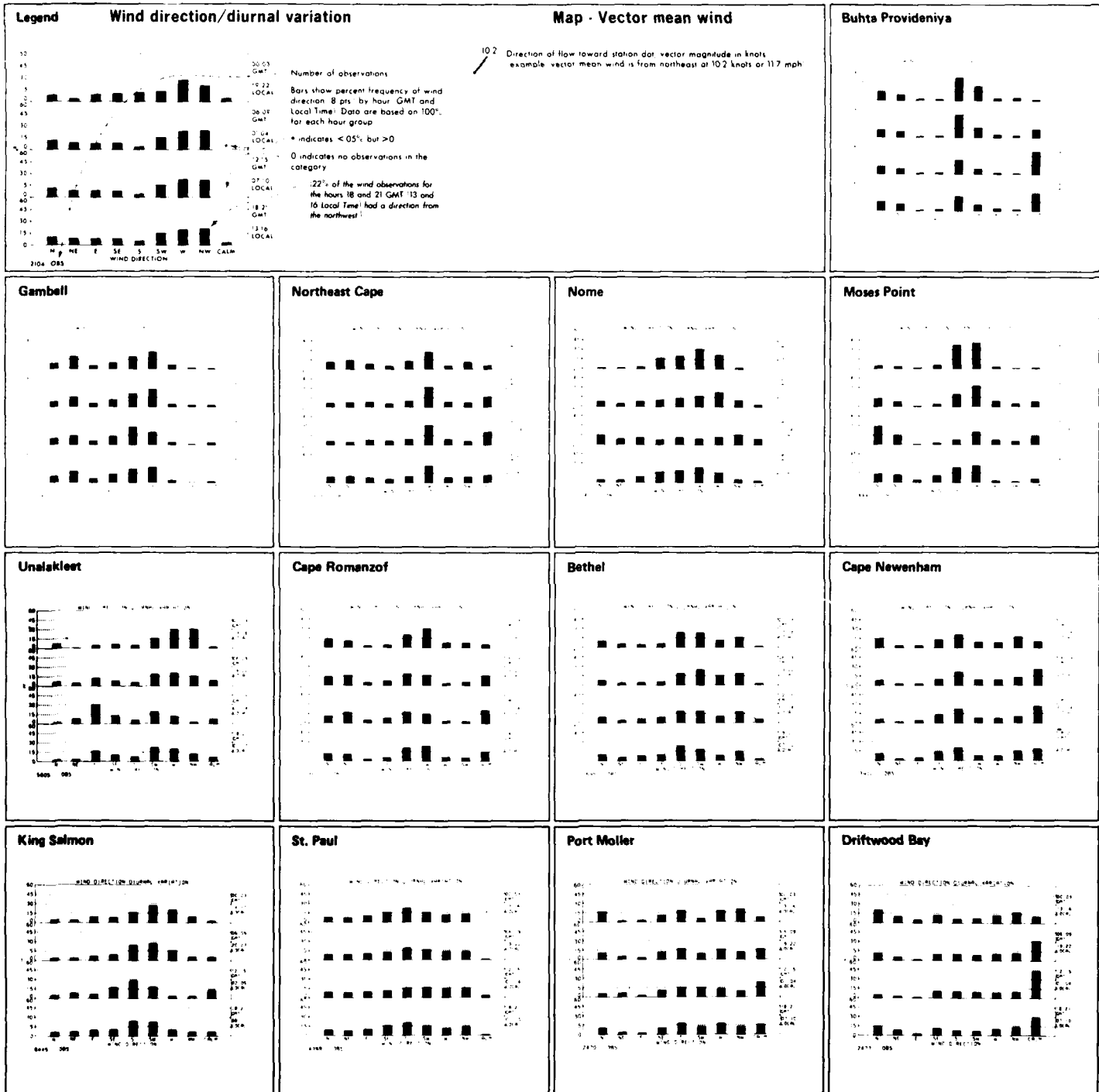
VISIBILITY IN FEET  
 10 20 30 40 50 60 70 80 90 100  
 N NE E SE S SW W NW

**8 Visibility thresholds**

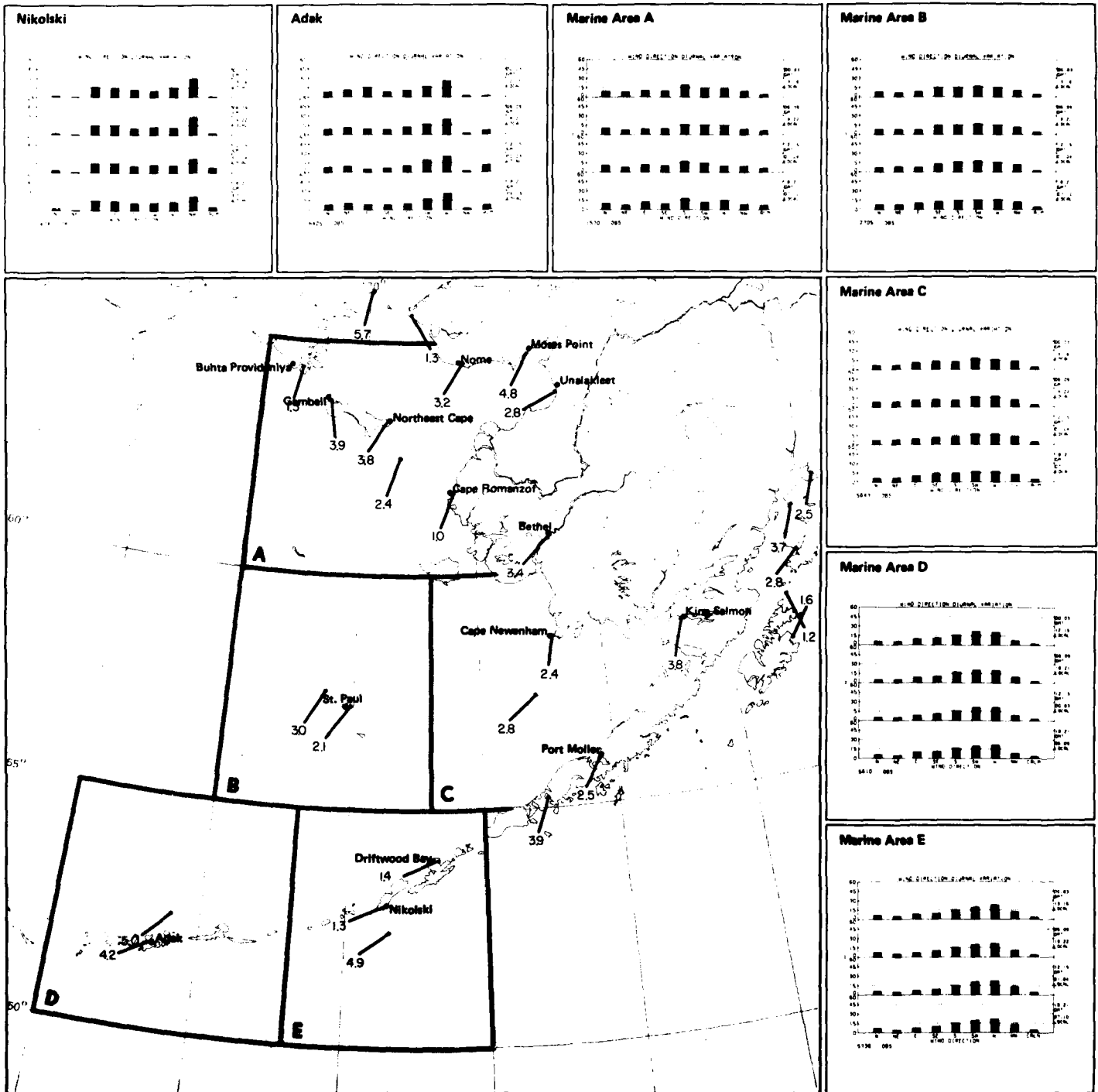




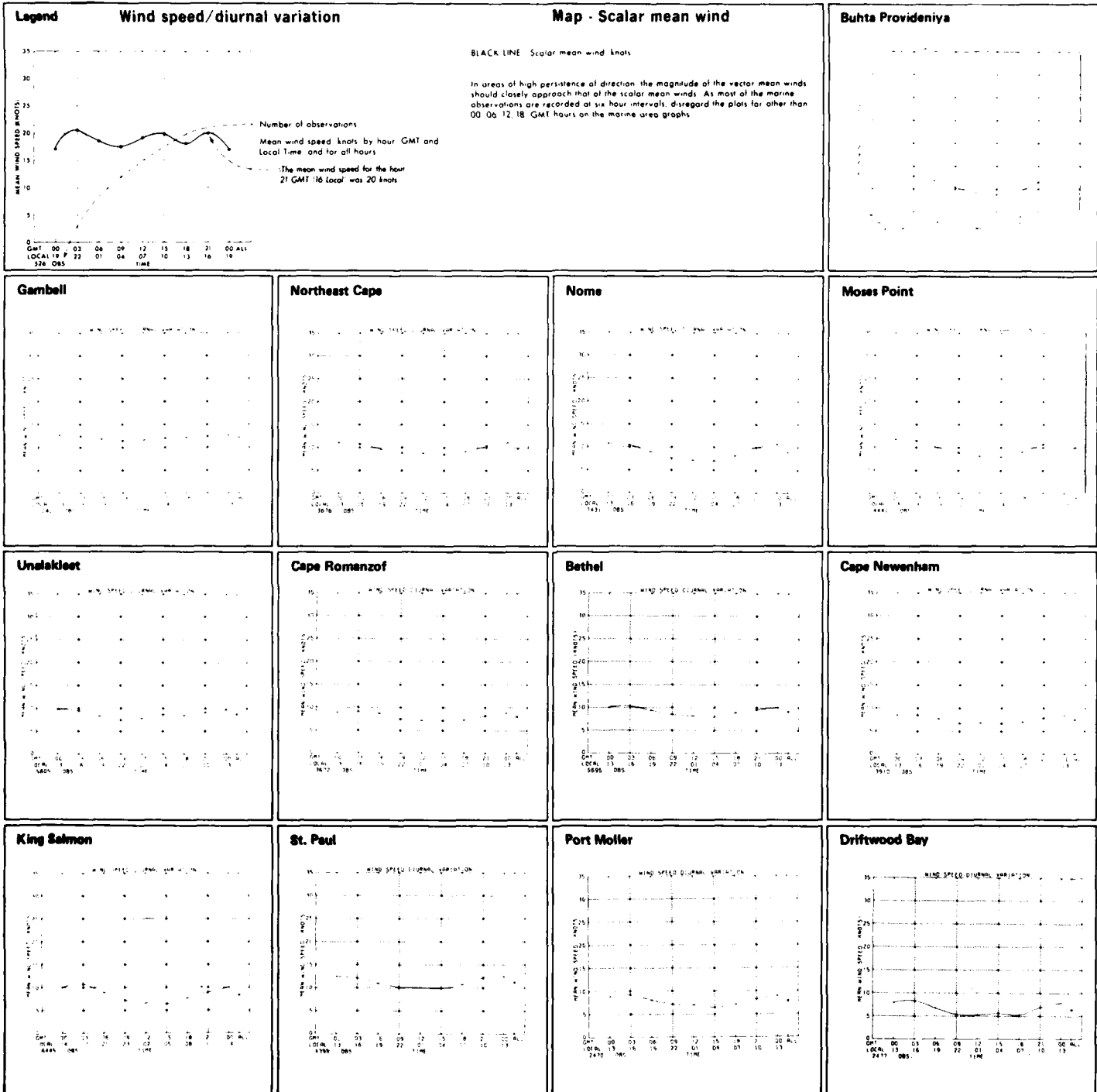
9 Wind speed thresholds

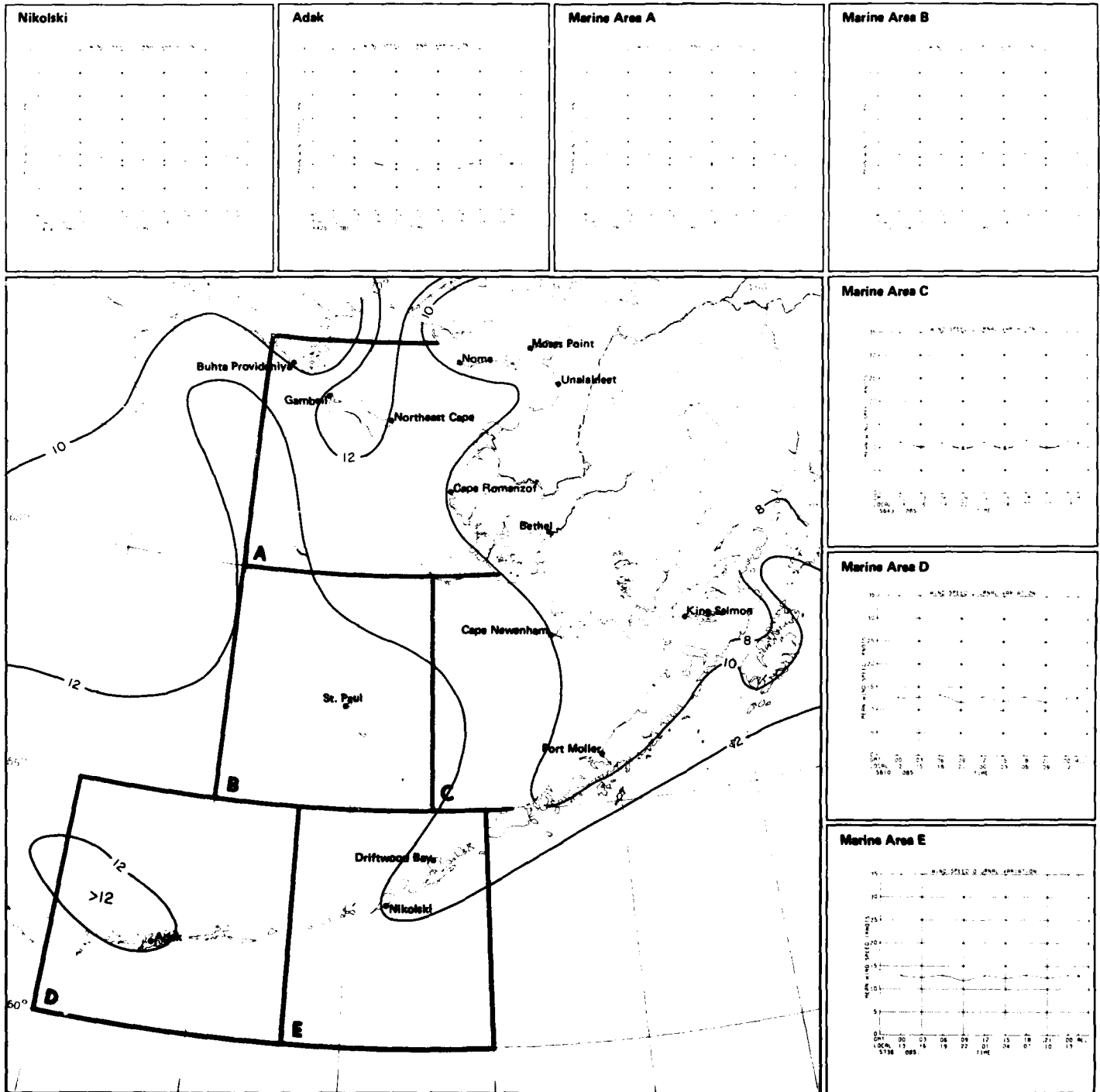






10 Vector mean wind





**Legend**

**Low cloud ceiling/visibility**

Percent frequency of simultaneous occurrence of specified low cloud ceilings (hundreds of feet) and visibilities (nautical miles).

Low cloud ceiling heights are estimated from the height of low clouds (N) when low cloud amount (N<sub>l</sub>) is  $\geq 8$ .

Observations are included under ceiling 0 < 1.5

N.C. (no ceiling) includes bases of clouds  $\geq 8000$  feet as well as occurrences of N<sub>l</sub> < 5.8

2% of all observations reported ceiling  $\geq 1000$  but < 2000 feet simultaneously with visibility  $\geq 5$  but < 10 nautical miles!

... indicates < 5% but > 0

... Number of observations

LOW CLOUD CEILING	VISIBILITY									
	<1/2	1/2	1	2	5	10	≥10	NC	...	...
50*80	0	0	0	0	0	0	0	0	0	0
35*50	0	0	0	0	0	0	0	0	0	0
20*35	0	0	0	0	0	0	0	0	0	0
10*20	0	0	0	0	0	0	0	0	0	0
6*10	0	0	0	0	0	0	0	0	0	0
3*6	0	0	0	0	0	0	0	0	0	0
1.5*3	0	0	0	0	0	0	0	0	0	0
0*1.5	0	0	0	0	0	0	0	0	0	0

**Map - Low cloud ceiling and visibility thresholds**

BLACK LINE Percent frequency of low cloud ceiling  $\geq 1000$  feet for no low cloud ceiling, and visibility  $\geq 5$  nautical miles

BLUE LINE Percent frequency of low cloud ceiling < 600 feet and/or visibility < 2 nautical miles

**Buhta Provideniya**

**Gambell**

LOW CLOUD CEILING	VISIBILITY									
	<1/2	1/2	1	2	5	10	≥10	NC	...	...
50*80	0	0	0	0	0	0	0	0	0	0
35*50	0	0	0	0	0	0	0	0	0	0
20*35	0	0	0	0	0	0	0	0	0	0
10*20	0	0	0	0	0	0	0	0	0	0
6*10	0	0	0	0	0	0	0	0	0	0
3*6	0	0	0	0	0	0	0	0	0	0
1.5*3	0	0	0	0	0	0	0	0	0	0
0*1.5	0	0	0	0	0	0	0	0	0	0

1215

**Northeast Cape**

LOW CLOUD CEILING	VISIBILITY									
	<1/2	1/2	1	2	5	10	≥10	NC	...	...
50*80	0	0	0	0	0	0	0	0	0	0
35*50	0	0	0	0	0	0	0	0	0	0
20*35	0	0	0	0	0	0	0	0	0	0
10*20	0	0	0	0	0	0	0	0	0	0
6*10	0	0	0	0	0	0	0	0	0	0
3*6	0	0	0	0	0	0	0	0	0	0
1.5*3	0	0	0	0	0	0	0	0	0	0
0*1.5	0	0	0	0	0	0	0	0	0	0

2513

**Nome**

LOW CLOUD CEILING	VISIBILITY									
	<1/2	1/2	1	2	5	10	≥10	NC	...	...
50*80	0	0	0	0	0	0	0	0	0	0
35*50	0	0	0	0	0	0	0	0	0	0
20*35	0	0	0	0	0	0	0	0	0	0
10*20	0	0	0	0	0	0	0	0	0	0
6*10	0	0	0	0	0	0	0	0	0	0
3*6	0	0	0	0	0	0	0	0	0	0
1.5*3	0	0	0	0	0	0	0	0	0	0
0*1.5	0	0	0	0	0	0	0	0	0	0

7123

**Moses Point**

LOW CLOUD CEILING	VISIBILITY									
	<1/2	1/2	1	2	5	10	≥10	NC	...	...
50*80	0	0	0	0	0	0	0	0	0	0
35*50	0	0	0	0	0	0	0	0	0	0
20*35	0	0	0	0	0	0	0	0	0	0
10*20	0	0	0	0	0	0	0	0	0	0
6*10	0	0	0	0	0	0	0	0	0	0
3*6	0	0	0	0	0	0	0	0	0	0
1.5*3	0	0	0	0	0	0	0	0	0	0
0*1.5	0	0	0	0	0	0	0	0	0	0

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**Unalakleet**

LOW CLOUD CEILING	VISIBILITY									
	<1/2	1/2	1	2	5	10	≥10	NC	...	...
50*80	0	0	0	0	0	0	0	0	0	0
35*50	0	0	0	0	0	0	0	0	0	0
20*35	0	0	0	0	0	0	0	0	0	0
10*20	0	0	0	0	0	0	0	0	0	0
6*10	0	0	0	0	0	0	0	0	0	0
3*6	0	0	0	0	0	0	0	0	0	0
1.5*3	0	0	0	0	0	0	0	0	0	0
0*1.5	0	0	0	0	0	0	0	0	0	0

**Cape Romanzof**

LOW CLOUD CEILING	VISIBILITY									
	<1/2	1/2	1	2	5	10	≥10	NC	...	...
50*80	0	0	0	0	0	0	0	0	0	0
35*50	0	0	0	0	0	0	0	0	0	0
20*35	0	0	0	0	0	0	0	0	0	0
10*20	0	0	0	0	0	0	0	0	0	0
6*10	0	0	0	0	0	0	0	0	0	0
3*6	0	0	0	0	0	0	0	0	0	0
1.5*3	0	0	0	0	0	0	0	0	0	0
0*1.5	0	0	0	0	0	0	0	0	0	0

2563

**Bethel**

LOW CLOUD CEILING	VISIBILITY									
	<1/2	1/2	1	2	5	10	≥10	NC	...	...
50*80	0	0	0	0	0	0	0	0	0	0
35*50	0	0	0	0	0	0	0	0	0	0
20*35	0	0	0	0	0	0	0	0	0	0
10*20	0	0	0	0	0	0	0	0	0	0
6*10	0	0	0	0	0	0	0	0	0	0
3*6	0	0	0	0	0	0	0	0	0	0
1.5*3	0	0	0	0	0	0	0	0	0	0
0*1.5	0	0	0	0	0	0	0	0	0	0

5634

**Cape Newenham**

LOW CLOUD CEILING	VISIBILITY									
	<1/2	1/2	1	2	5	10	≥10	NC	...	...
50*80	0	0	0	0	0	0	0	0	0	0
35*50	0	0	0	0	0	0	0	0	0	0
20*35	0	0	0	0	0	0	0	0	0	0
10*20	0	0	0	0	0	0	0	0	0	0
6*10	0	0	0	0	0	0	0	0	0	0
3*6	0	0	0	0	0	0	0	0	0	0
1.5*3	0	0	0	0	0	0	0	0	0	0
0*1.5	0	0	0	0	0	0	0	0	0	0

2328

**King Salmon**

LOW CLOUD CEILING	VISIBILITY									
	<1/2	1/2	1	2	5	10	≥10	NC	...	...
50*80	0	0	0	0	0	0	0	0	0	0
35*50	0	0	0	0	0	0	0	0	0	0
20*35	0	0	0	0	0	0	0	0	0	0
10*20	0	0	0	0	0	0	0	0	0	0
6*10	0	0	0	0	0	0	0	0	0	0
3*6	0	0	0	0	0	0	0	0	0	0
1.5*3	0	0	0	0	0	0	0	0	0	0
0*1.5	0	0	0	0	0	0	0	0	0	0

6340

**St. Paul**

LOW CLOUD CEILING	VISIBILITY									
	<1/2	1/2	1	2	5	10	≥10	NC	...	...
50*80	0	0	0	0	0	0	0	0	0	0
35*50	0	0	0	0	0	0	0	0	0	0
20*35	0	0	0	0	0	0	0	0	0	0
10*20	0	0	0	0	0	0	0	0	0	0
6*10	0	0	0	0	0	0	0	0	0	0
3*6	0	0	0	0	0	0	0	0	0	0
1.5*3	0	0	0	0	0	0	0	0	0	0
0*1.5	0	0	0	0	0	0	0	0	0	0

4376

**Port Moller**

Insufficient Data

**Driftwood Bay**

Insufficient Data

**Nikolski**

Insufficient Data

**Adak**

VISIBILITY

	1/2	1	2	5	10	10
NE	0	0	0	1	7	4
50+80	0	0	0	0	0	0
35+50	0	0	0	0	0	0
20+35	0	0	0	4	4	1
10+20	0	0	4	22	1	1
6+10	0	2	11	17	1	1
3+6	0	3	7	6	0	0
1.5+3	0	0	1	0	0	0
0+1.5	2	2	1	1	0	0

6436

**Marine Area A**

VISIBILITY

	1/2	1	2	5	10	10
NE	0	0	0	0	0	0
50+80	0	0	0	0	0	0
35+50	0	0	0	0	0	0
20+35	0	0	0	0	0	0
10+20	0	0	0	0	0	0
6+10	0	0	0	0	0	0
3+6	0	0	0	0	0	0
1.5+3	0	0	0	0	0	0
0+1.5	0	0	0	0	0	0

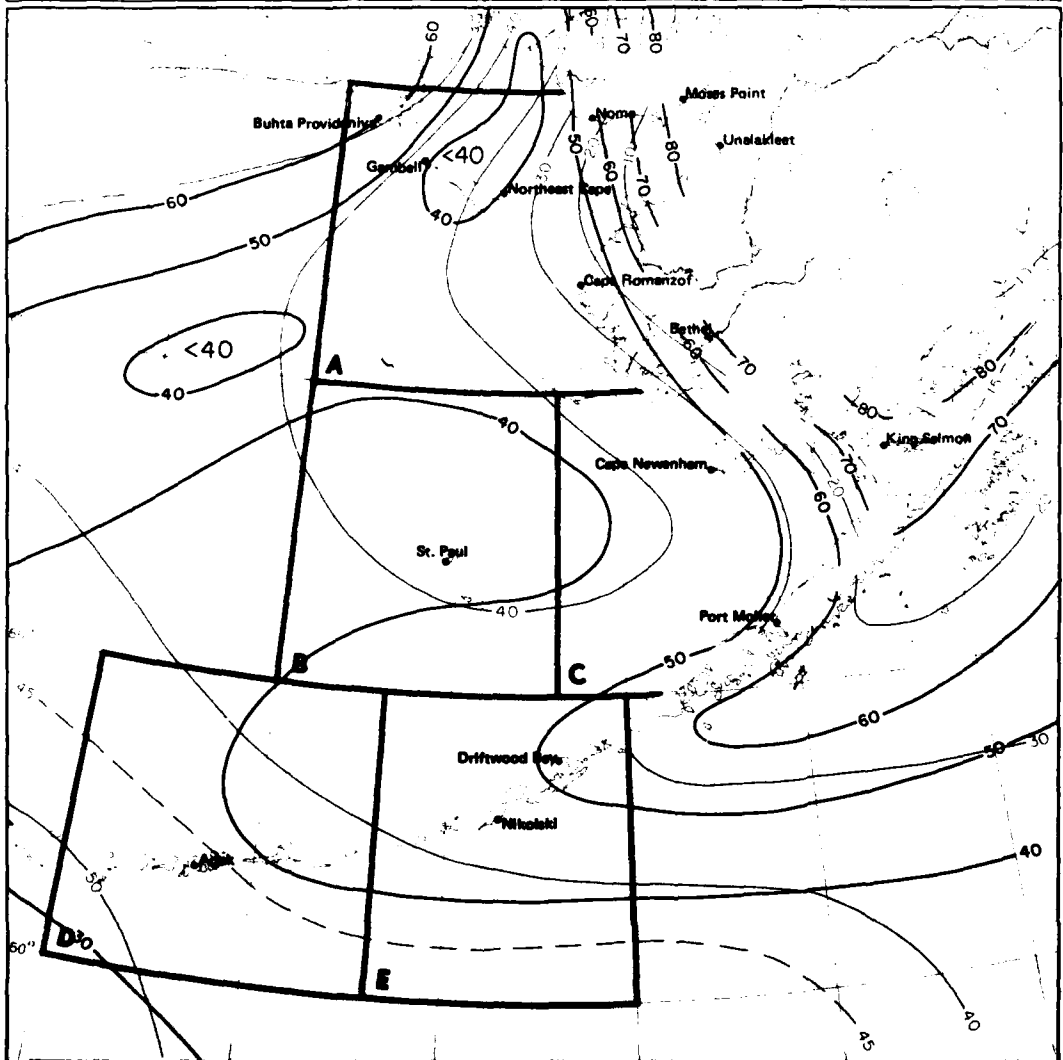
149

**Marine Area B**

VISIBILITY

	1/2	1	2	5	10	10
NE	0	0	0	0	0	0
50+80	0	0	0	0	0	0
35+50	0	0	0	0	0	0
20+35	0	0	0	0	0	0
10+20	0	0	0	0	0	0
6+10	0	0	0	0	0	0
3+6	0	0	0	0	0	0
1.5+3	0	0	0	0	0	0
0+1.5	0	0	0	0	0	0

536



**Marine Area C**

VISIBILITY

	1/2	1	2	5	10	10
NE	0	0	0	0	0	0
50+80	0	0	0	0	0	0
35+50	0	0	0	0	0	0
20+35	0	0	0	0	0	0
10+20	0	0	0	0	0	0
6+10	0	0	0	0	0	0
3+6	0	0	0	0	0	0
1.5+3	0	0	0	0	0	0
0+1.5	0	0	0	0	0	0

536

**Marine Area D**

VISIBILITY

	1/2	1	2	5	10	10
NE	0	0	0	0	0	0
50+80	0	0	0	0	0	0
35+50	0	0	0	0	0	0
20+35	0	0	0	0	0	0
10+20	0	0	0	0	0	0
6+10	0	0	0	0	0	0
3+6	0	0	0	0	0	0
1.5+3	0	0	0	0	0	0
0+1.5	0	0	0	0	0	0

447

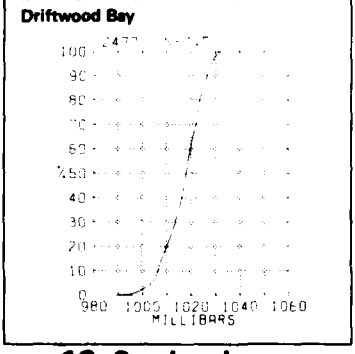
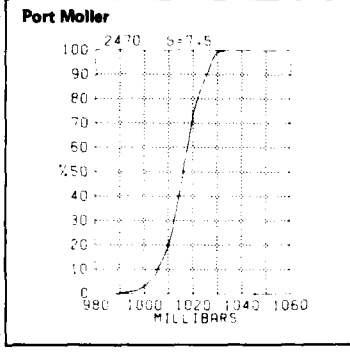
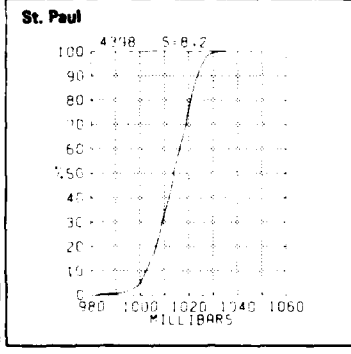
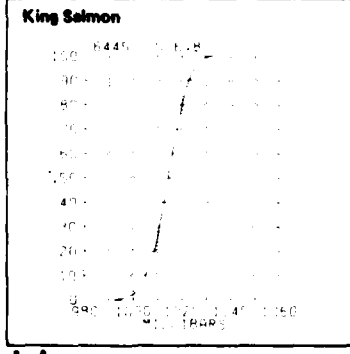
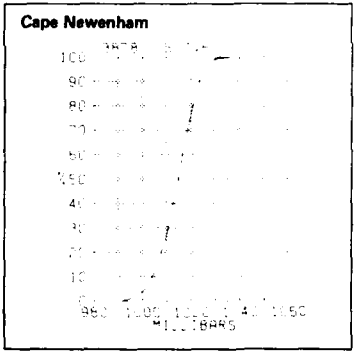
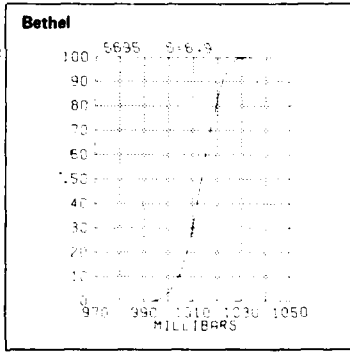
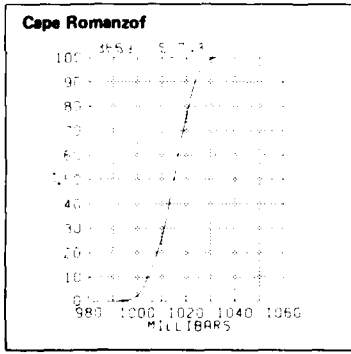
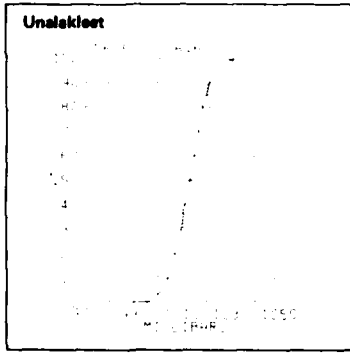
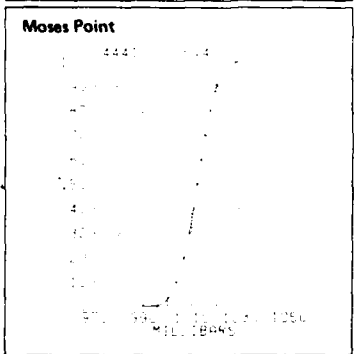
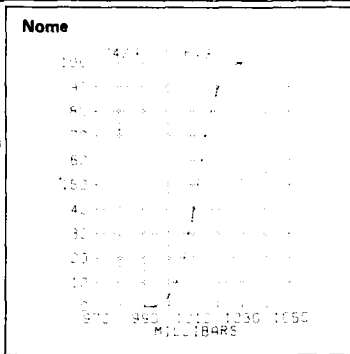
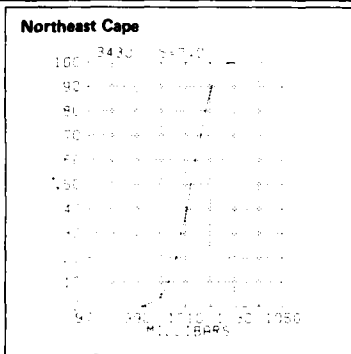
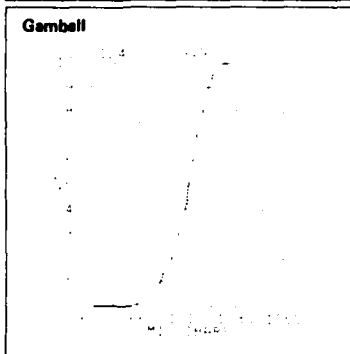
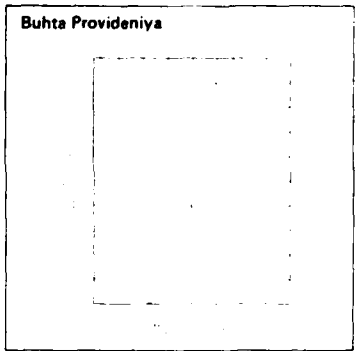
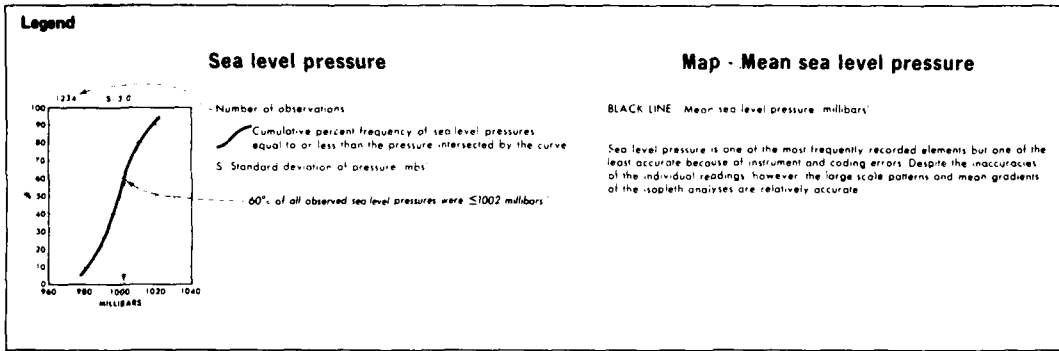
**Marine Area E**

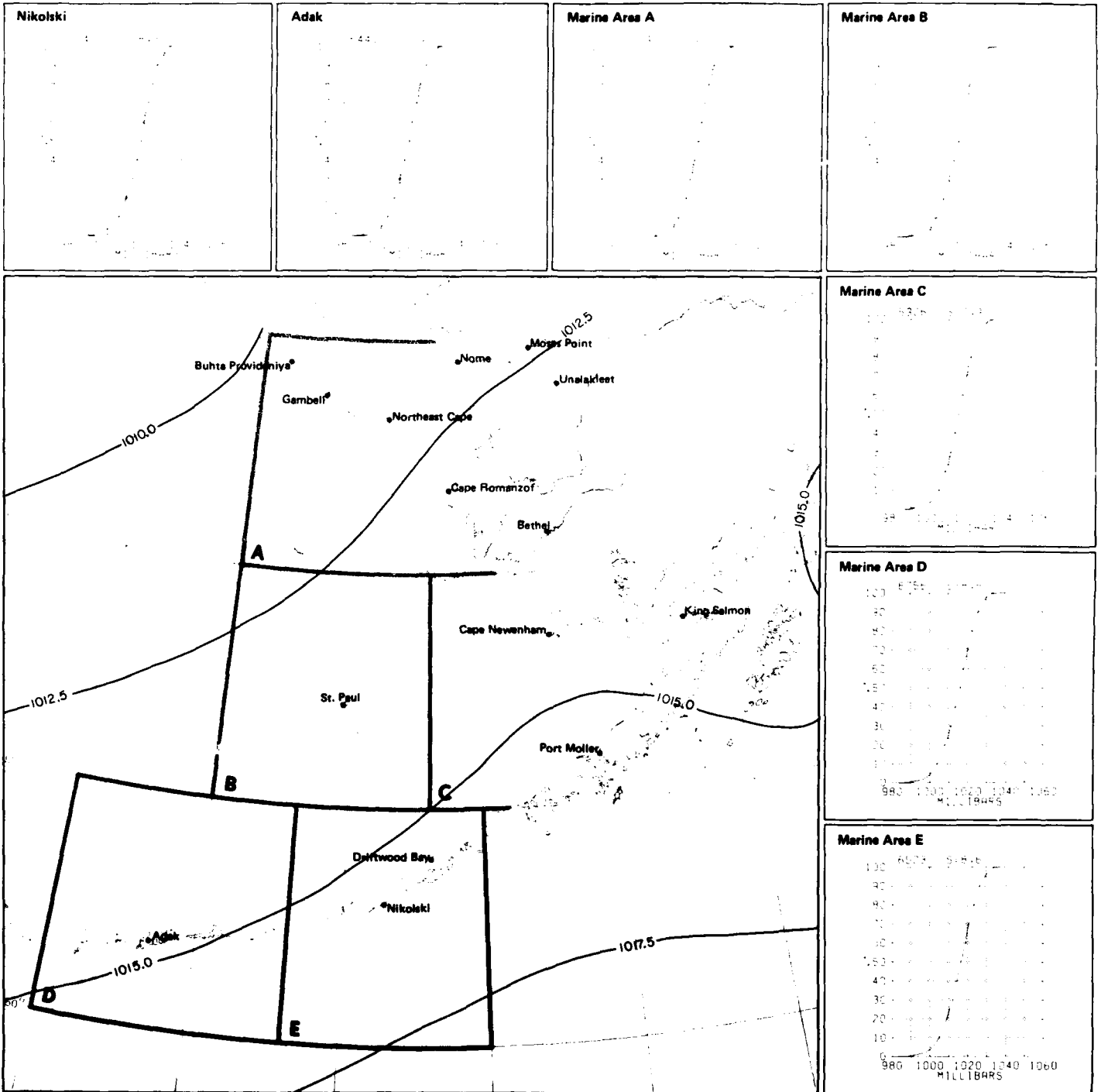
VISIBILITY

	1/2	1	2	5	10	10
NE	0	0	0	0	0	0
50+80	0	0	0	0	0	0
35+50	0	0	0	0	0	0
20+35	0	0	0	0	0	0
10+20	0	0	0	0	0	0
6+10	0	0	0	0	0	0
3+6	0	0	0	0	0	0
1.5+3	0	0	0	0	0	0
0+1.5	0	0	0	0	0	0

4819

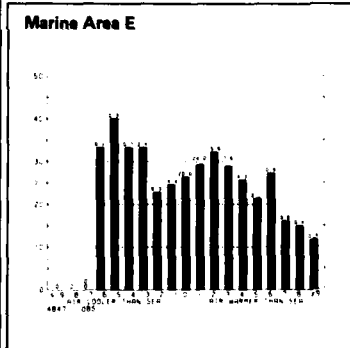
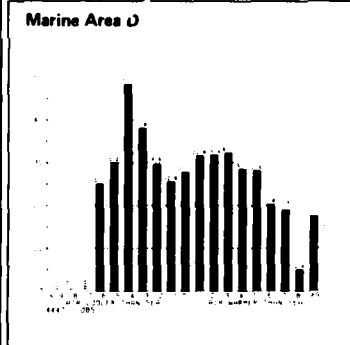
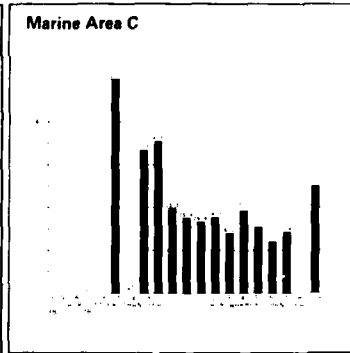
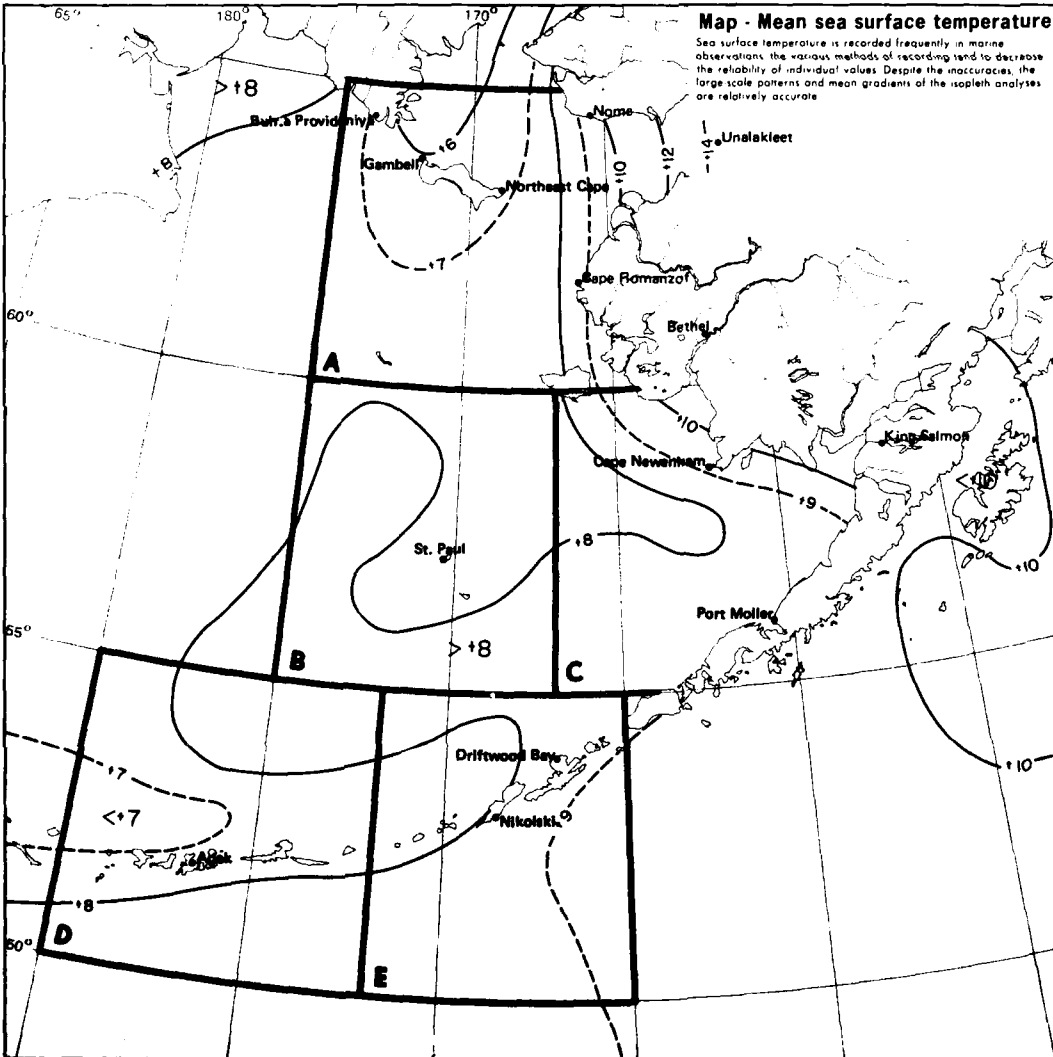
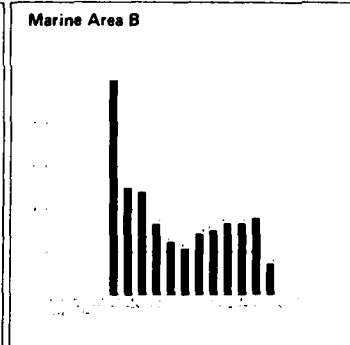
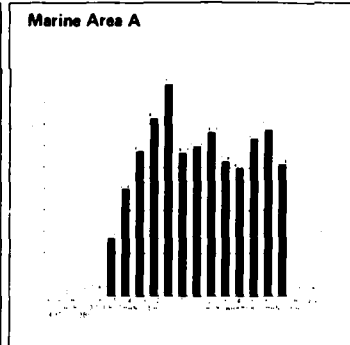
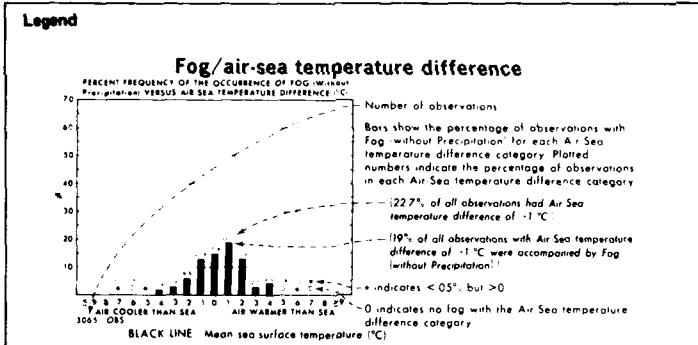
12 Low cloud ceiling and visibility thresholds





13 Mean sea level pressure

July



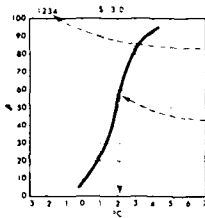
July  
260

14 Fog/air-sea temperature difference  
Mean sea surface temperature



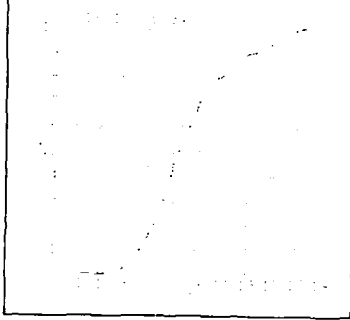
**Legend**

**Sea surface temperature**

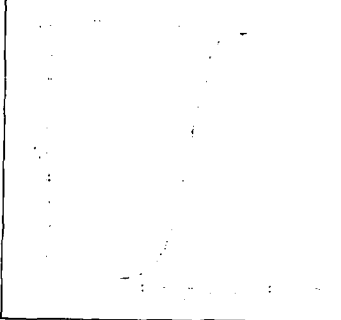


Number of observations  
 Cumulative percent frequency of sea surface temperatures equal to or less than the temperature intersected by the curve  
 60% of all observed sea surface temperatures were  $\leq 2.1^\circ\text{C}$  or  $\leq 35.8^\circ\text{F}$   
 S Standard deviation of sea surface temperatures ( $^\circ\text{C}$ )  
 BLACK LINE Maximum (99%) sea surface temperature ( $^\circ\text{C}$ ) (1% of the temperatures were greater than the given value)  
 BLUE LINE Minimum (1%) sea surface temperature ( $^\circ\text{C}$ ) (1% of the temperatures were equal to or less than the given value)

**Marine Area A**

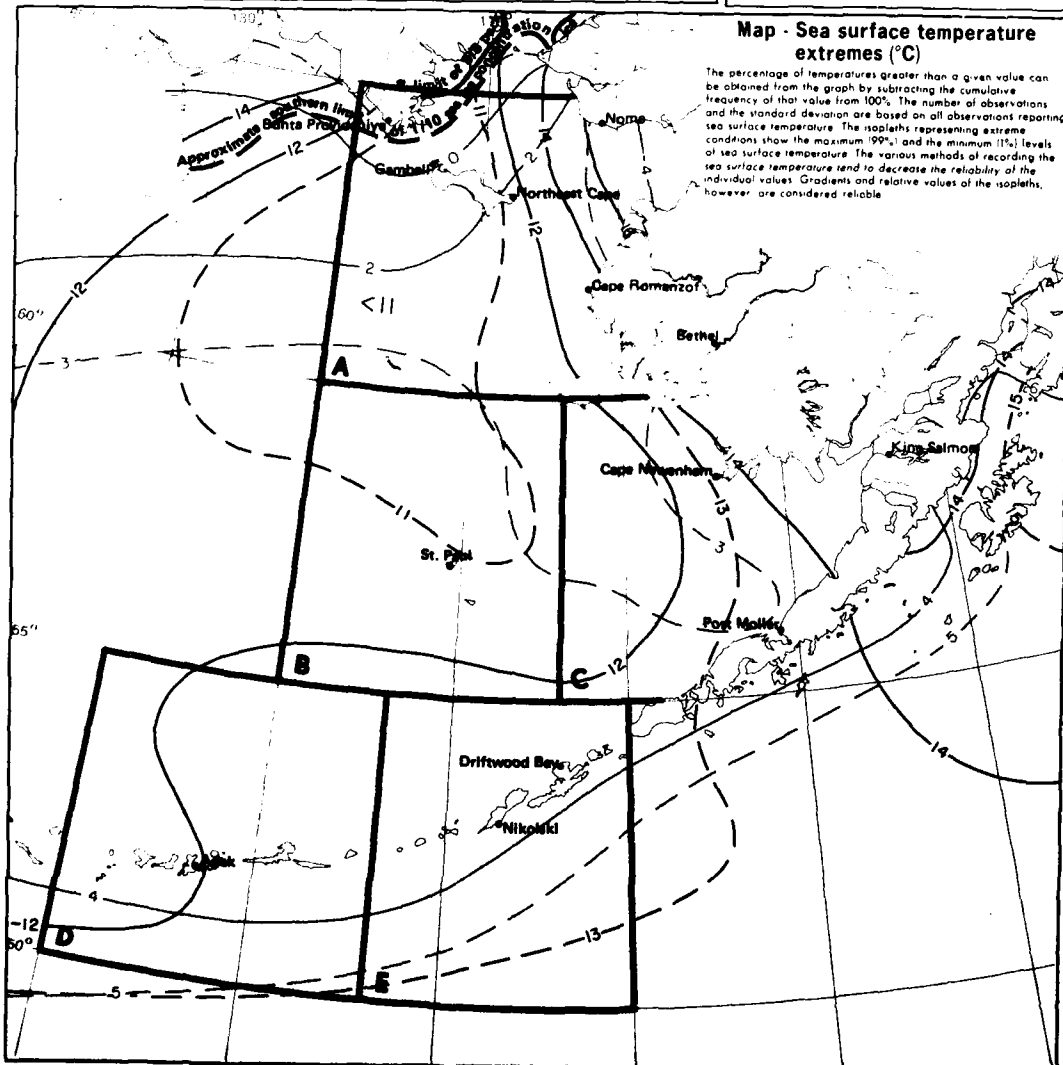


**Marine Area B**

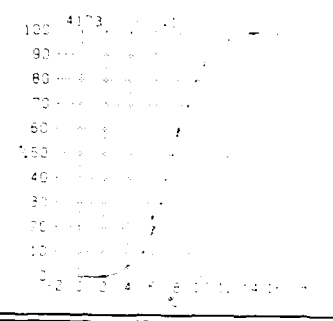


**Map - Sea surface temperature extremes ( $^\circ\text{C}$ )**

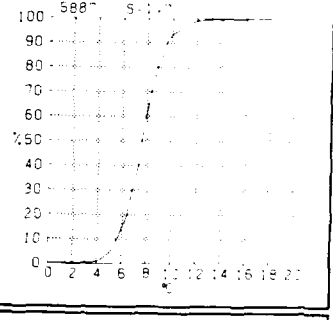
The percentage of temperatures greater than a given value can be obtained from the graph by subtracting the cumulative frequency of that value from 100%. The number of observations and the standard deviation are based on all observations reporting sea surface temperature. The isopleths representing extreme conditions show the maximum (99%) and the minimum (1%) levels of sea surface temperature. The various methods of recording the sea surface temperature tend to decrease the reliability of the individual values. Gradients and relative values of the isopleths, however, are considered reliable.



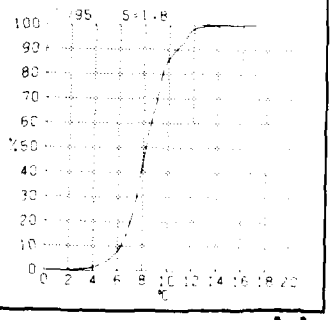
**Marine Area C**



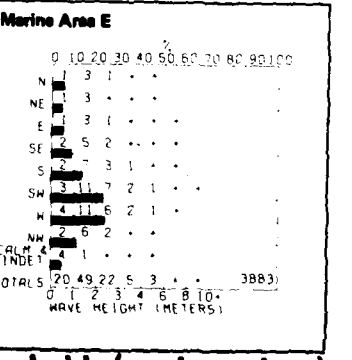
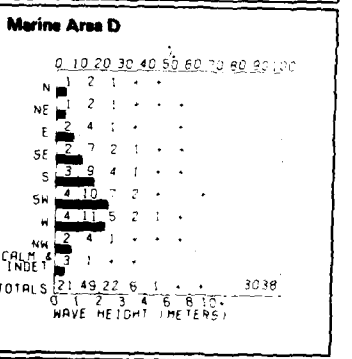
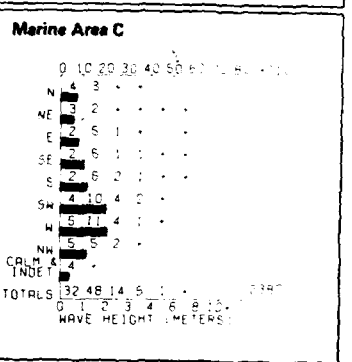
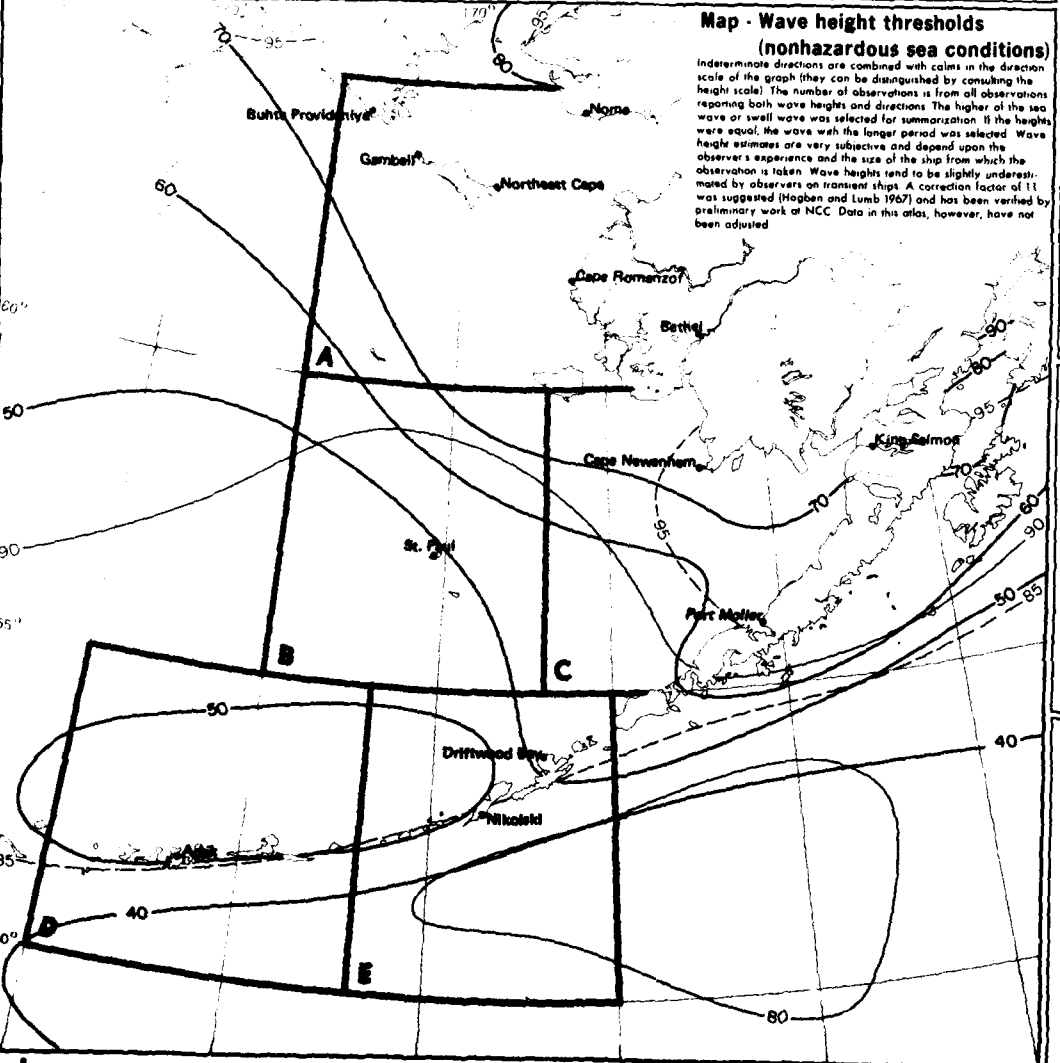
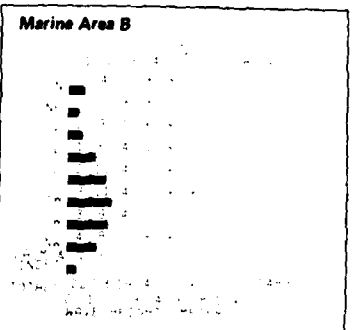
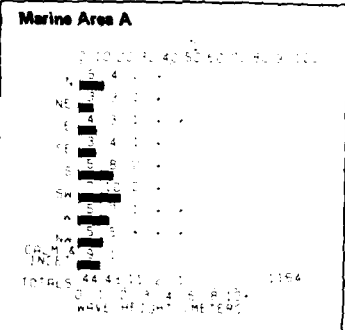
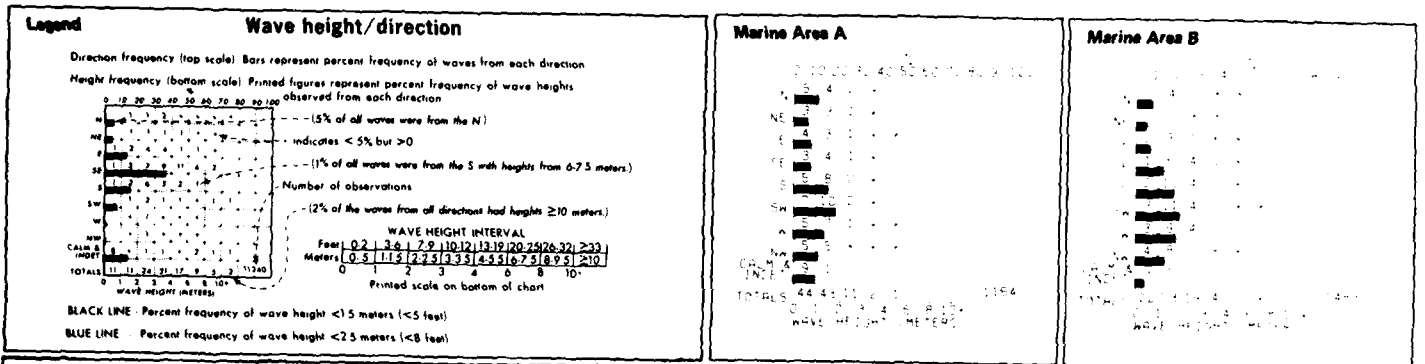
**Marine Area D**



**Marine Area E**



**15 Sea surface temperature extremes**



16 Wave height thresholds (nonhazardous)



**Legend**

**Low pressure center movement**

12 hour movements of low pressure centers considering only closed circulations.

**Mean speed:** Printed figure at the end of each bar represents the mean speed of movement in knots toward the indicated direction.

Low pressure centers moving toward the N had a mean speed of 11 knots.

**Direction frequency:** Bars represent percent frequency of 12 hour movements toward each direction. Each circle represents 20.

41 of all 12 hour movements were toward the NE.

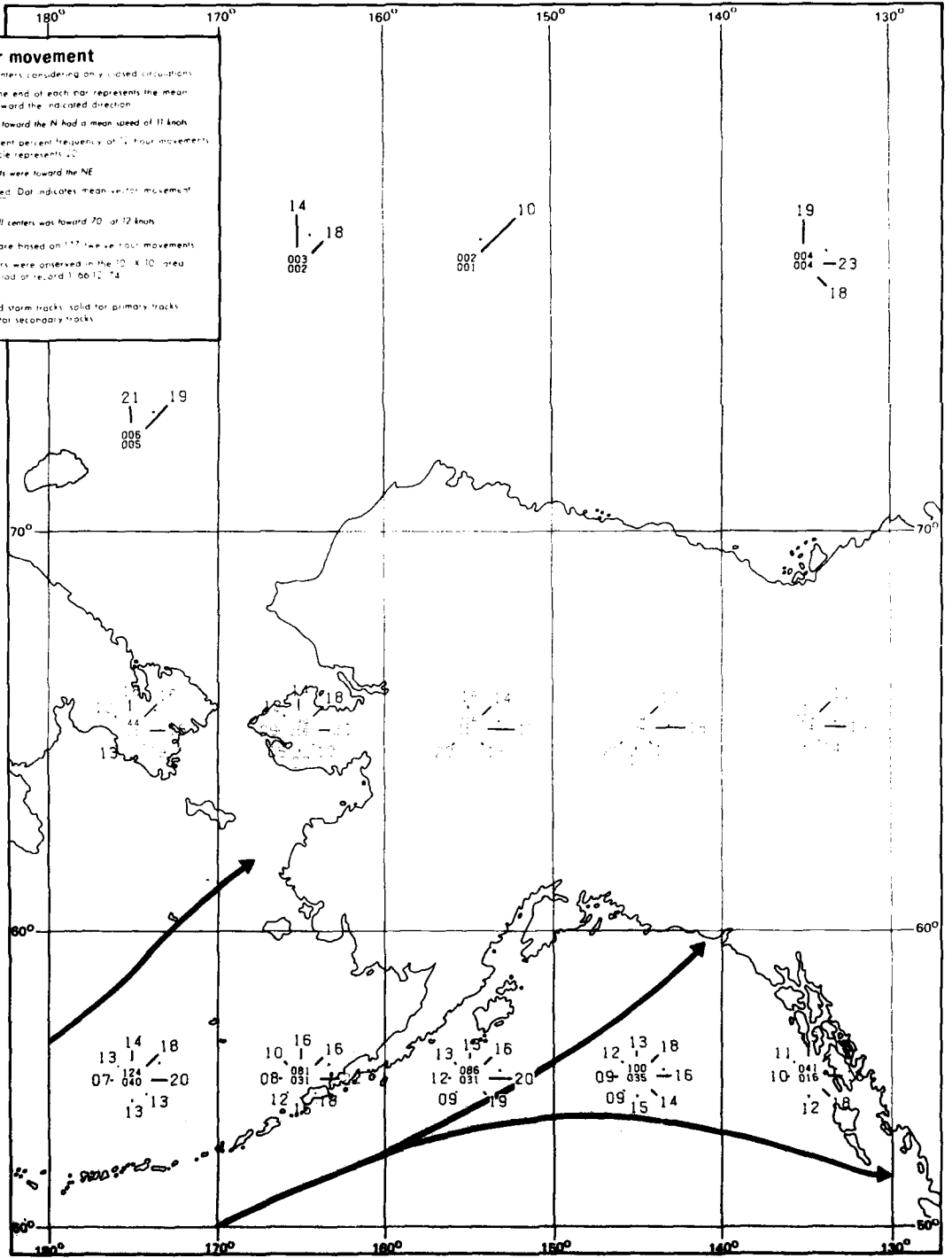
**Vector mean:** The length and speed. Dot indicates mean vector movement. Each dot represents 10 knots.

Mean vector movement of all centers was toward 70° at 12 knots.

Statistics for this rose are based on 177 twelve hour movements.

63 low pressure centers were observed in the 10° X 10° area during the 9 year period of record 1 06 12 '74.

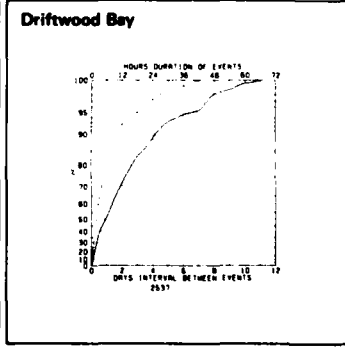
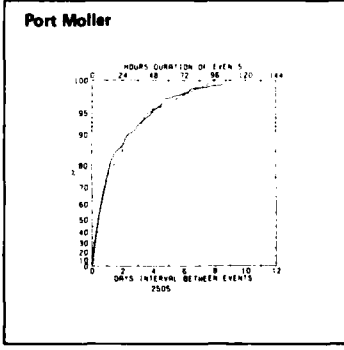
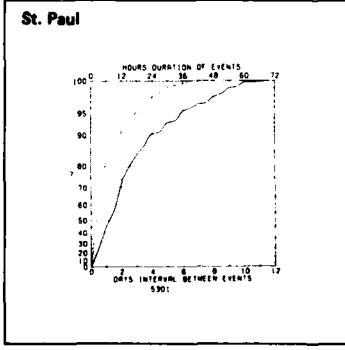
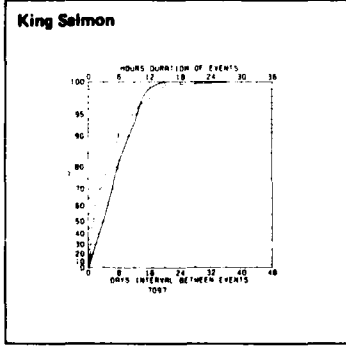
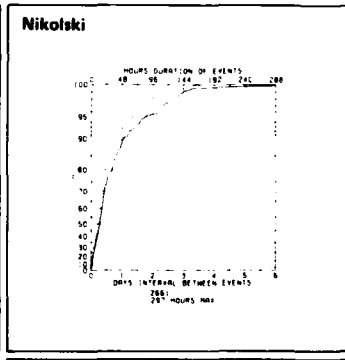
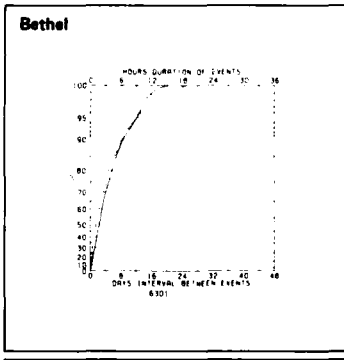
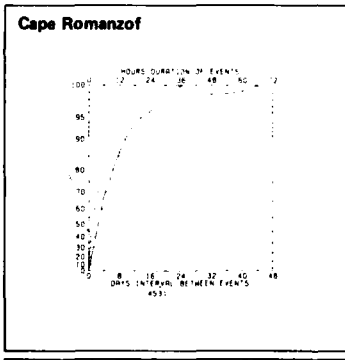
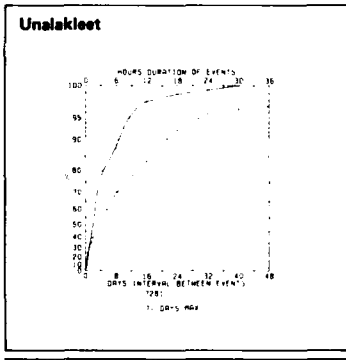
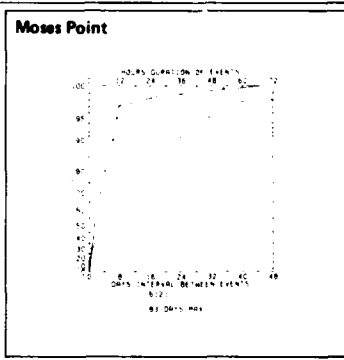
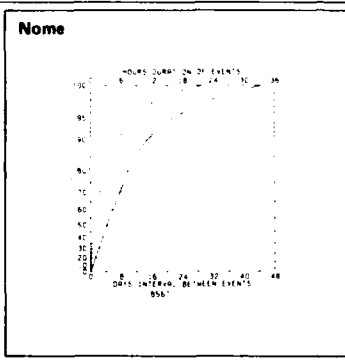
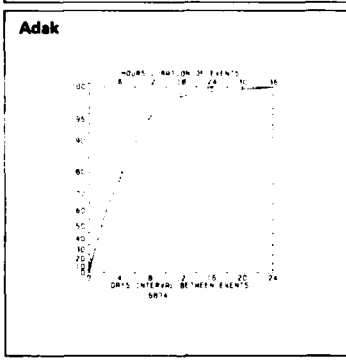
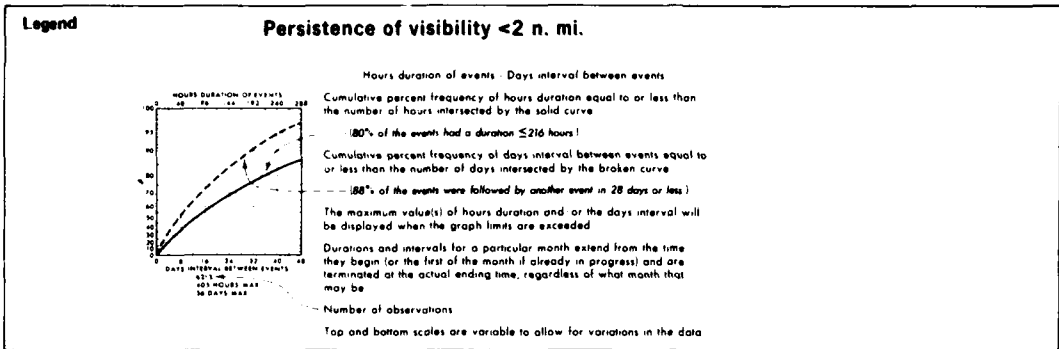
**BLACK ARROWS:** Filled for storm tracks, solid for primary tracks, dashed for secondary tracks.



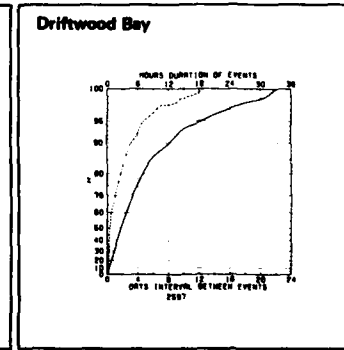
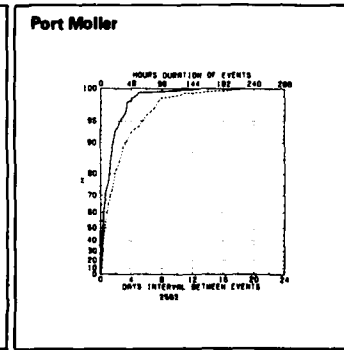
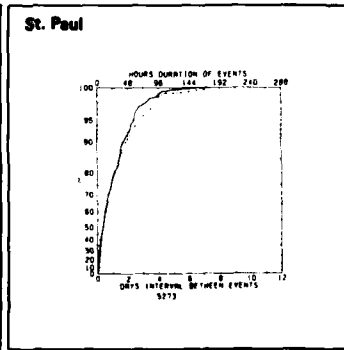
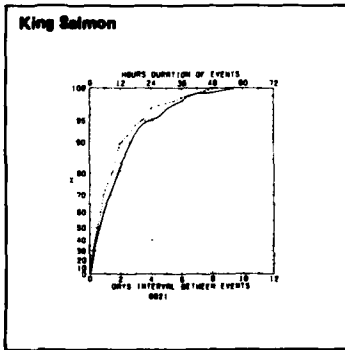
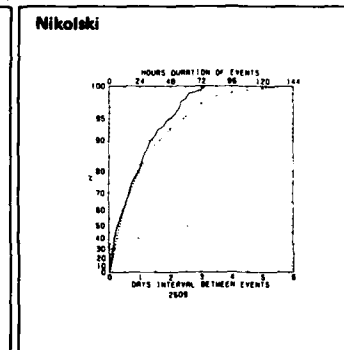
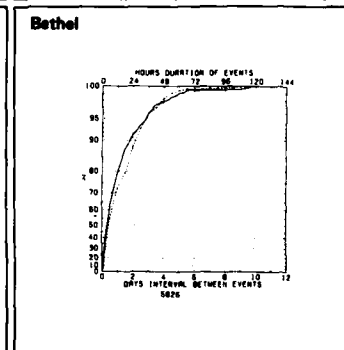
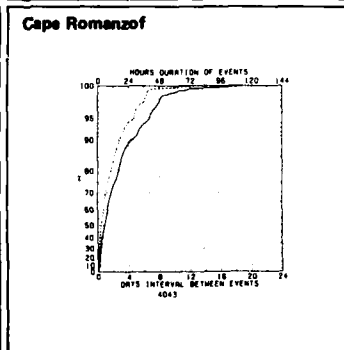
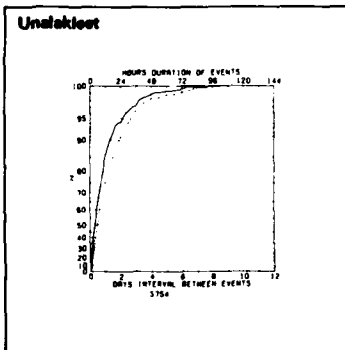
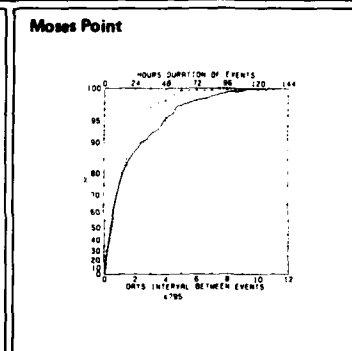
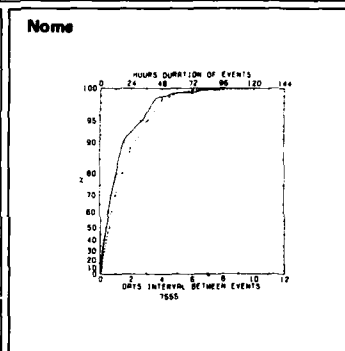
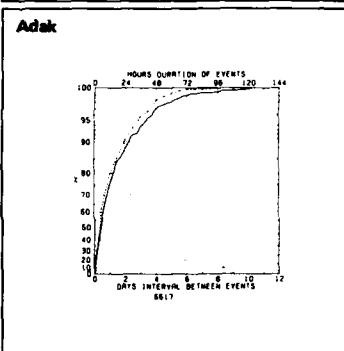
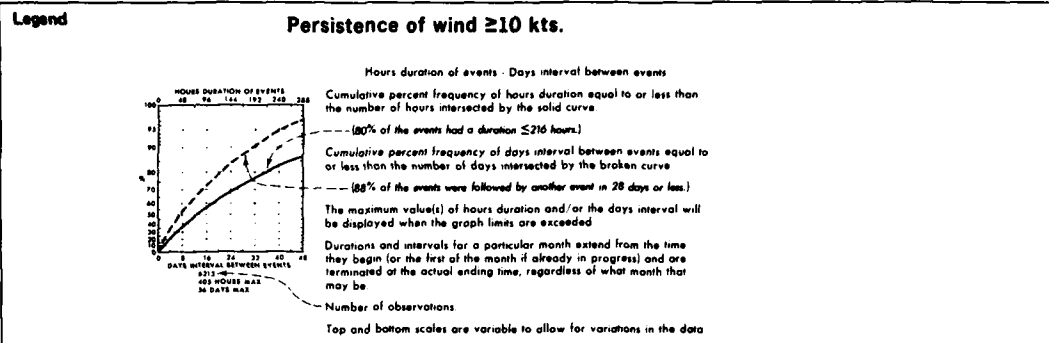
July

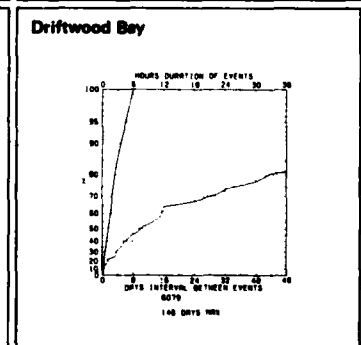
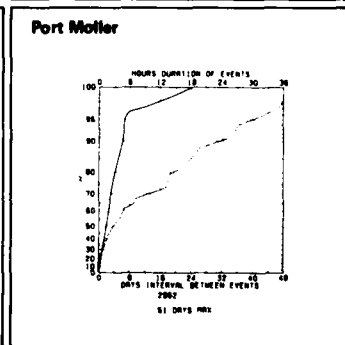
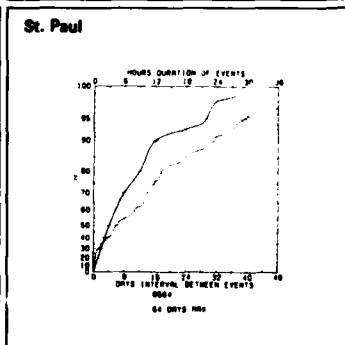
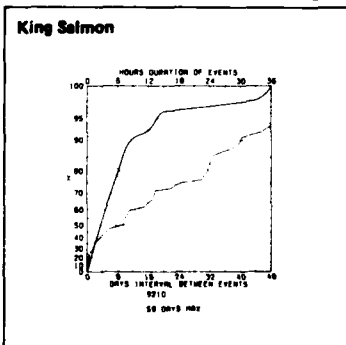
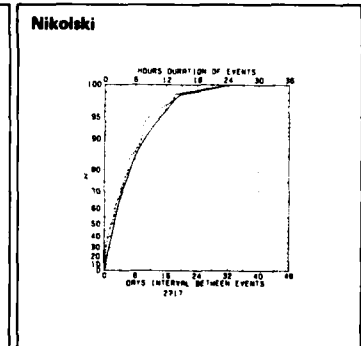
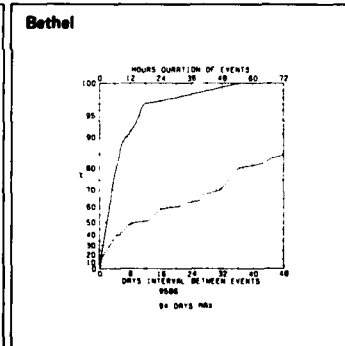
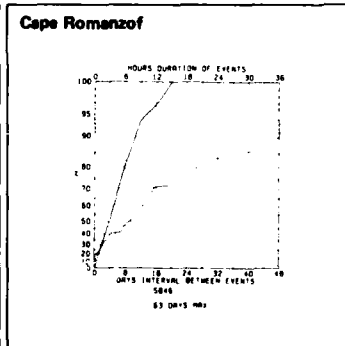
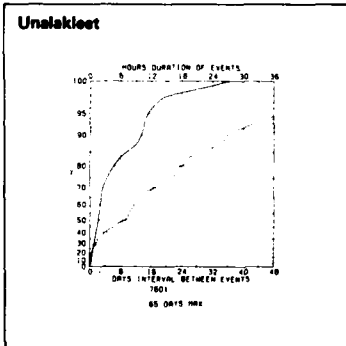
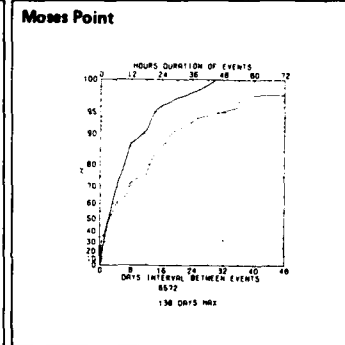
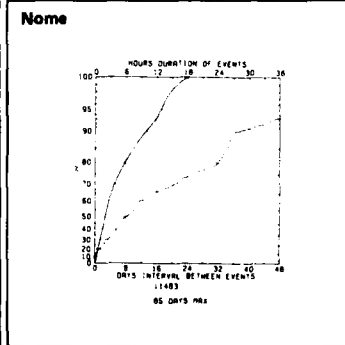
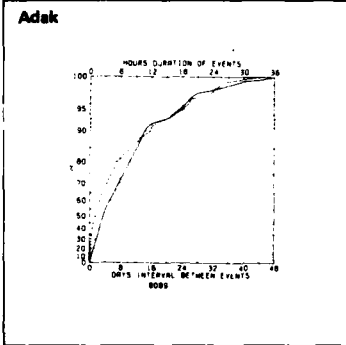
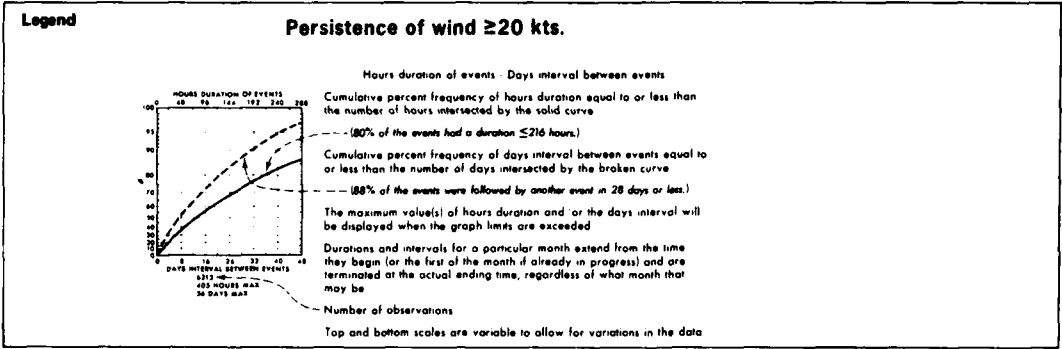
264

18 Low pressure center movement



**19 Persistence of visibility <2 n. mi.**





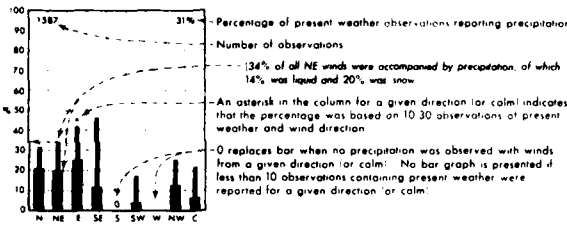
**21 Persistence of wind  $\geq 20$  kts.**

**Legend**

Precip  
 Liquid  
 Snow

**Precipitation/wind direction**

Percent frequency of surface wind observations from each direction and calm that were accompanied by precipitation, subdivided into liquid type (including freezing rain and freezing drizzle) and snow.

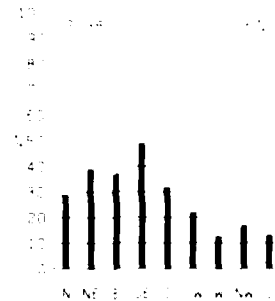


**Map - Precipitation**

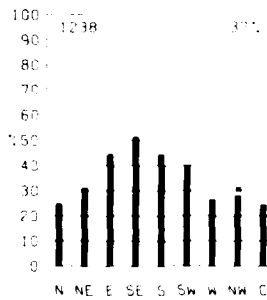
BLACK LINE Percent frequency of observations reporting precipitation

Of all the elements recorded in historical marine observations, precipitation is one of those most subject to interpretation error, from coding practices, observers' preference for certain present-weather codes, and other biases.

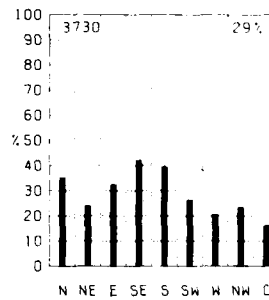
**Buhta Provideniya**



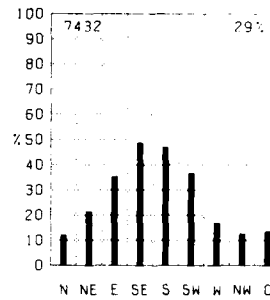
**Gambell**



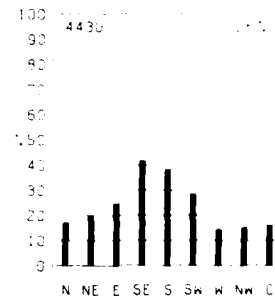
**Northeast Cape**



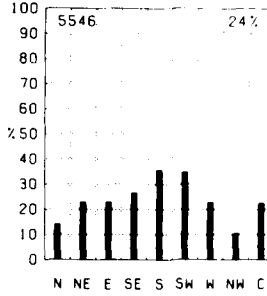
**Nome**



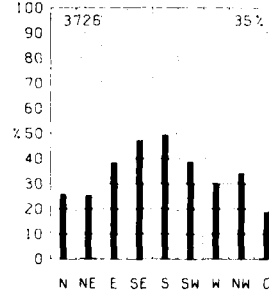
**Moses Point**



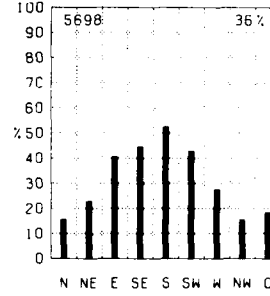
**Unalakleet**



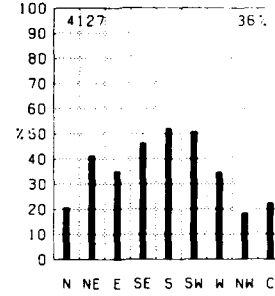
**Cape Romanzof**



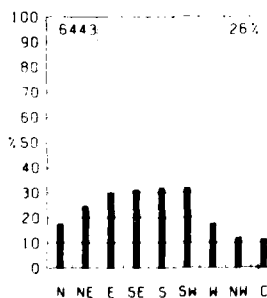
**Bethel**



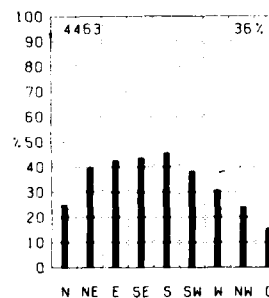
**Cape Newenham**



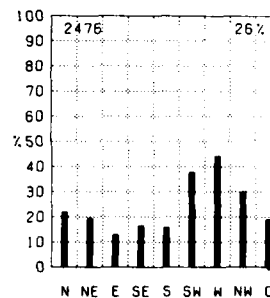
**King Salmon**



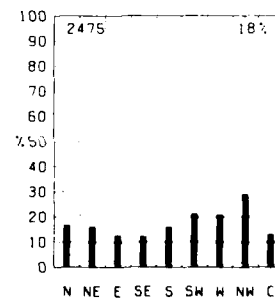
**St. Paul**



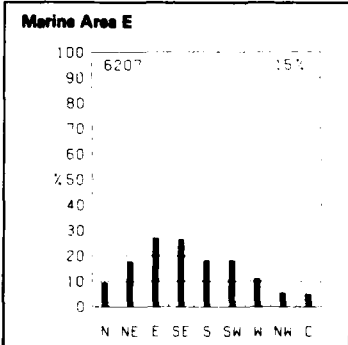
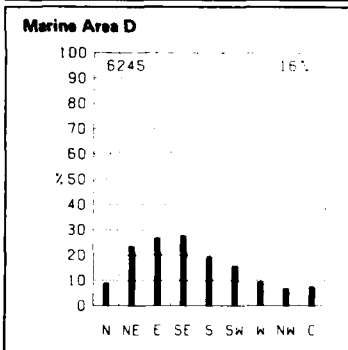
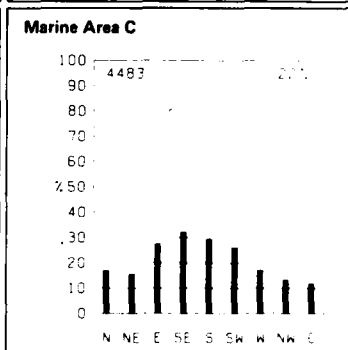
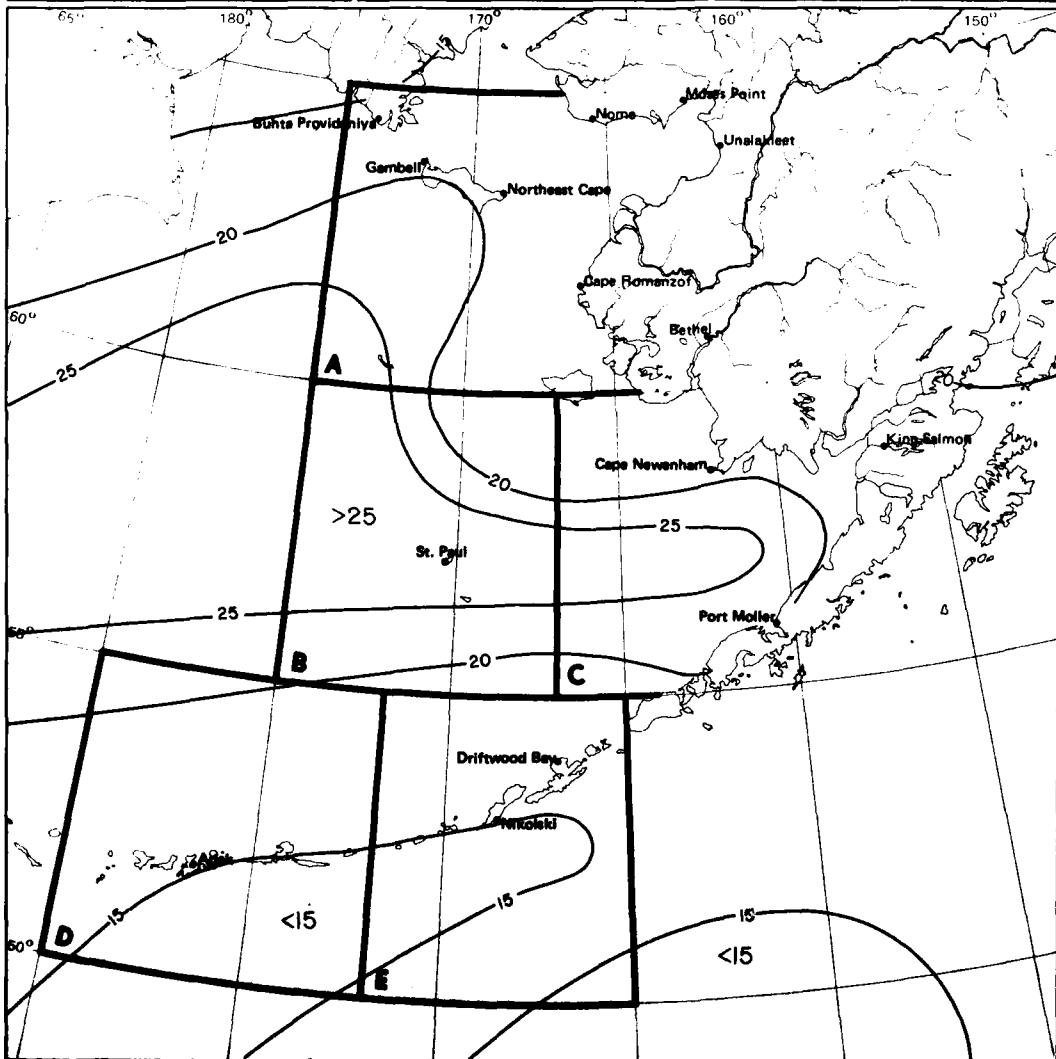
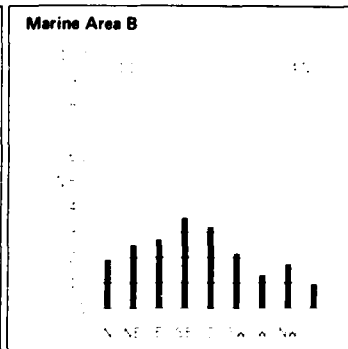
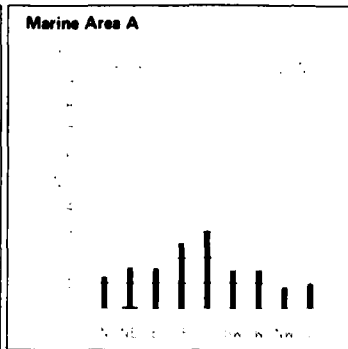
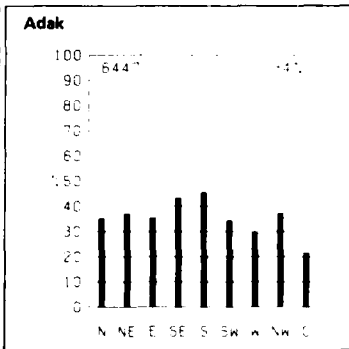
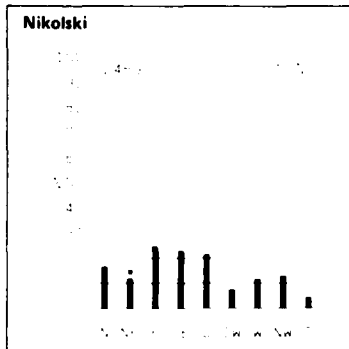
**Port Moller**



**Driftwood Bay**

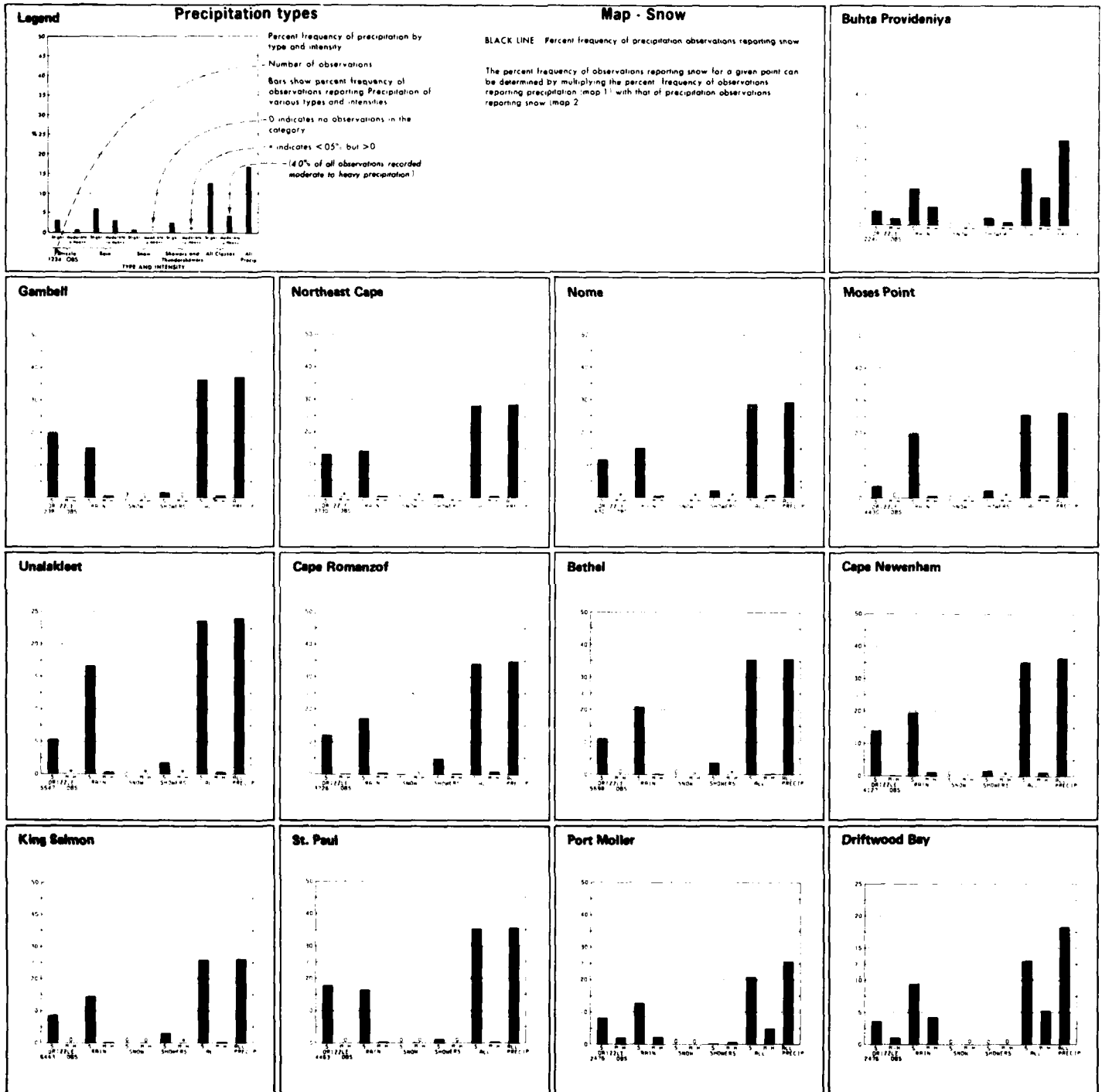


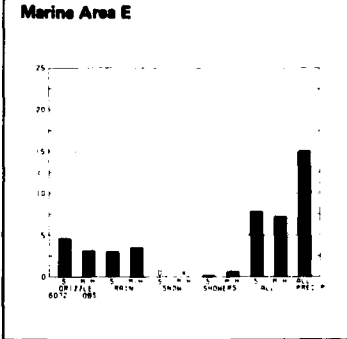
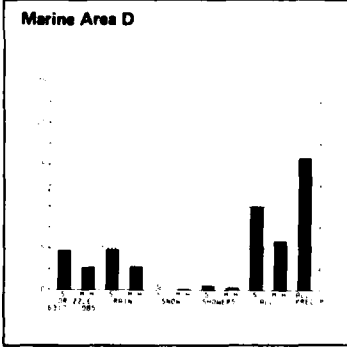
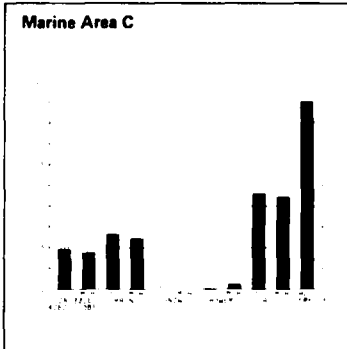
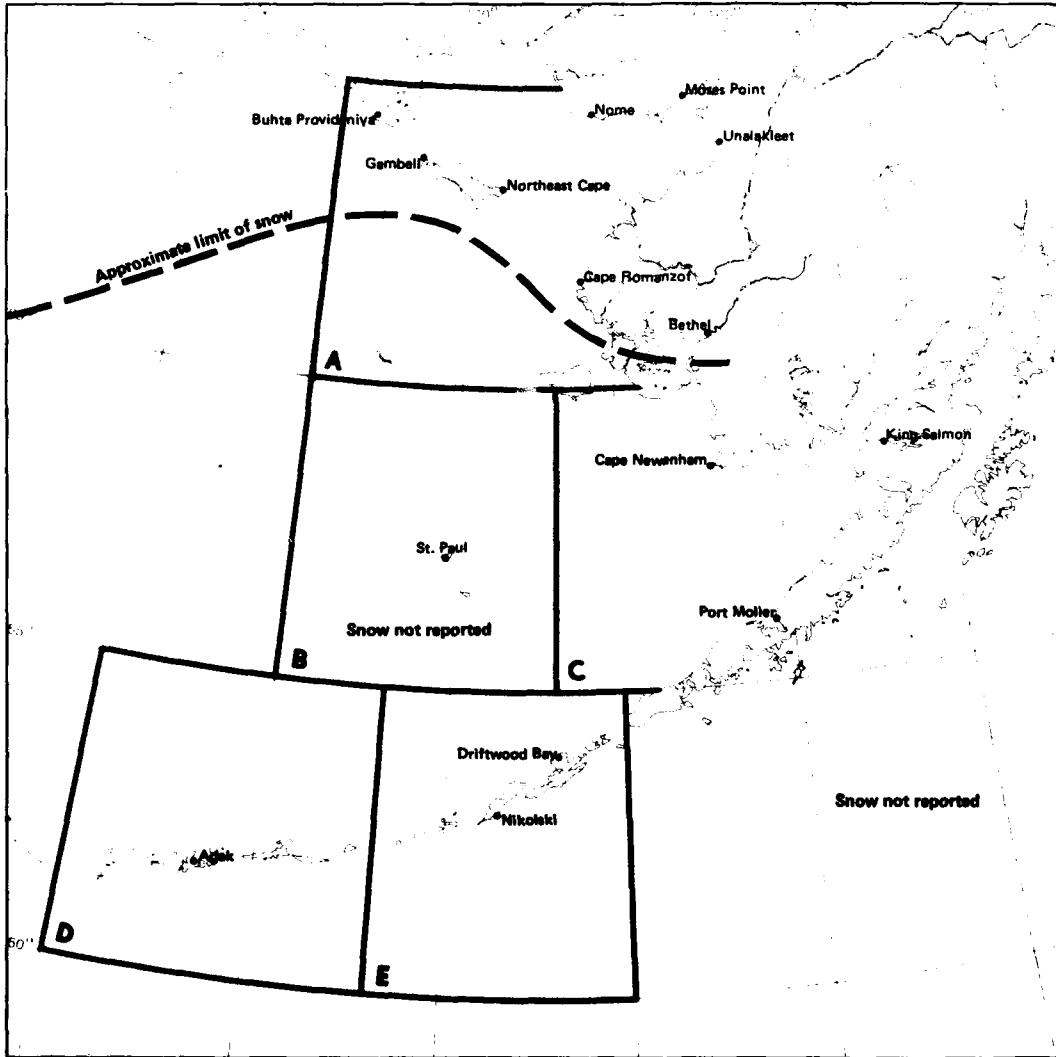
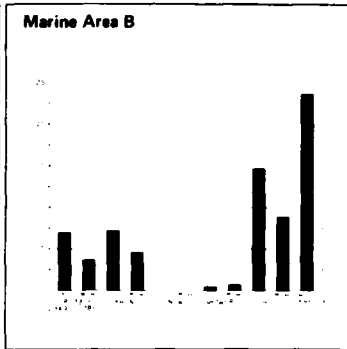
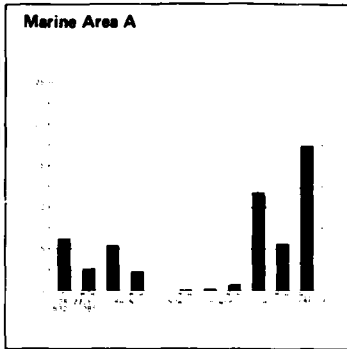
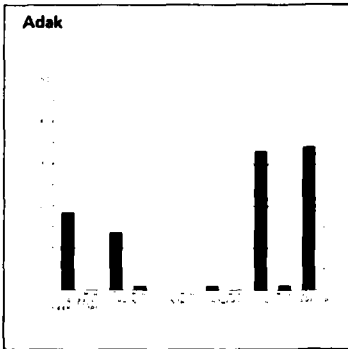
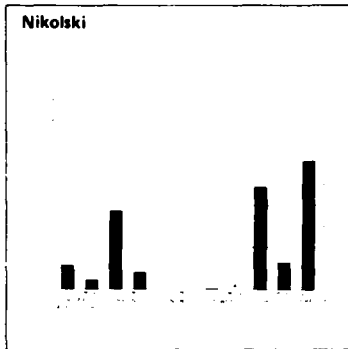




**1 Precipitation**

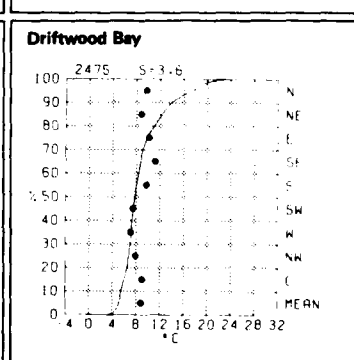
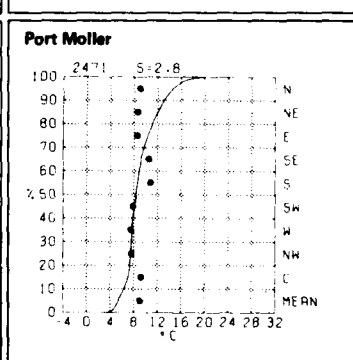
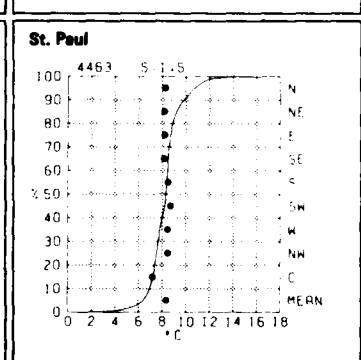
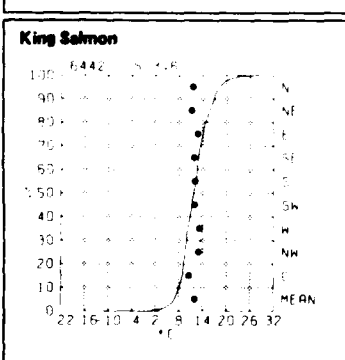
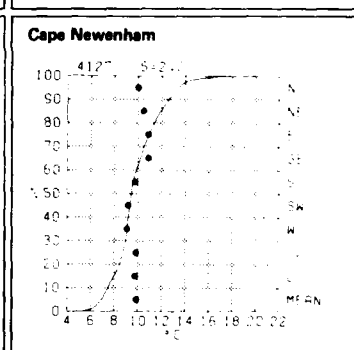
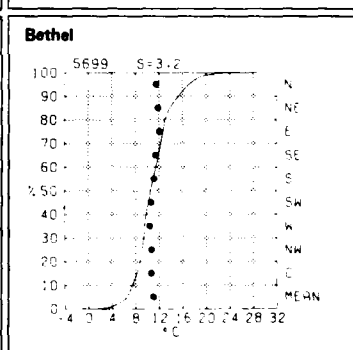
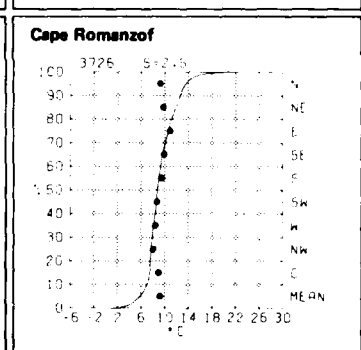
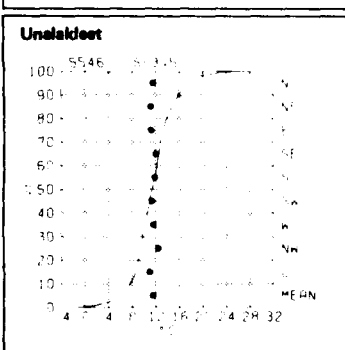
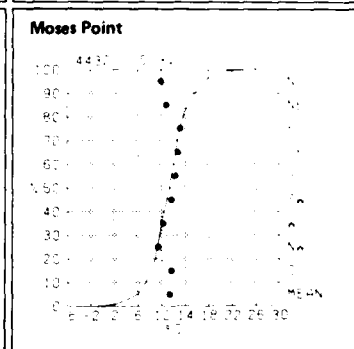
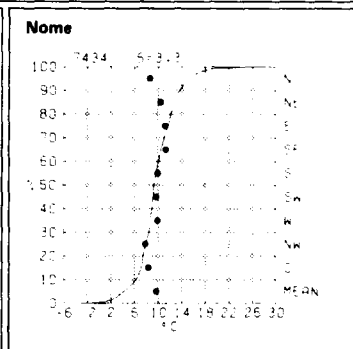
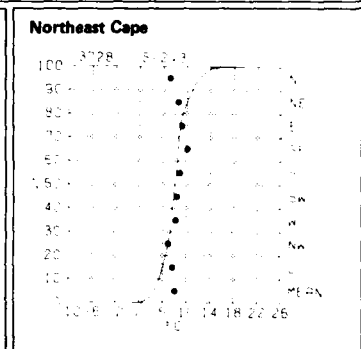
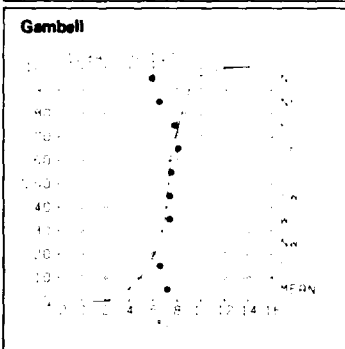
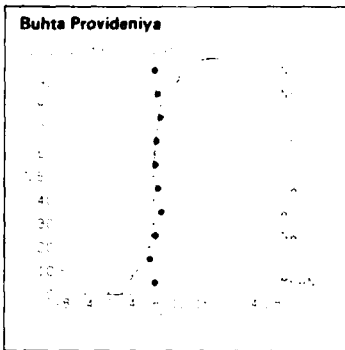
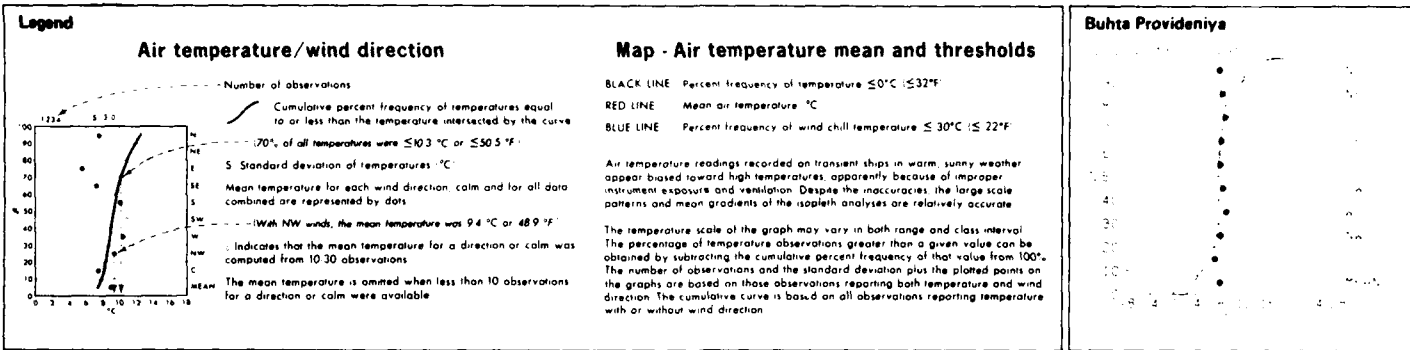
**August**

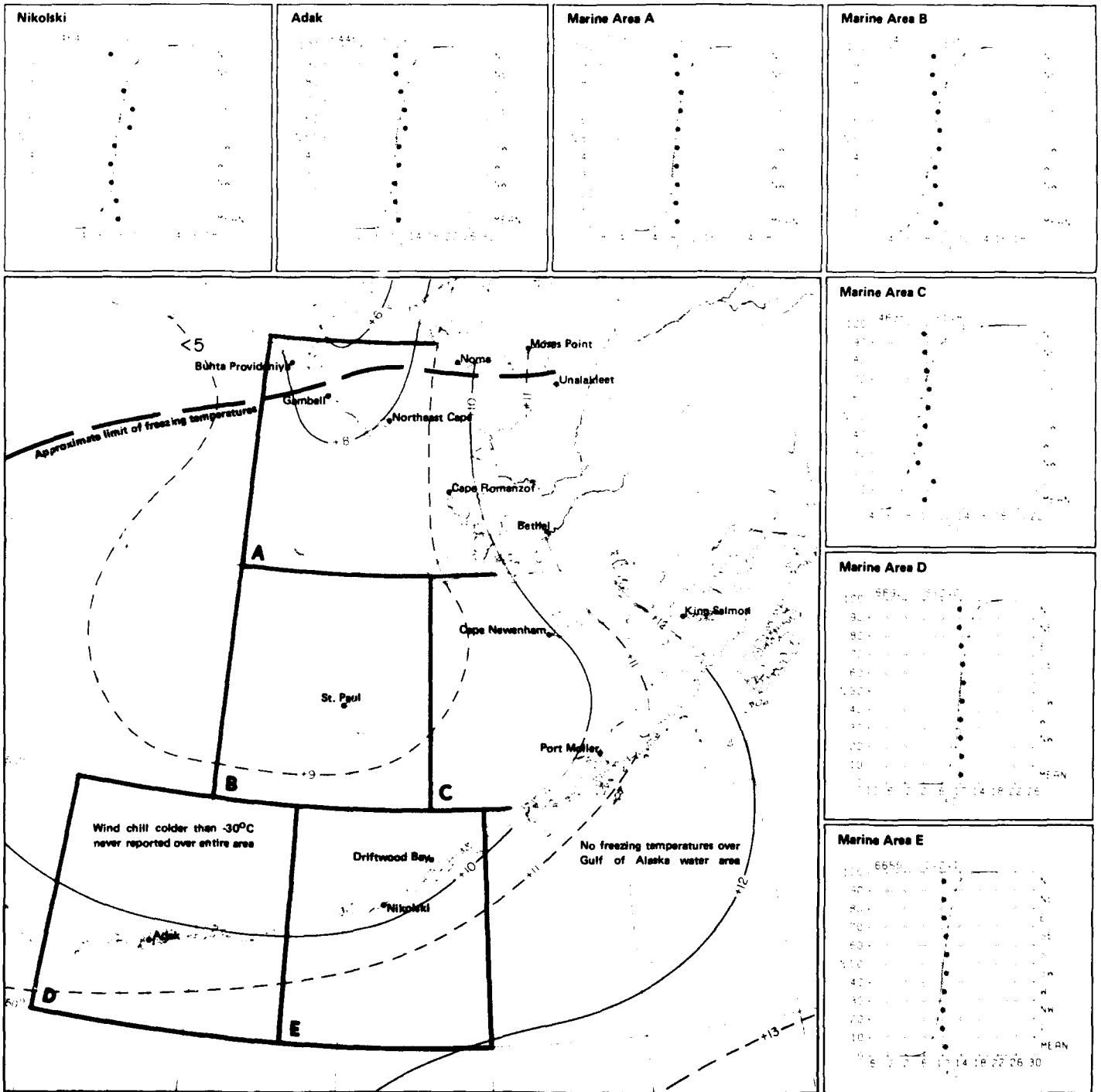




2 Snow

August



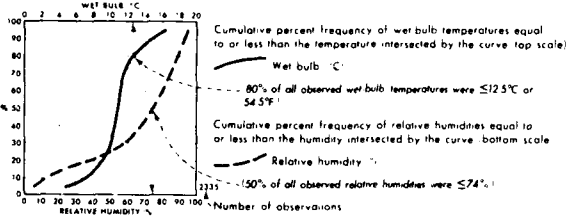


3 Air temperature mean and thresholds

August

**Legend**

**Wet bulb/relative humidity**



**Map - Mean dew point temperature**

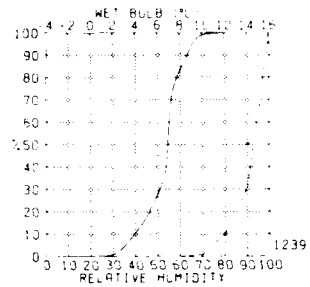
BLACK LINE Mean dew point temperature (°C)

The observation count of the graph reflects those observations reporting both air and wet bulb temperatures, both are required in computing the relative humidity. The percentage of observations of either element greater than a given value can be obtained by subtracting the cumulative percent frequency of that value from 100%.

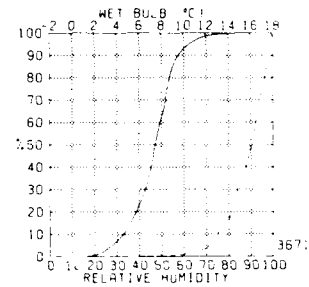
**Buhta Provideniya**

Insufficient Data

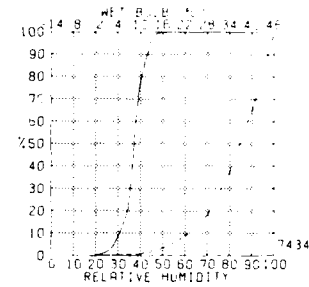
**Gambell**



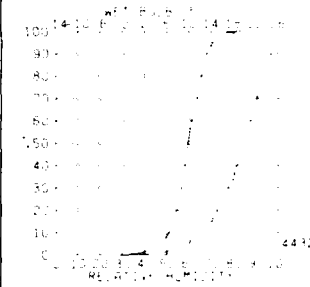
**Northeast Cape**



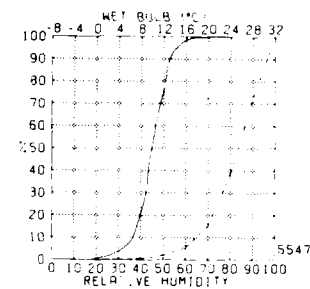
**Nome**



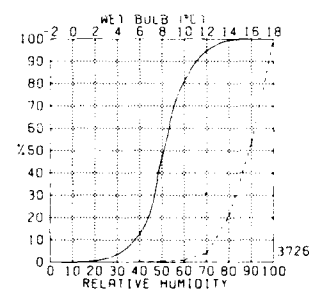
**Moses Point**



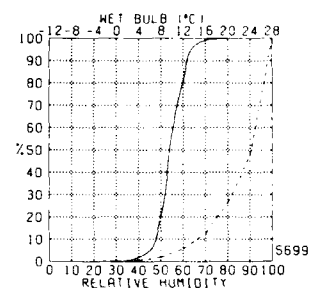
**Inalalikleet**



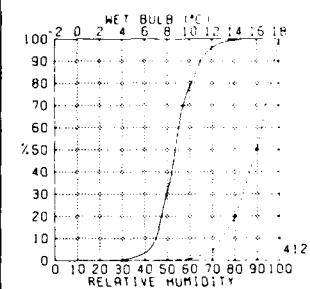
**Cape Romanzof**



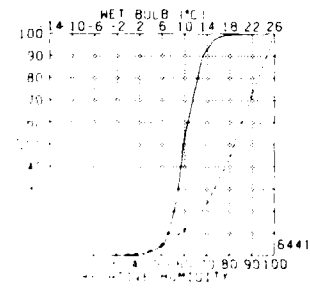
**Bethel**



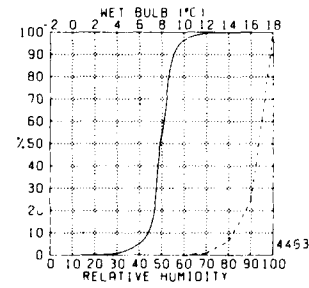
**Cape Newenham**



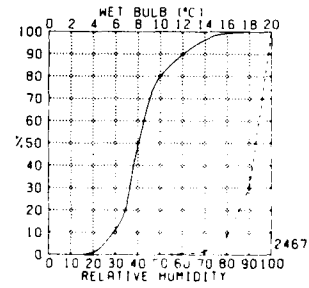
**King Salmon**



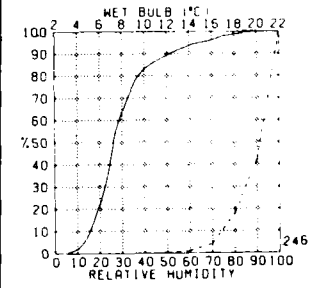
**St. Paul**



**Port Moller**

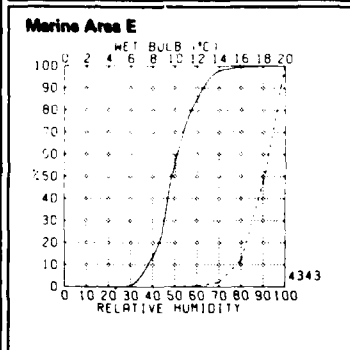
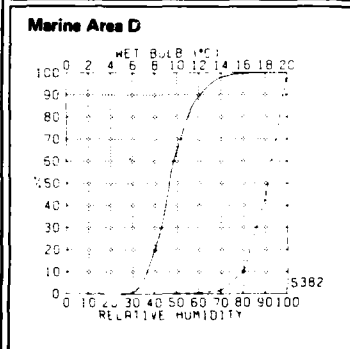
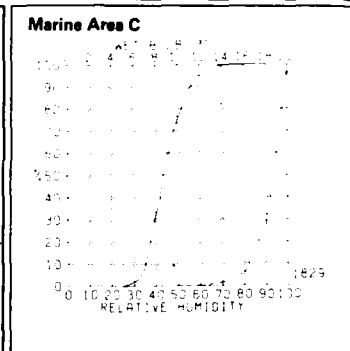
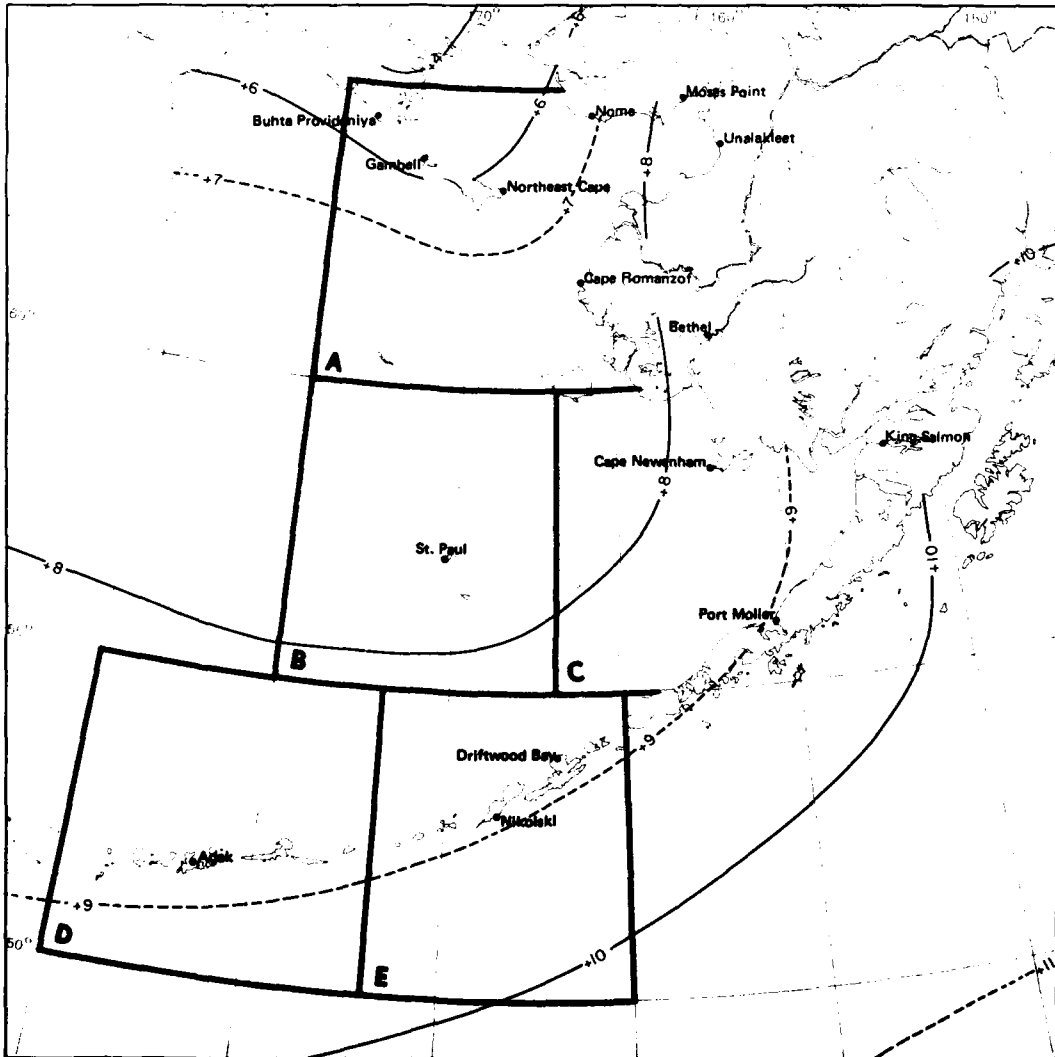
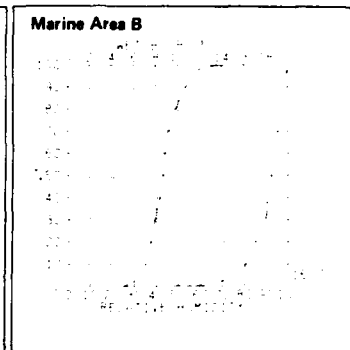
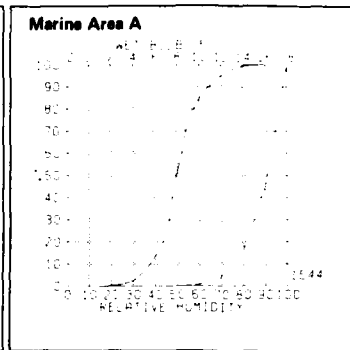
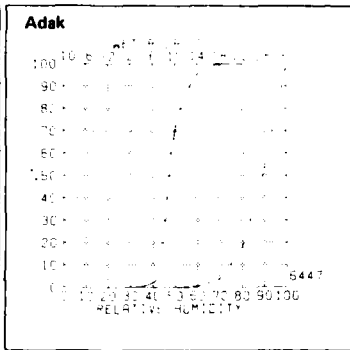
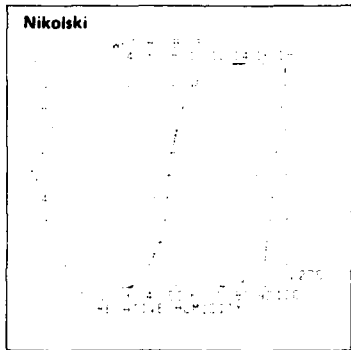


**Driftwood Bay**



**August**

**4 Wet bulb/relative humidity**



4 Mean dew point temperature

August

**Legend**

**Air temperature/wind speed**

WIND SPEED (KTS)	
Temp (°C)	0-3   4-10   11-21   22-33   ≥ 34
28.29	0   0   0   0   0
26.27	0   0   0   0   0
24.25	0   0   0   0   0
22.23	0   0   0   0   0
20.21	0   0   0   0   0
18.19	0   0   0   0   0
16.17	0   0   0   0   0
14.15	0   0   0   0   0
12.13	0   0   0   0   0
10.11	0   0   0   0   0
8.9	0   0   0   0   0
6.7	0   0   0   0   0
4.5	0   0   0   0   0
2.3	0   0   0   0   0
0.1	0   0   0   0   0
-2.1	0   0   0   0   0
-4.3	0   0   0   0   0
Σ	3550

Percent frequency of simultaneous occurrence of specified temperature (°C) and wind speed (knots)  
 --- (1% of all observations reported temperature 2.3°C simultaneously with wind speed of 22-33 kts.)  
 --- Indicates < 5% but > 0  
 --- Number of observations

**Map - Air temperature extremes (°C)**

**BLACK LINE** Maximum 199% air temperature (1% of temperatures were greater than the given value)  
**BLUE LINE** Minimum 1% air temperature (1% of temperatures were equal to or less than the given value)

The graph can be used to determine the extent of human discomfort from the combined effects of extreme heat or cold and winds or to estimate the likelihood of superstructure icing. Icing potential increases as the air temperature drops below freezing and the winds increase above 10 knots (12 mph) and may become quite severe with temperatures equal to or less than 9°C (16°F) and winds equal to or greater than 34 knots (39 mph).

**Buhta Provideniya**

WIND SPEED (KTS)	
Temp (°C)	0-3   4-10   11-21   22-33   ≥ 34
26.27	0   0   0   0   0
24.25	0   0   0   0   0
22.23	0   0   0   0   0
20.21	0   0   0   0   0
18.19	0   0   0   0   0
16.17	0   0   0   0   0
14.15	0   0   0   0   0
12.13	0   0   0   0   0
10.11	0   0   0   0   0
8.9	0   0   0   0   0
6.7	0   0   0   0   0
4.5	0   0   0   0   0
2.3	0   0   0   0   0
0.1	0   0   0   0   0
-2.1	0   0   0   0   0
Σ	4432

**Gambell**

**WIND SPEED (KTS)**

Temp (°C)	0-3   4-10   11-21   22-33   ≥ 34
14.15	0   0   0   0   0
12.13	0   0   0   0   0
10.11	0   0   0   0   0
8.9	0   0   0   0   0
6.7	0   0   0   0   0
4.5	0   0   0   0   0
2.3	0   0   0   0   0
0.1	0   0   0   0   0
-2.1	0   0   0   0   0
-4.3	0   0   0   0   0
-6.5	0   0   0   0   0
Σ	1239

**Northeast Cape**

**WIND SPEED (KTS)**

Temp (°C)	0-3   4-10   11-21   22-33   ≥ 34
18.19	0   0   0   0   0
16.17	0   0   0   0   0
14.15	0   0   0   0   0
12.13	0   0   0   0   0
10.11	0   0   0   0   0
8.9	0   0   0   0   0
6.7	0   0   0   0   0
4.5	0   0   0   0   0
2.3	0   0   0   0   0
0.1	0   0   0   0   0
-2.1	0   0   0   0   0
Σ	3728

**Nome**

**WIND SPEED (KTS)**

Temp (°C)	0-3   4-10   11-21   22-33   ≥ 34
26.27	0   0   0   0   0
24.25	0   0   0   0   0
22.23	0   0   0   0   0
20.21	0   0   0   0   0
18.19	0   0   0   0   0
16.17	0   0   0   0   0
14.15	0   0   0   0   0
12.13	0   0   0   0   0
10.11	0   0   0   0   0
8.9	0   0   0   0   0
6.7	0   0   0   0   0
4.5	0   0   0   0   0
2.3	0   0   0   0   0
0.1	0   0   0   0   0
-2.1	0   0   0   0   0
Σ	7434

**Moses Point**

**WIND SPEED (KTS)**

Temp (°C)	0-3   4-10   11-21   22-33   ≥ 34
26.27	0   0   0   0   0
24.25	0   0   0   0   0
22.23	0   0   0   0   0
20.21	0   0   0   0   0
18.19	0   0   0   0   0
16.17	0   0   0   0   0
14.15	0   0   0   0   0
12.13	0   0   0   0   0
10.11	0   0   0   0   0
8.9	0   0   0   0   0
6.7	0   0   0   0   0
4.5	0   0   0   0   0
2.3	0   0   0   0   0
0.1	0   0   0   0   0
-2.1	0   0   0   0   0
Σ	4432

**Unalakleet**

**WIND SPEED (KTS)**

Temp (°C)	0-3   4-10   11-21   22-33   ≥ 34
28.29	0   0   0   0   0
26.27	0   0   0   0   0
24.25	0   0   0   0   0
22.23	0   0   0   0   0
20.21	0   0   0   0   0
18.19	0   0   0   0   0
16.17	0   0   0   0   0
14.15	0   0   0   0   0
12.13	0   0   0   0   0
10.11	0   0   0   0   0
8.9	0   0   0   0   0
6.7	0   0   0   0   0
4.5	0   0   0   0   0
2.3	0   0   0   0   0
0.1	0   0   0   0   0
-2.1	0   0   0   0   0
Σ	5546

**Cape Romanzof**

**WIND SPEED (KTS)**

Temp (°C)	0-3   4-10   11-21   22-33   ≥ 34
20.21	0   0   0   0   0
18.19	0   0   0   0   0
16.17	0   0   0   0   0
14.15	0   0   0   0   0
12.13	0   0   0   0   0
10.11	0   0   0   0   0
8.9	0   0   0   0   0
6.7	0   0   0   0   0
4.5	0   0   0   0   0
2.3	0   0   0   0   0
0.1	0   0   0   0   0
Σ	3726

**Bethel**

**WIND SPEED (KTS)**

Temp (°C)	0-3   4-10   11-21   22-33   ≥ 34
26.27	0   0   0   0   0
24.25	0   0   0   0   0
22.23	0   0   0   0   0
20.21	0   0   0   0   0
18.19	0   0   0   0   0
16.17	0   0   0   0   0
14.15	0   0   0   0   0
12.13	0   0   0   0   0
10.11	0   0   0   0   0
8.9	0   0   0   0   0
6.7	0   0   0   0   0
4.5	0   0   0   0   0
2.3	0   0   0   0   0
0.1	0   0   0   0   0
Σ	5699

**Cape Newenham**

**WIND SPEED (KTS)**

Temp (°C)	0-3   4-10   11-21   22-33   ≥ 34
18.19	0   0   0   0   0
16.17	0   0   0   0   0
14.15	0   0   0   0   0
12.13	0   0   0   0   0
10.11	0   0   0   0   0
8.9	0   0   0   0   0
6.7	0   0   0   0   0
4.5	0   0   0   0   0
2.3	0   0   0   0   0
0.1	0   0   0   0   0
-2.1	0   0   0   0   0
Σ	4127

**King Salmon**

**WIND SPEED (KTS)**

Temp (°C)	0-3   4-10   11-21   22-33   ≥ 34
28.29	0   0   0   0   0
26.27	0   0   0   0   0
24.25	0   0   0   0   0
22.23	0   0   0   0   0
20.21	0   0   0   0   0
18.19	0   0   0   0   0
16.17	0   0   0   0   0
14.15	0   0   0   0   0
12.13	0   0   0   0   0
10.11	0   0   0   0   0
8.9	0   0   0   0   0
6.7	0   0   0   0   0
4.5	0   0   0   0   0
2.3	0   0   0   0   0
0.1	0   0   0   0   0
Σ	6442

**St. Paul**

**WIND SPEED (KTS)**

Temp (°C)	0-3   4-10   11-21   22-33   ≥ 34
16.17	0   0   0   0   0
14.15	0   0   0   0   0
12.13	0   0   0   0   0
10.11	0   0   0   0   0
8.9	0   0   0   0   0
6.7	0   0   0   0   0
4.5	0   0   0   0   0
2.3	0   0   0   0   0
0.1	0   0   0   0   0
-2.1	0   0   0   0   0
-4.3	0   0   0   0   0
Σ	4463

**Port Moller**

**WIND SPEED (KTS)**

Temp (°C)	0-3   4-10   11-21   22-33   ≥ 34
22.23	0   0   0   0   0
20.21	0   0   0   0   0
18.19	0   0   0   0   0
16.17	0   0   0   0   0
14.15	0   0   0   0   0
12.13	0   0   0   0   0
10.11	0   0   0   0   0
8.9	0   0   0   0   0
6.7	0   0   0   0   0
4.5	0   0   0   0   0
2.3	0   0   0   0   0
Σ	2471

**Driftwood Bay**

**WIND SPEED (KTS)**

Temp (°C)	0-3   4-10   11-21   22-33   ≥ 34
24.25	0   0   0   0   0
22.23	0   0   0   0   0
20.21	0   0   0   0   0
18.19	0   0   0   0   0
16.17	0   0   0   0   0
14.15	0   0   0   0   0
12.13	0   0   0   0   0
10.11	0   0   0   0   0
8.9	0   0   0   0   0
6.7	0   0   0   0   0
4.5	0   0   0   0   0
2.3	0   0   0   0   0
Σ	2475



**Nikolski**

TEMP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
MAX	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	
MIN	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	

**Adak**

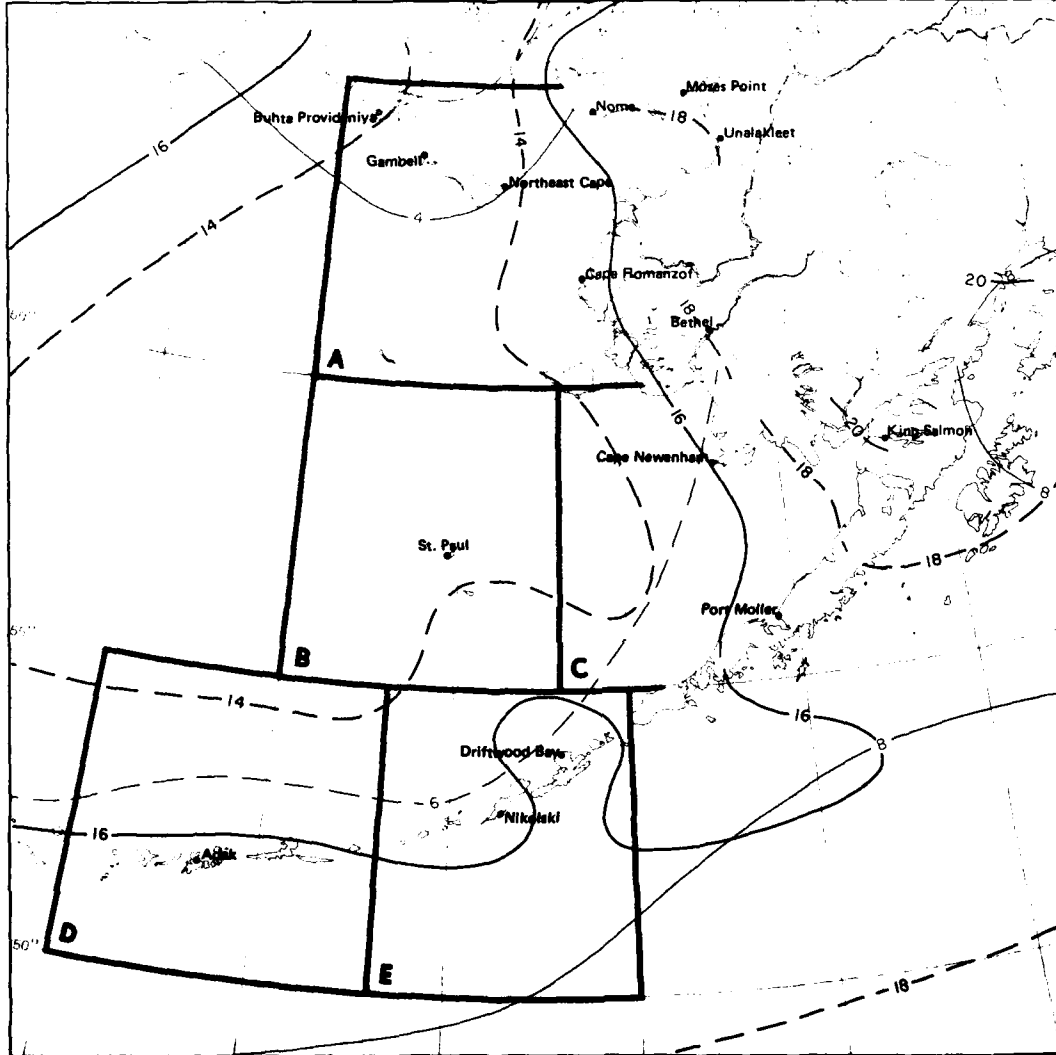
TEMP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
MAX	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	
MIN	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	

**Marine Area A**

TEMP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
MAX	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	
MIN	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	

**Marine Area B**

TEMP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
MAX	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	
MIN	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	



**Marine Area C**

TEMP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
MAX	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	
MIN	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	

**Marine Area D**

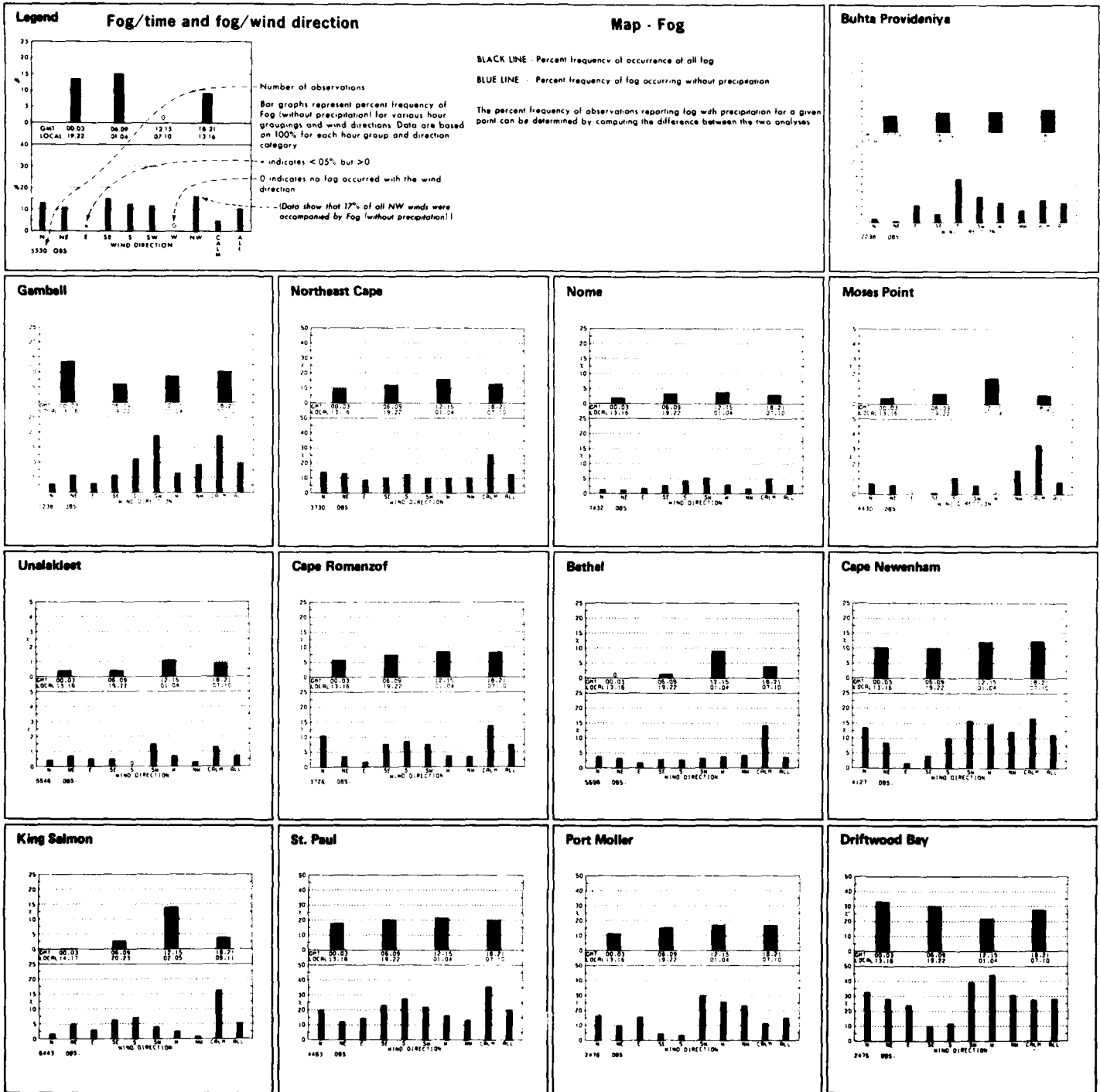
TEMP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
MAX	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	
MIN	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	

**Marine Area E**

TEMP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
MAX	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	
MIN	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	

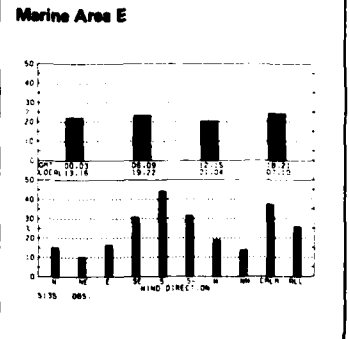
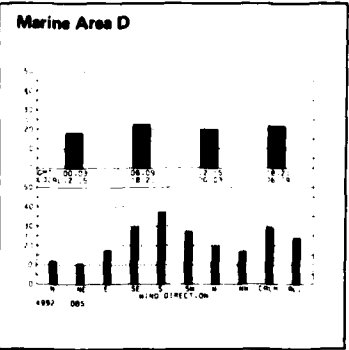
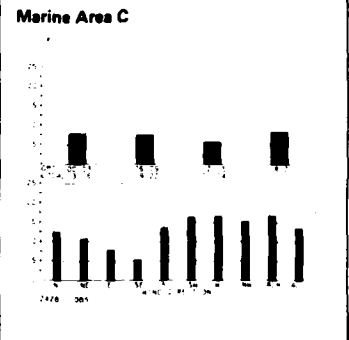
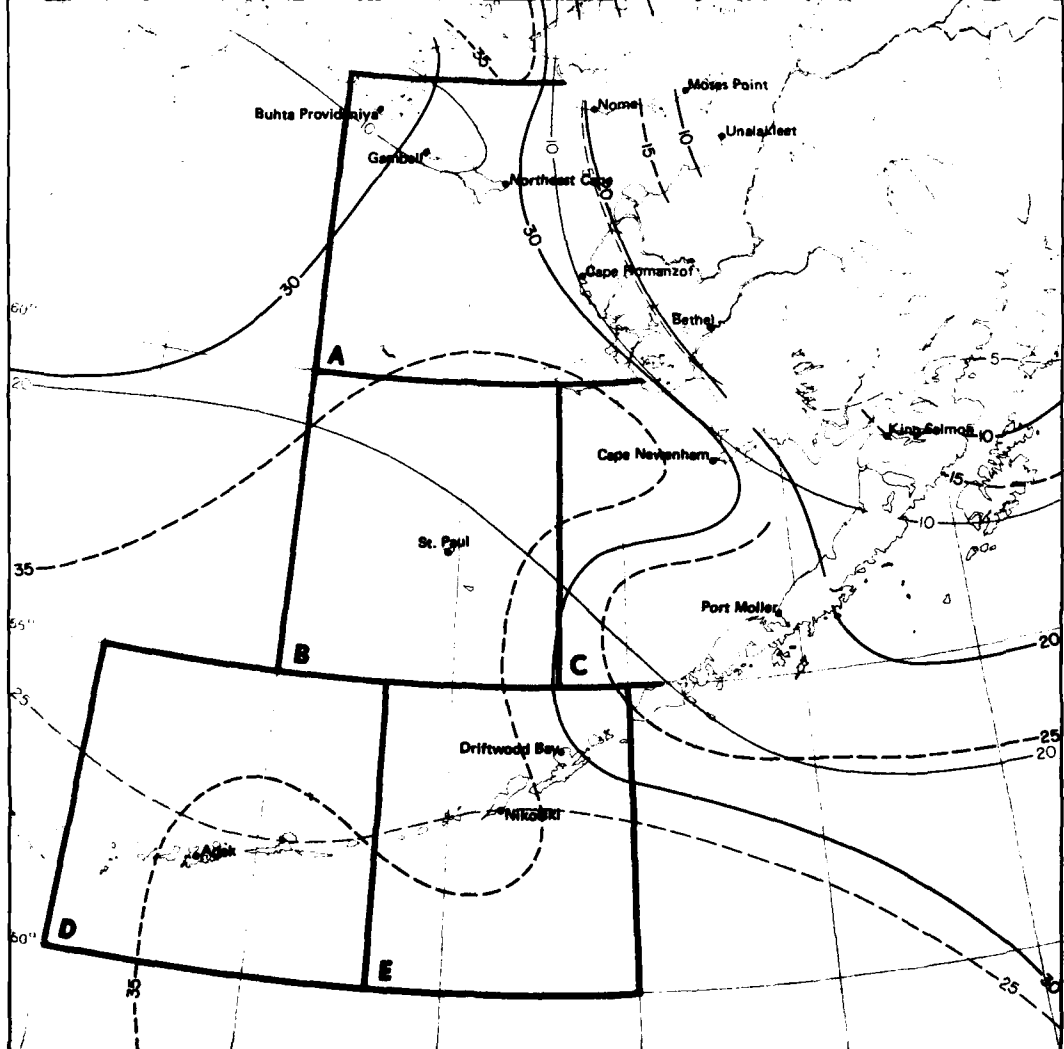
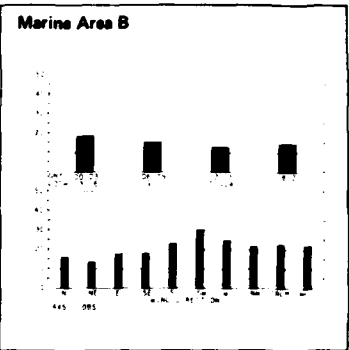
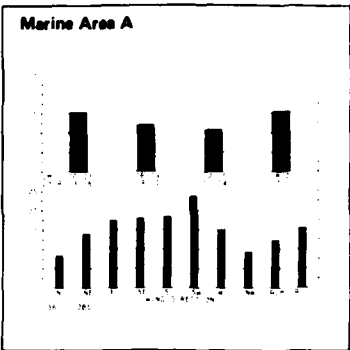
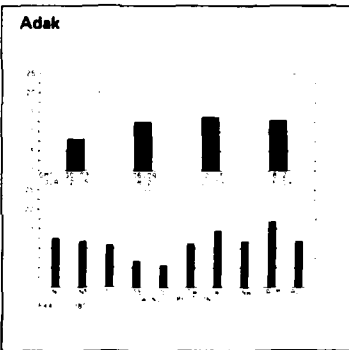
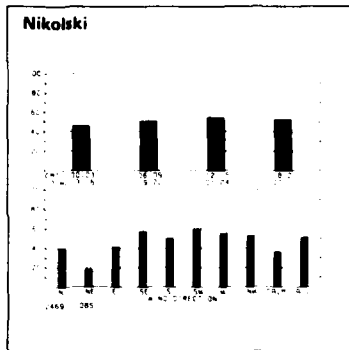
5 Air temperature extremes (°C)

August



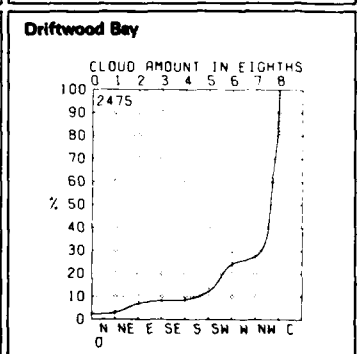
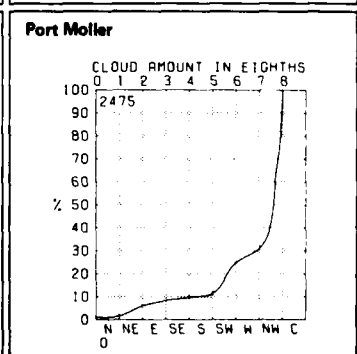
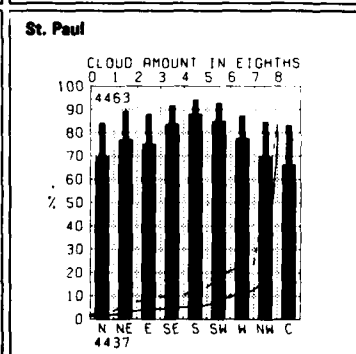
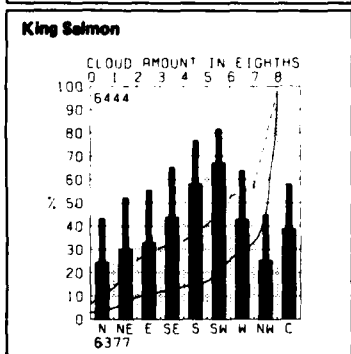
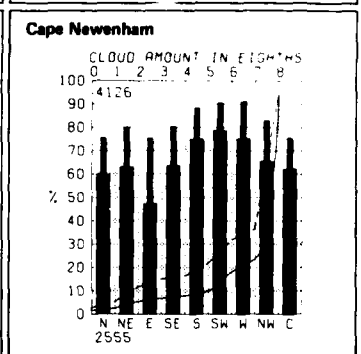
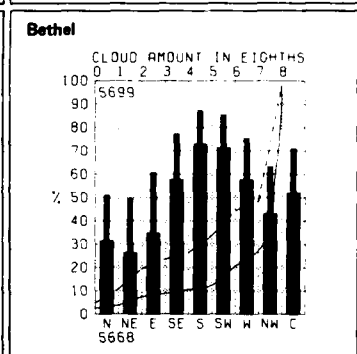
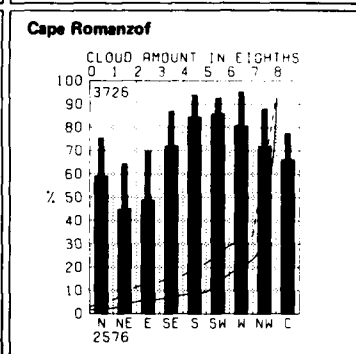
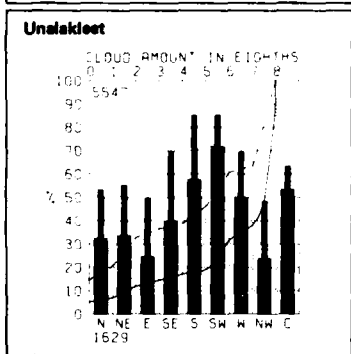
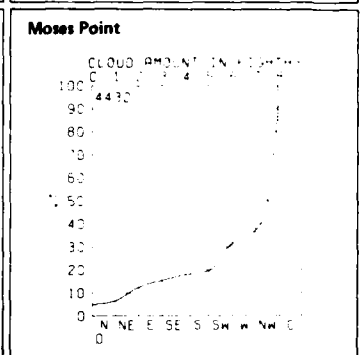
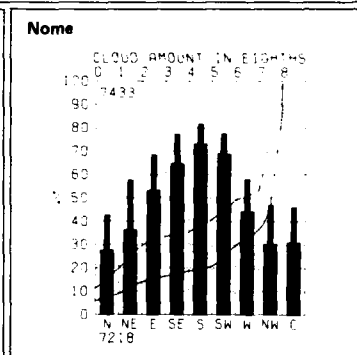
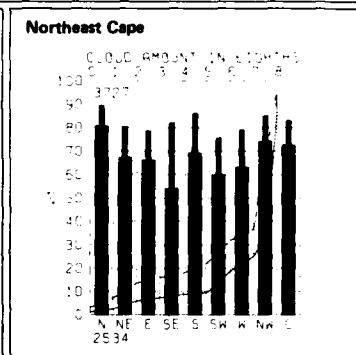
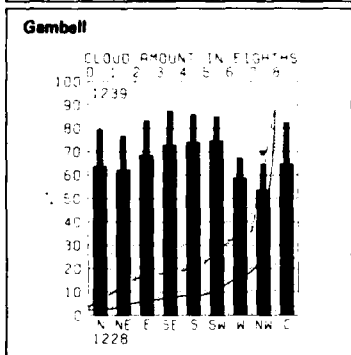
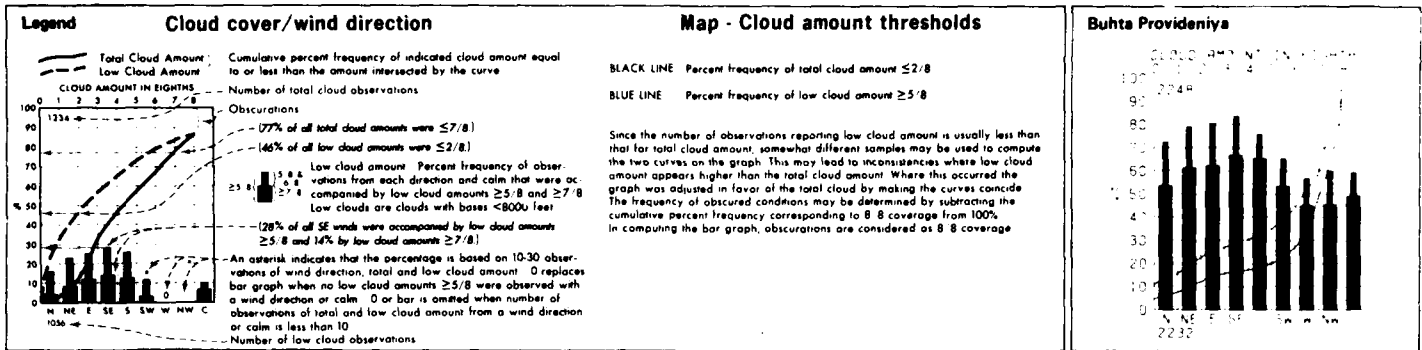
August

6 Fog/time and fog/wind direction



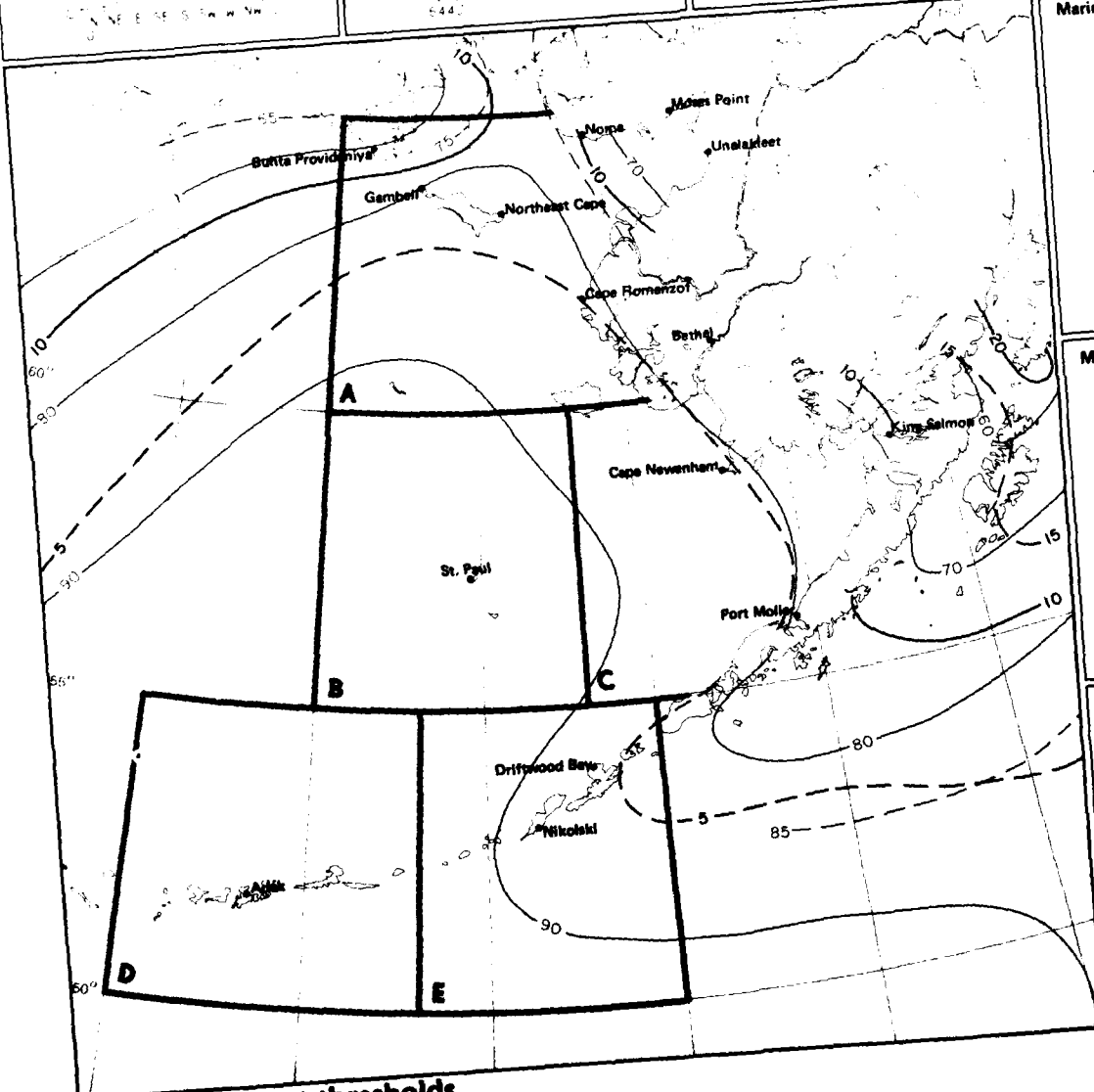
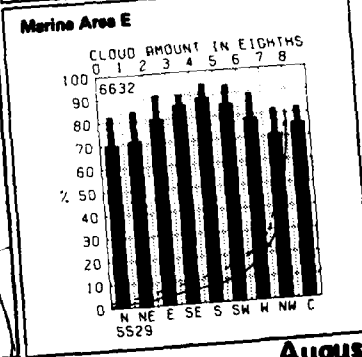
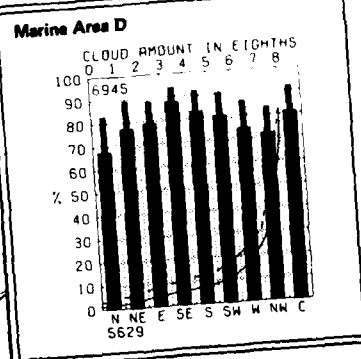
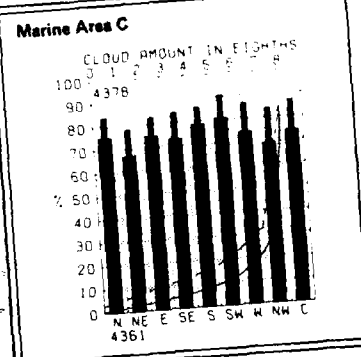
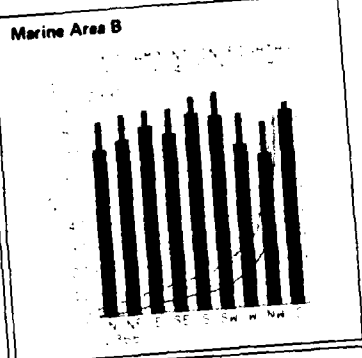
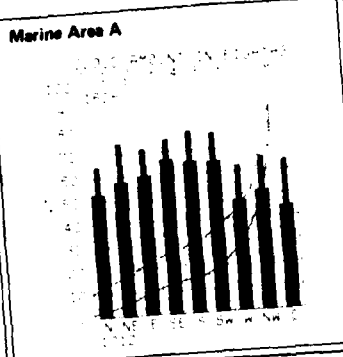
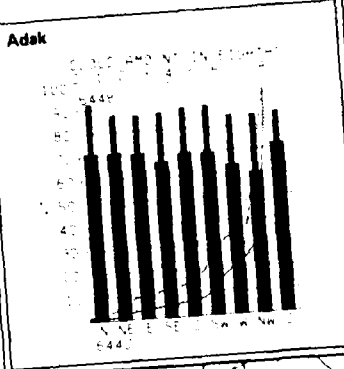
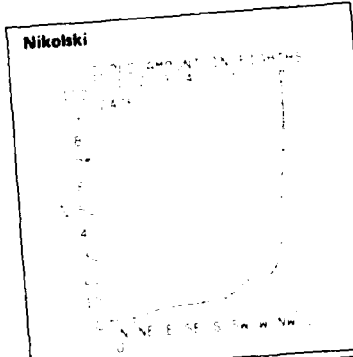
6 Fog

August



August

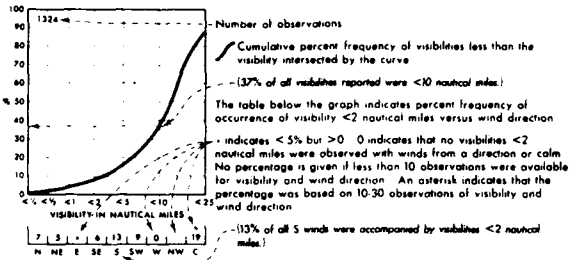
7 Cloud cover/wind direction



7 Cloud amount thresholds

**Legend**

**Visibility/wind direction**

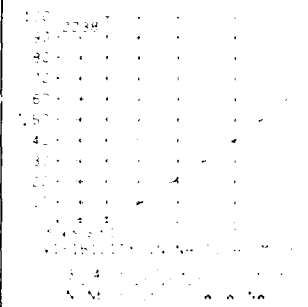


**Map - Visibility thresholds**

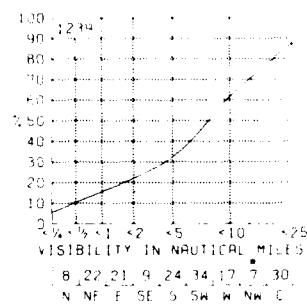
BLACK LINE Percent frequency of visibilities  $\geq 5$  nautical miles  
 BLUE LINE Percent frequency of visibilities  $< 2$  nautical miles

The percentage of visibility equal to or greater than a given value can be obtained from the graph by subtracting the cumulative percent frequency of that value from 100%. Visibility at sea is difficult to measure because of the lack of reference points. Also, some observers seem to report reduced visibilities at night because of darkness though this tendency has abated in recent years. The coarseness of the coding intervals, however, tends to minimize serious biases in the summarized data. Visibilities greater than 25 nm should be interpreted cautiously because the earth's curvature makes it impossible to see 25 nm horizontally from the bridges of most ships.

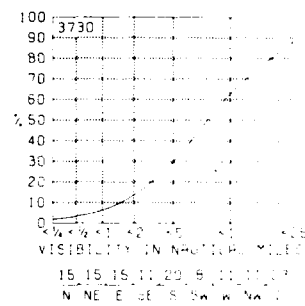
**Buhta Provideniya**



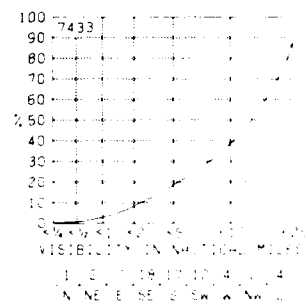
**Gambell**



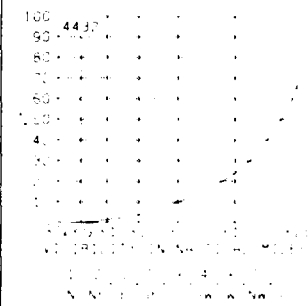
**Northeast Cape**



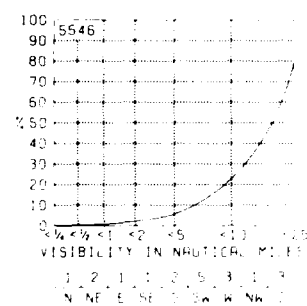
**Nome**



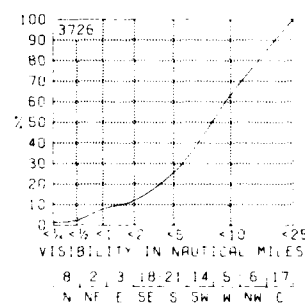
**Moses Point**



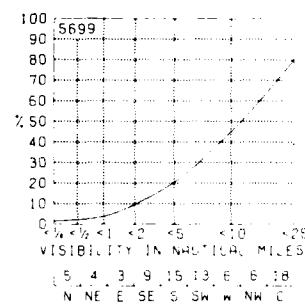
**Unalakleet**



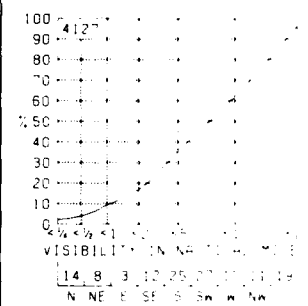
**Cape Romanzof**



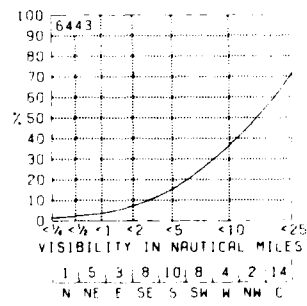
**Bethel**



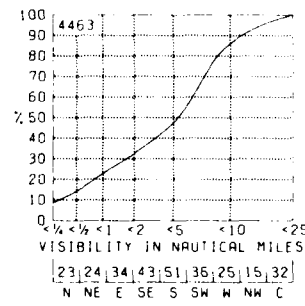
**Cape Newenham**



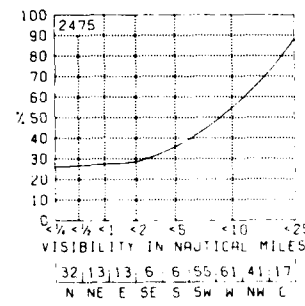
**King Salmon**



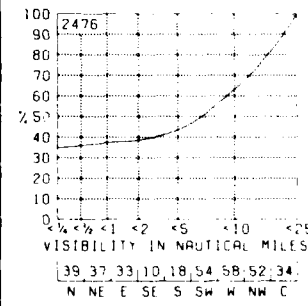
**St. Paul**



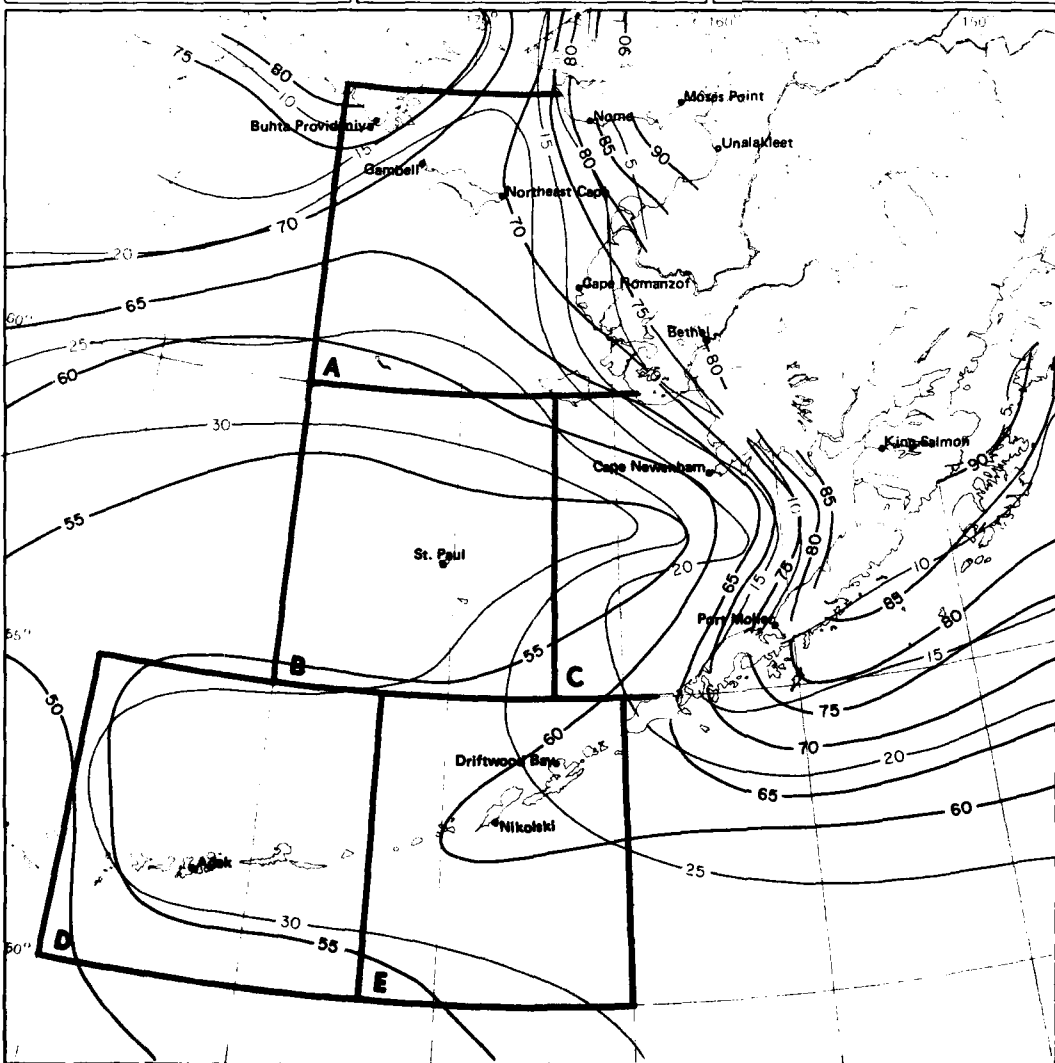
**Port Moller**



**Driftwood Bay**



<p><b>Nikolski</b></p> <p>100 90 80 70 60 50 40 30 20 10</p>	<p><b>Adak</b></p> <p>100 90 80 70 60 50 40 30 20 10</p>	<p><b>Marine Area A</b></p> <p>100 90 80 70 60 50 40 30 20 10</p>	<p><b>Marine Area B</b></p> <p>100 90 80 70 60 50 40 30 20 10</p>
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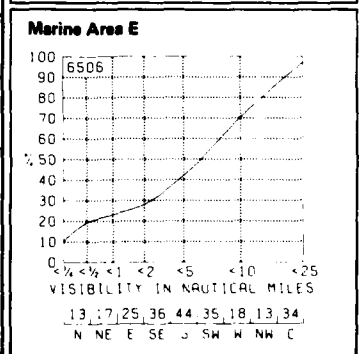


**Marine Area C**

100  
90  
80  
70  
60  
50  
40  
30  
20  
10

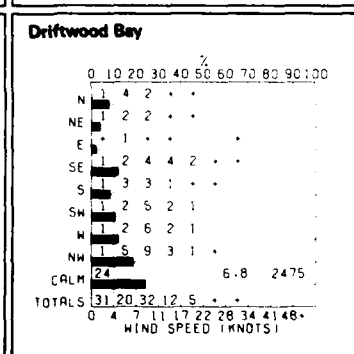
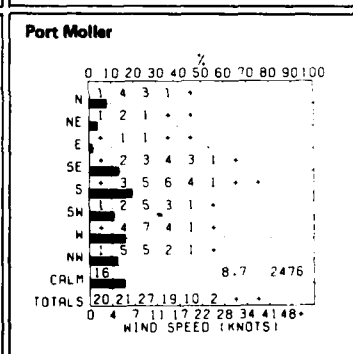
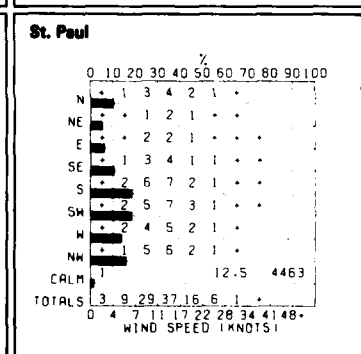
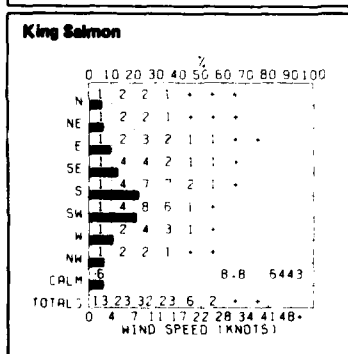
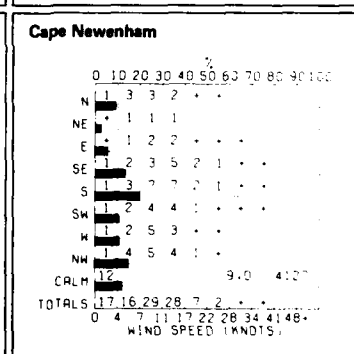
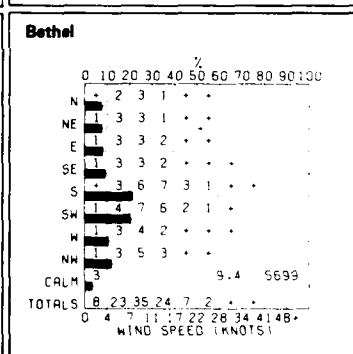
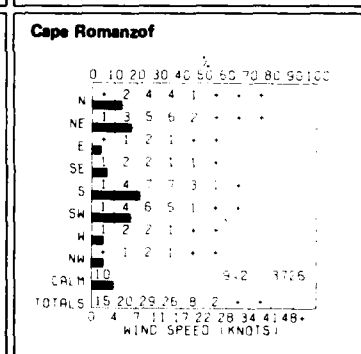
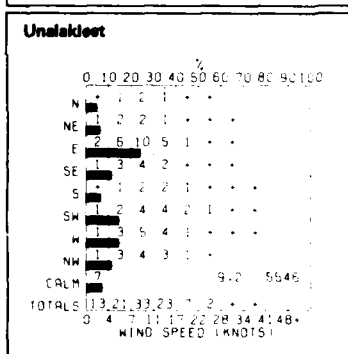
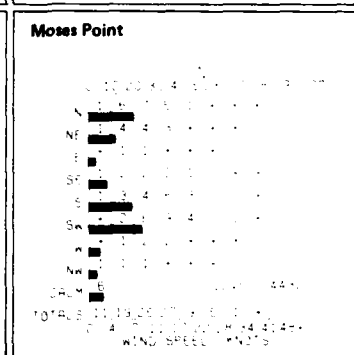
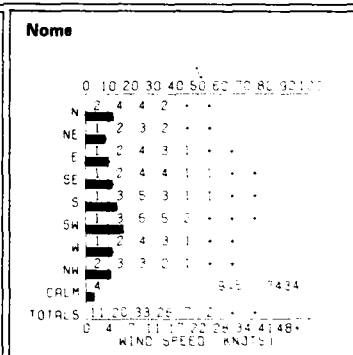
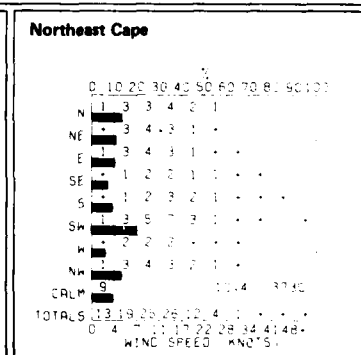
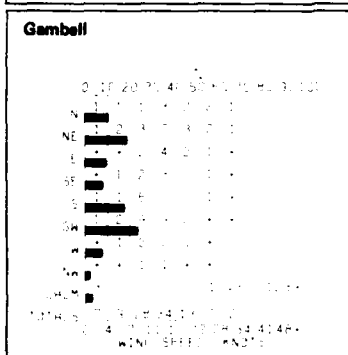
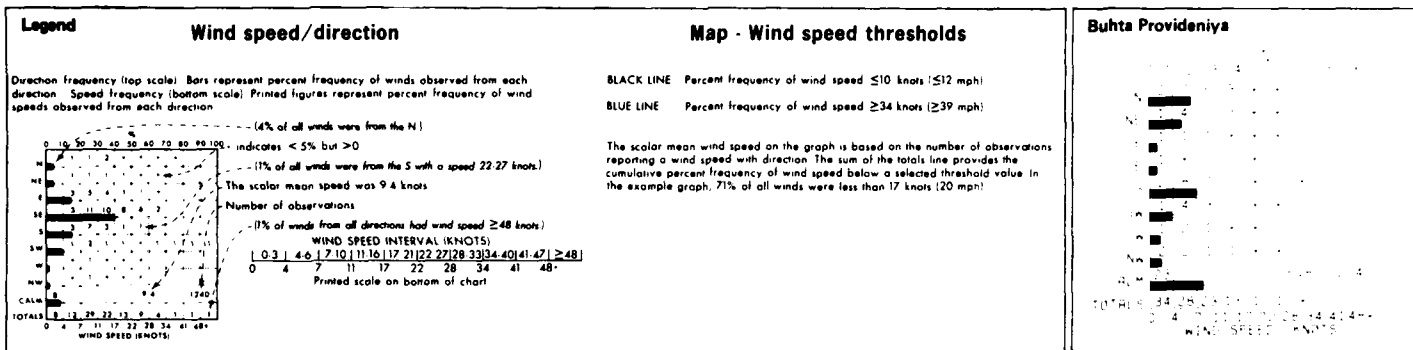
**Marine Area D**

100  
90  
80  
70  
60  
50  
40  
30  
20  
10

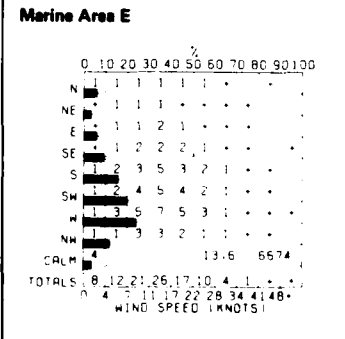
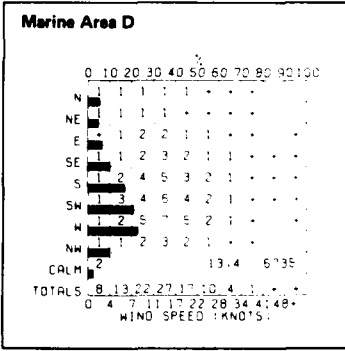
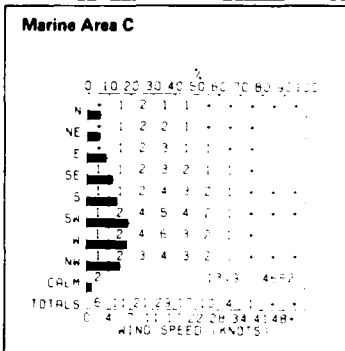
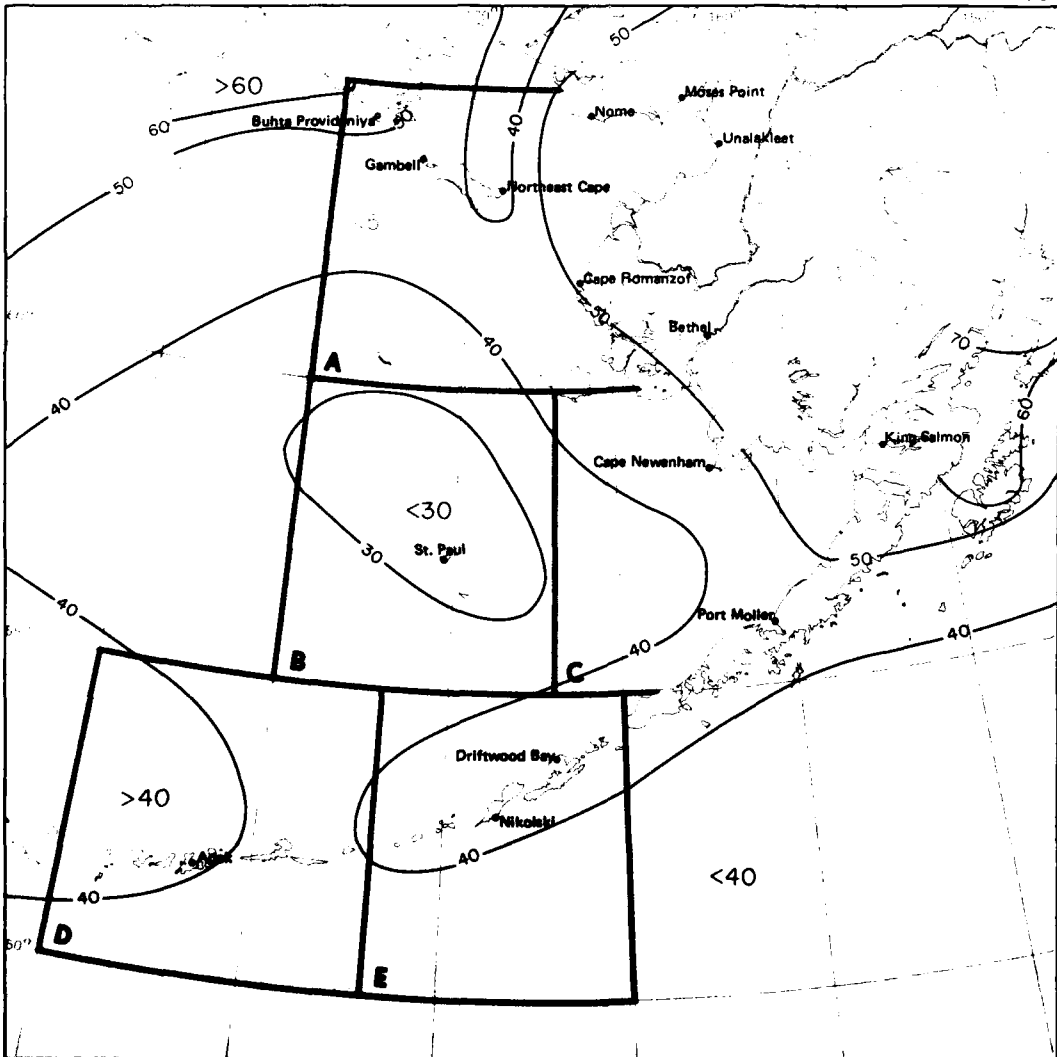
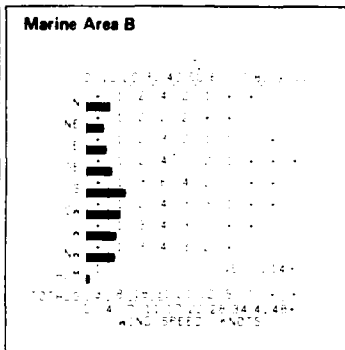
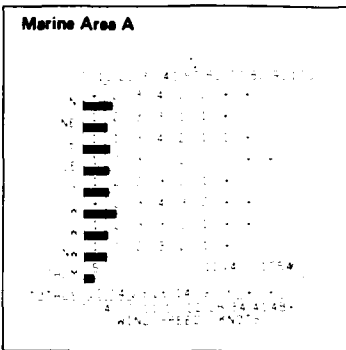
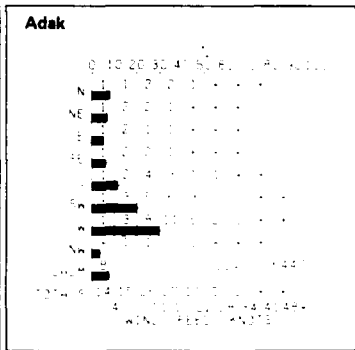
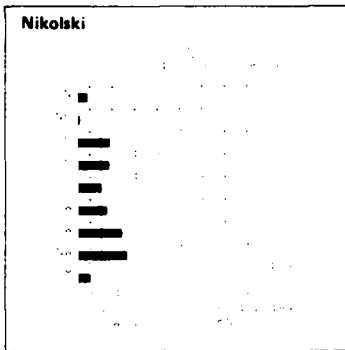


**8 Visibility thresholds**

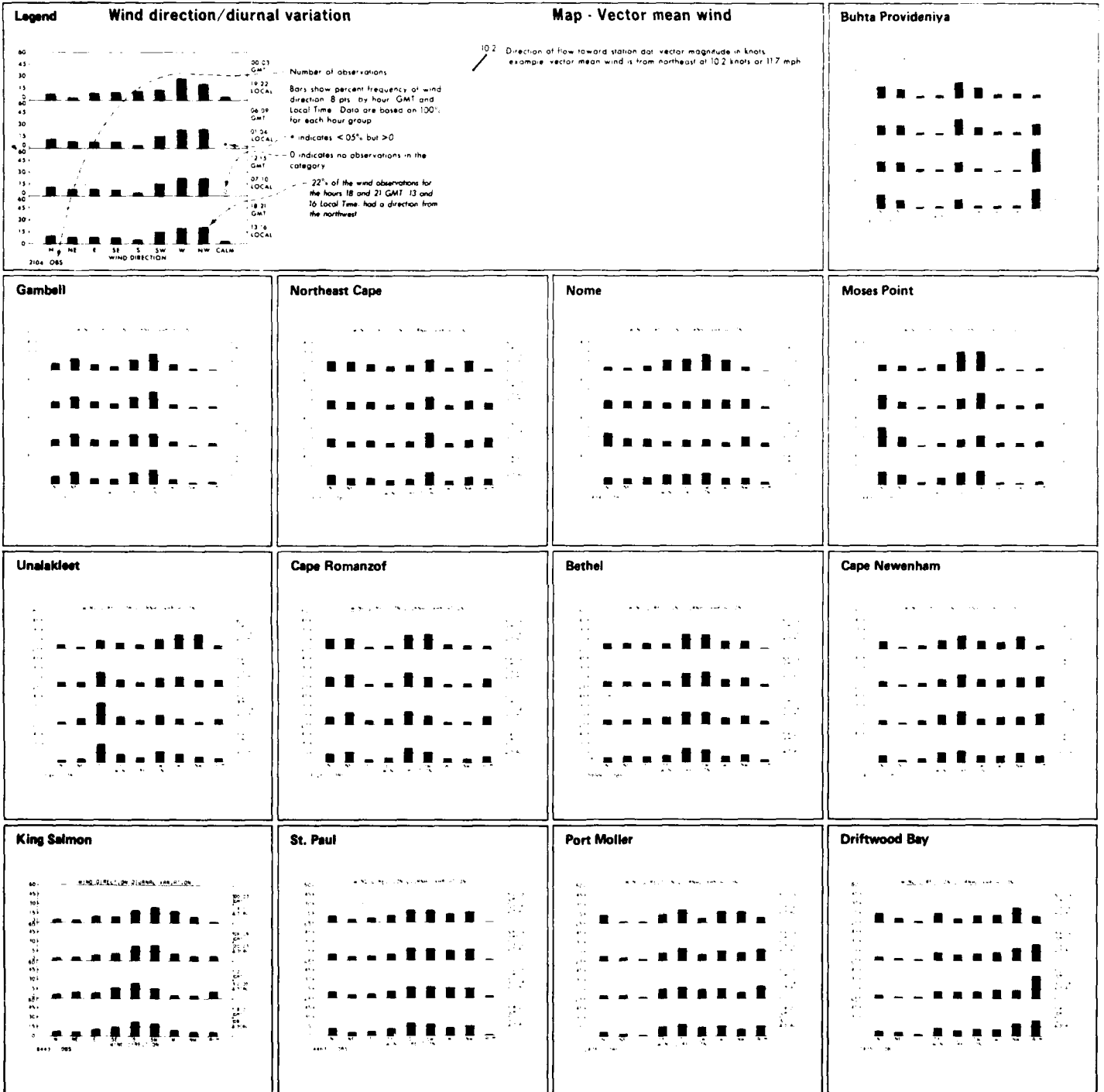
**August**





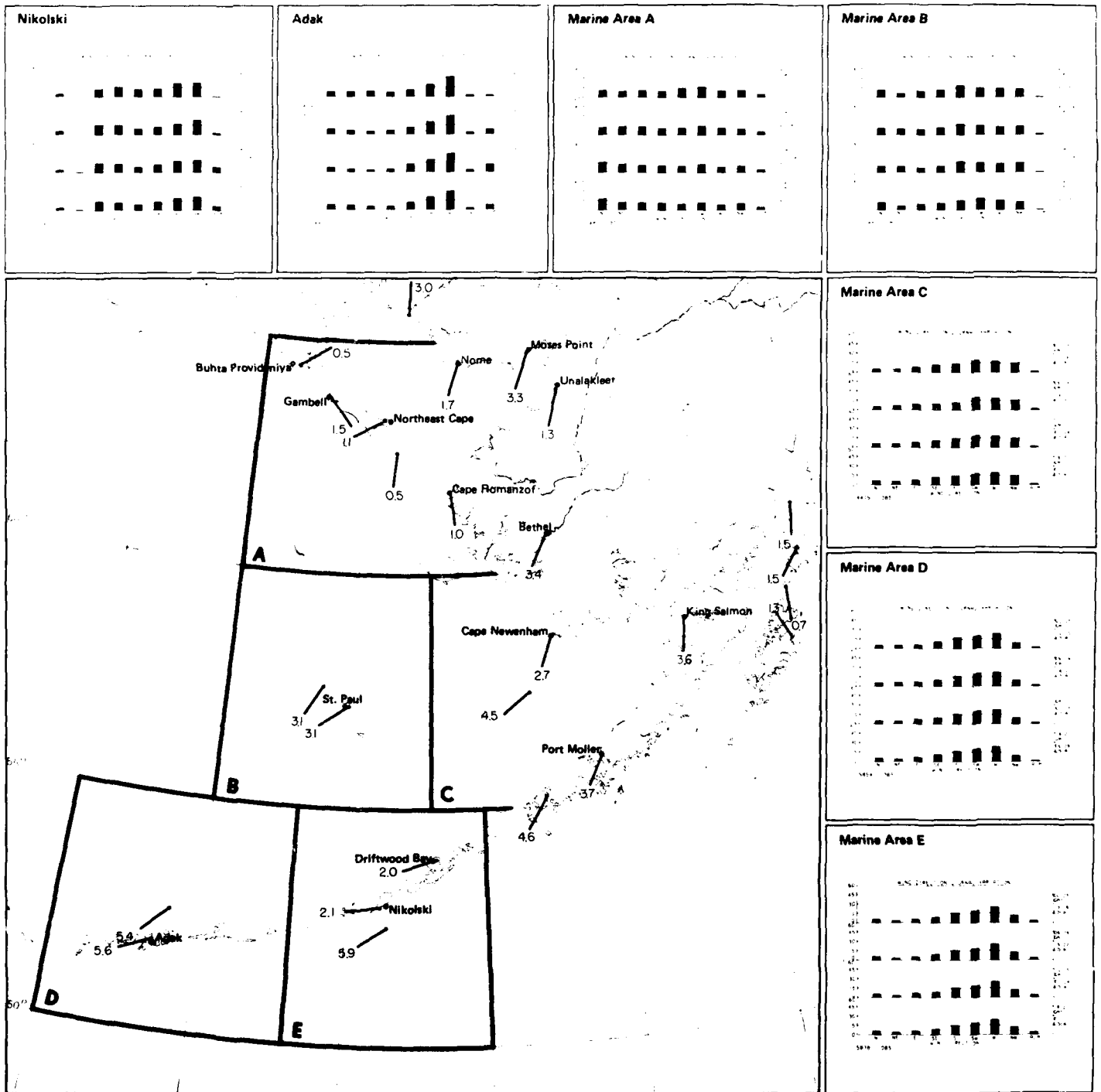


9 Wind speed thresholds



August

10 Wind direction/diurnal variation



10 Vector mean wind

August

AD-A081 311

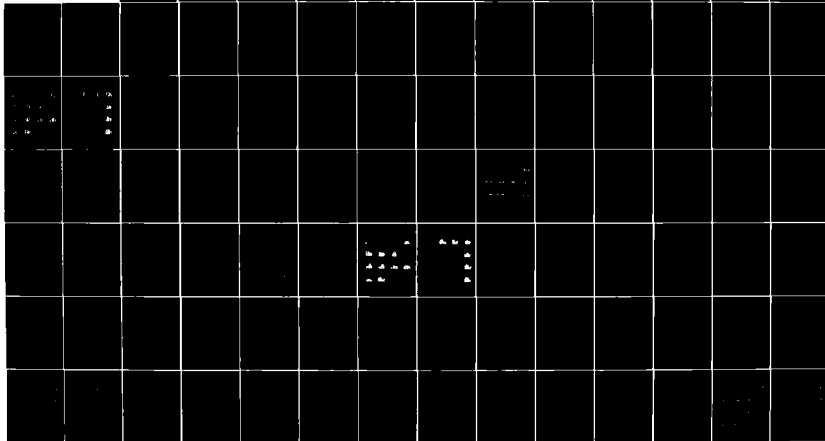
ALASKA UNIV ANCHORAGE ARCTIC ENVIRONMENTAL INFORMATI--ETC P/O B/S  
CLIMATIC ATLAS OF THE OUTER CONTINENTAL SHELF WATERS AND COASTS--ETC(U)  
1977 W A BROWER, H F DIAZ, A S FRECHTEL

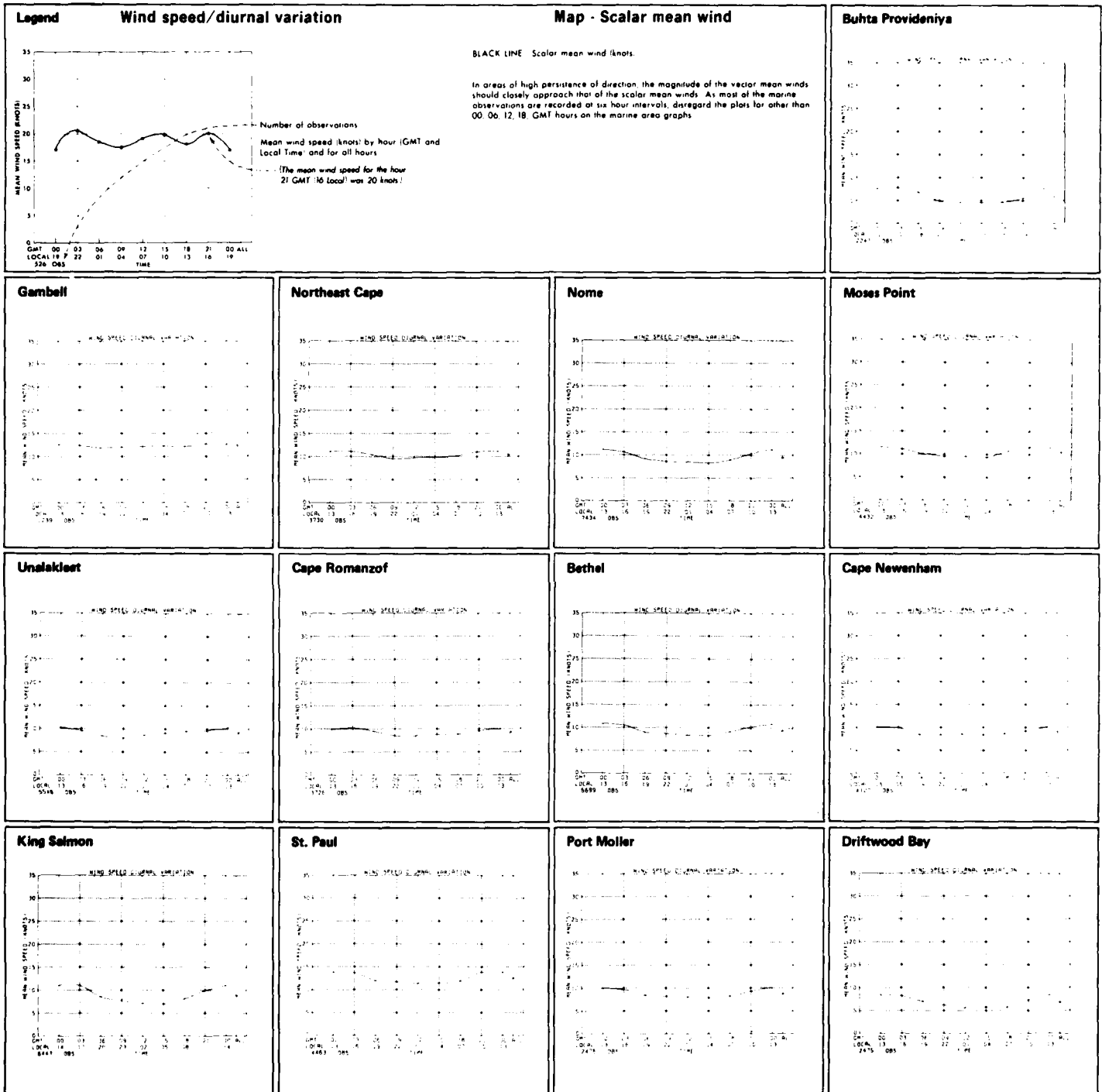
UNCLASSIFIED

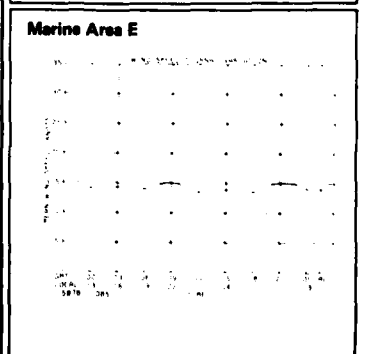
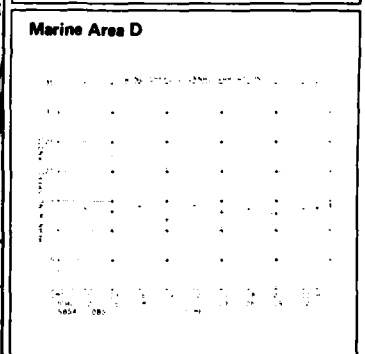
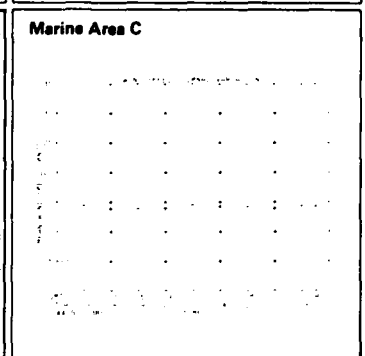
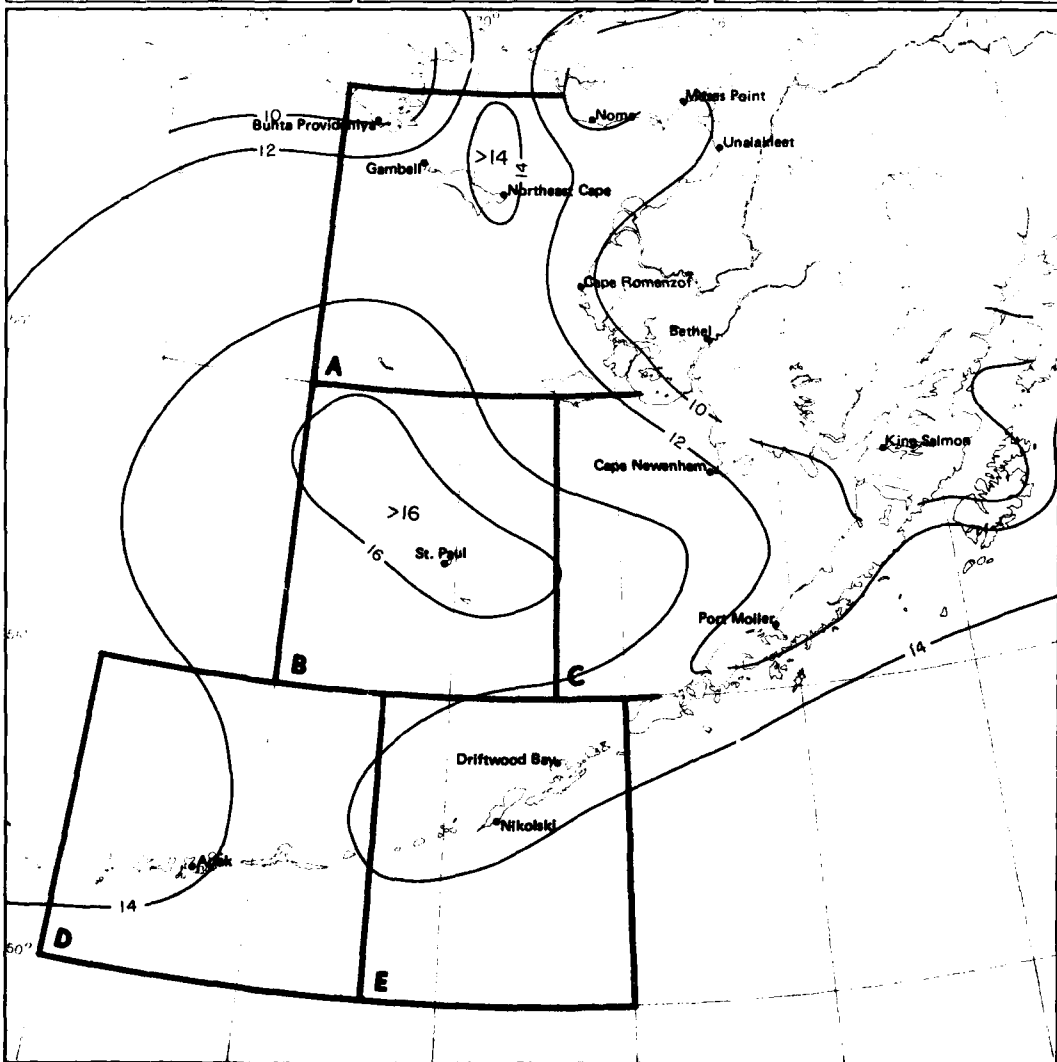
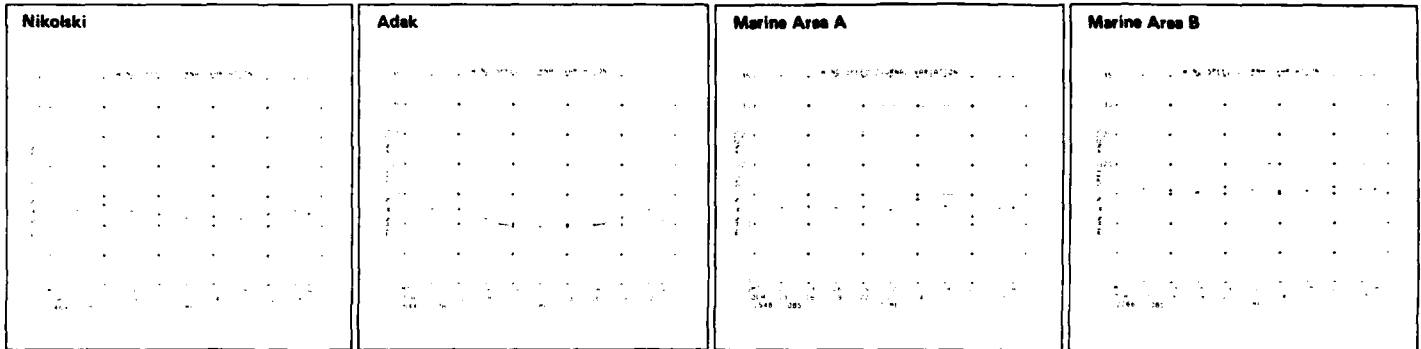
AZIDC-8-77-VOL-2

AL

4-5







**11 Scalar mean wind**

**August**

**Legend**

**Low cloud ceiling/visibility**

VISIBILITY		1/2	2/5	1	2	5	10	≥10
NC	+	+	+	+	+	+	+	3 16
50+80	0	+	0	0	+	+	+	1
35+50	0	0	0	0	0	1	1	1
20+35	0	0	+	+	+	+	+	5
10+20	0	0	0	0	+	+	+	7
6+10	0	+	1	5	11	7		
3+6	1	1	3	4	8	2		
1.5+3	+	1	1	1	0	0		
0+1.5	9	2	1	+	+	0		

Percent frequency of simultaneous occurrence of specified low cloud ceilings (hundreds of feet) and visibilities (nautical miles)  
 Low cloud ceiling heights are estimated from the height of low clouds (h) when low cloud amount (N<sub>h</sub>) is ≥5/8  
 Obscurations are included under ceiling 0 <1.5

NC (no ceiling) includes bases of clouds ≥8000 feet as well as occurrences of N<sub>h</sub> <5/8

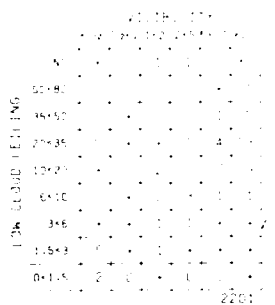
12% of all observations reported ceiling ≥1000 feet and visibility ≥5 but <10 nautical miles

indicates <5% but >0  
 -Number of observations

**Map - Low cloud ceiling and visibility thresholds**

BLACK LINE Percent frequency of low cloud ceiling ≥1000 feet (or no low cloud ceiling) and visibility ≥5 nautical miles  
 BLUE LINE Percent frequency of low cloud ceiling <600 feet and/or visibility <2 nautical miles

**Buhta Provideniya**



**Gambell**

VISIBILITY		1/2	2/5	1	2	5	10	≥10
NC	+	+	+	+	+	+	+	3 16
50+80	0	+	0	0	+	+	+	1
35+50	0	0	0	0	0	1	1	1
20+35	0	0	+	+	+	+	+	5
10+20	0	0	0	0	+	+	+	7
6+10	0	+	1	5	11	7		
3+6	1	1	3	4	8	2		
1.5+3	+	1	1	1	0	0		
0+1.5	9	2	1	+	+	0		

1228

**Northeast Cape**

VISIBILITY		1/2	2/5	1	2	5	10	≥10
NC	+	+	+	+	+	+	+	1 3 14
50+80	+	0	0	0	+	+	+	1
35+50	0	0	0	0	0	+	+	1
20+35	0	+	+	+	+	+	+	6
10+20	0	+	1	4	10	13		
6+10	+	1	3	6	10	4		
3+6	+	1	3	4	4	1		
1.5+3	+	0	+	+	+	+		
0+1.5	3	2	1	+	0	0		

2534

**Nome**

VISIBILITY		1/2	2/5	1	2	5	10	≥10
NC	+	+	+	+	+	+	+	2 36
50+80	+	0	0	0	+	+	+	3
35+50	0	0	+	+	+	+	+	3
20+35	0	+	0	+	+	+	+	7
10+20	+	+	+	+	1	6	9	
6+10	0	+	1	4	7	3		
3+6	+	1	3	4	2	1		
1.5+3	+	+	+	+	+	+		
0+1.5	+	+	+	+	+	0		

7217

**Moses Point**

VISIBILITY		1/2	2/5	1	2	5	10	≥10
NC	0	0	0	+	+	+	+	28
50+80	0	0	0	0	0	1	9	
35+50	0	0	0	0	0	1	7	
20+35	0	0	0	0	1	5	12	
10+20	0	+	0	3	10	10		
6+10	0	1	1	3	4	2		
3+6	0	+	+	1	+	+		
1.5+3	0	0	0	0	0	0		
0+1.5	+	+	0	+	0	0		

490

**Unalakleet**

VISIBILITY		1/2	2/5	1	2	5	10	≥10
NC	+	+	+	+	+	+	+	3 28
50+80	+	0	0	0	+	+	+	4
35+50	0	0	0	0	0	1	4	
20+35	+	+	+	+	+	+	+	14
10+20	0	+	+	+	1	6	13	
6+10	+	+	+	+	3	2		
3+6	+	+	+	+	1	+		
1.5+3	+	+	+	+	+	+		
0+1.5	+	+	+	+	+	0		

1629

**Cape Romanzof**

VISIBILITY		1/2	2/5	1	2	5	10	≥10
NC	+	+	+	+	+	+	+	6 10
50+80	0	0	0	0	1	1		
35+50	0	0	0	0	1	+		
20+35	0	0	+	+	3	3		
10+20	0	+	+	+	2	12	8	
6+10	0	+	1	5	13	4		
3+6	+	1	2	7	5	1		
1.5+3	0	+	+	+	0	+		
0+1.5	3	5	2	1	0	+		

2576

**Bethel**

VISIBILITY		1/2	2/5	1	2	5	10	≥10
NC	1	+	+	+	1	4	23	
50+80	+	+	+	0	1	2		
35+50	+	0	+	+	1	4		
20+35	+	+	+	+	3	11		
10+20	+	+	+	+	2	7	11	
6+10	+	+	2	5	6	4		
3+6	+	1	2	3	2	1		
1.5+3	+	+	+	+	+	+		
0+1.5	1	+	1	+	+	0		

5668

**Cape Newenham**

VISIBILITY		1/2	2/5	1	2	5	10	≥10
NC	+	+	+	+	+	+	+	6 10
50+80	0	0	0	0	+	+	+	
35+50	0	0	+	0	1	1		
20+35	+	0	+	+	3	4		
10+20	+	+	+	+	2	7	10	
6+10	+	+	2	9	9	8		
3+6	+	1	3	7	4	1		
1.5+3	+	+	+	+	+	0		
0+1.5	5	3	1	+	+	+		

2555

**King Salmon**

VISIBILITY		1/2	2/5	1	2	5	10	≥10
NC	1	+	+	+	1	4	32	
50+80	+	+	0	+	1	5		
35+50	0	+	0	+	1	6		
20+35	+	+	+	+	3	10		
10+20	0	0	+	1	5	8		
6+10	+	+	1	3	4	2		
3+6	0	+	1	3	3	1		
1.5+3	0	+	+	+	+	+		
0+1.5	1	1	1	+	+	+		

6376

**St. Paul**

VISIBILITY		1/2	2/5	1	2	5	10	≥10
NC	+	+	+	+	1	7	4	
50+80	+	0	0	+	+	+		
35+50	0	0	0	+	+	+		
20+35	+	+	0	+	4	2		
10+20	+	+	+	+	1	10	5	
6+10	+	+	1	3	9	1		
3+6	1	3	6	10	7	1		
1.5+3	+	2	1	1	+	+		
0+1.5	12	3	1	+	0	+		

4437

**Port Moller**

Insufficient Data

**Driftwood Bay**

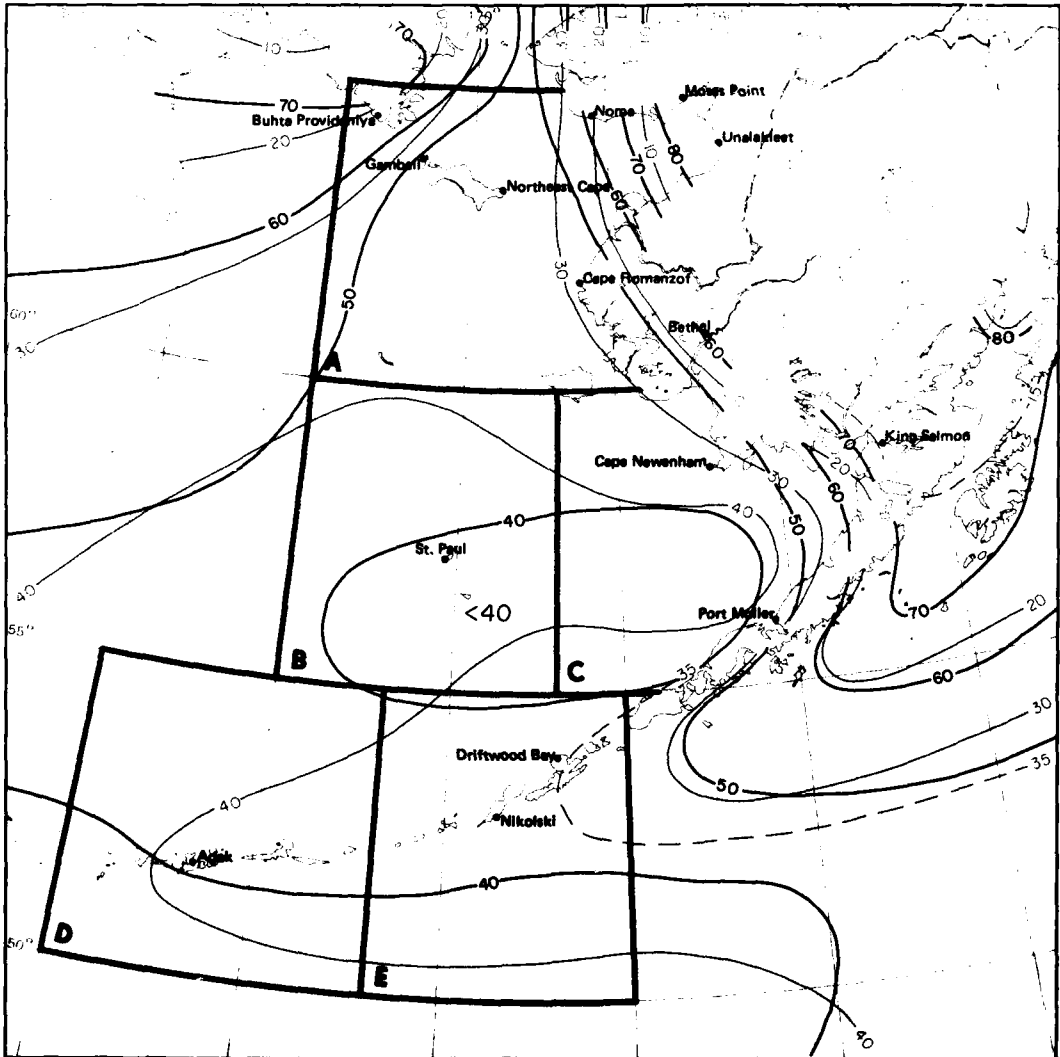
Insufficient Data

Nikolski	
Insufficient Data	

Adak	
VISIBILITY	
1/2 1 2 5 10 >10	
NC	1 8 4
50+80	0 0 0
35+50	0 0 1
20+35	0 0 6 1
10+20	1 5 23 1
6+10	0 1 10 14 1
3+6	1 2 6 6
1.5+3	1 1 1 0
0+1.5	1 1 1 0
6440	

Marine Area A	
VISIBILITY	
1/2 1 2 5 10 >10	
NC	1 8 4
50+80	0 0 0
35+50	0 0 1
20+35	0 0 6 1
10+20	1 5 23 1
6+10	0 1 10 14 1
3+6	1 2 6 6
1.5+3	1 1 1 0
0+1.5	1 1 1 0
6440	

Marine Area B	
VISIBILITY	
1/2 1 2 5 10 >10	
NC	1 8 4
50+80	0 0 0
35+50	0 0 1
20+35	0 0 6 1
10+20	1 5 23 1
6+10	0 1 10 14 1
3+6	1 2 6 6
1.5+3	1 1 1 0
0+1.5	1 1 1 0
6440	



Marine Area C	
VISIBILITY	
1/2 1 2 5 10 >10	
NC	1 8 4
50+80	0 0 0
35+50	0 0 1
20+35	0 0 6 1
10+20	1 5 23 1
6+10	0 1 10 14 1
3+6	1 2 6 6
1.5+3	1 1 1 0
0+1.5	1 1 1 0
4002	

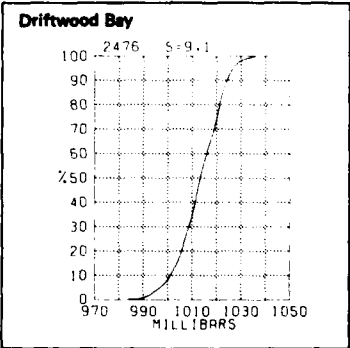
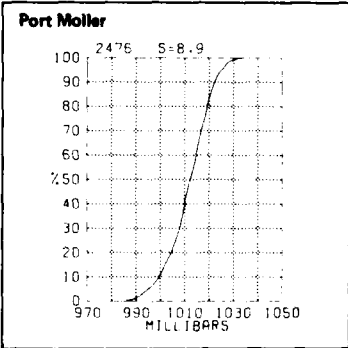
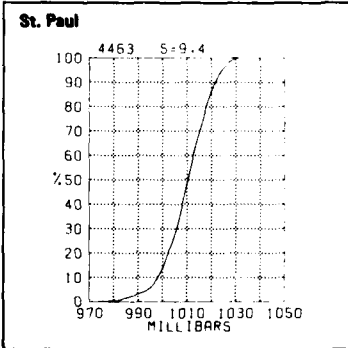
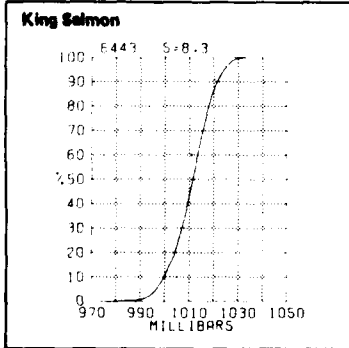
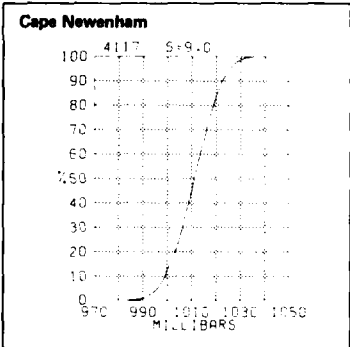
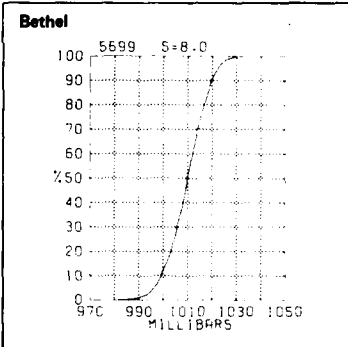
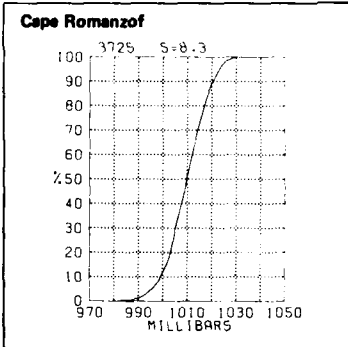
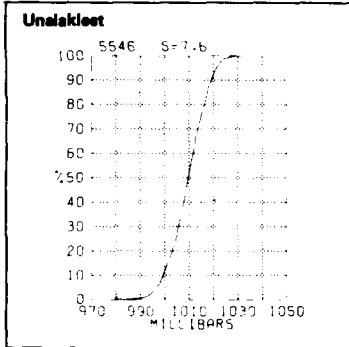
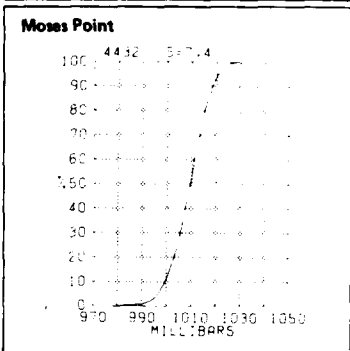
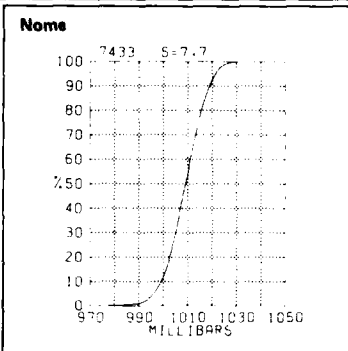
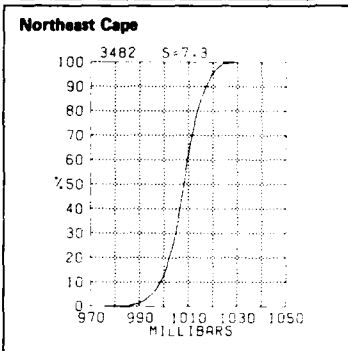
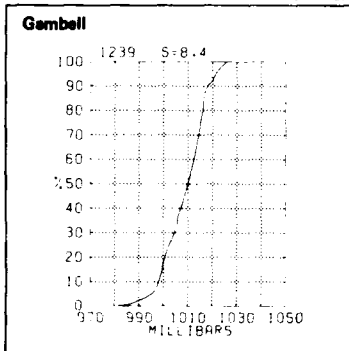
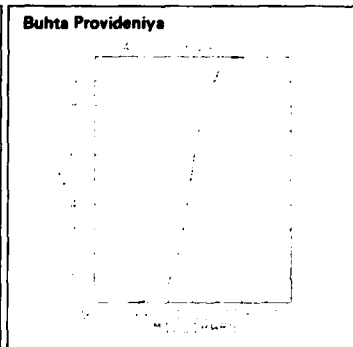
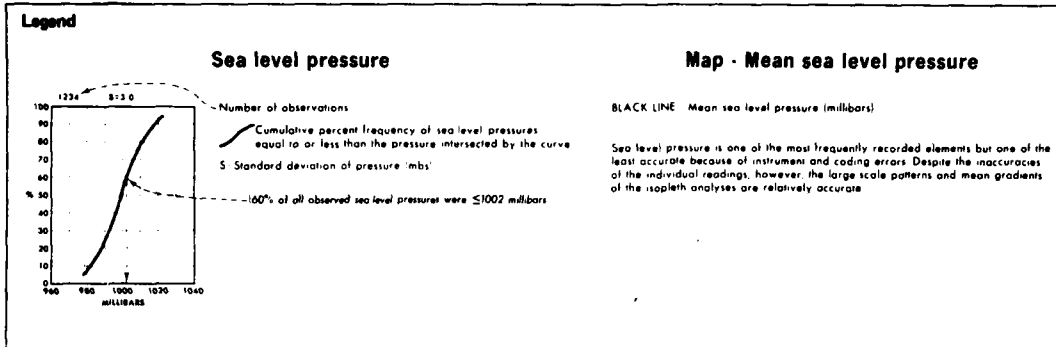
Marine Area D	
VISIBILITY	
1/2 1 2 5 10 >10	
NC	1 8 4
50+80	0 0 0
35+50	0 0 1
20+35	0 0 6 1
10+20	1 5 23 1
6+10	0 1 10 14 1
3+6	1 2 6 6
1.5+3	1 1 1 0
0+1.5	1 1 1 0
4839	

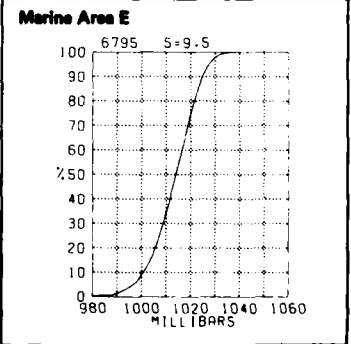
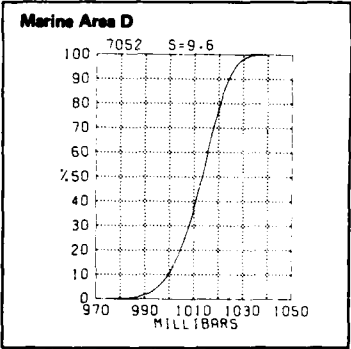
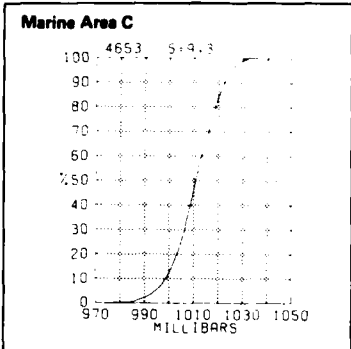
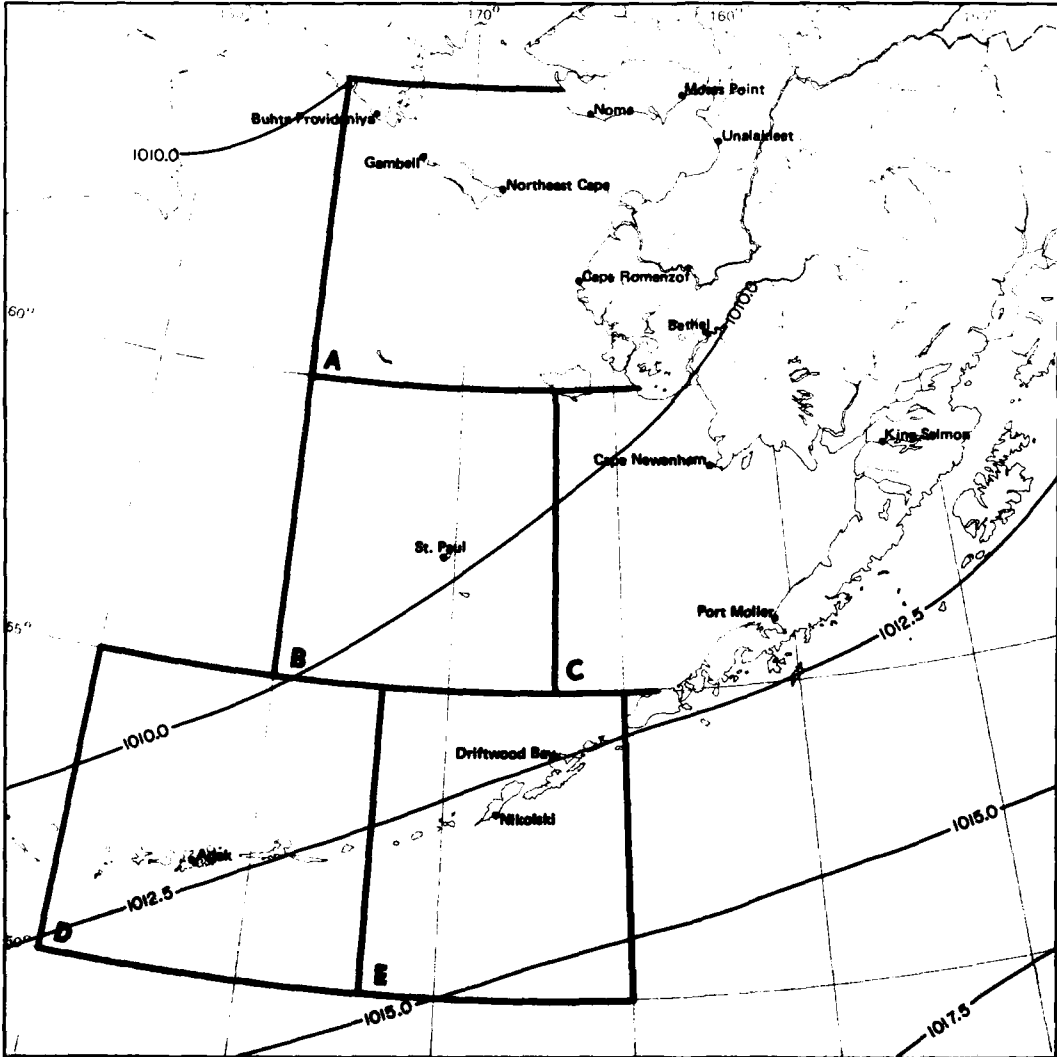
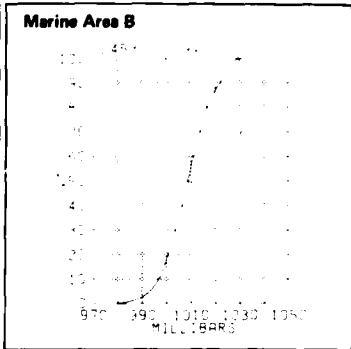
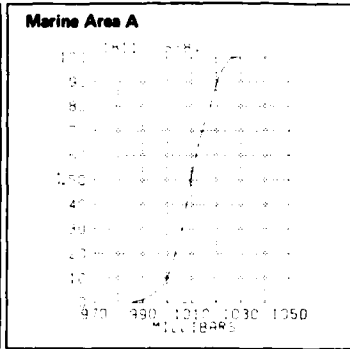
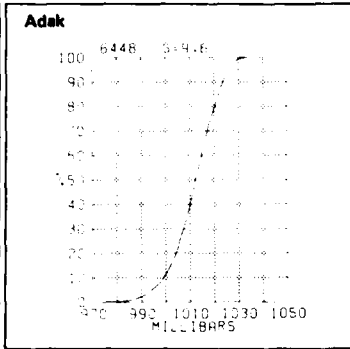
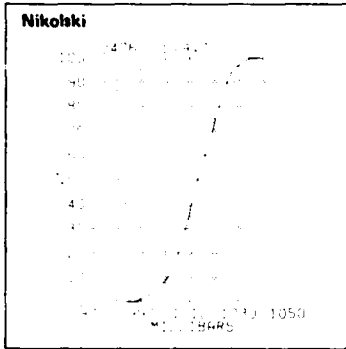
Marine Area E	
VISIBILITY	
1/2 1 2 5 10 >10	
NC	1 8 4
50+80	0 0 0
35+50	0 0 1
20+35	0 0 6 1
10+20	1 5 23 1
6+10	0 1 10 14 1
3+6	1 2 6 6
1.5+3	1 1 1 0
0+1.5	1 1 1 0
5042	

12 Low cloud ceiling and visibility thresholds

August

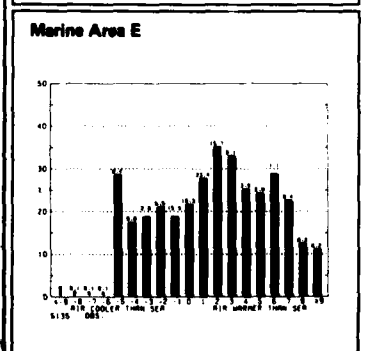
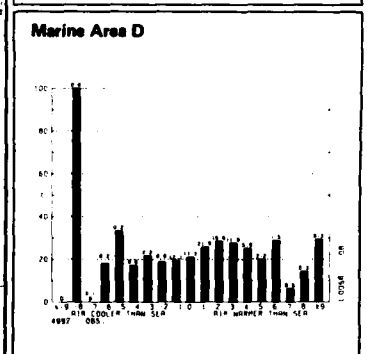
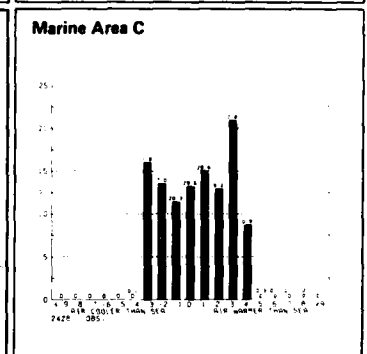
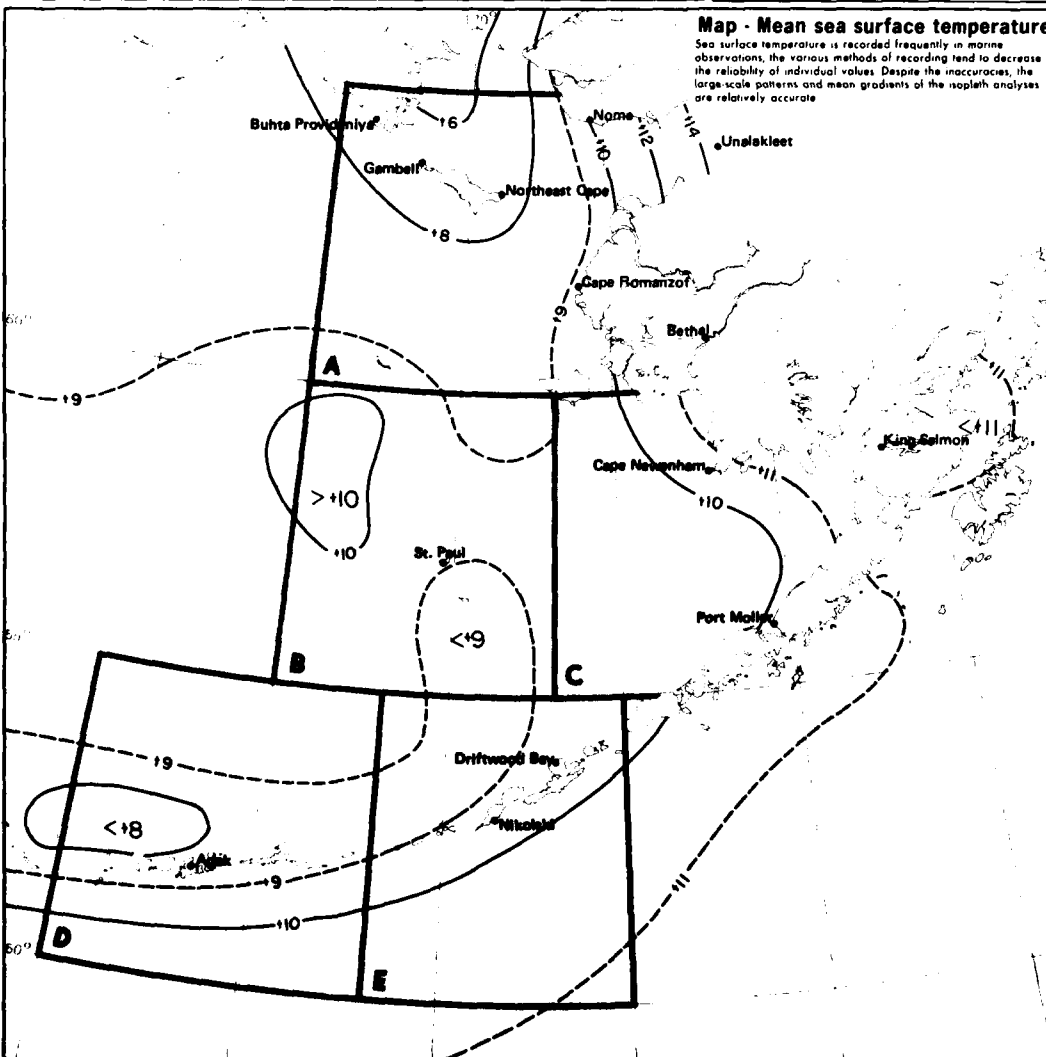
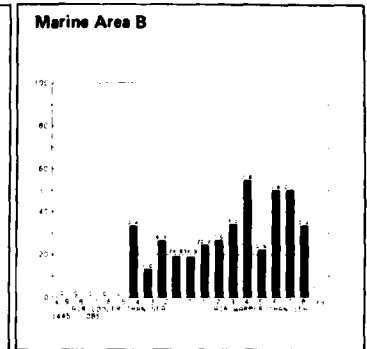
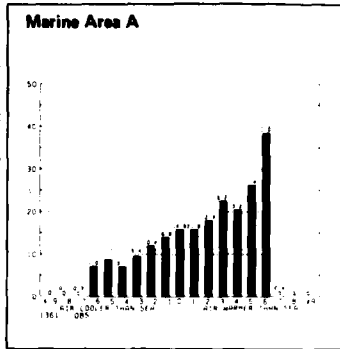
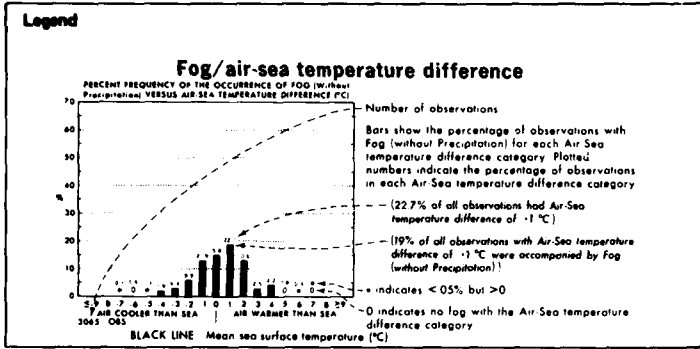


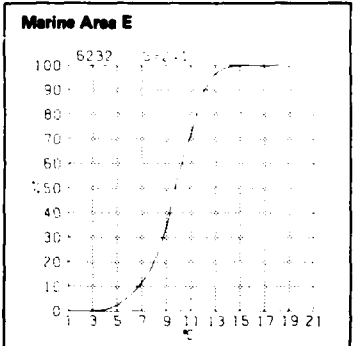
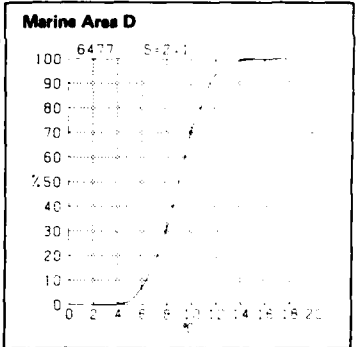
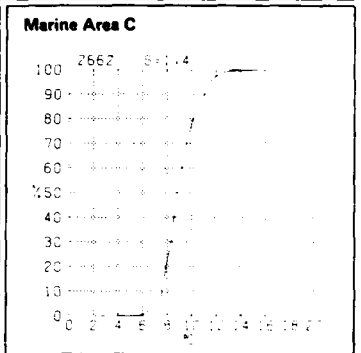
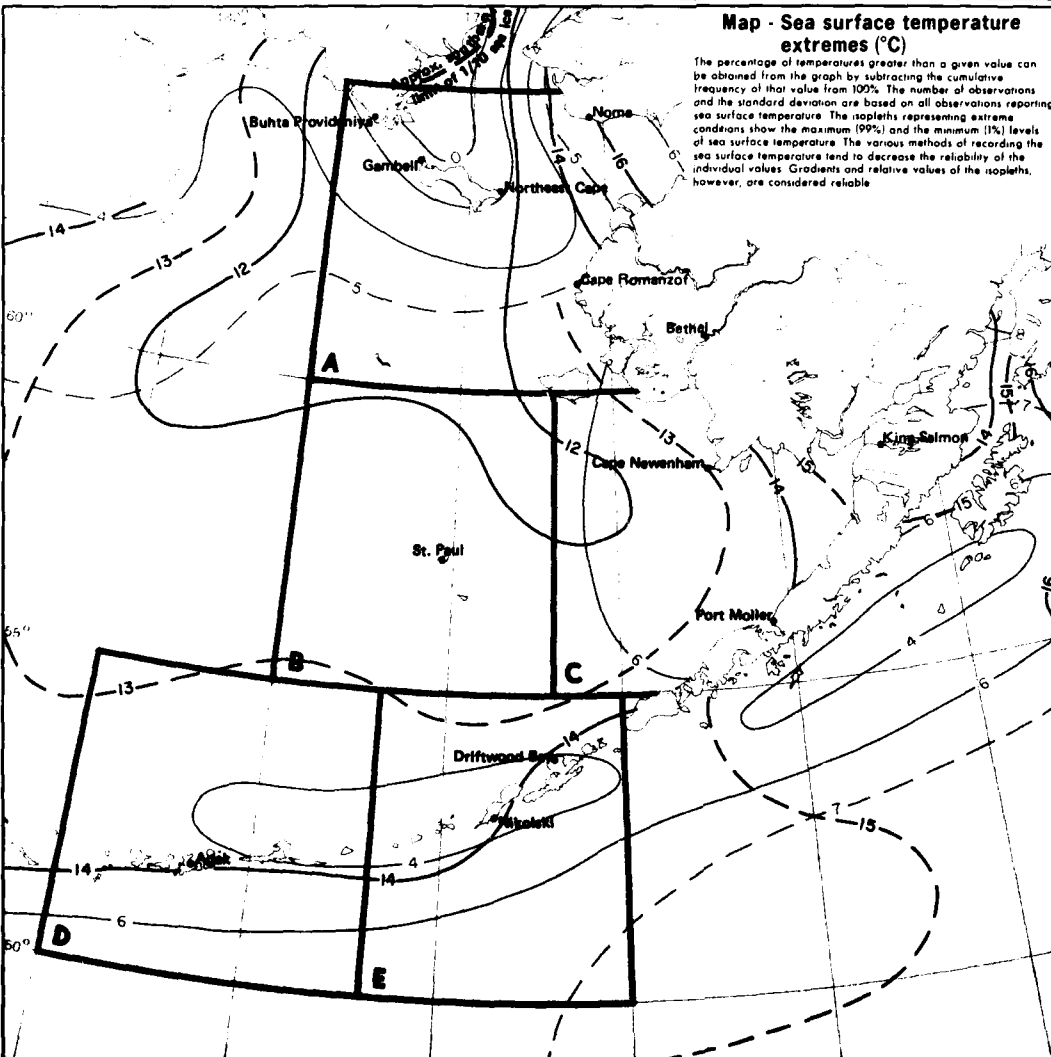
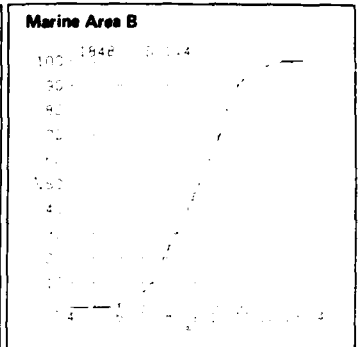
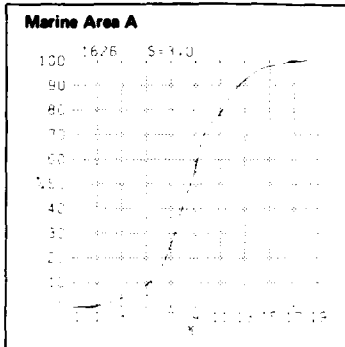
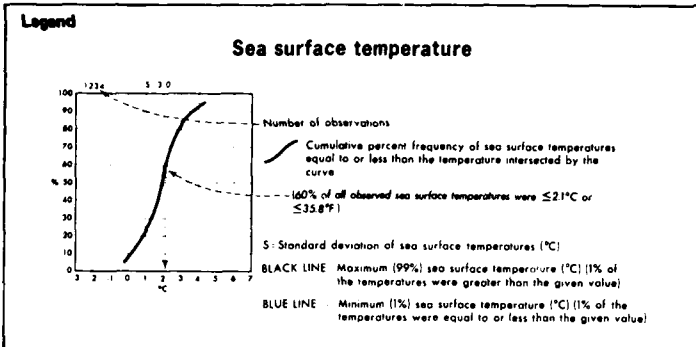




13 Mean sea level pressure

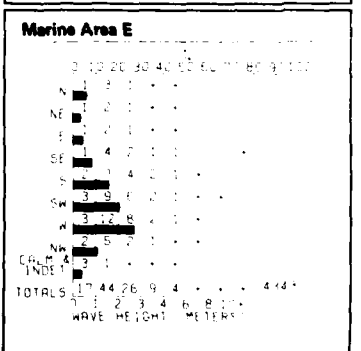
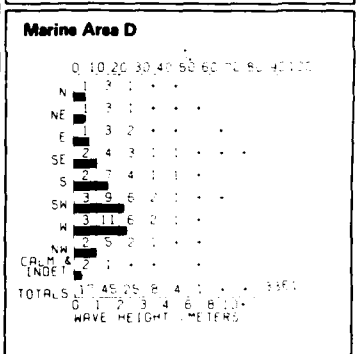
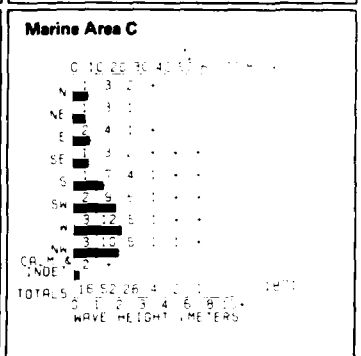
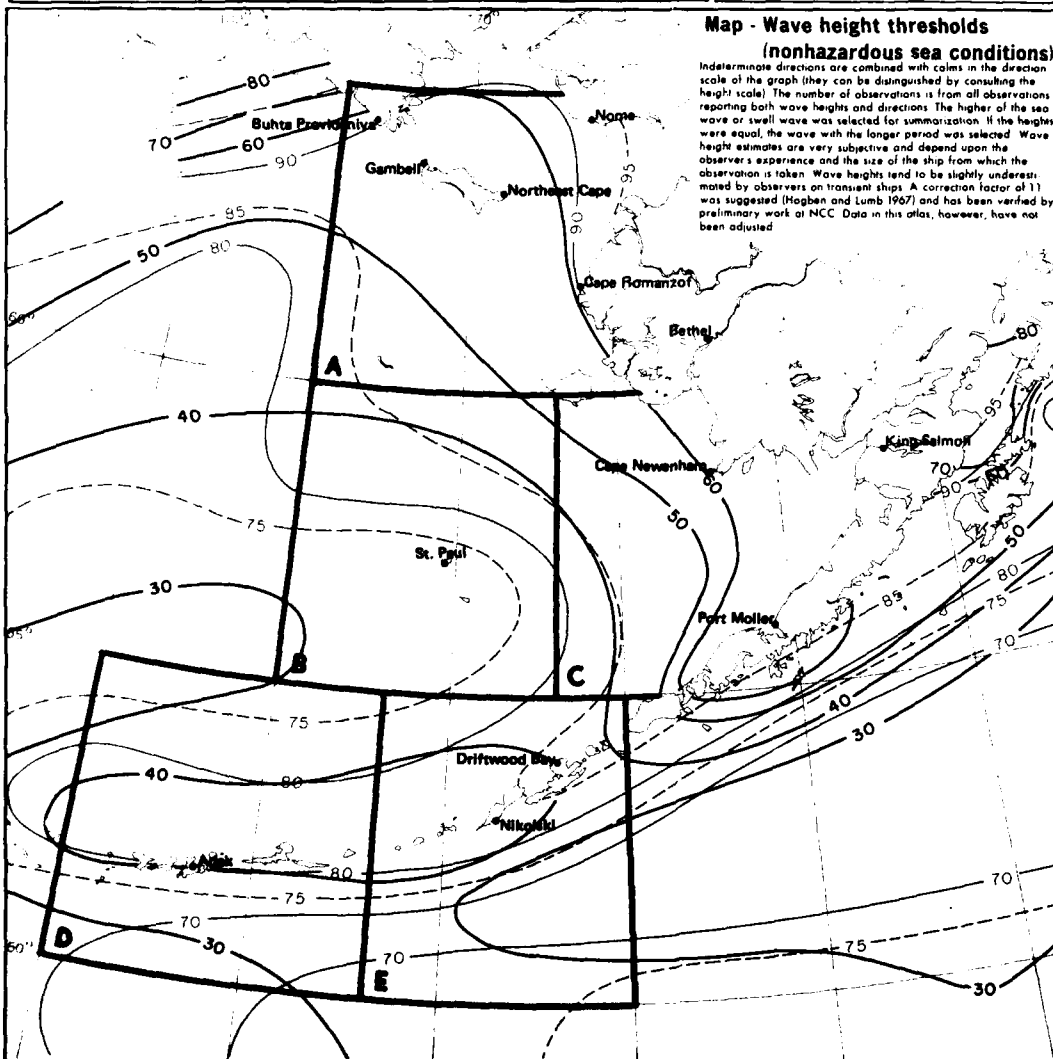
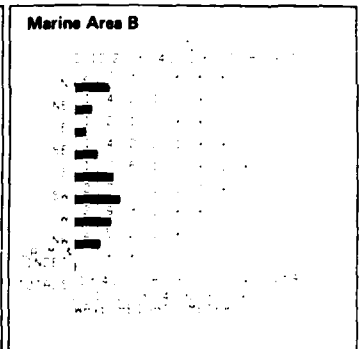
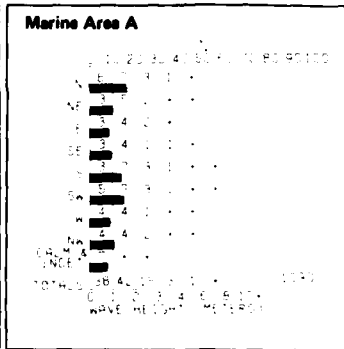
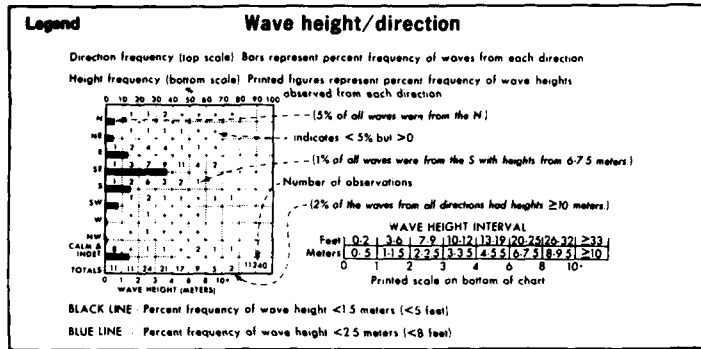
August

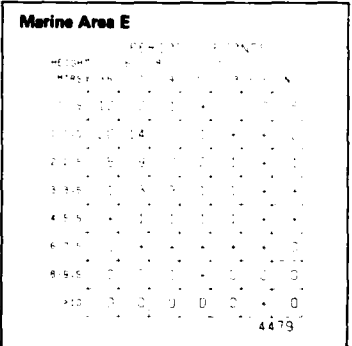
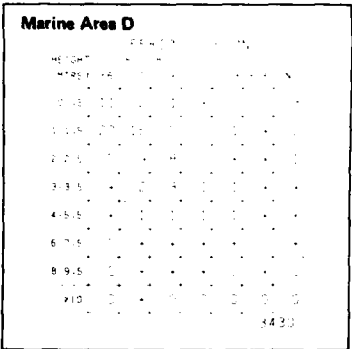
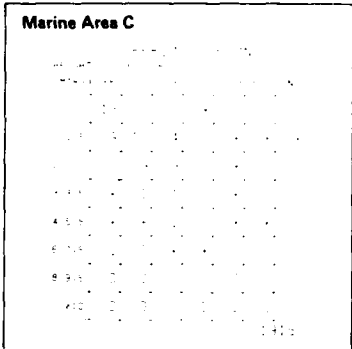
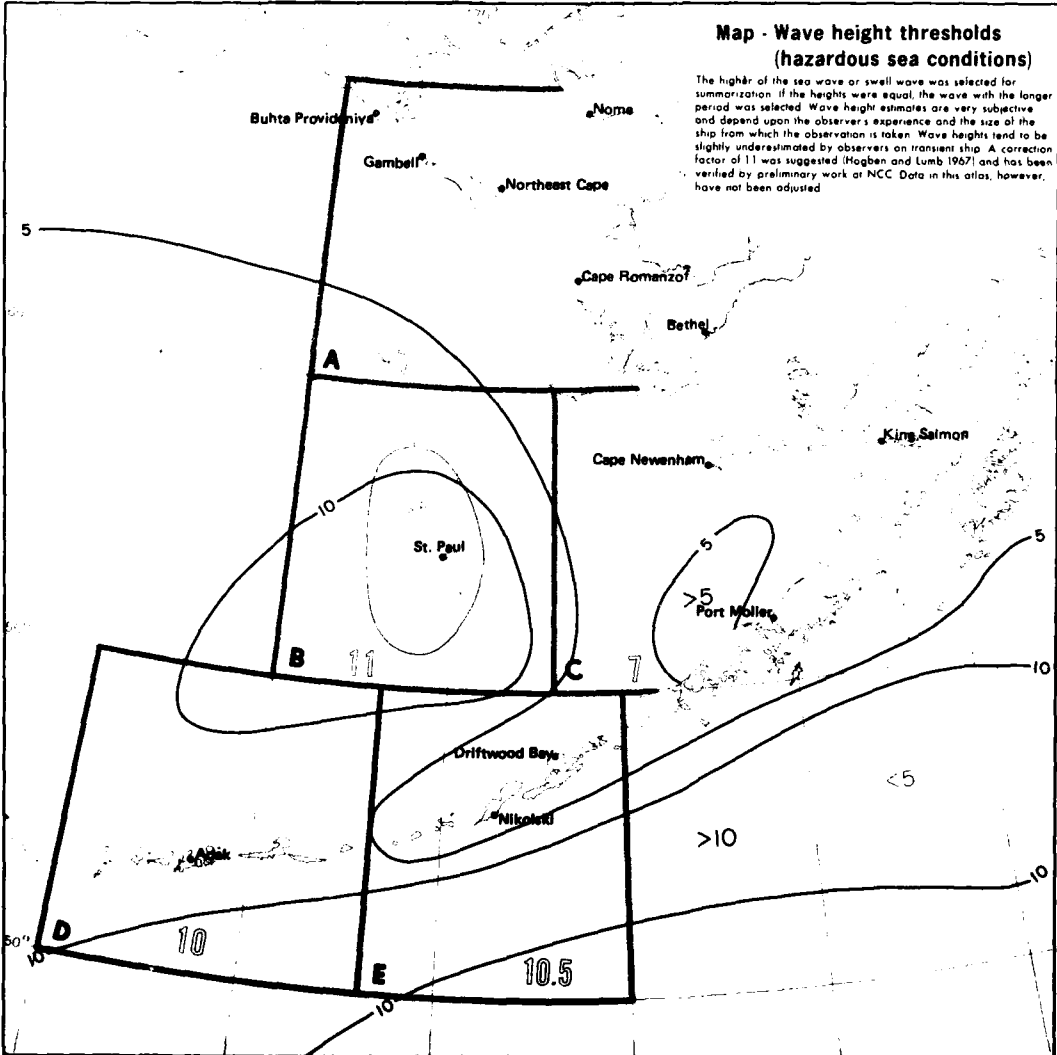
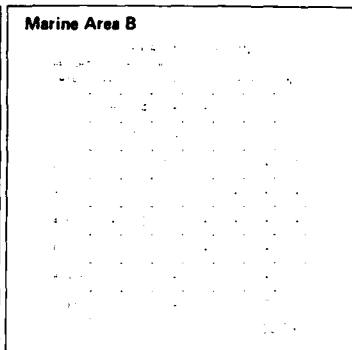
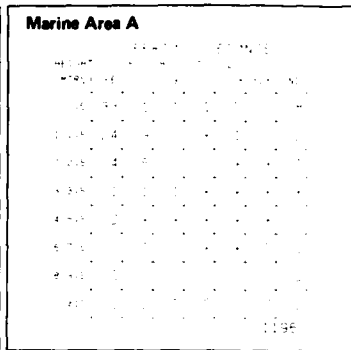
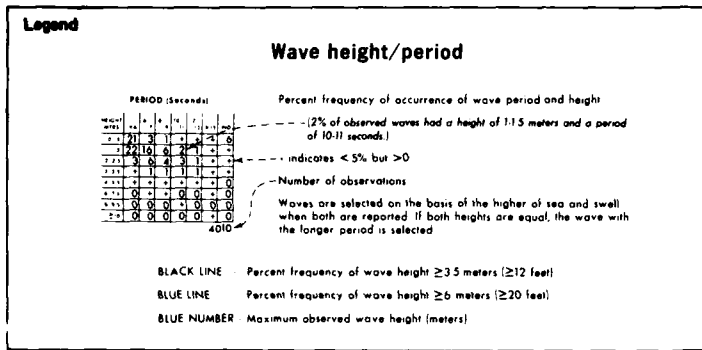




**15 Sea surface temperature extremes**

**August**

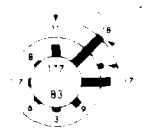




**17 Wave height thresholds (hazardous)**

**Legend**

**Low pressure center movement**

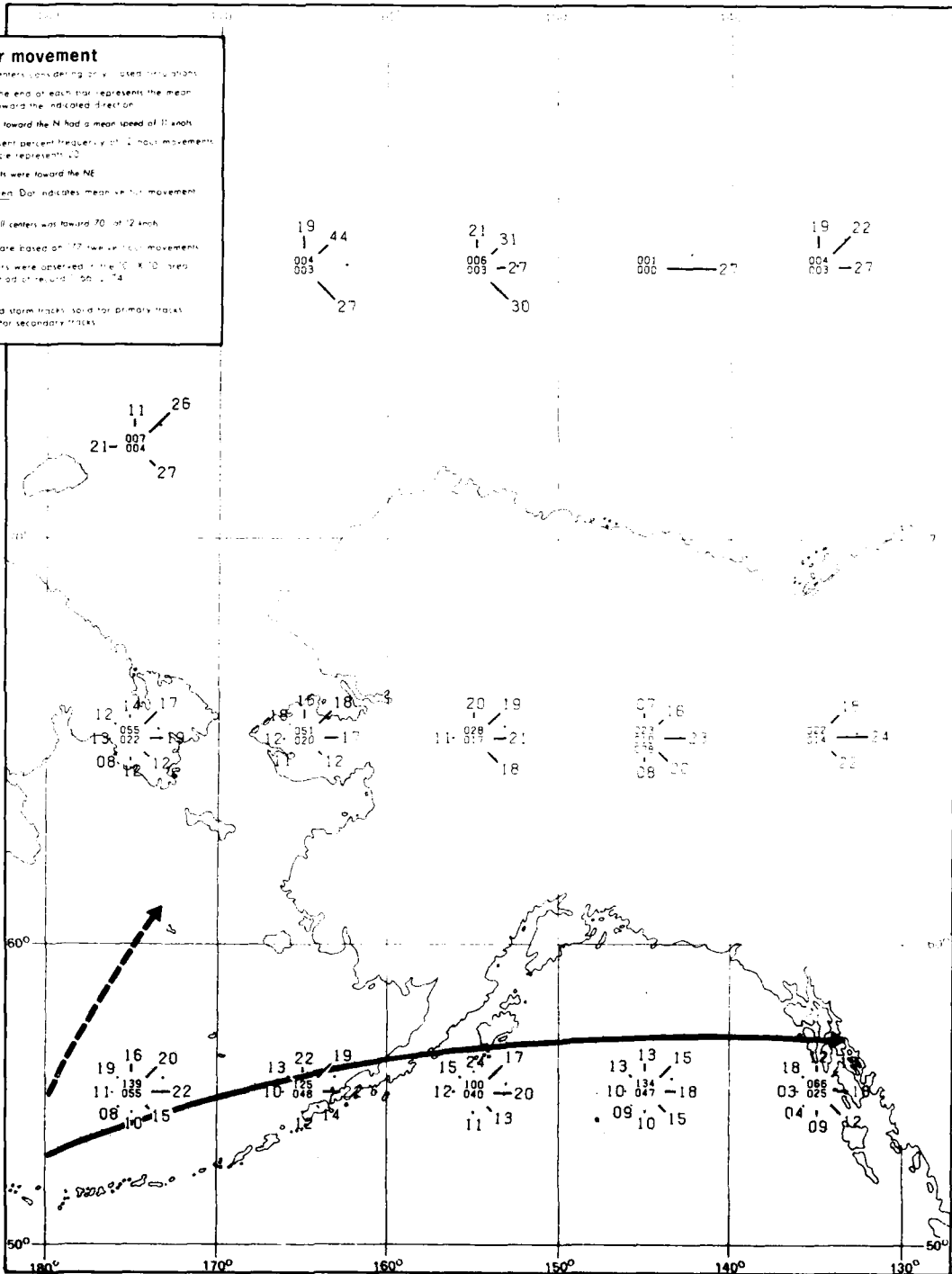


2-hour movements of low pressure centers considering only listed perturbations.  
 Vector length: Printed figure at the end of each bar represents the mean speed of movement in knots toward the indicated direction.  
 Direction frequency: Bars represent percent frequency of 2-hour movements toward each direction. Each circle represents 10%.

Low pressure centers moving toward the N had a mean speed of 11 knots.  
 47% of all 2-hour movements were toward the NE.

Vector mean speed: Printed figure. Dot indicates mean vector movement East of the circle.  
 Mean vector movement of all centers was toward 70° at 12 knots.  
 Statistics for this case are based on 177 two-hour movements.  
 83 low pressure centers were observed in the 10° x 10° grid during the 7-day period of record, 08/11/54.

BLACK ARROWS: Preferred storm tracks solid for primary tracks dashed for secondary tracks.

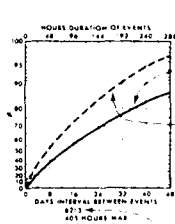


**August**

**18 Low pressure center movement**

**Legend**

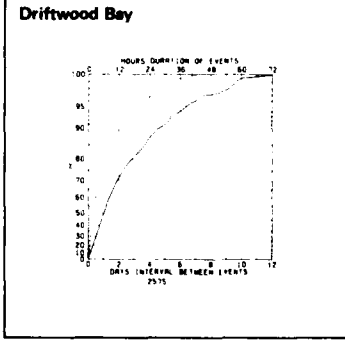
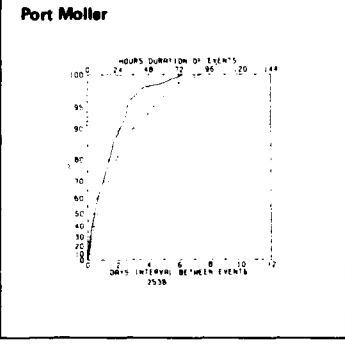
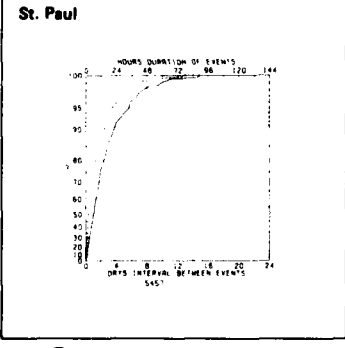
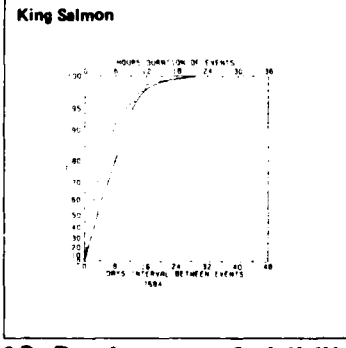
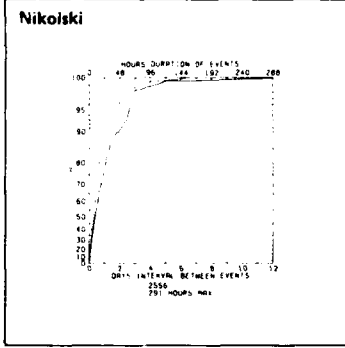
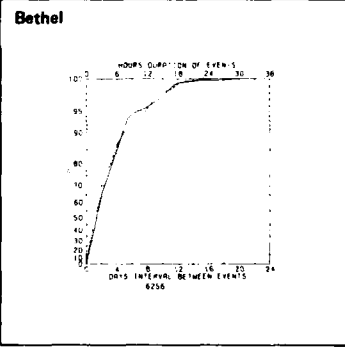
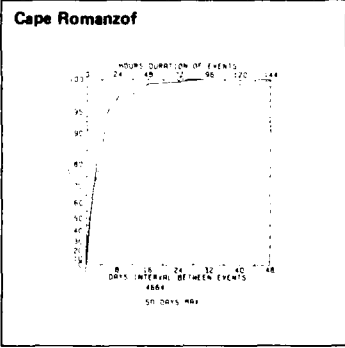
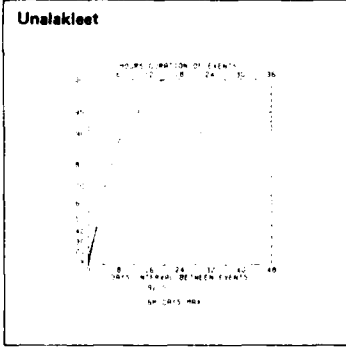
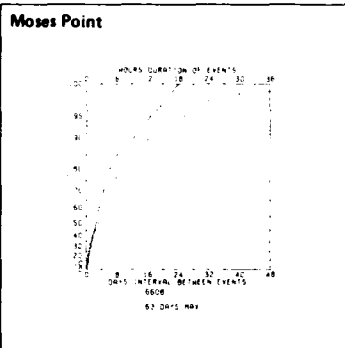
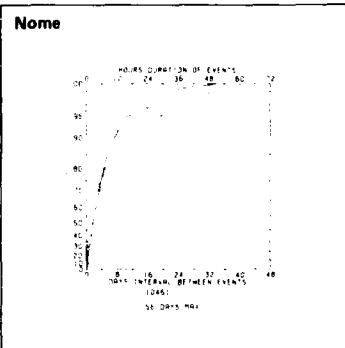
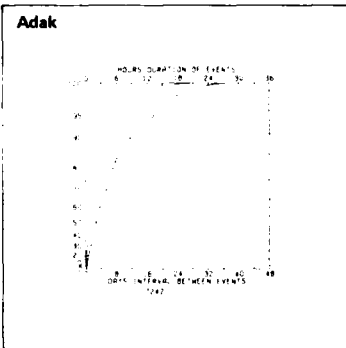
**Persistence of visibility <2 n. mi.**



Hours duration of events Days interval between events  
 Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve  
 (80% of the events had a duration ≤ 216 hours)  
 Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve  
 (88% of the events were followed by another event in 28 days or less)  
 The maximum values of hours duration and/or the days interval will be displayed when the graph limits are exceeded

Durations and intervals for a particular month extend from the time they began (or the first of the month if already in progress) and are terminated at the actual ending time, regardless of what month that may be

Number of observations  
 Top and bottom scales are variable to allow for variations in the data



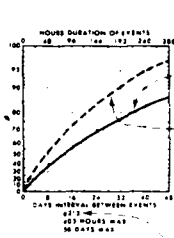
**19 Persistence of visibility <2 n. mi.**

**August**



**Legend**

**Persistence of wind  $\geq 10$  kts.**



Hours duration of events Days interval between events

Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve

--- 80% of the events had a duration  $\leq 216$  hours

Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve

--- 88% of the events were followed by another event in 28 days or less

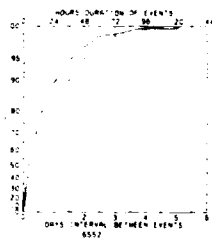
The maximum values of hours duration and/or the days interval will be displayed when the graph limits are exceeded

Durations and intervals for a particular month extend from the time they begin or the first of the month if already in progress and are terminated at the actual ending time regardless of what month that may be

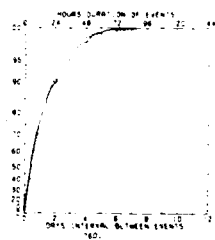
Number of observations

Top and bottom scales are variable to allow for variations in the data

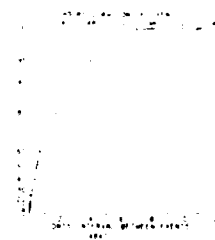
**Adak**



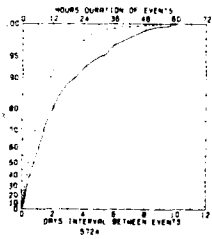
**Nome**



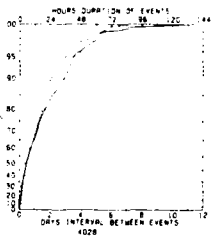
**Moses Point**



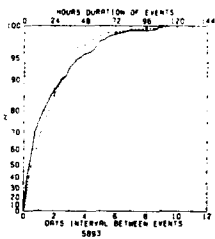
**Unalakleet**



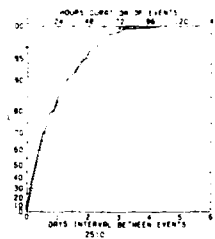
**Cape Romanzof**



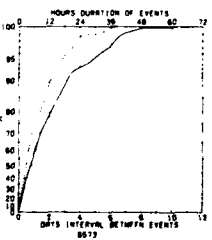
**Bethel**



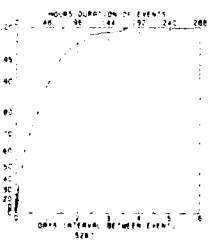
**Nikolski**



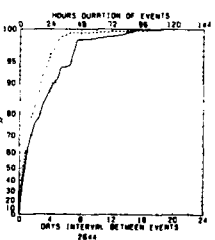
**King Salmon**



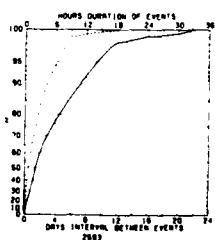
**St. Paul**



**Port Moller**



**Driftwood Bay**

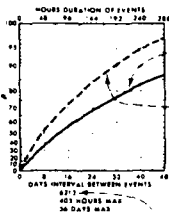


**August**

**20 Persistence of wind  $\geq 10$  kts.**

**Legend**

**Persistence of wind  $\geq 20$  kts.**



Hours duration of events Days interval between events

Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve  
 (80% of the events had a duration  $\leq 216$  hours.)

Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve  
 (88% of the events were followed by another event in 28 days or less.)

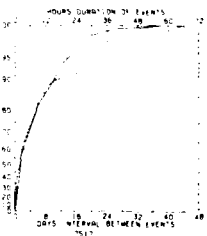
The maximum value(s) of hours duration and/or the days interval will be displayed when the graph limits are exceeded.

Durations and intervals for a particular month extend from the time they begin (or the first of the month if already in progress) and are terminated at the actual ending time, regardless of what month that may be.

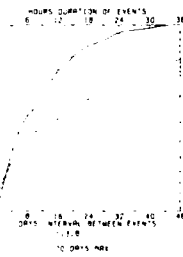
Number of observations

Top and bottom scales are variable to allow for variations in the data.

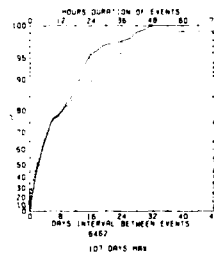
**Adak**



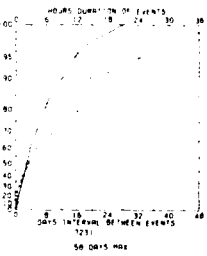
**Nome**



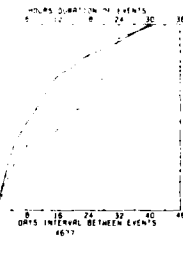
**Moses Point**



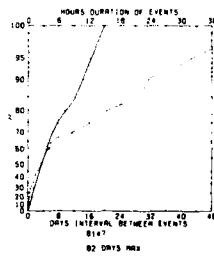
**Unalakleet**



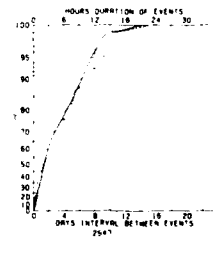
**Cape Romanzof**



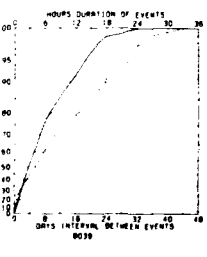
**Bethel**



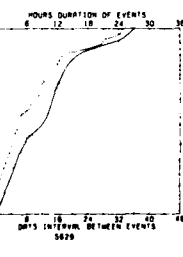
**Nikolski**



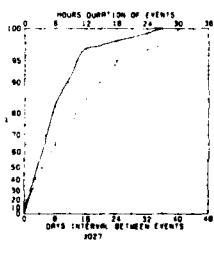
**King Salmon**



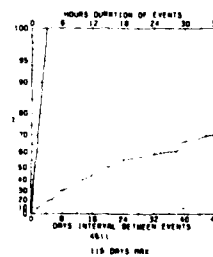
**St. Paul**



**Port Moller**

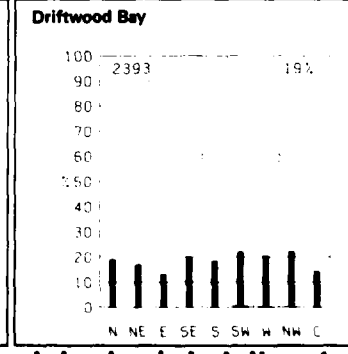
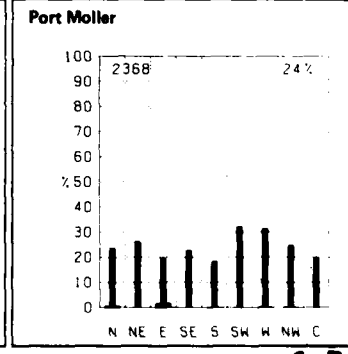
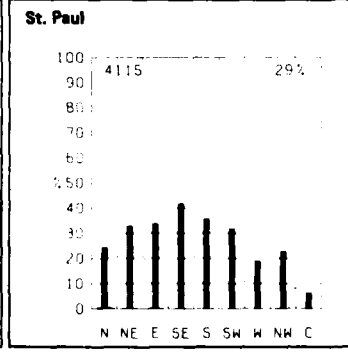
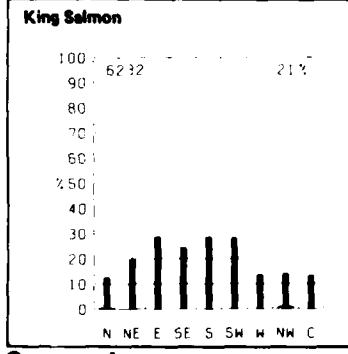
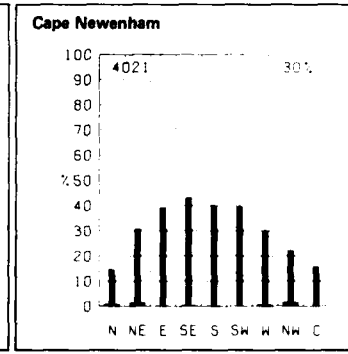
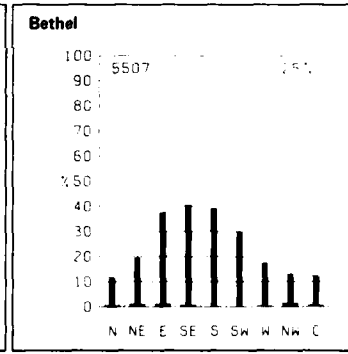
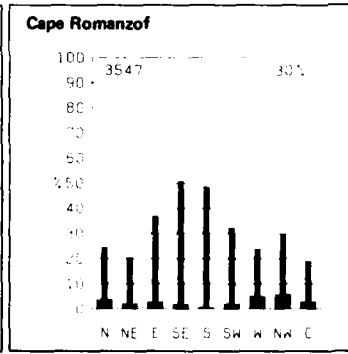
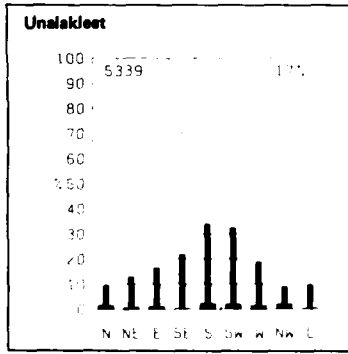
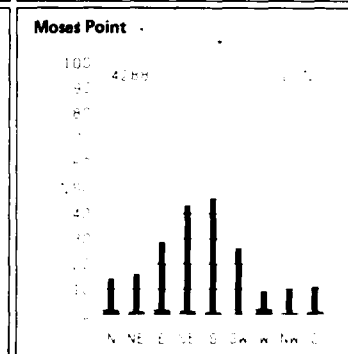
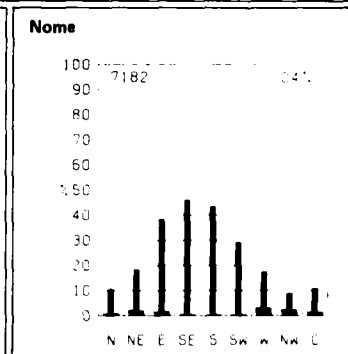
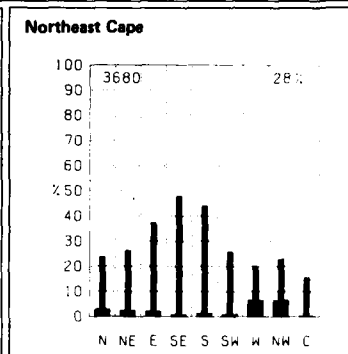
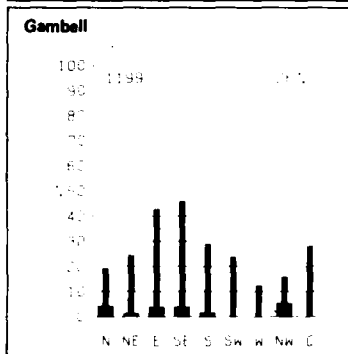
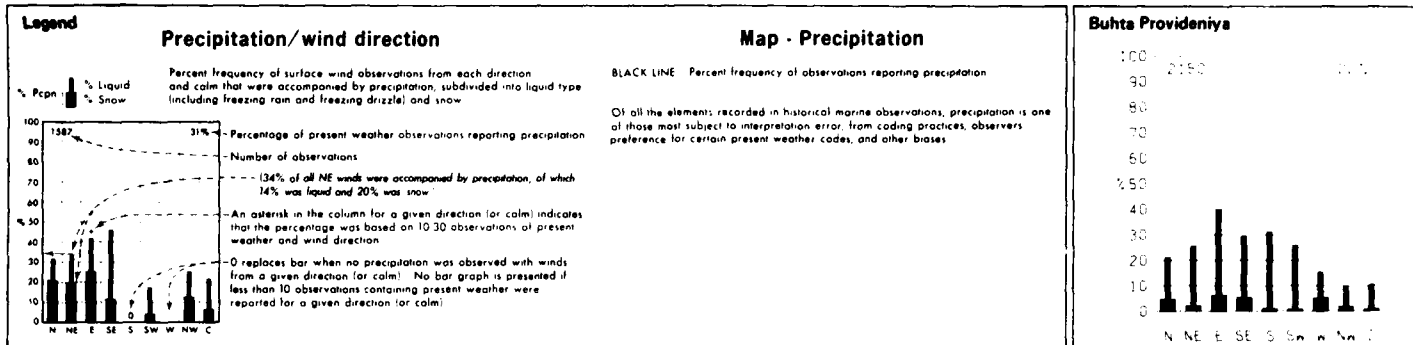


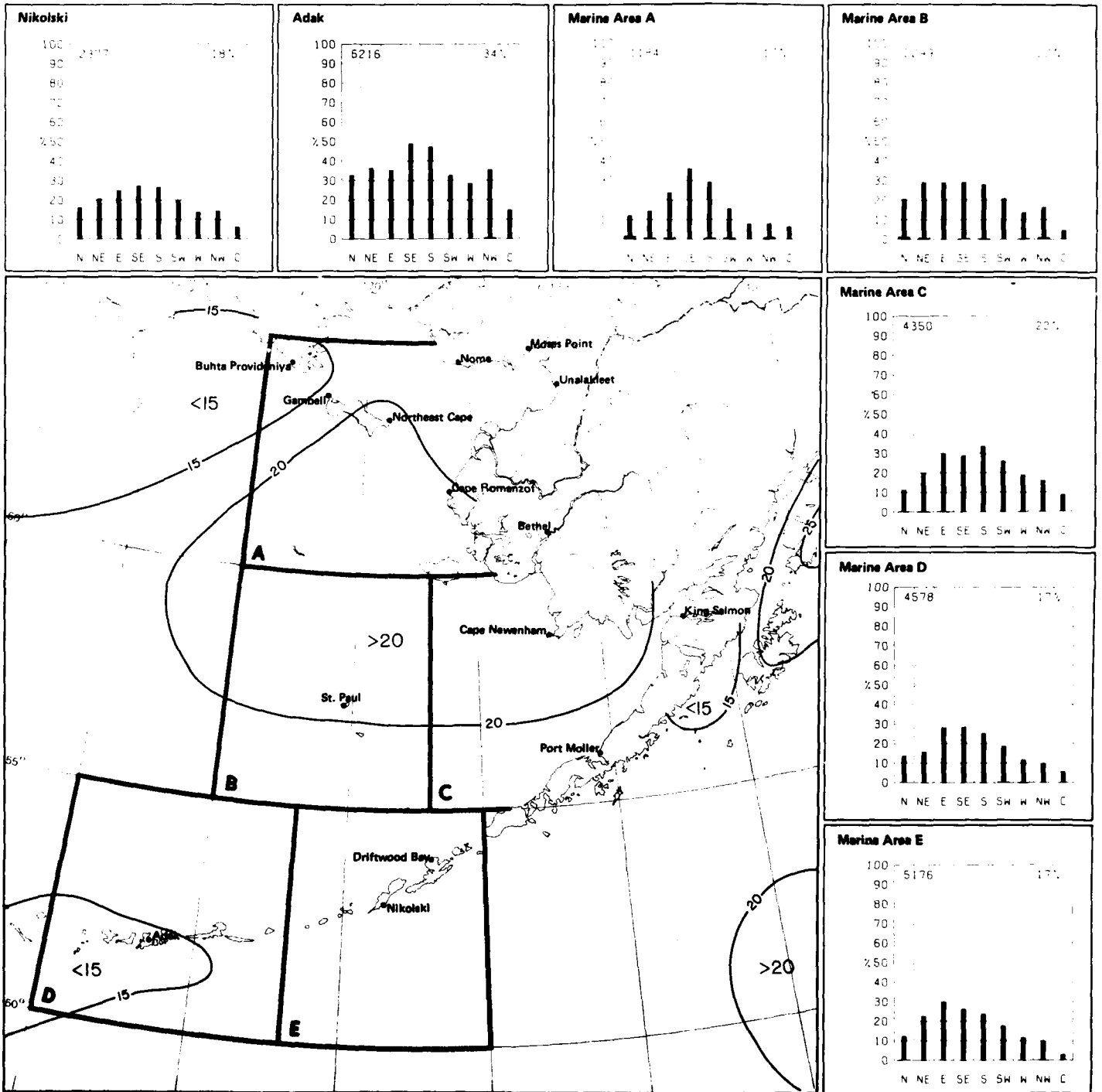
**Driftwood Bay**

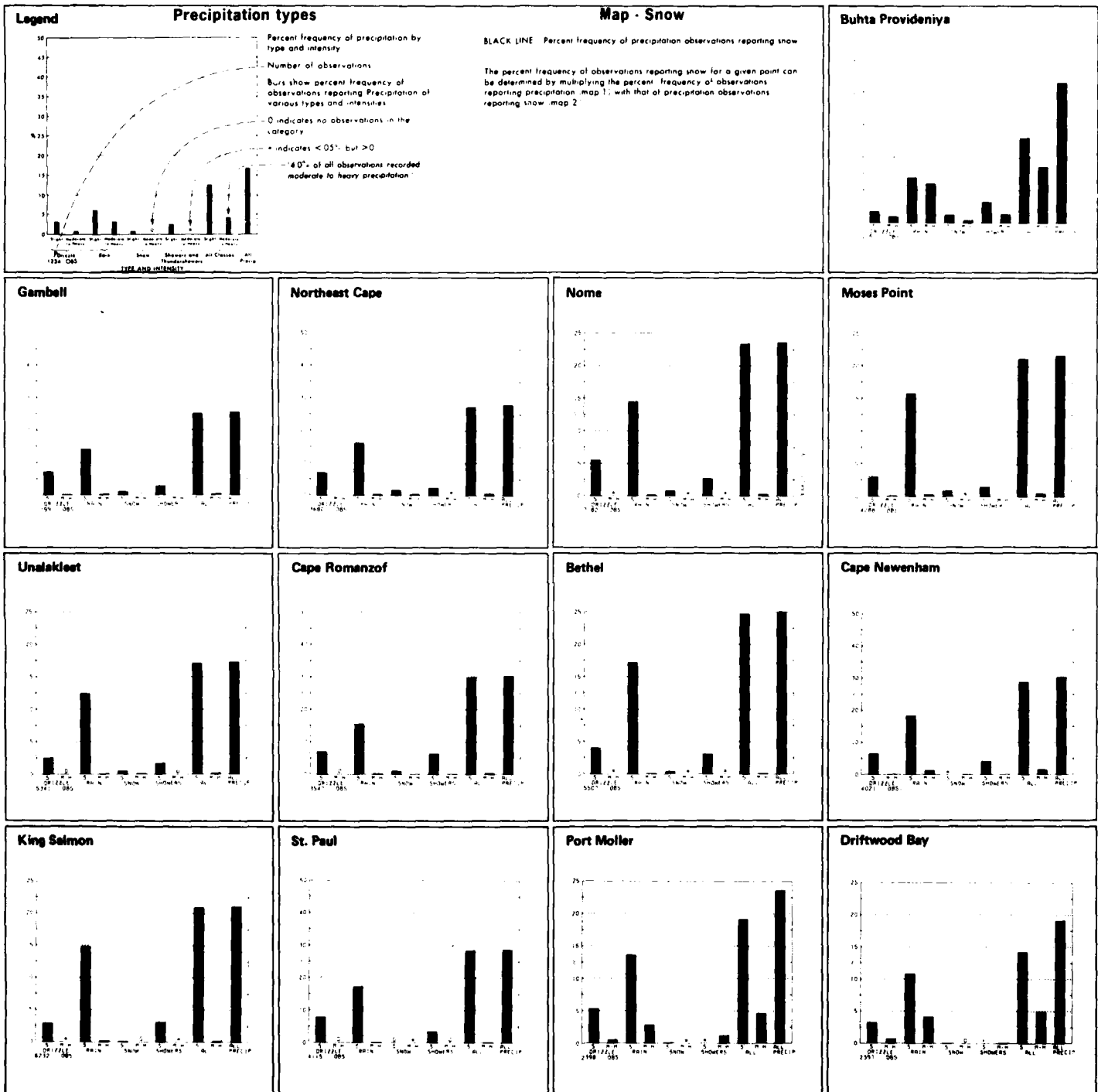


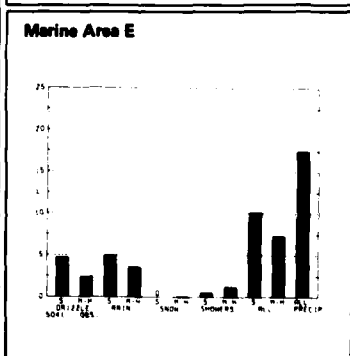
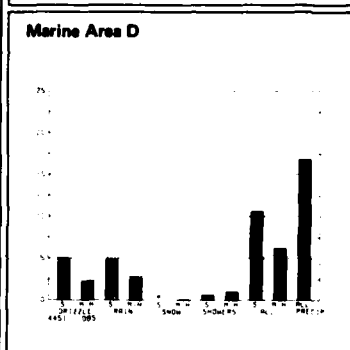
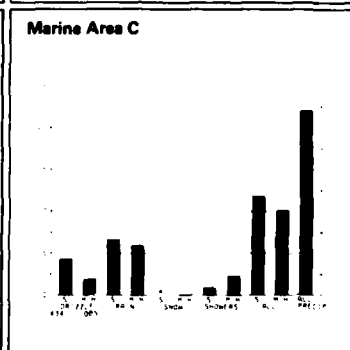
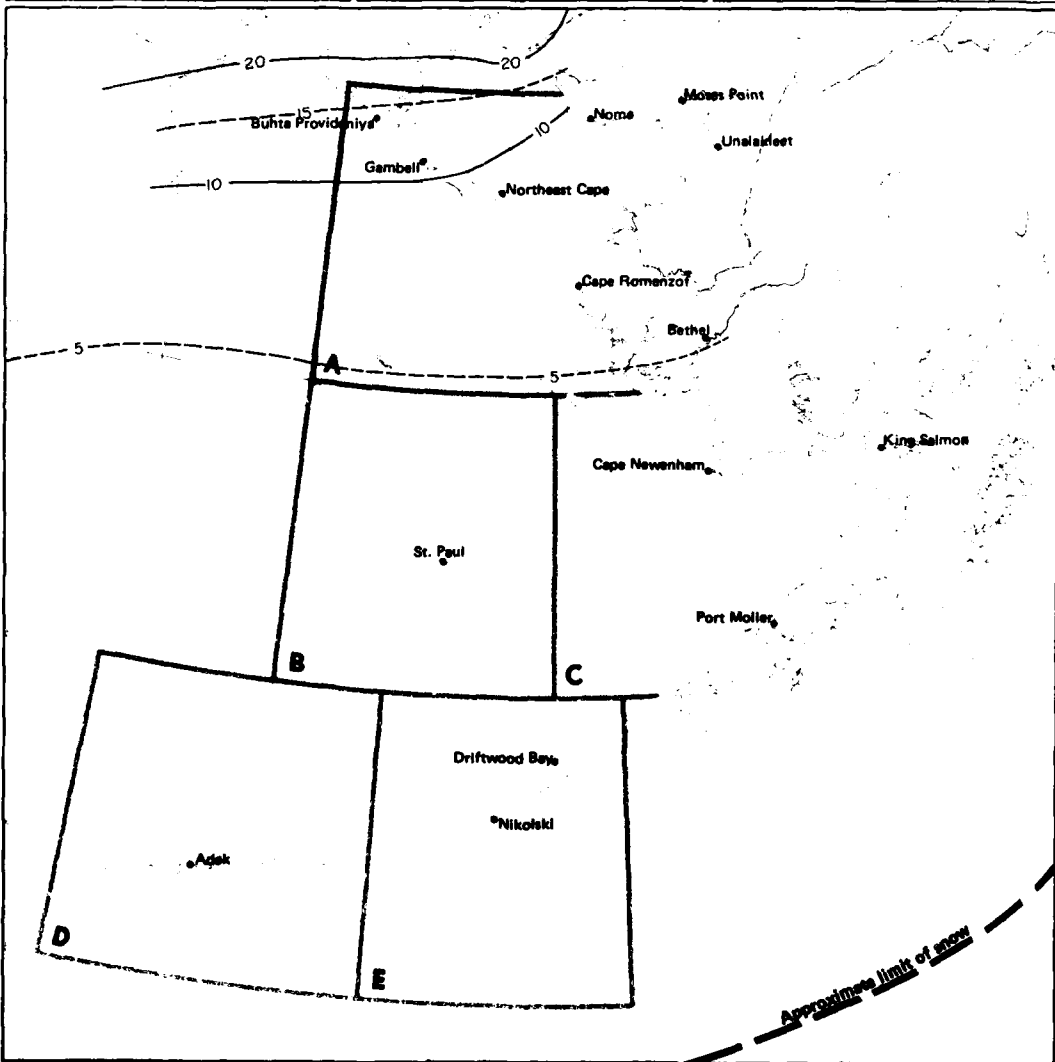
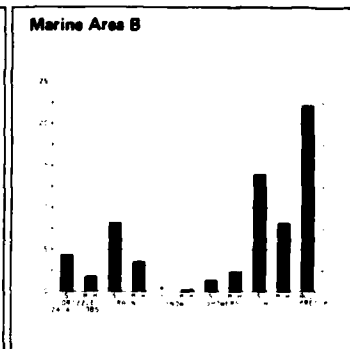
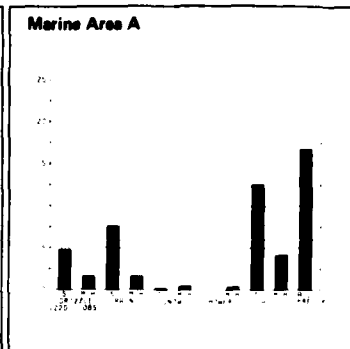
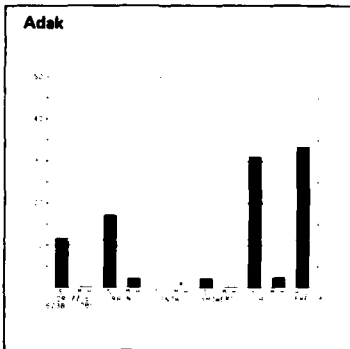
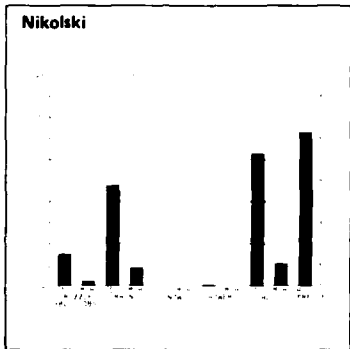
**21 Persistence of wind  $\geq 20$  kts.**

**August**







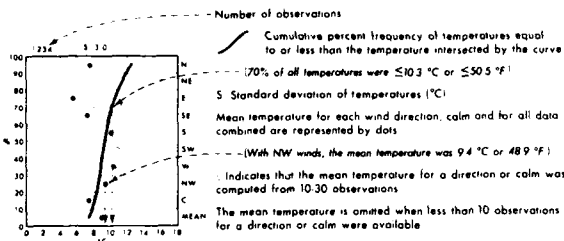


2 Snow

September

**Legend**

**Air temperature/wind direction**



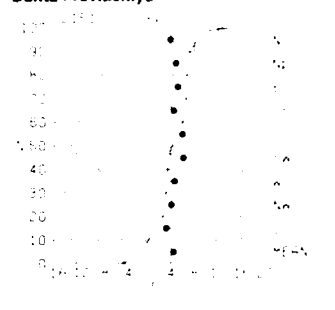
**Map - Air temperature mean and thresholds**

BLACK LINE Percent frequency of temperature  $\leq 0^\circ\text{C}$  ( $\leq 32^\circ\text{F}$ )  
 RED LINE Mean air temperature  $^\circ\text{C}$   
 BLUE LINE Percent frequency of wind chill temperature  $\leq 30^\circ\text{C}$  ( $\leq 22^\circ\text{F}$ )

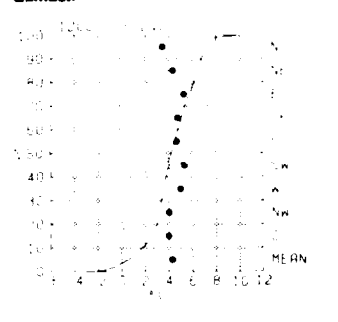
Air temperature readings recorded on transient ships in warm, sunny weather appear biased toward high temperatures, apparently because of improper instrument exposure and ventilation. Despite the inaccuracies, the large-scale patterns and mean gradients of the isopleth analyses are relatively accurate.

The temperature scale of the graph may vary in both range and class interval. The percentage of temperature observations greater than a given value can be obtained by subtracting the cumulative percent frequency of that value from 100%. The number of observations and the standard deviation plus the plotted points on the graphs are based on those observations reporting both temperature and wind direction. The cumulative curve is based on all observations reporting temperature with or without wind direction.

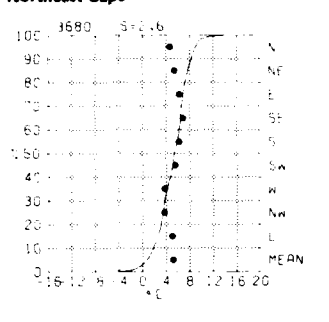
**Buhta Provideniya**



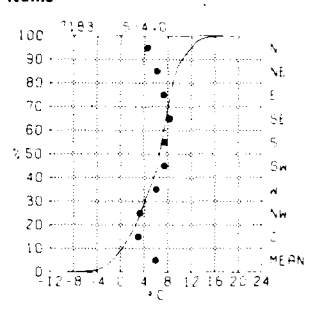
**Gambell**



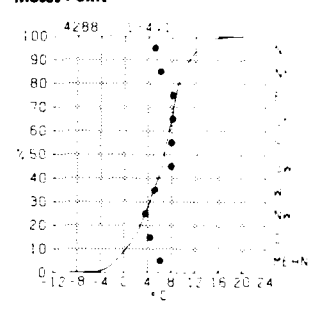
**Northeast Cape**



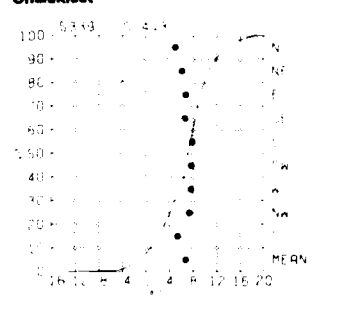
**Nome**



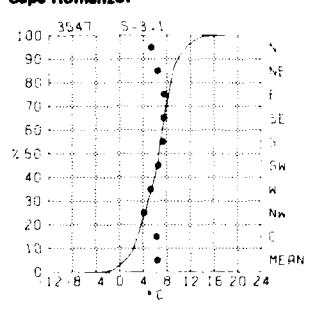
**Moses Point**



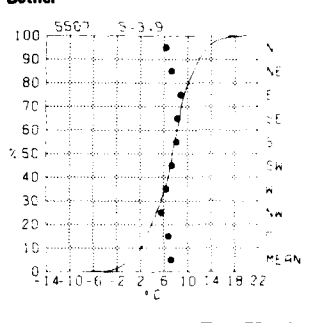
**Unalakleet**



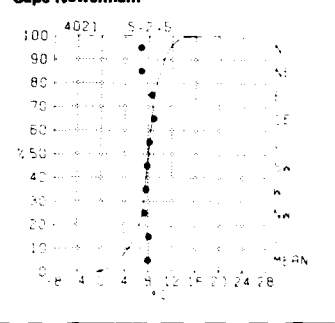
**Cape Romanzof**



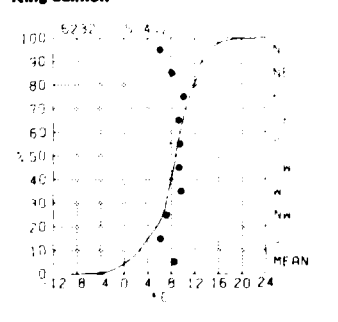
**Bethel**



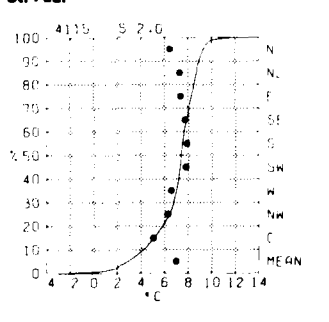
**Cape Newenham**



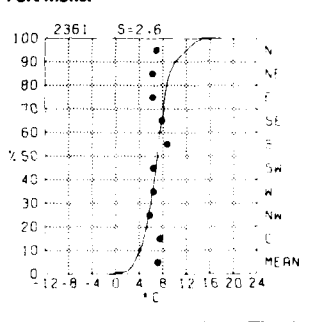
**King Salmon**



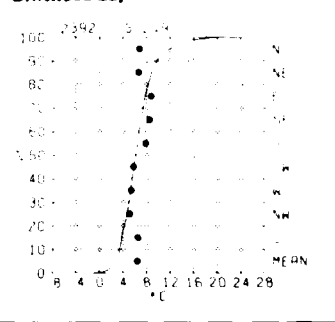
**St. Paul**

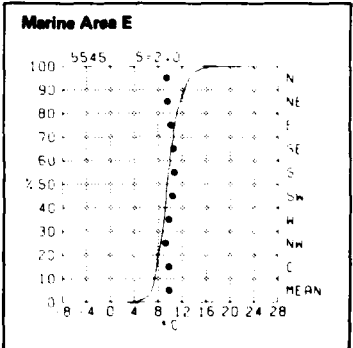
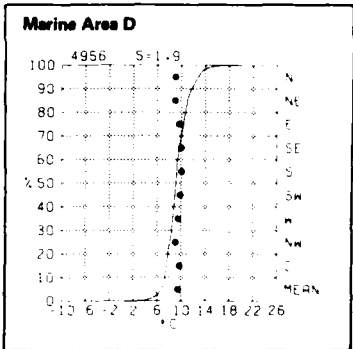
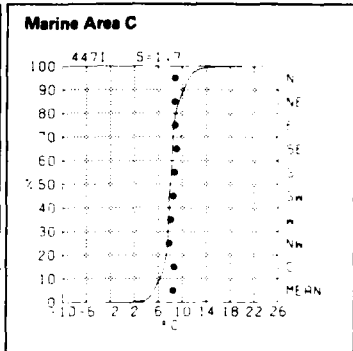
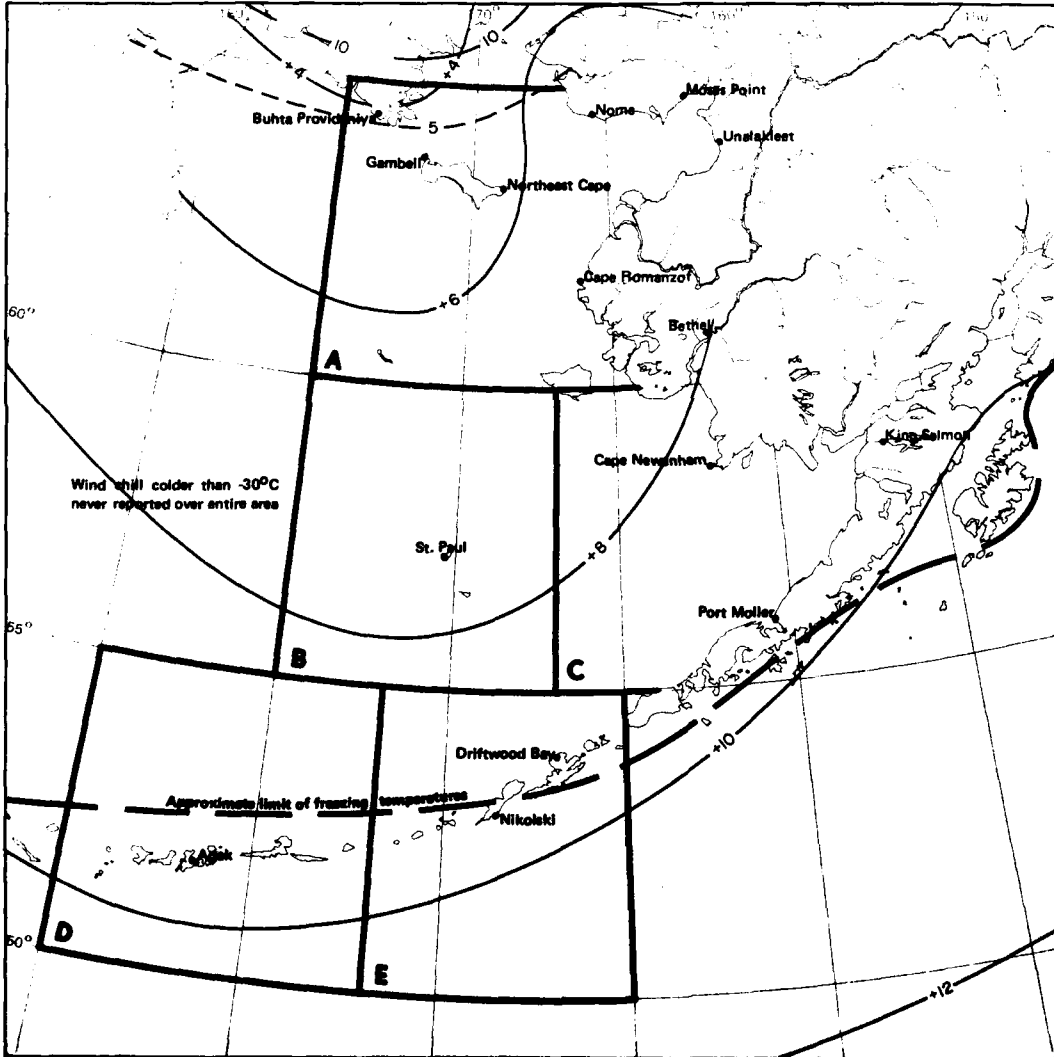
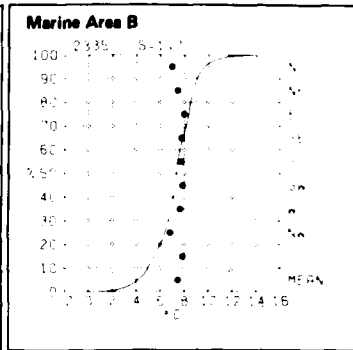
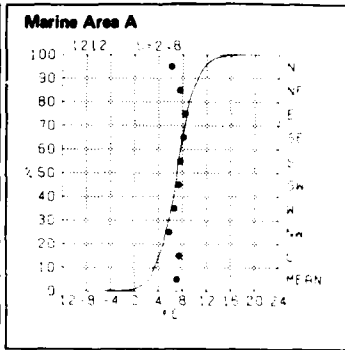
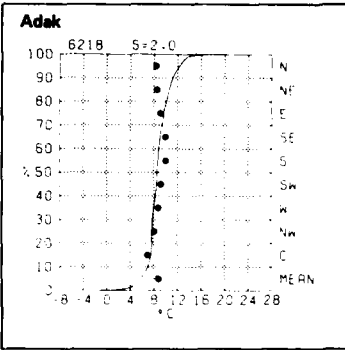
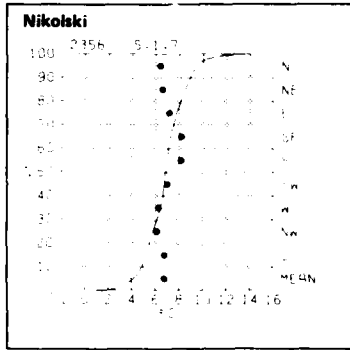


**Port Moller**



**Driftwood Bay**





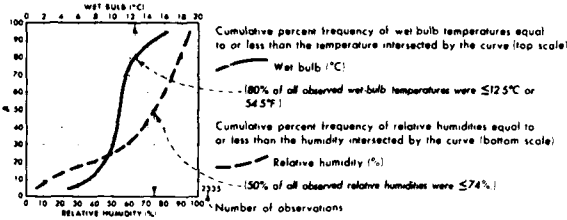
**3 Air temperature mean and thresholds**

**September**



**Legend**

**Wet bulb/relative humidity**



**Map - Mean dew point temperature**

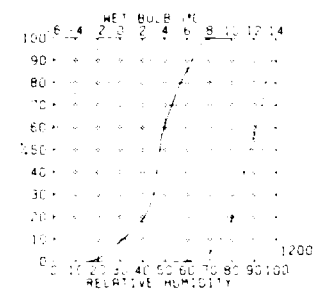
BLACK LINE Mean dew point temperature (°C)

The observation count of the graph reflects those observations reporting both air and wet bulb temperatures; both are required in computing the relative humidity. The percentage of observations of either element greater than a given value can be obtained by subtracting the cumulative percent frequency of that value from 100%.

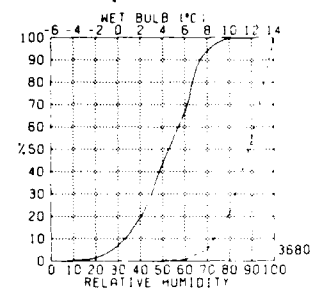
**Buhta Provideniya**

Insufficient Data

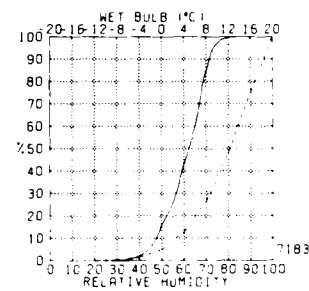
**Gambell**



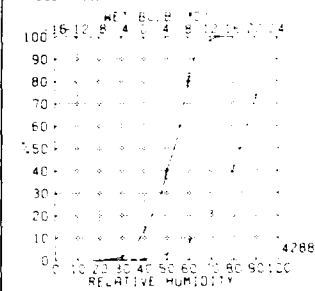
**Northeast Cape**



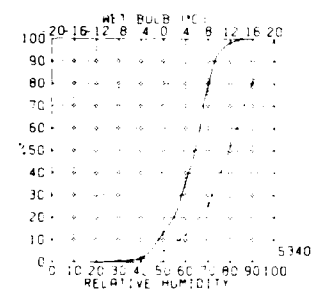
**Nome**



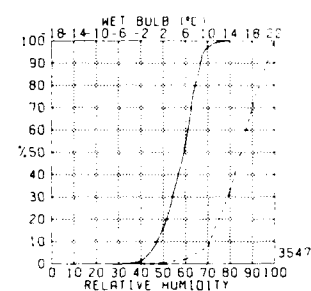
**Moses Point**



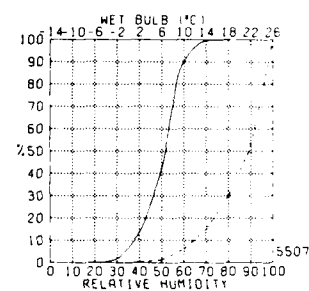
**Unalakleet**



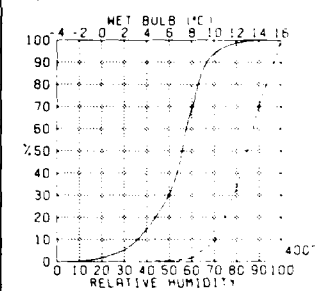
**Cape Romanzof**



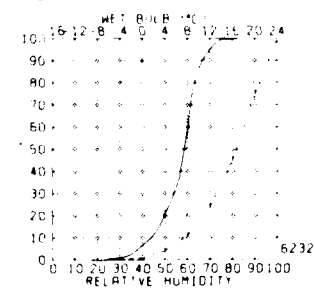
**Bethel**



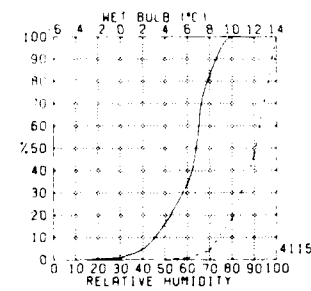
**Cape Newenham**



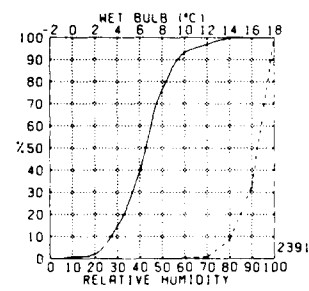
**King Salmon**



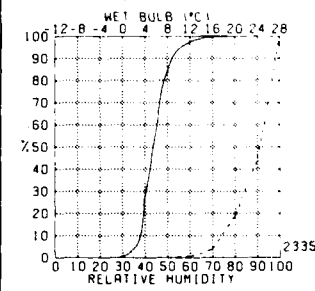
**St. Paul**

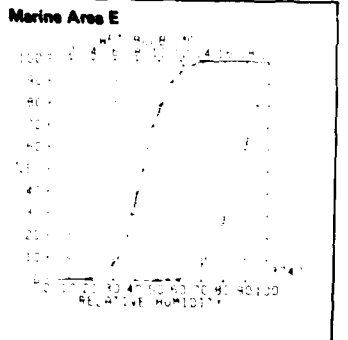
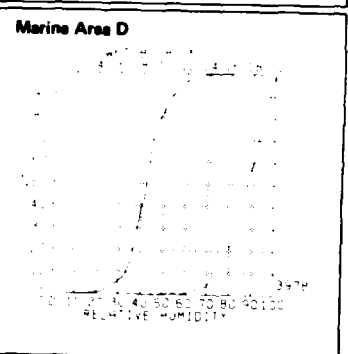
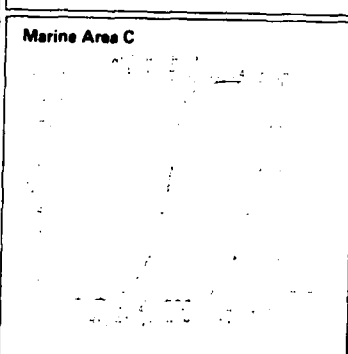
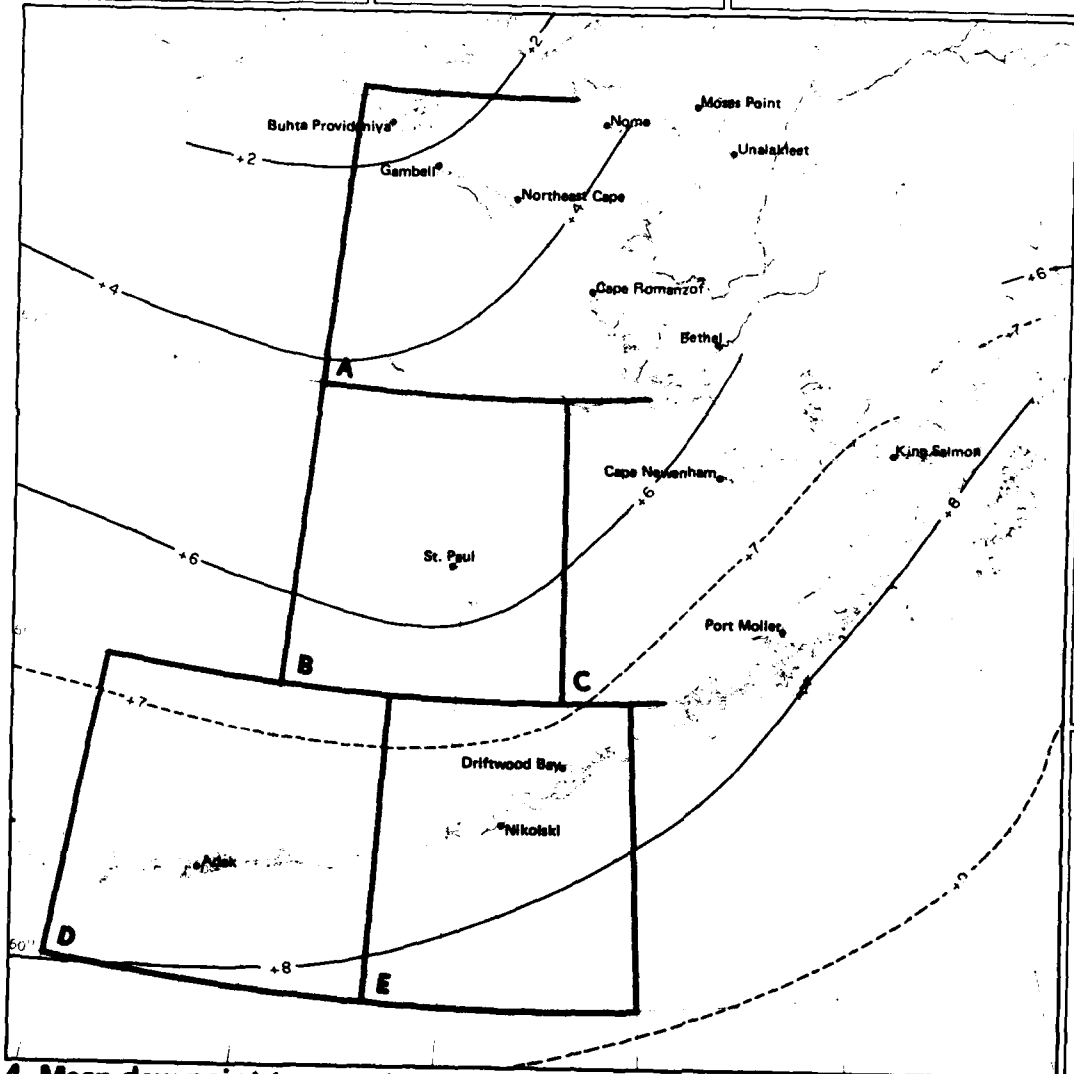
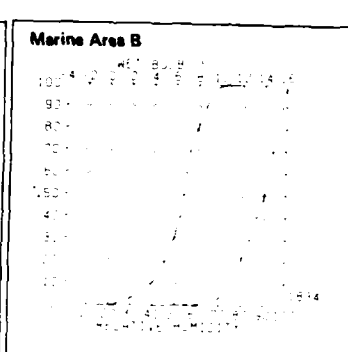
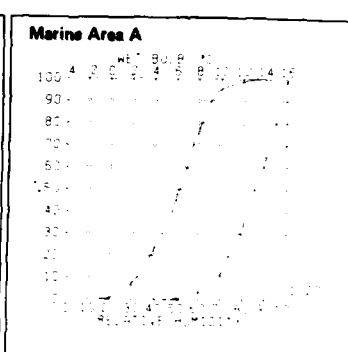
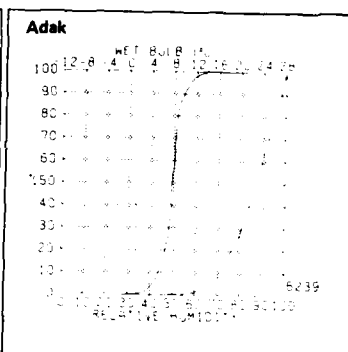
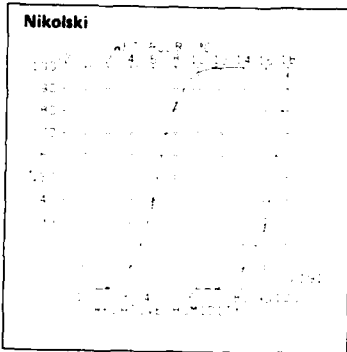


**Port Moller**



**Driftwood Bay**



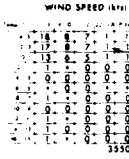


4 Mean dew point temperature

September

**Legend**

**Air temperature/wind speed**



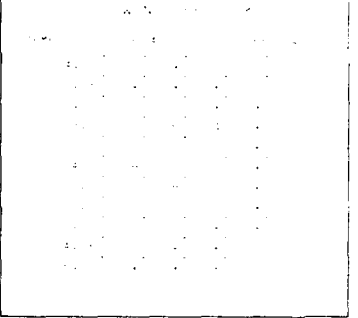
Percent frequency of simultaneous occurrence of specified temperature (°C) and wind speed knots  
 1% of all observations reported temperature 2.3°C simultaneously with wind speed of 22-33 kts  
 Indicates < 5% but > 0  
 Number of observations

**Map - Air temperature extremes (°C)**

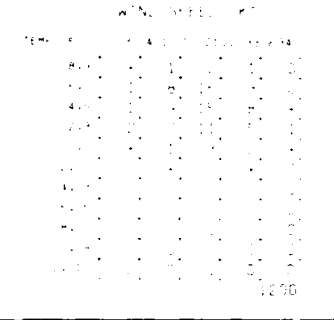
**BLACK LINE** Maximum 99% air temperature 1% of temperatures were greater than the given value  
**BLUE LINE** Minimum 1% air temperature 1% of temperatures were equal to or less than the given value

The graph can be used to determine the extent of human discomfort from the combined effects of extreme heat or cold and winds or to estimate the likelihood of superstructure icing. Icing potential increases as the air temperature drops below freezing and the winds increase above 10 knots (12 mph) and may become quite severe with temperatures equal to or less than 9°C (16°F) and winds equal to or greater than 34 knots (39 mph)

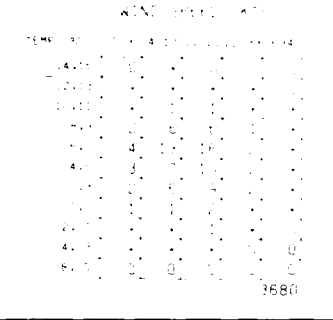
**Buhta Provideniya**



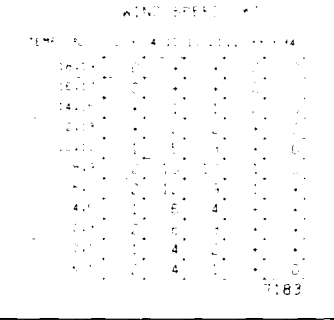
**Gambell**



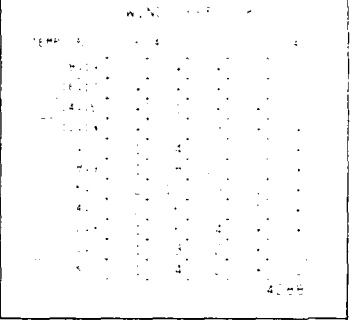
**Northeast Cape**



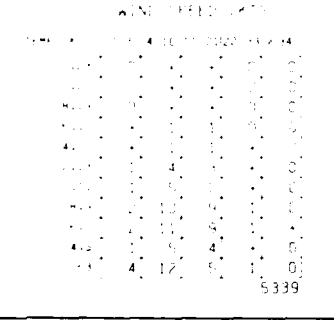
**Nome**



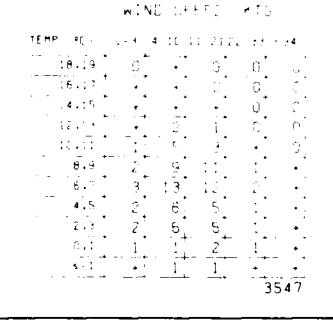
**Moses Point**



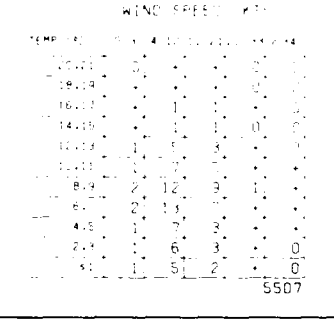
**Unalakleet**



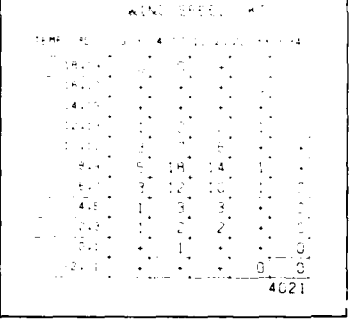
**Cape Romanzof**



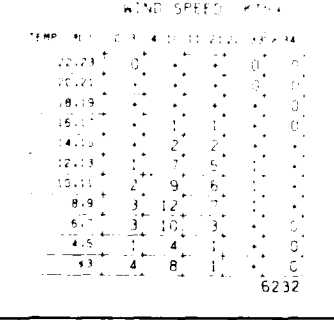
**Bethel**



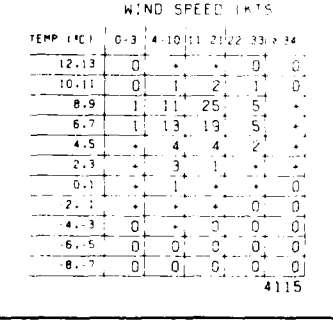
**Cape Newenham**



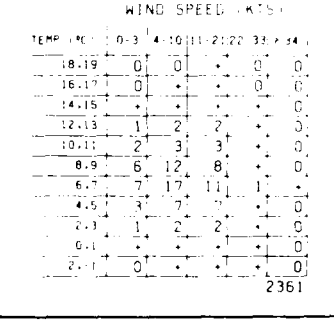
**King Salmon**



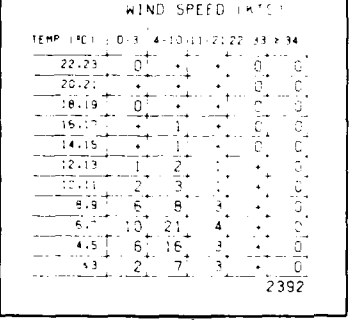
**St. Paul**



**Port Moller**



**Driftwood Bay**

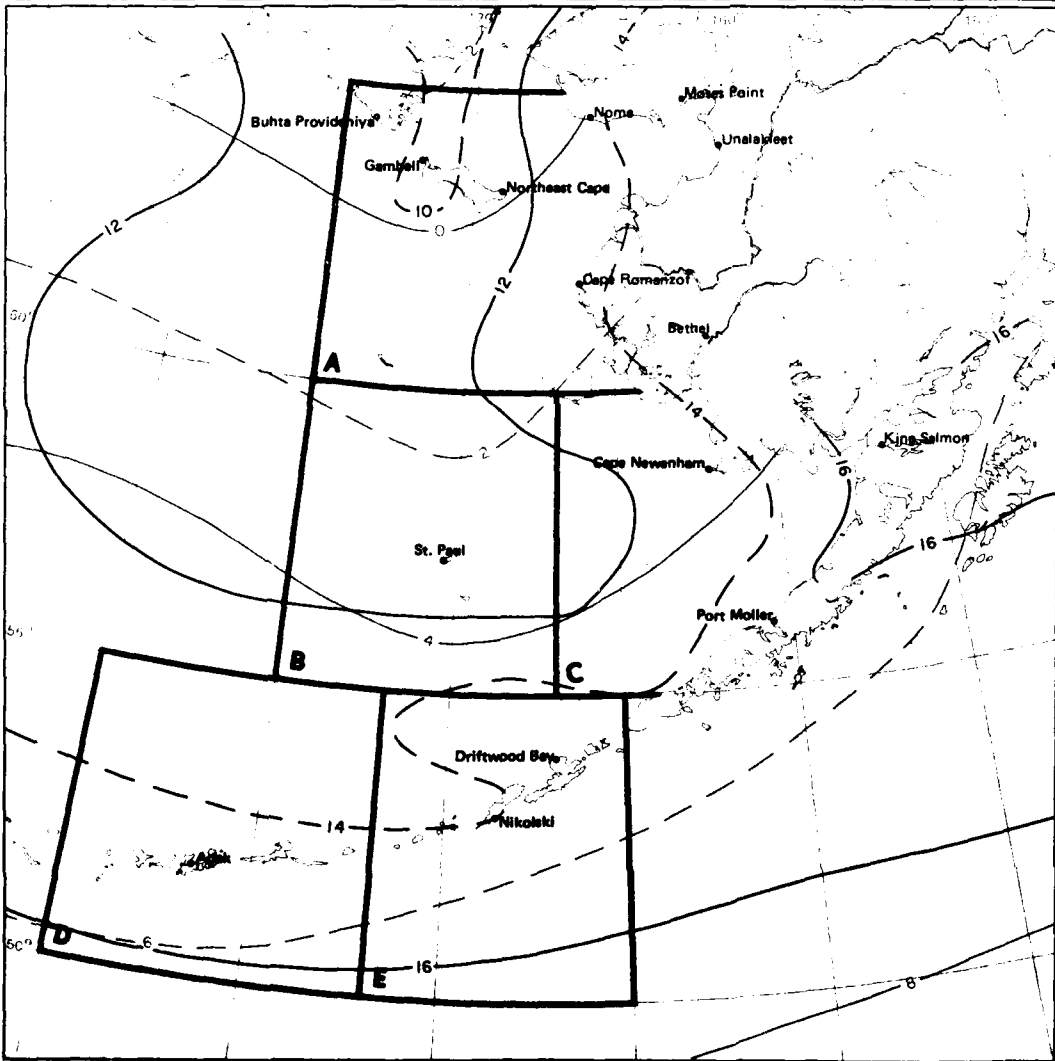


**September**

310

**5 Air temperature/wind speed**

<p><b>Nikolski</b></p> <p>W. 11. 1952</p> <p>1952</p> <p>1953</p> <p>1954</p> <p>1955</p> <p>1956</p> <p>1957</p> <p>1958</p> <p>1959</p> <p>1960</p> <p>1961</p> <p>1962</p> <p>1963</p> <p>1964</p> <p>1965</p> <p>1966</p> <p>1967</p> <p>1968</p> <p>1969</p> <p>1970</p> <p>1971</p> <p>1972</p> <p>1973</p> <p>1974</p> <p>1975</p> <p>1976</p> <p>1977</p> <p>1978</p> <p>1979</p> <p>1980</p> <p>1981</p> <p>1982</p> <p>1983</p> <p>1984</p> <p>1985</p> <p>1986</p> <p>1987</p> <p>1988</p> <p>1989</p> <p>1990</p> <p>1991</p> <p>1992</p> <p>1993</p> <p>1994</p> <p>1995</p> <p>1996</p> <p>1997</p> <p>1998</p> <p>1999</p> <p>2000</p> <p>2001</p> <p>2002</p> <p>2003</p> <p>2004</p> <p>2005</p> <p>2006</p> <p>2007</p> <p>2008</p> <p>2009</p> <p>2010</p> <p>2011</p> <p>2012</p> <p>2013</p> <p>2014</p> <p>2015</p> <p>2016</p> <p>2017</p> <p>2018</p> <p>2019</p> <p>2020</p>	<p><b>Adak</b></p> <p>W. 11. 1952</p> <p>1952</p> <p>1953</p> <p>1954</p> <p>1955</p> <p>1956</p> <p>1957</p> <p>1958</p> <p>1959</p> <p>1960</p> <p>1961</p> <p>1962</p> <p>1963</p> <p>1964</p> <p>1965</p> <p>1966</p> <p>1967</p> <p>1968</p> <p>1969</p> <p>1970</p> <p>1971</p> <p>1972</p> <p>1973</p> <p>1974</p> <p>1975</p> <p>1976</p> <p>1977</p> <p>1978</p> <p>1979</p> <p>1980</p> <p>1981</p> <p>1982</p> <p>1983</p> <p>1984</p> <p>1985</p> <p>1986</p> <p>1987</p> <p>1988</p> <p>1989</p> <p>1990</p> <p>1991</p> <p>1992</p> <p>1993</p> <p>1994</p> <p>1995</p> <p>1996</p> <p>1997</p> <p>1998</p> <p>1999</p> <p>2000</p> <p>2001</p> <p>2002</p> <p>2003</p> <p>2004</p> <p>2005</p> <p>2006</p> <p>2007</p> <p>2008</p> <p>2009</p> <p>2010</p> <p>2011</p> <p>2012</p> <p>2013</p> <p>2014</p> <p>2015</p> <p>2016</p> <p>2017</p> <p>2018</p> <p>2019</p> <p>2020</p>	<p><b>Marine Area A</b></p> <p>W. 11. 1952</p> <p>1952</p> <p>1953</p> <p>1954</p> <p>1955</p> <p>1956</p> <p>1957</p> <p>1958</p> <p>1959</p> <p>1960</p> <p>1961</p> <p>1962</p> <p>1963</p> <p>1964</p> <p>1965</p> <p>1966</p> <p>1967</p> <p>1968</p> <p>1969</p> <p>1970</p> <p>1971</p> <p>1972</p> <p>1973</p> <p>1974</p> <p>1975</p> <p>1976</p> <p>1977</p> <p>1978</p> <p>1979</p> <p>1980</p> <p>1981</p> <p>1982</p> <p>1983</p> <p>1984</p> <p>1985</p> <p>1986</p> <p>1987</p> <p>1988</p> <p>1989</p> <p>1990</p> <p>1991</p> <p>1992</p> <p>1993</p> <p>1994</p> <p>1995</p> <p>1996</p> <p>1997</p> <p>1998</p> <p>1999</p> <p>2000</p> <p>2001</p> <p>2002</p> <p>2003</p> <p>2004</p> <p>2005</p> <p>2006</p> <p>2007</p> <p>2008</p> <p>2009</p> <p>2010</p> <p>2011</p> <p>2012</p> <p>2013</p> <p>2014</p> <p>2015</p> <p>2016</p> <p>2017</p> <p>2018</p> <p>2019</p> <p>2020</p>	<p><b>Marine Area B</b></p> <p>W. 11. 1952</p> <p>1952</p> <p>1953</p> <p>1954</p> <p>1955</p> <p>1956</p> <p>1957</p> <p>1958</p> <p>1959</p> <p>1960</p> <p>1961</p> <p>1962</p> <p>1963</p> <p>1964</p> <p>1965</p> <p>1966</p> <p>1967</p> <p>1968</p> <p>1969</p> <p>1970</p> <p>1971</p> <p>1972</p> <p>1973</p> <p>1974</p> <p>1975</p> <p>1976</p> <p>1977</p> <p>1978</p> <p>1979</p> <p>1980</p> <p>1981</p> <p>1982</p> <p>1983</p> <p>1984</p> <p>1985</p> <p>1986</p> <p>1987</p> <p>1988</p> <p>1989</p> <p>1990</p> <p>1991</p> <p>1992</p> <p>1993</p> <p>1994</p> <p>1995</p> <p>1996</p> <p>1997</p> <p>1998</p> <p>1999</p> <p>2000</p> <p>2001</p> <p>2002</p> <p>2003</p> <p>2004</p> <p>2005</p> <p>2006</p> <p>2007</p> <p>2008</p> <p>2009</p> <p>2010</p> <p>2011</p> <p>2012</p> <p>2013</p> <p>2014</p> <p>2015</p> <p>2016</p> <p>2017</p> <p>2018</p> <p>2019</p> <p>2020</p>
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**Marine Area C**

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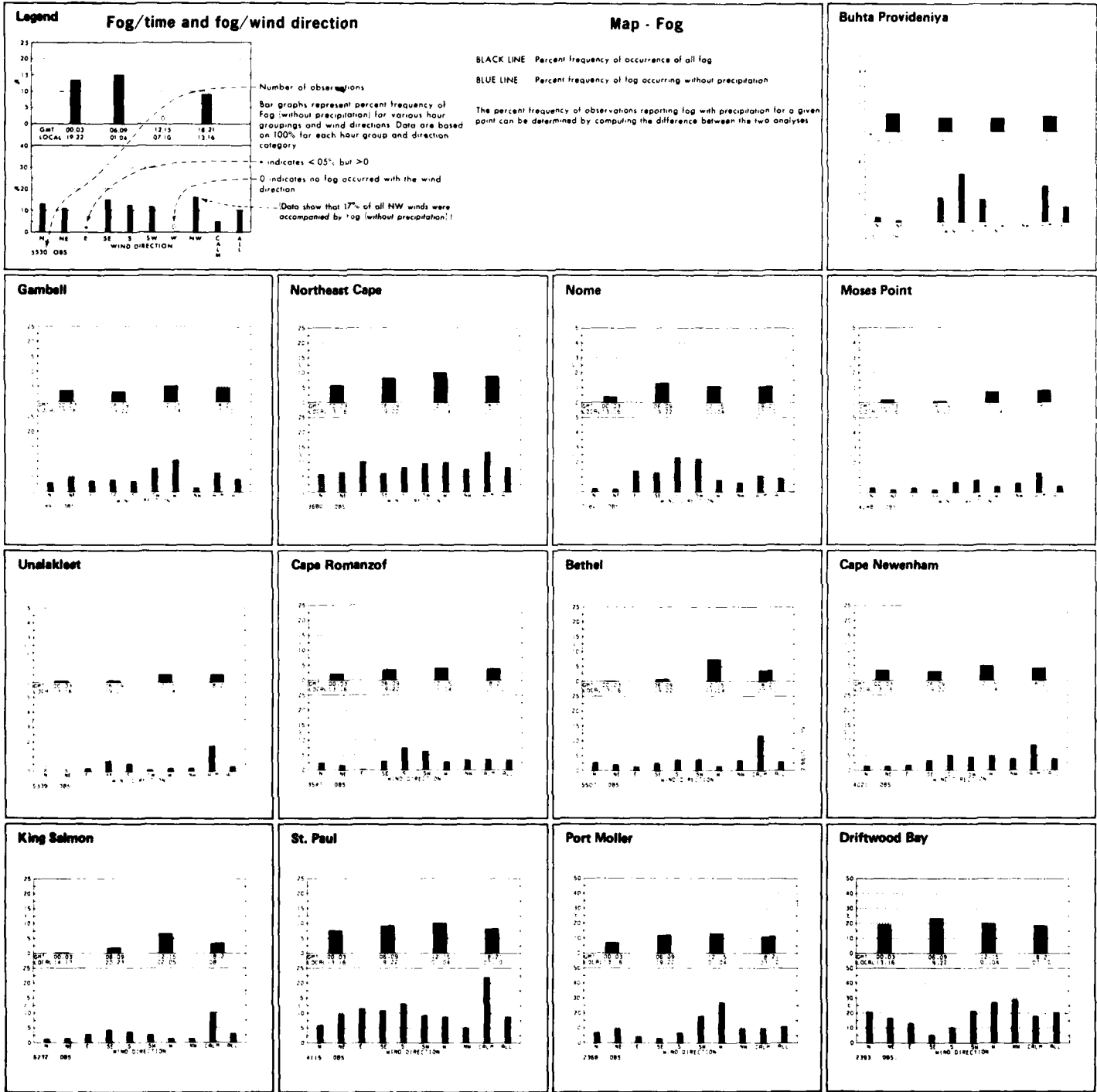
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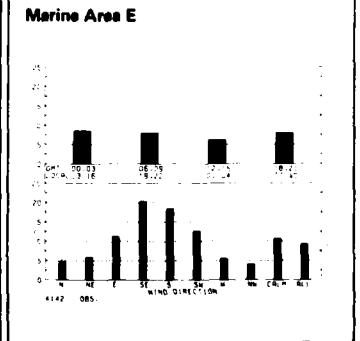
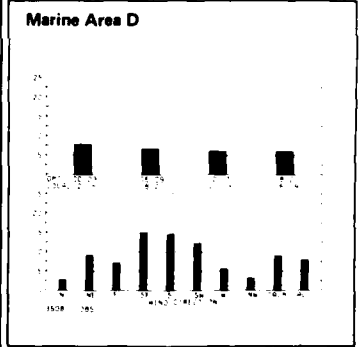
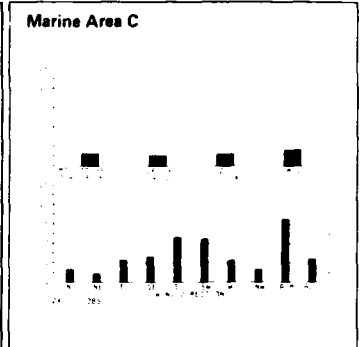
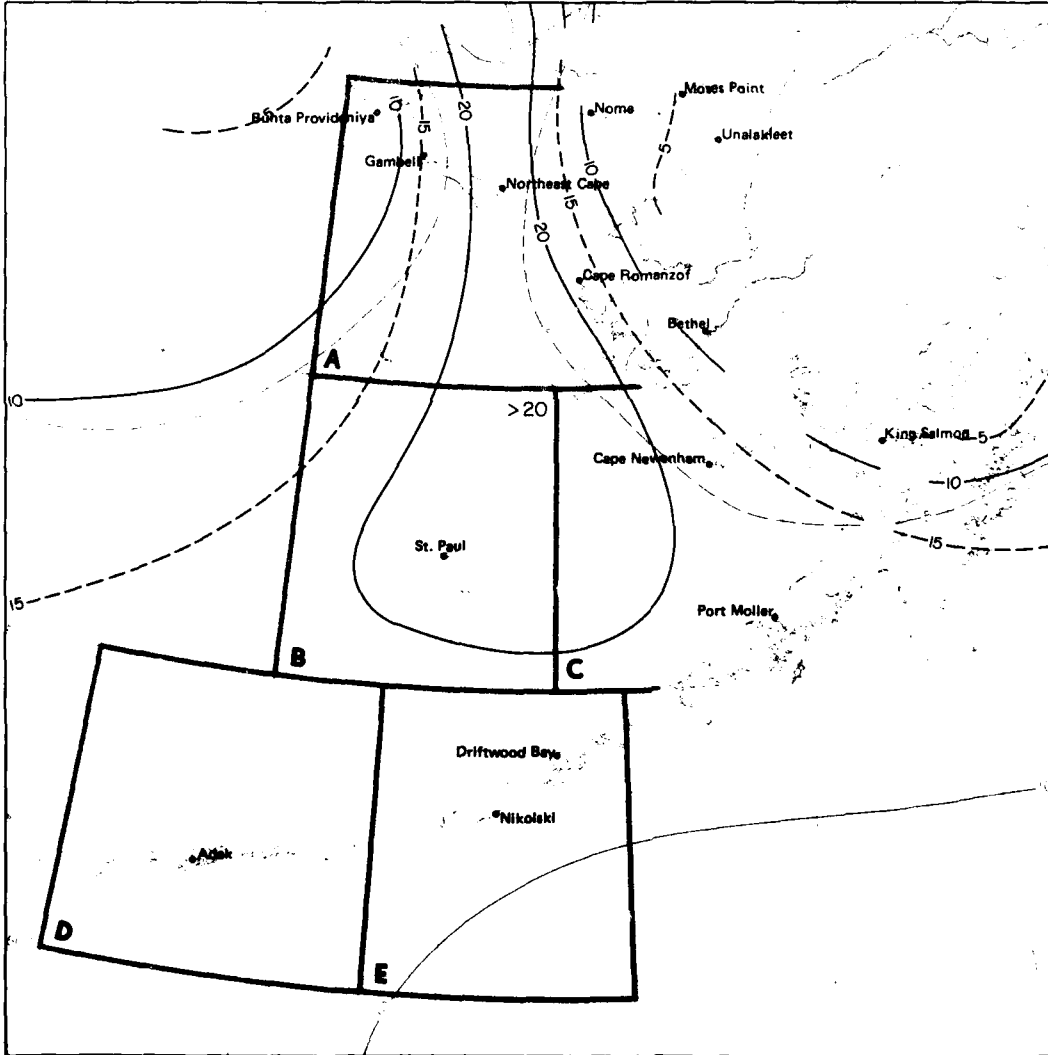
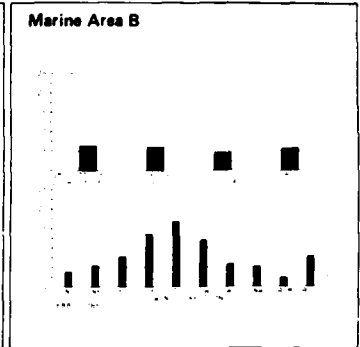
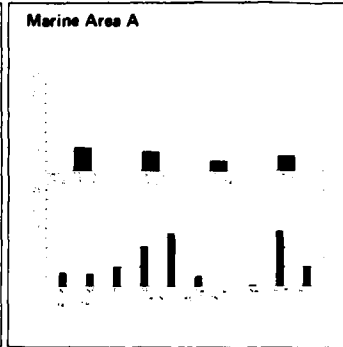
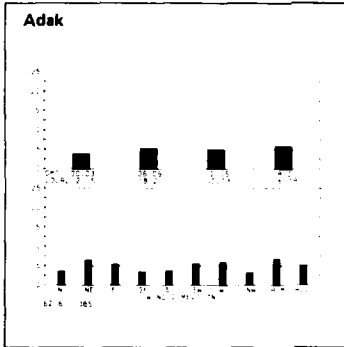
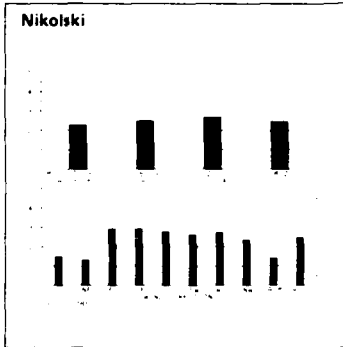
**5 Air temperature extremes (°C)**

**September**



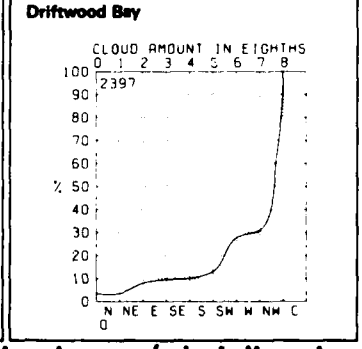
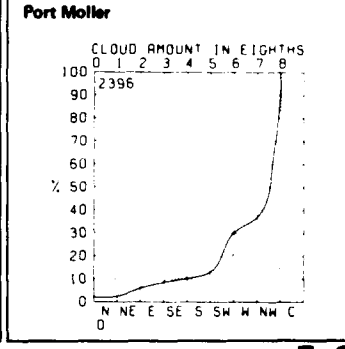
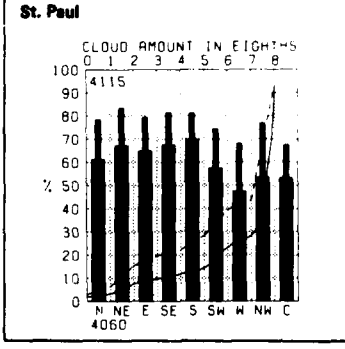
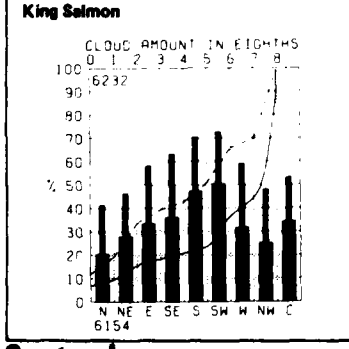
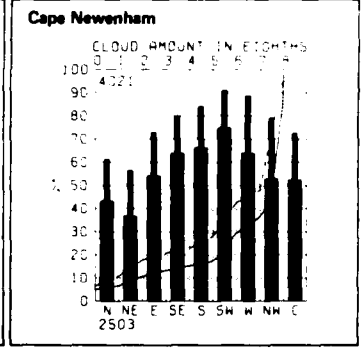
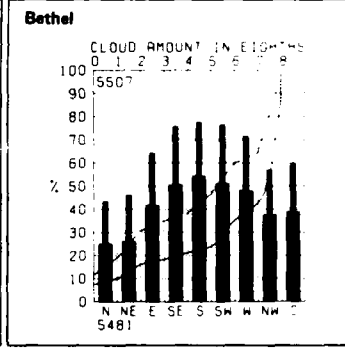
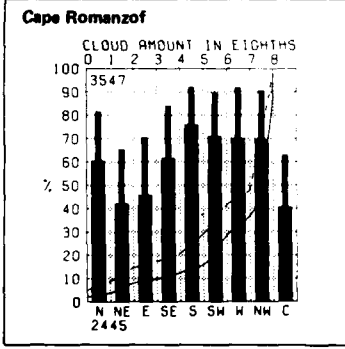
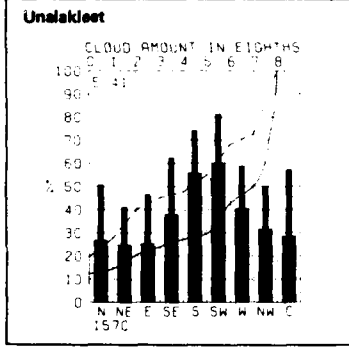
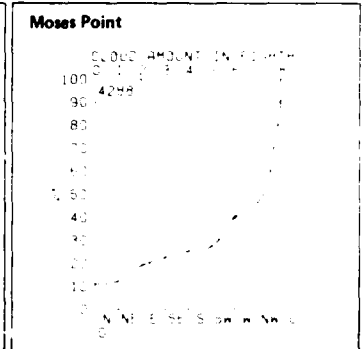
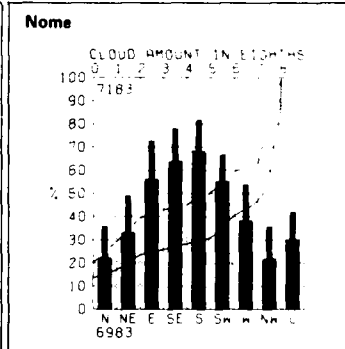
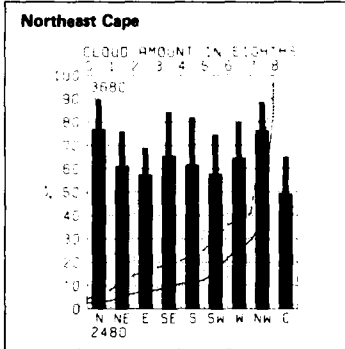
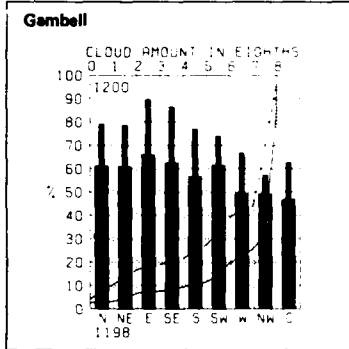
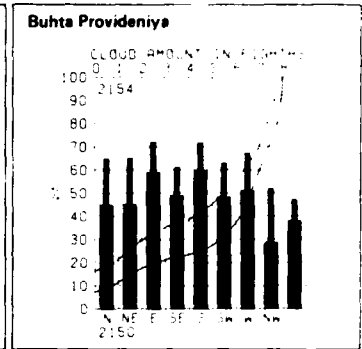
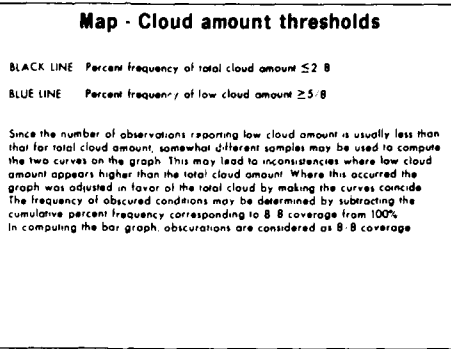
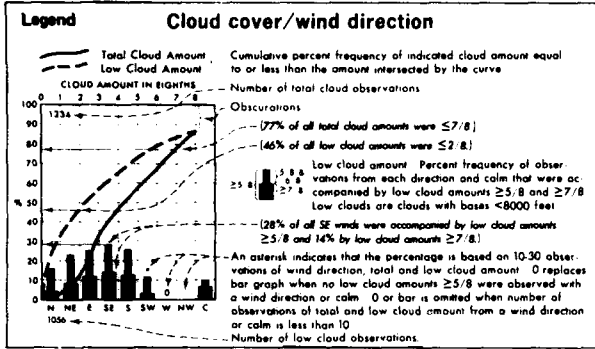
September

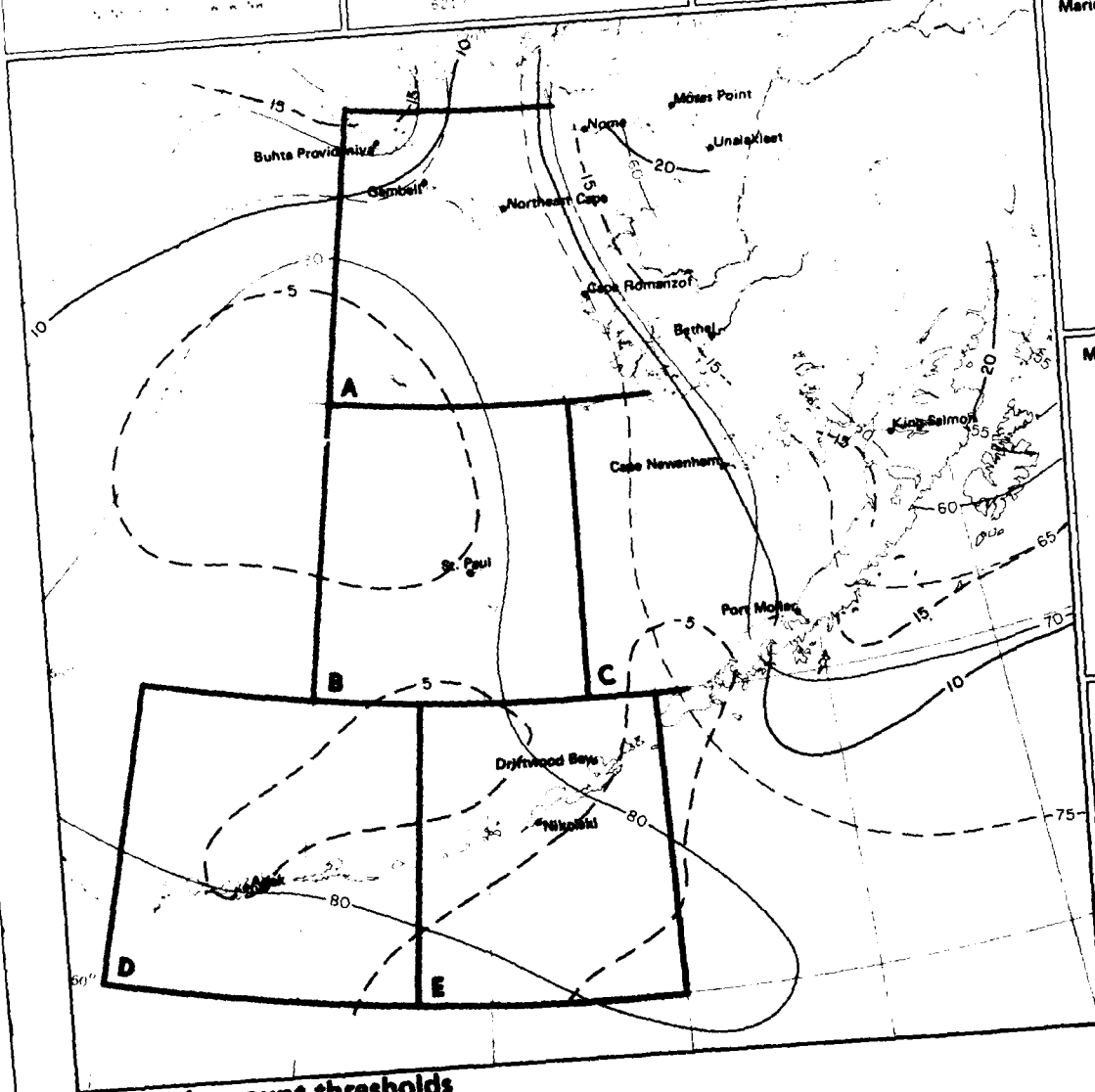
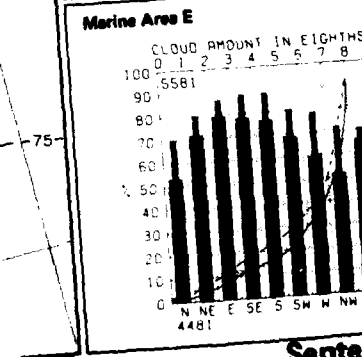
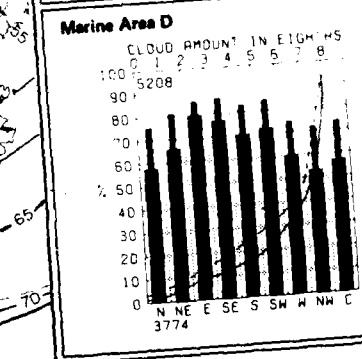
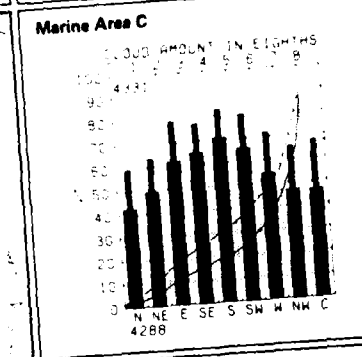
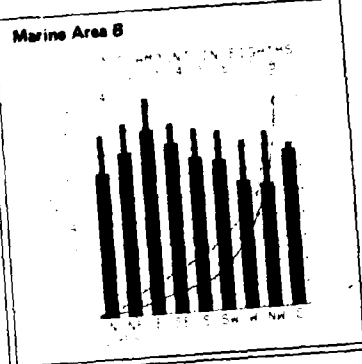
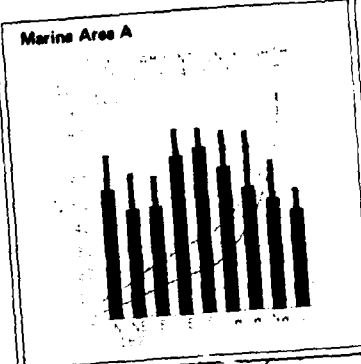
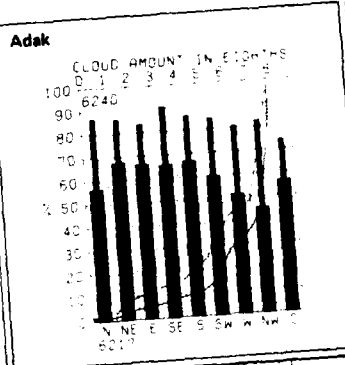
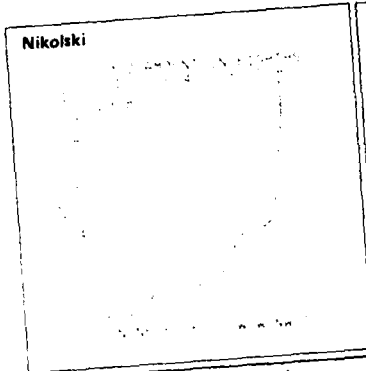
6 Fog/time and fog/wind direction



6 Fog

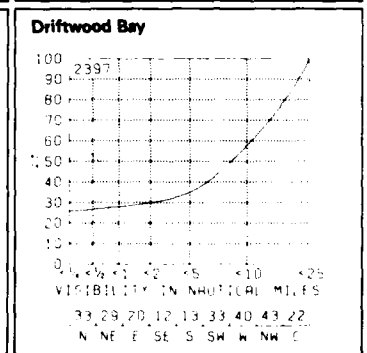
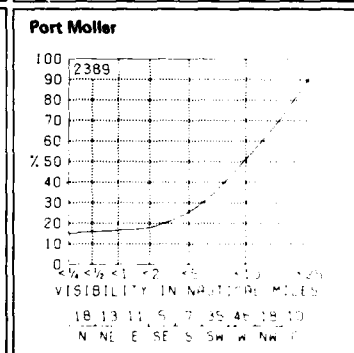
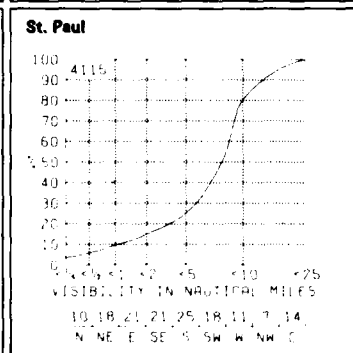
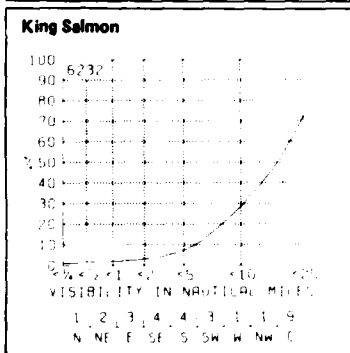
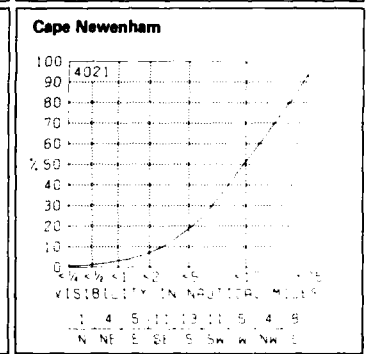
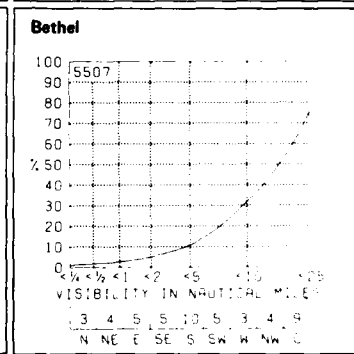
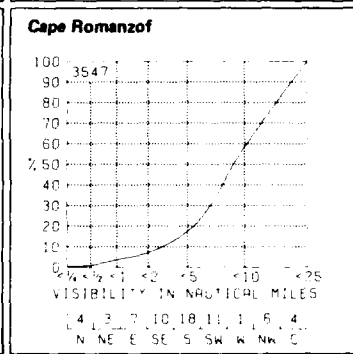
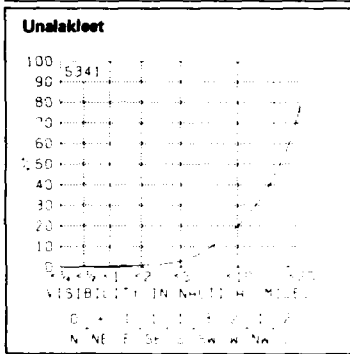
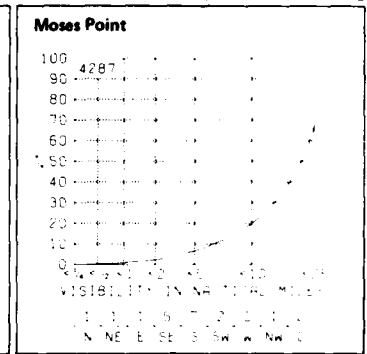
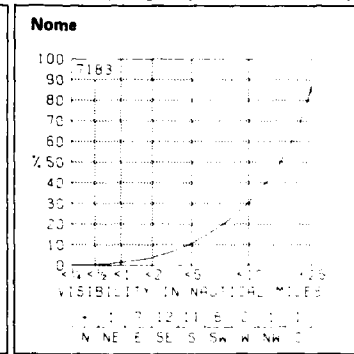
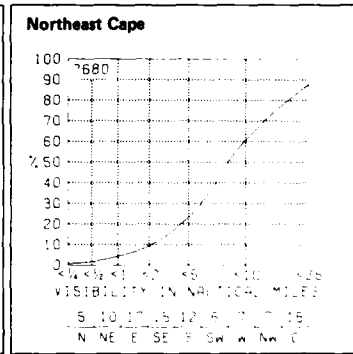
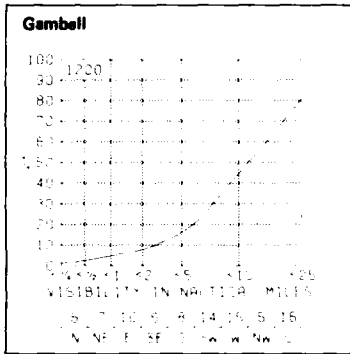
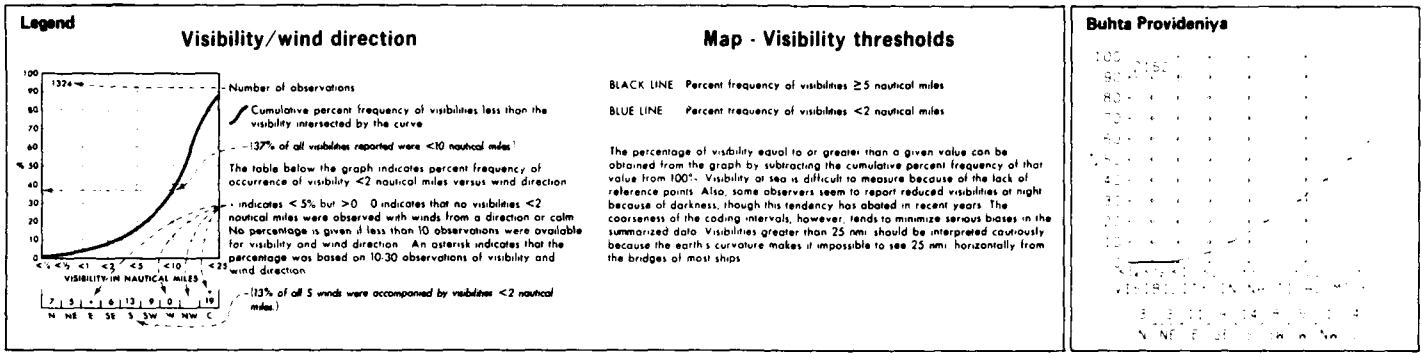
September





7 Cloud amount thresholds

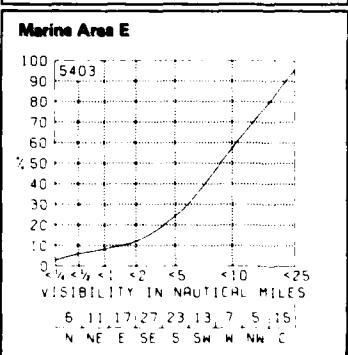
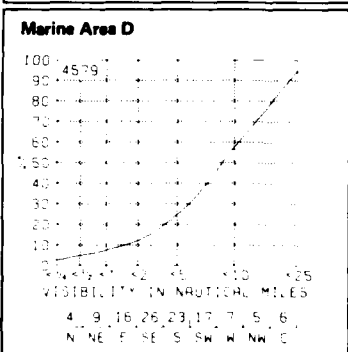
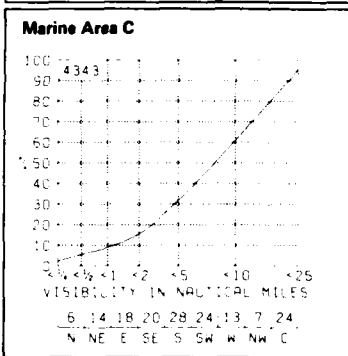
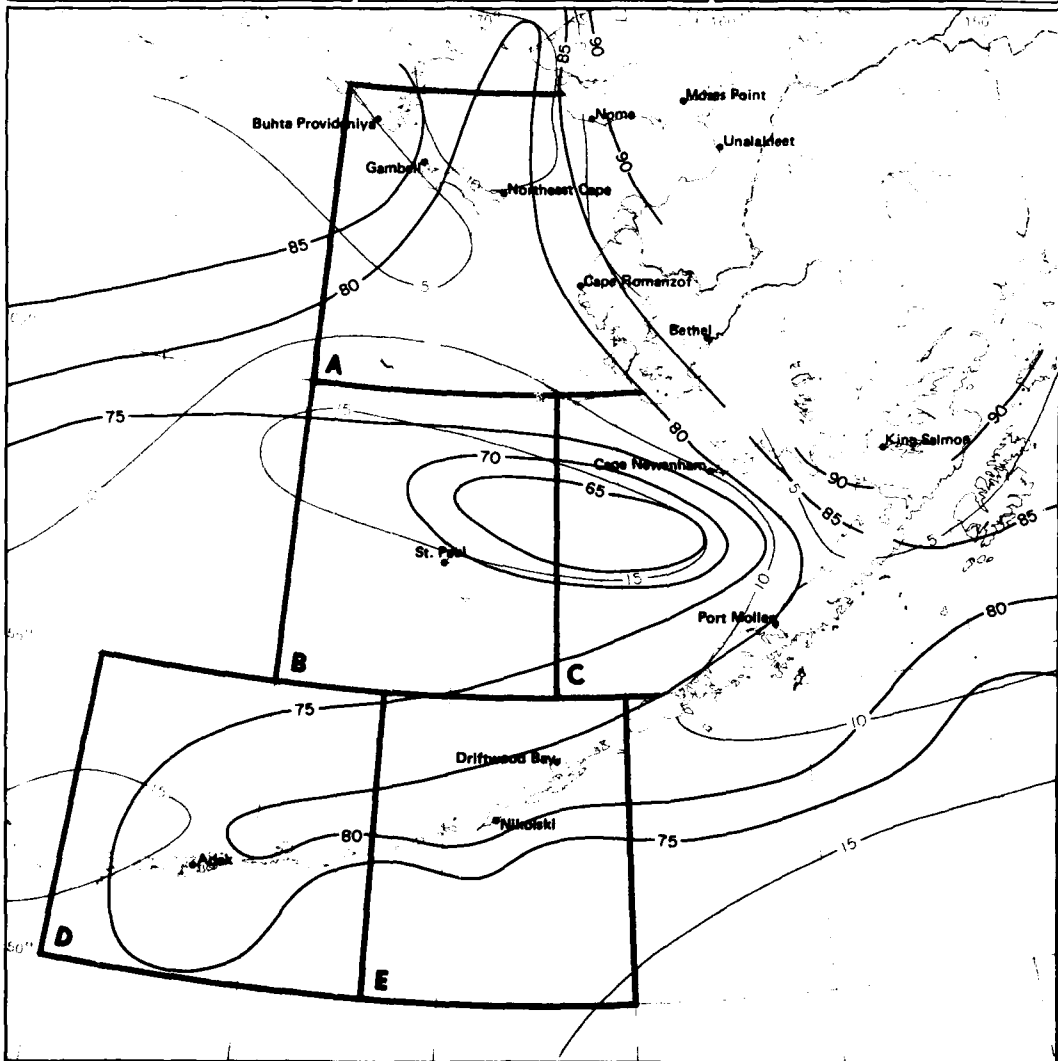
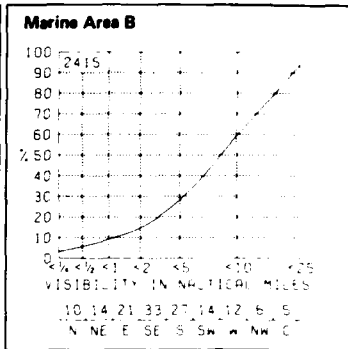
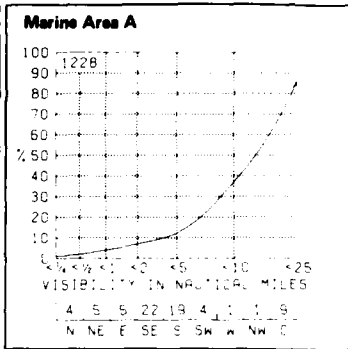
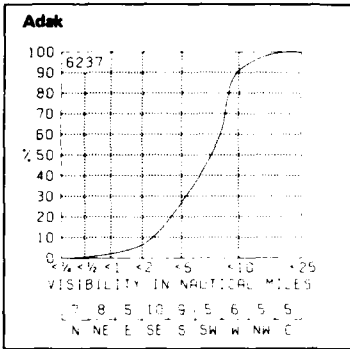
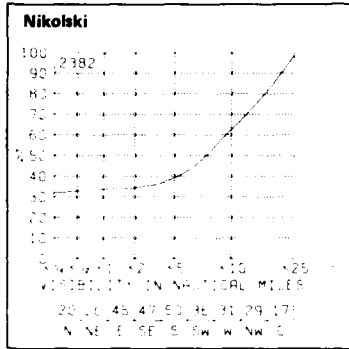




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8 Visibility/wind direction

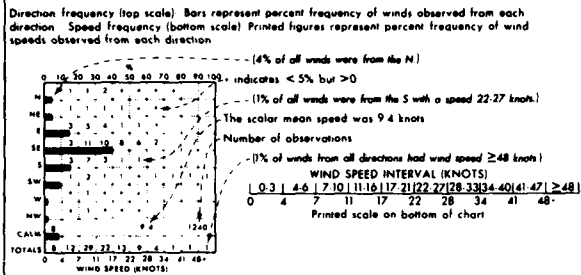


**8 Visibility thresholds**

**September**

**Legend**

**Wind speed/direction**

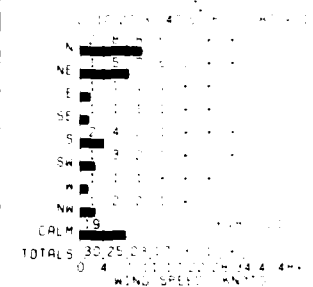


**Map - Wind speed thresholds**

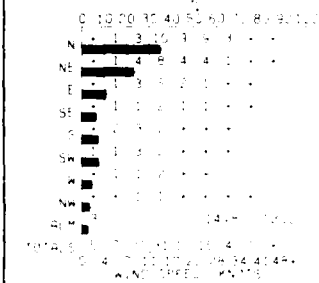
BLACK LINE Percent frequency of wind speed  $\leq 10$  knots ( $\leq 12$  mph)  
 BLUE LINE Percent frequency of wind speed  $\geq 34$  knots ( $\geq 39$  mph)

The scalar mean wind speed on the graph is based on the number of observations reporting a wind speed with direction. The sum of the totals line provides the cumulative percent frequency of wind speed below a selected threshold value. In the example graph, 71% of all winds were less than 17 knots (20 mph).

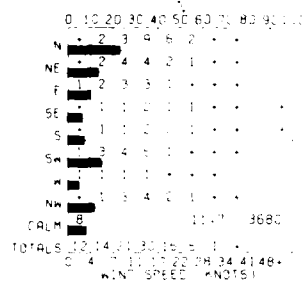
**Buhta Provideniya**



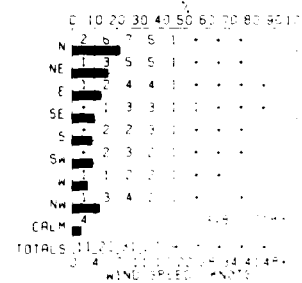
**Gambell**



**Northeast Cape**



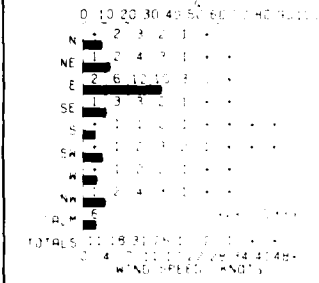
**Nome**



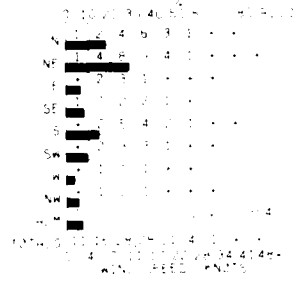
**Moses Point**



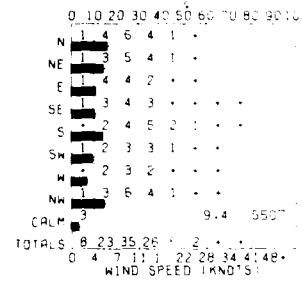
**Unalakleet**



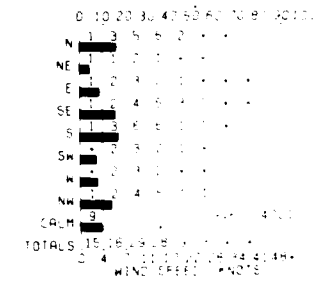
**Cape Romanzof**



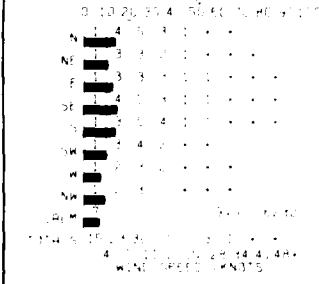
**Bethel**



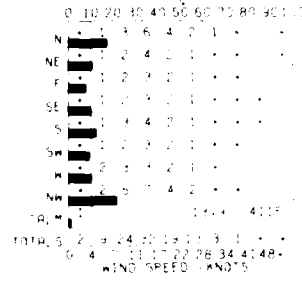
**Cape Newenham**



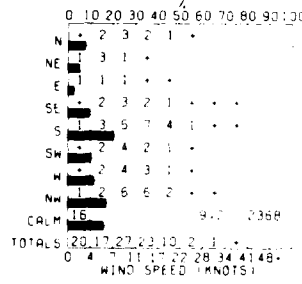
**King Salmon**



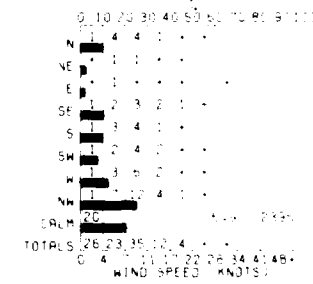
**St. Paul**

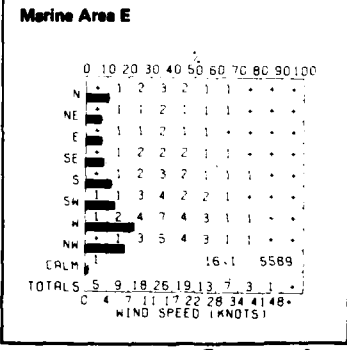
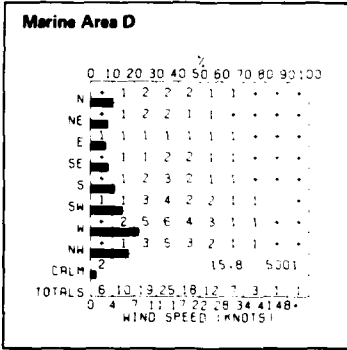
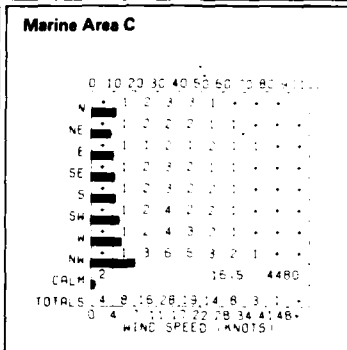
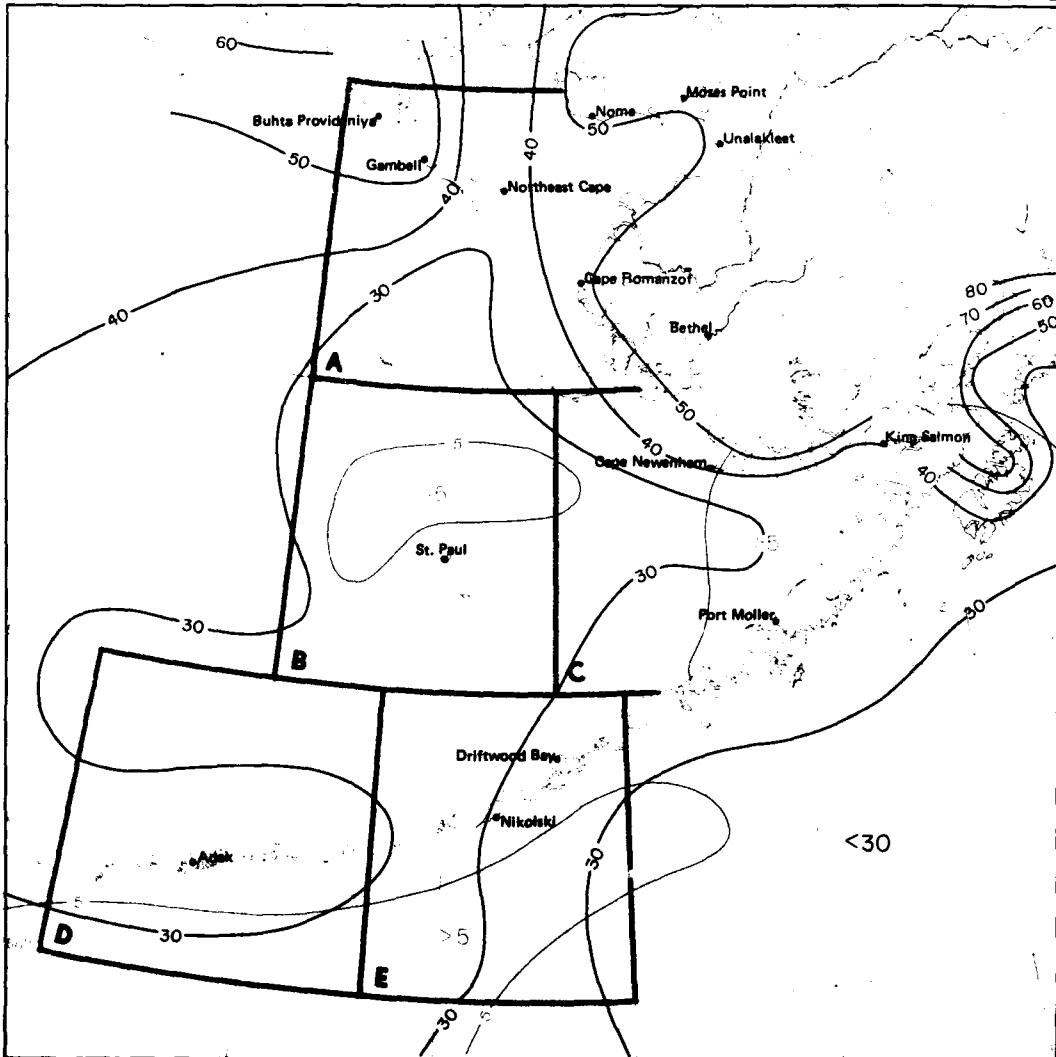
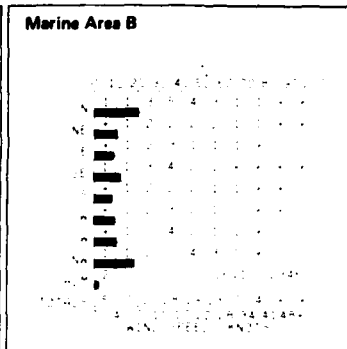
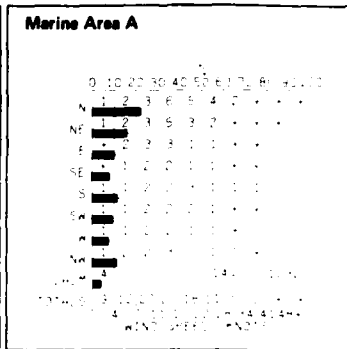
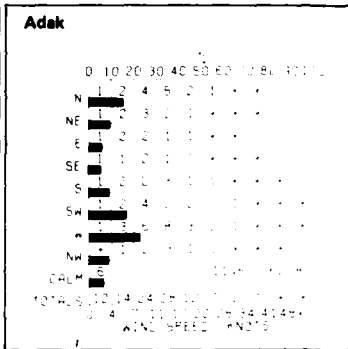
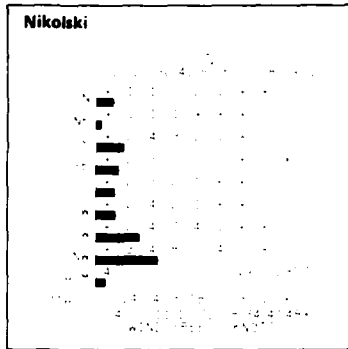


**Port Moller**



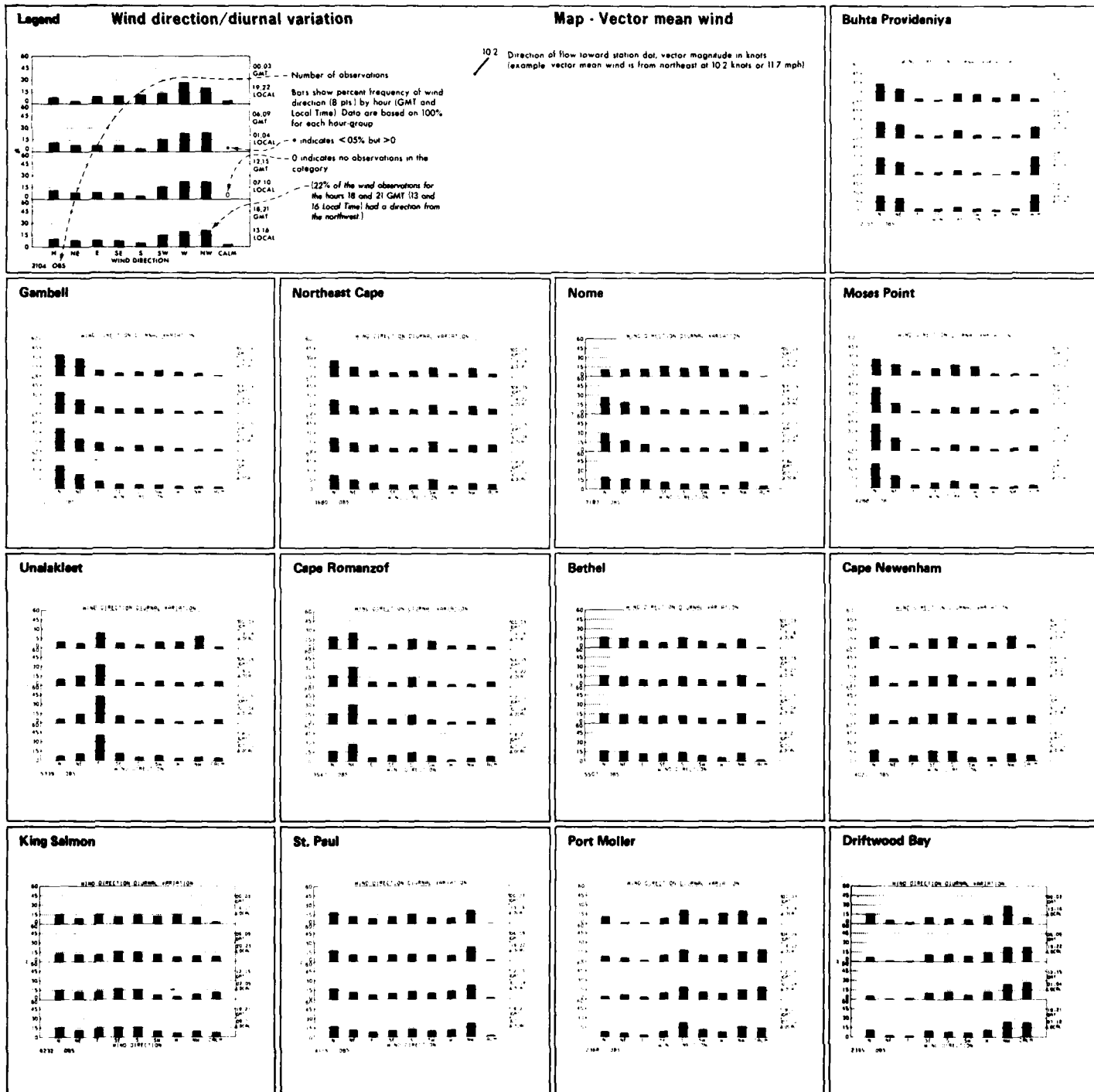
**Driftwood Bay**





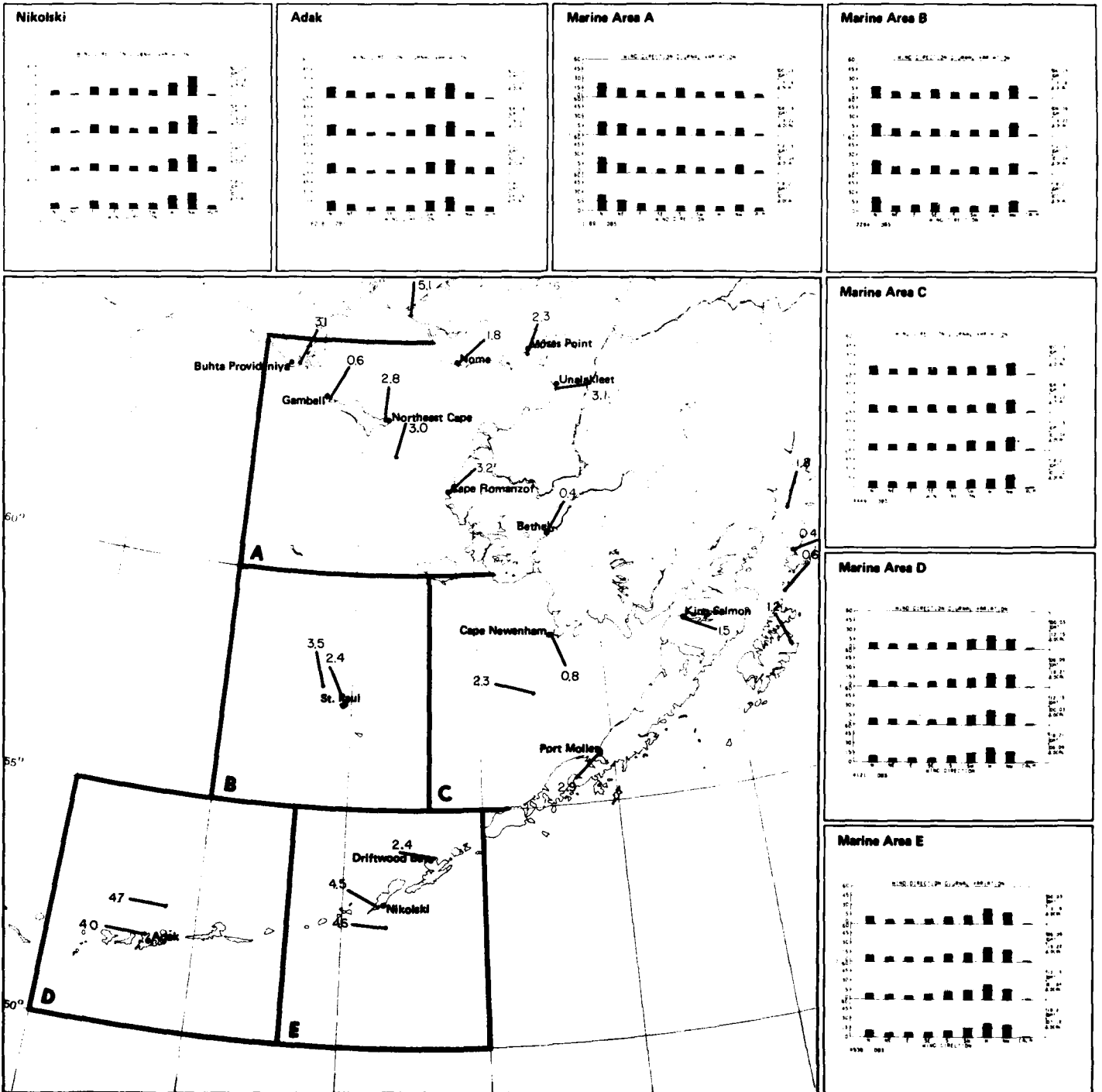
9 Wind speed thresholds

September



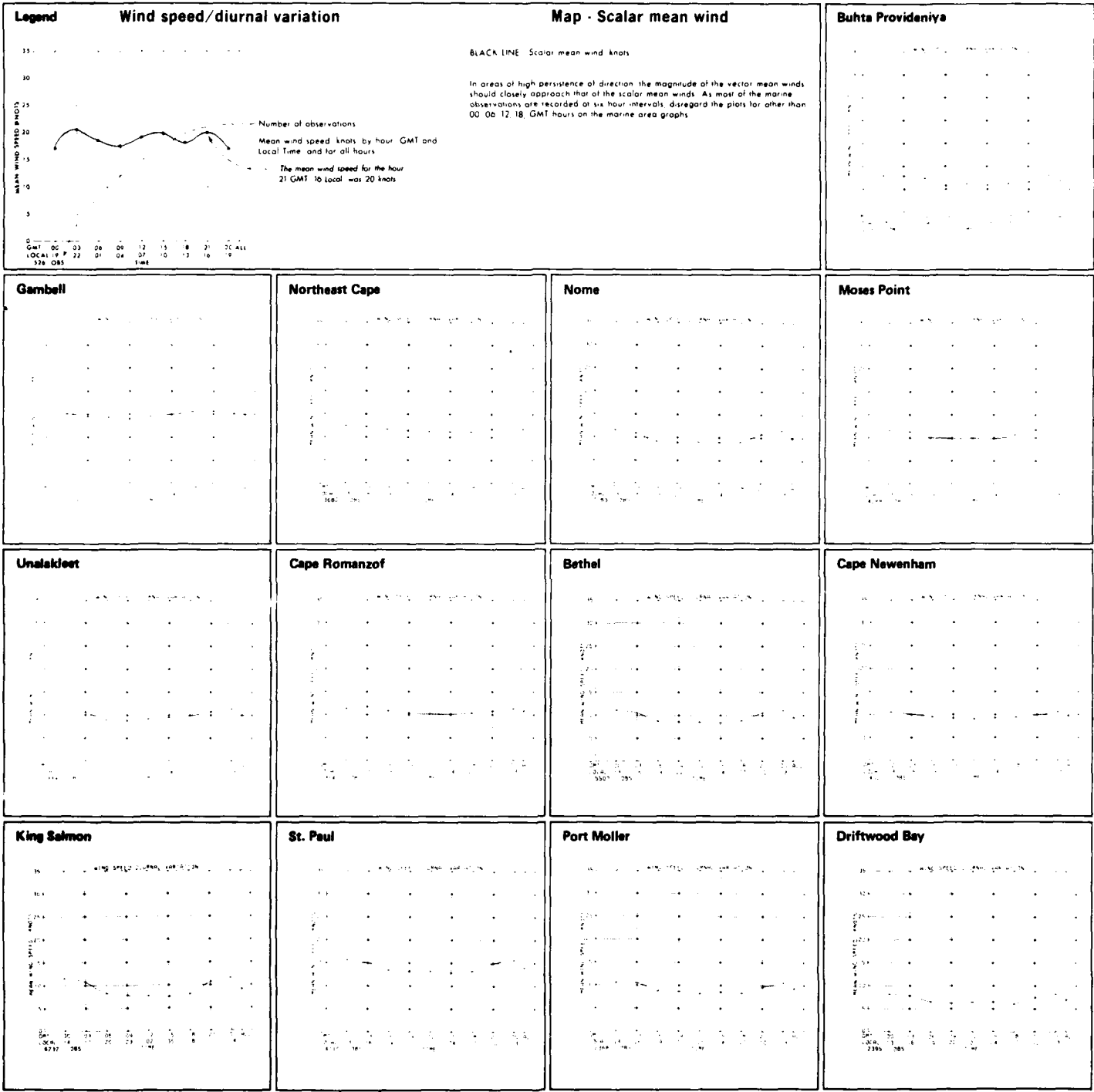
September

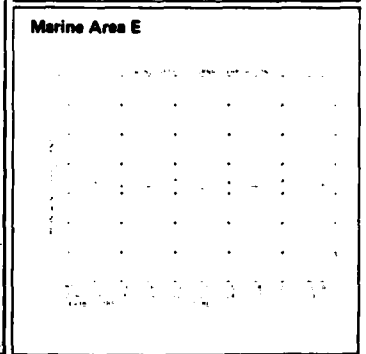
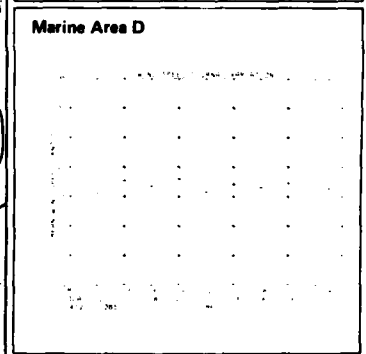
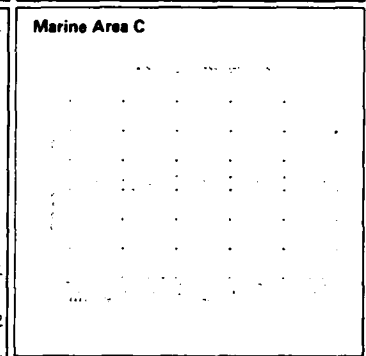
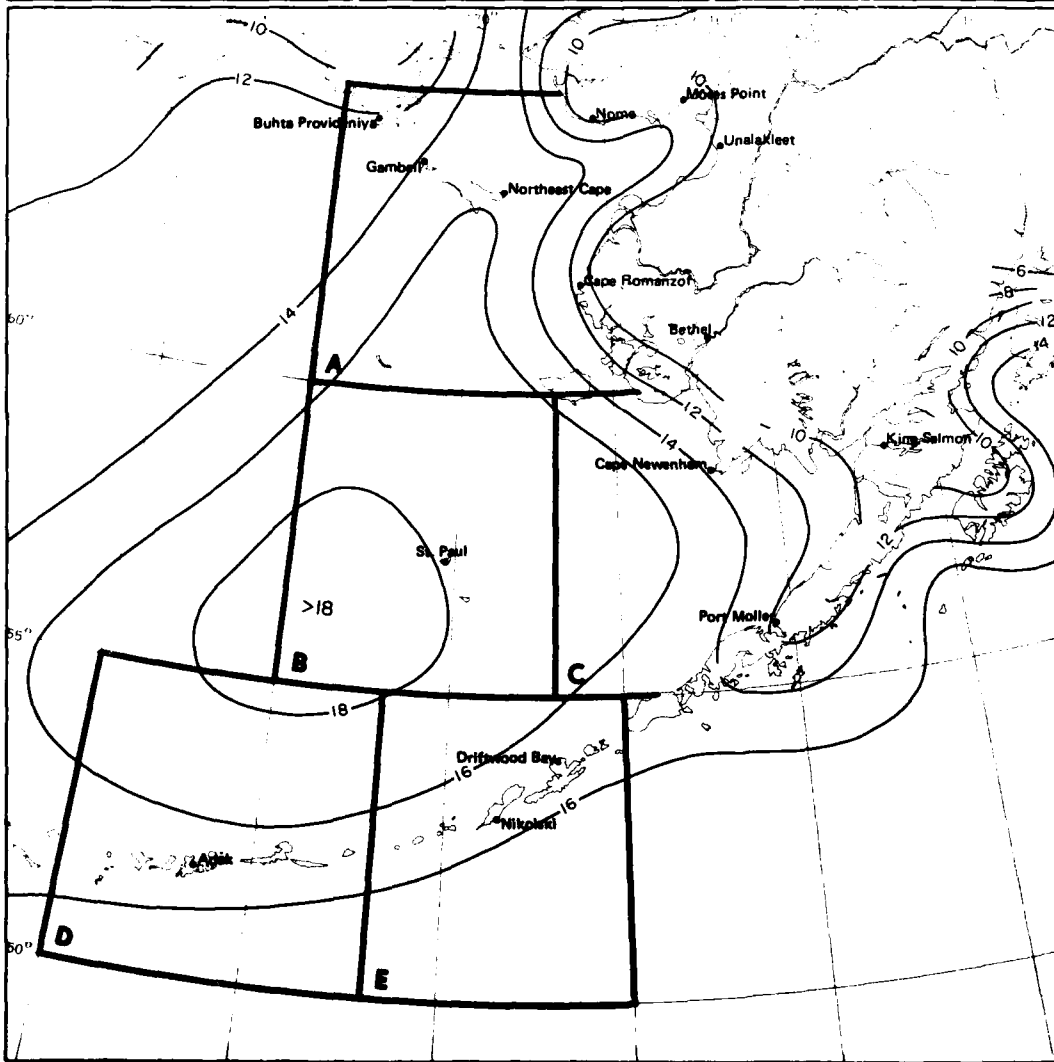
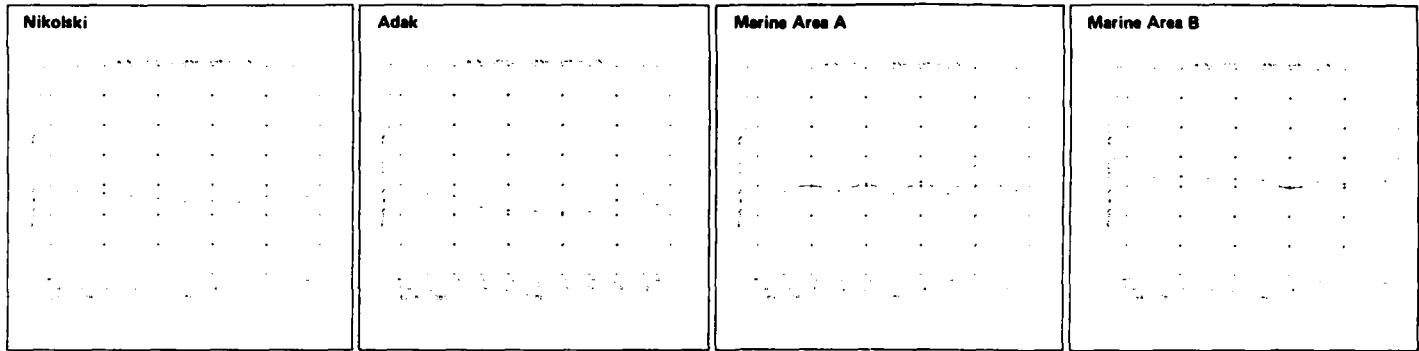
10 Wind direction/diurnal variation



10 Vector mean wind

September





**11 Scalar mean wind**

**September**



**Legend**

**Low cloud ceiling/visibility**

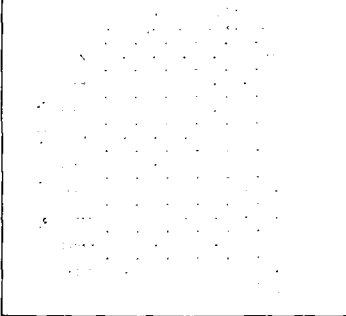


Percent frequency of simultaneous occurrence of specified low cloud ceilings (hundreds of feet) and visibilities (nautical miles).  
 Low cloud ceiling heights are estimated from the height of low clouds (h) when low cloud amount (N<sub>h</sub>) is ≥ 8.  
 Observations are included under ceiling 0 < 1.5  
 N.C. (no ceiling) includes bases ≥ 8000 feet as well as occurrences of N<sub>h</sub> < 5. 8  
 \* 2% of all observations reported ceiling ≥ 1000 but < 2000 feet simultaneously with visibility ≥ 5 but < 10 nautical miles.  
 - indicates < 5% but > 0  
 - Number of observations

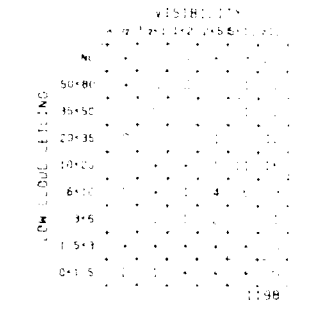
**Map - Low cloud ceiling and visibility thresholds**

BLACK LINE Percent frequency of low cloud ceiling ≥ 1000 feet or no low cloud ceiling and visibility ≥ 5 nautical miles.  
 BLUE LINE Percent frequency of low cloud ceiling < 600 feet and or visibility < 2 nautical miles.

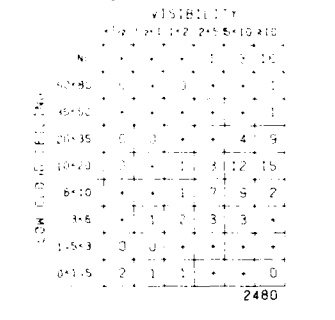
**Buhta Provideniya**



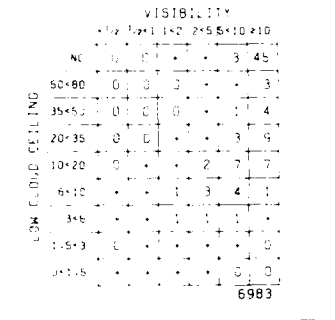
**Gambell**



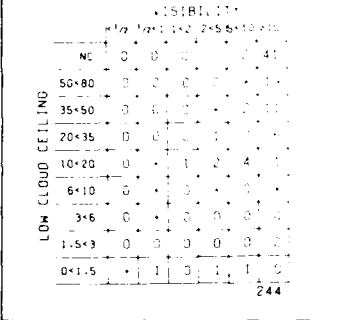
**Northeast Cape**



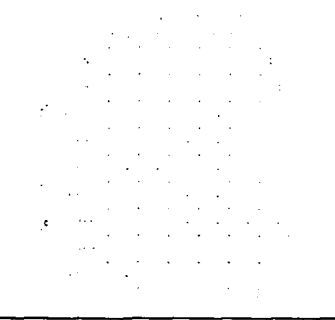
**Nome**



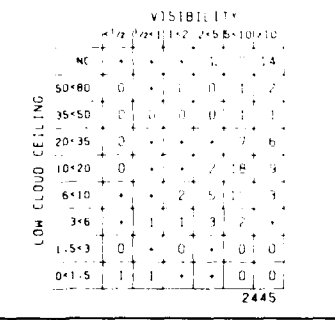
**Moses Point**



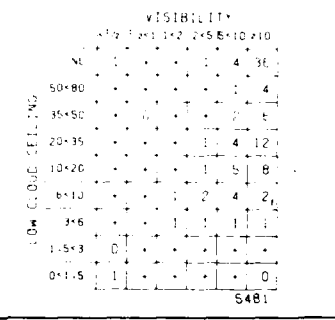
**Unalakleet**



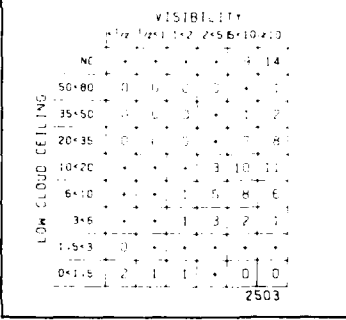
**Cape Romanzof**



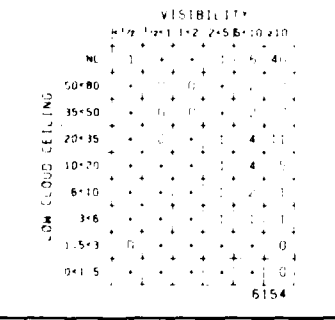
**Bethel**



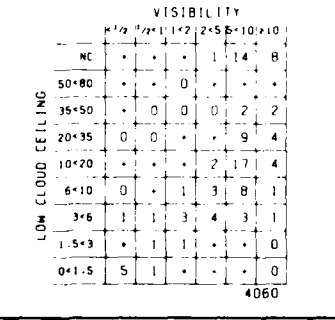
**Cape Newenham**



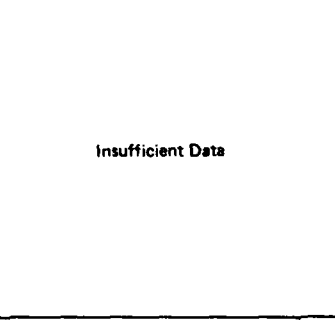
**King Salmon**



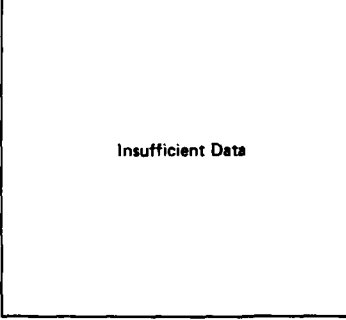
**St. Paul**



**Port Moller**



**Driftwood Bay**



**Nikolski**

Insufficient Data

**Adak**

VISIBILITY  
Kts: 1x2 2x5 5x10 >10

NC	0	0	1	1	4
50+80	0	0	0	0	0
35+50	0	0	0	2	1
20+35	0	0	1	16	2
10+20	0	0	0	6	23
6+10	0	0	1	7	9
3+6	0	1	1	5	3
1-5+3	0	0	0	0	0
0+1.5	0	1	1	0	0

6214

**Marine Area A**

VISIBILITY  
Kts: 1x2 2x5 5x10 >10

NC	0	0	0	0	0
50+80	0	0	0	0	0
35+50	0	0	0	0	0
20+35	0	0	0	0	0
10+20	0	0	0	0	0
6+10	0	0	0	0	0
3+6	0	0	0	0	0
1-5+3	0	0	0	0	0
0+1.5	0	0	0	0	0

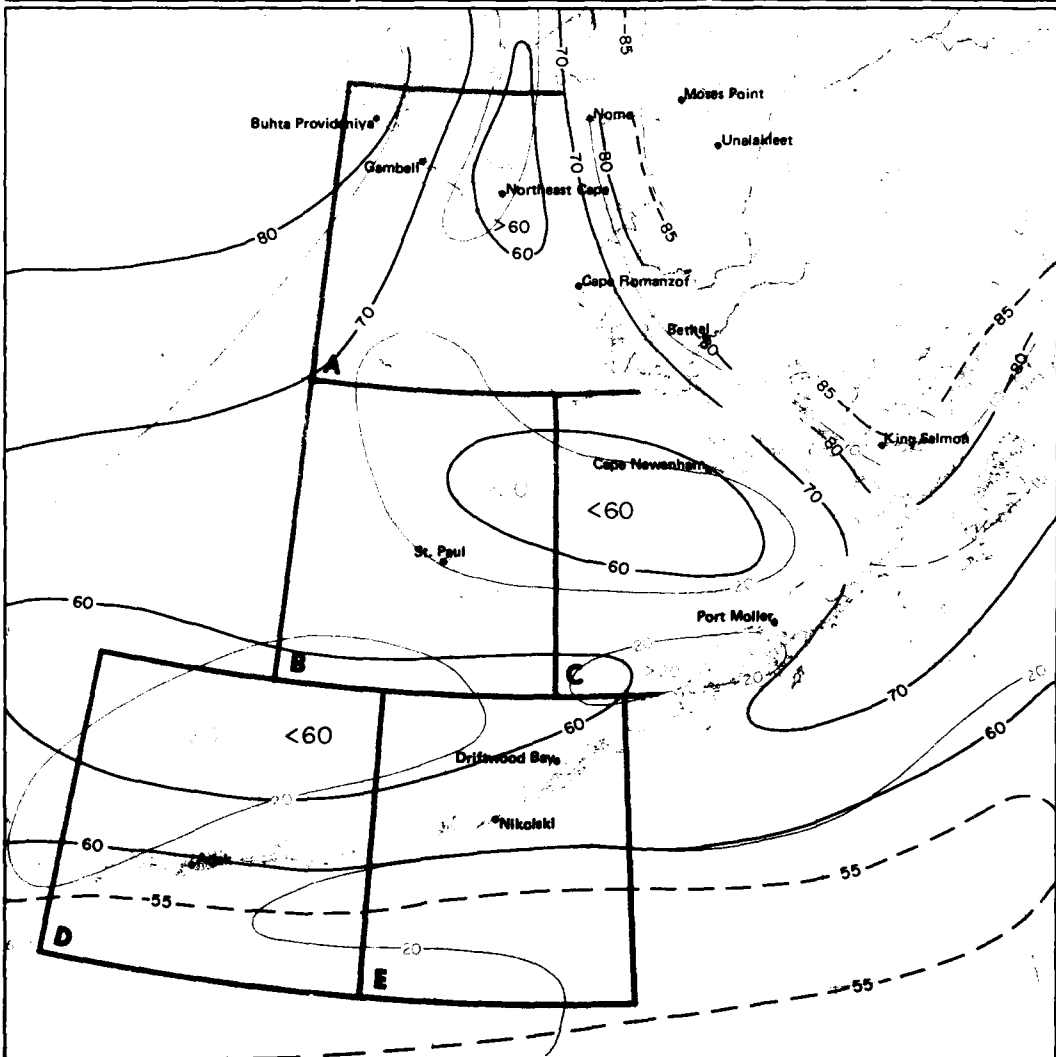
DATA

**Marine Area B**

VISIBILITY  
Kts: 1x2 2x5 5x10 >10

NC	0	0	0	0	0
50+80	0	0	0	0	0
35+50	0	0	0	0	0
20+35	0	0	0	0	0
10+20	0	0	0	0	0
6+10	0	0	0	0	0
3+6	0	0	0	0	0
1-5+3	0	0	0	0	0
0+1.5	0	0	0	0	0

DATA



**Marine Area C**

VISIBILITY  
Kts: 1x2 2x5 5x10 >10

NC	0	0	0	0	0
50+80	0	0	0	0	0
35+50	0	0	0	0	0
20+35	0	0	0	0	0
10+20	0	0	0	0	0
6+10	0	0	0	0	0
3+6	0	0	0	0	0
1-5+3	0	0	0	0	0
0+1.5	0	0	0	0	0

4057

**Marine Area D**

VISIBILITY  
Kts: 1x2 2x5 5x10 >10

NC	0	0	0	0	0
50+80	0	0	0	0	0
35+50	0	0	0	0	0
20+35	0	0	0	0	0
10+20	0	0	0	0	0
6+10	0	0	0	0	0
3+6	0	0	0	0	0
1-5+3	0	0	0	0	0
0+1.5	0	0	0	0	0

3499

**Marine Area E**

VISIBILITY  
Kts: 1x2 2x5 5x10 >10

NC	0	0	1	5	15
50+80	0	0	0	0	0
35+50	0	0	0	1	7
20+35	0	0	1	4	8
10+20	0	0	4	10	12
6+10	1	1	4	8	6
3+6	0	0	1	1	1
1-5+3	0	0	0	0	0
0+1.5	5	1	1	1	1

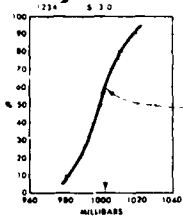
4199

12 Low cloud ceiling and visibility thresholds

September

**Legend**

**Sea level pressure**



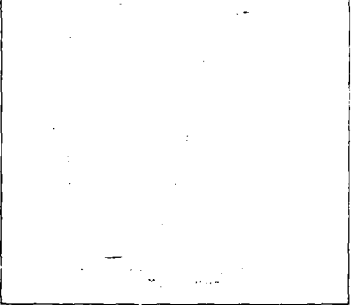
Number of observations  
 Cumulative percent frequency of sea level pressures equal to or less than the pressure intersected by the curve  
 S Standard deviation of pressure, mbs

**Map - Mean sea level pressure**

BLACK LINE Mean sea level pressure, millibars

Sea level pressure is one of the most frequently recorded elements but one of the least accurate because of instrument and coding errors. Despite the inaccuracies of the individual readings, however, the large scale patterns and mean gradients of the isopleth analyses are relatively accurate.

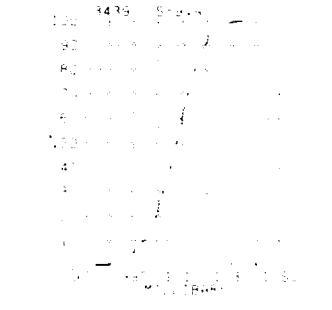
**Buhta Provideniya**



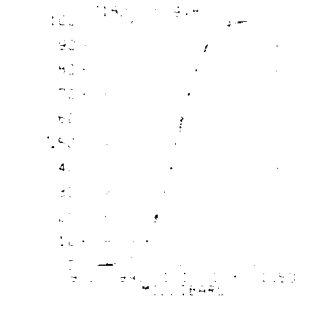
**Gambell**



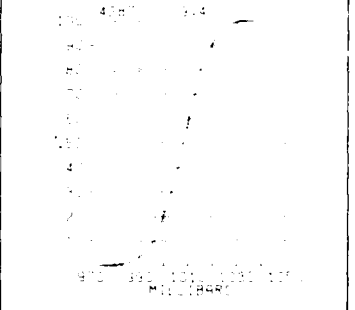
**Northeast Cape**



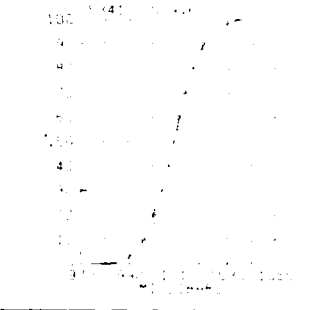
**Nome**



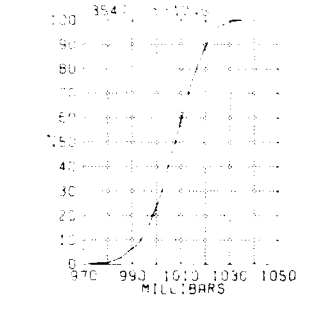
**Moses Point**



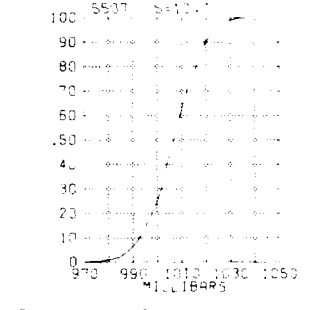
**Unalakleet**



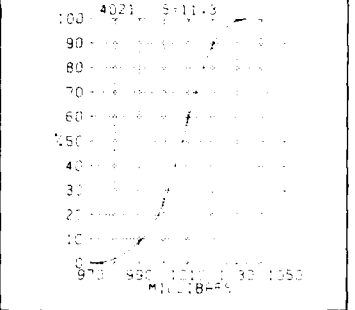
**Cape Romanzof**



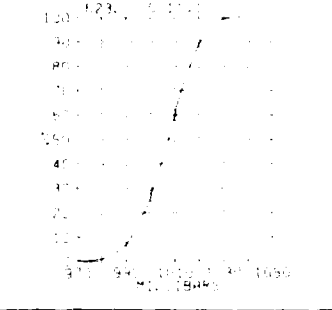
**Bethel**



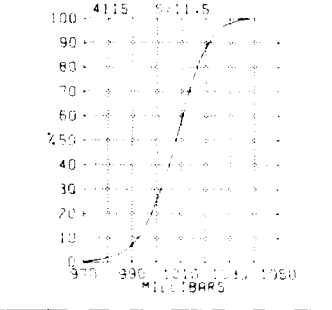
**Cape Newenham**



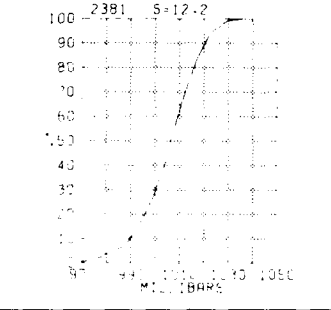
**King Salmon**



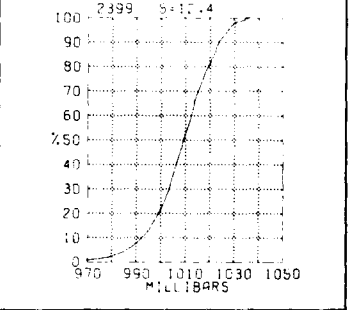
**St. Paul**



**Port Moller**

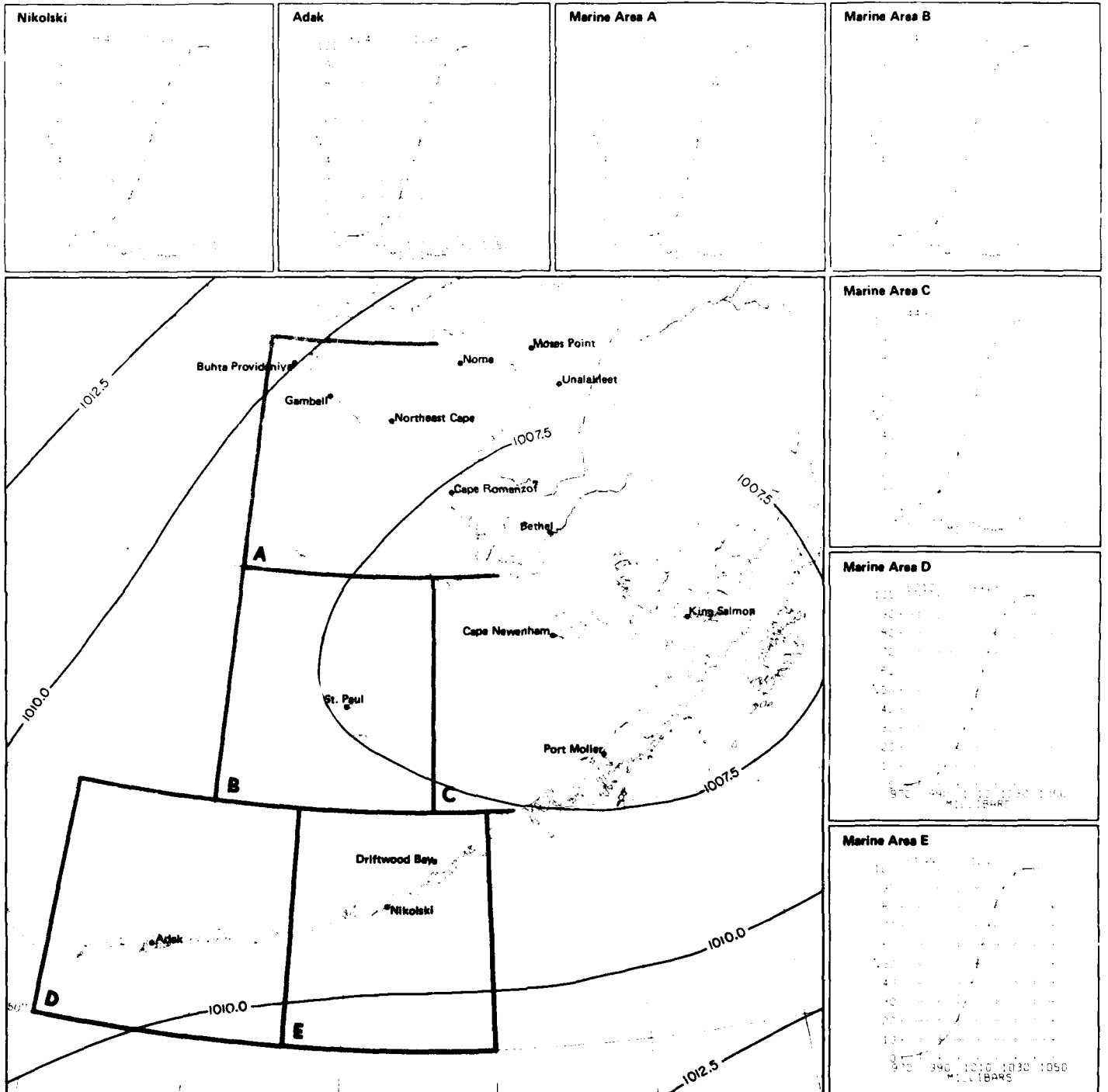


**Driftwood Bay**



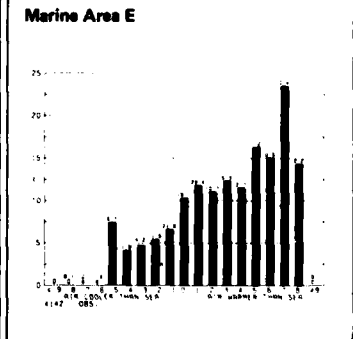
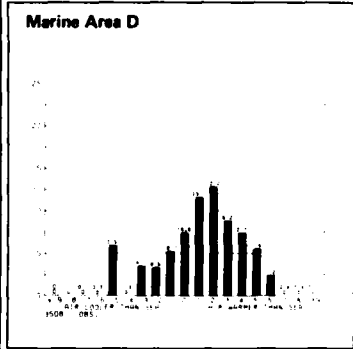
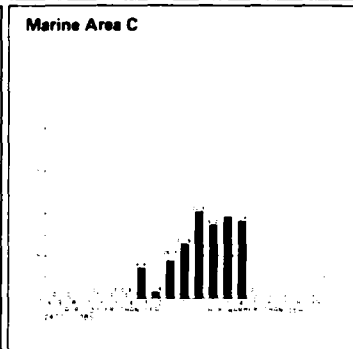
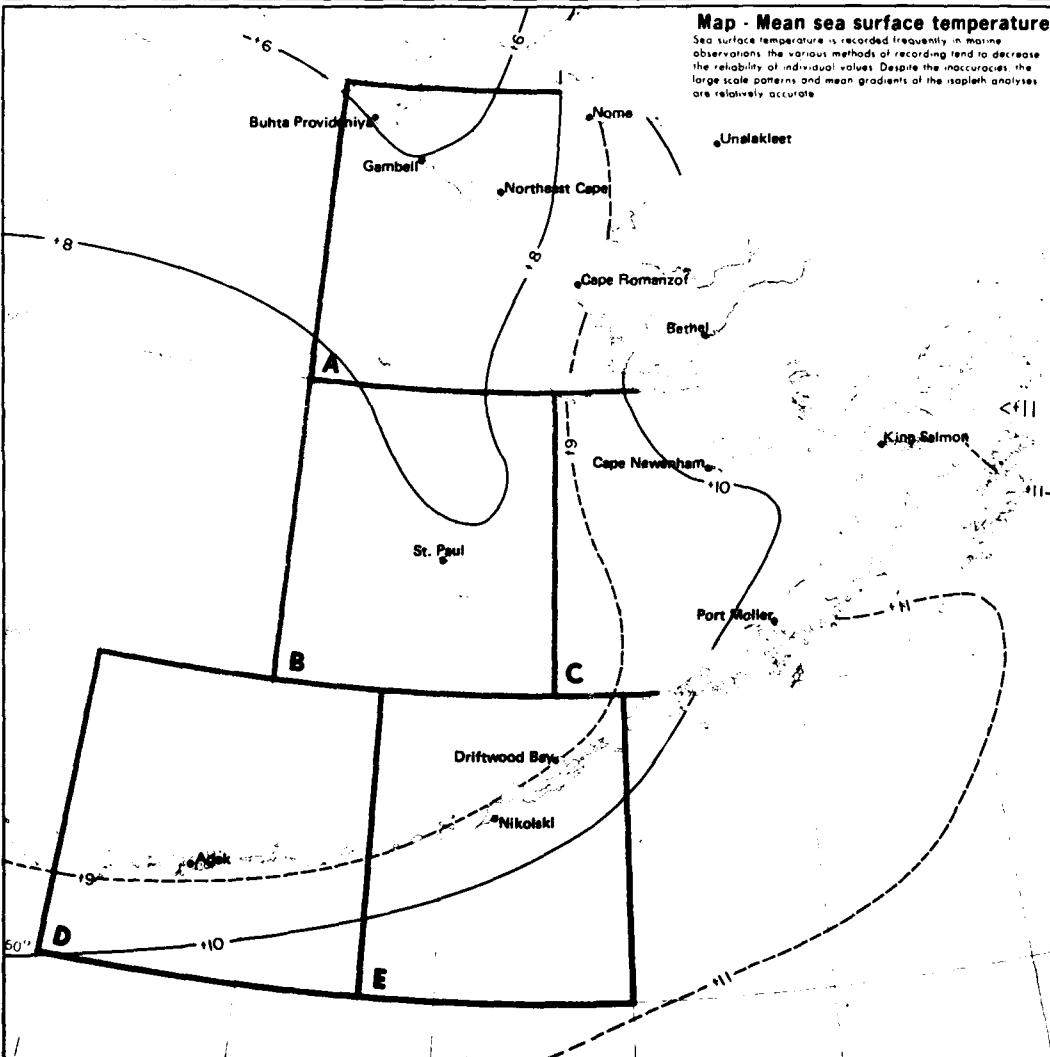
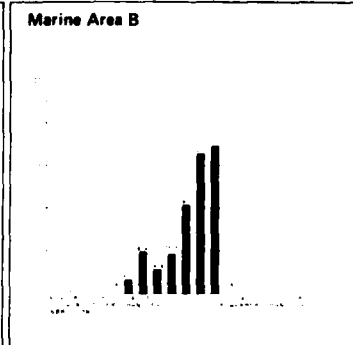
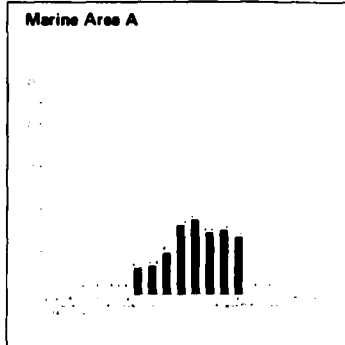
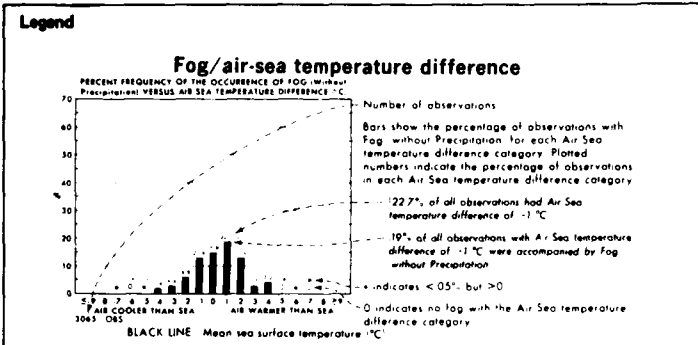
**September**

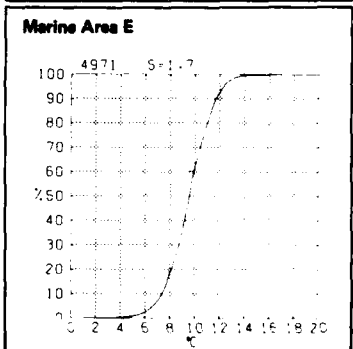
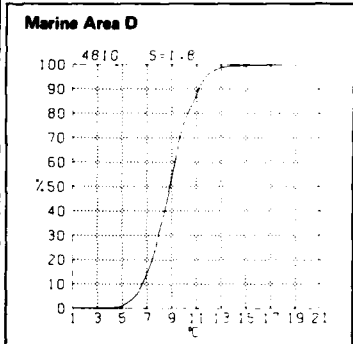
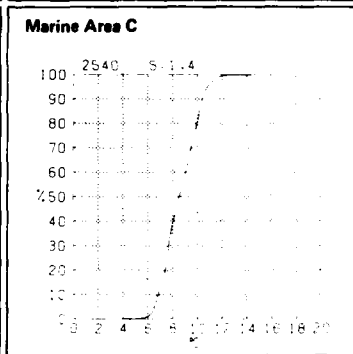
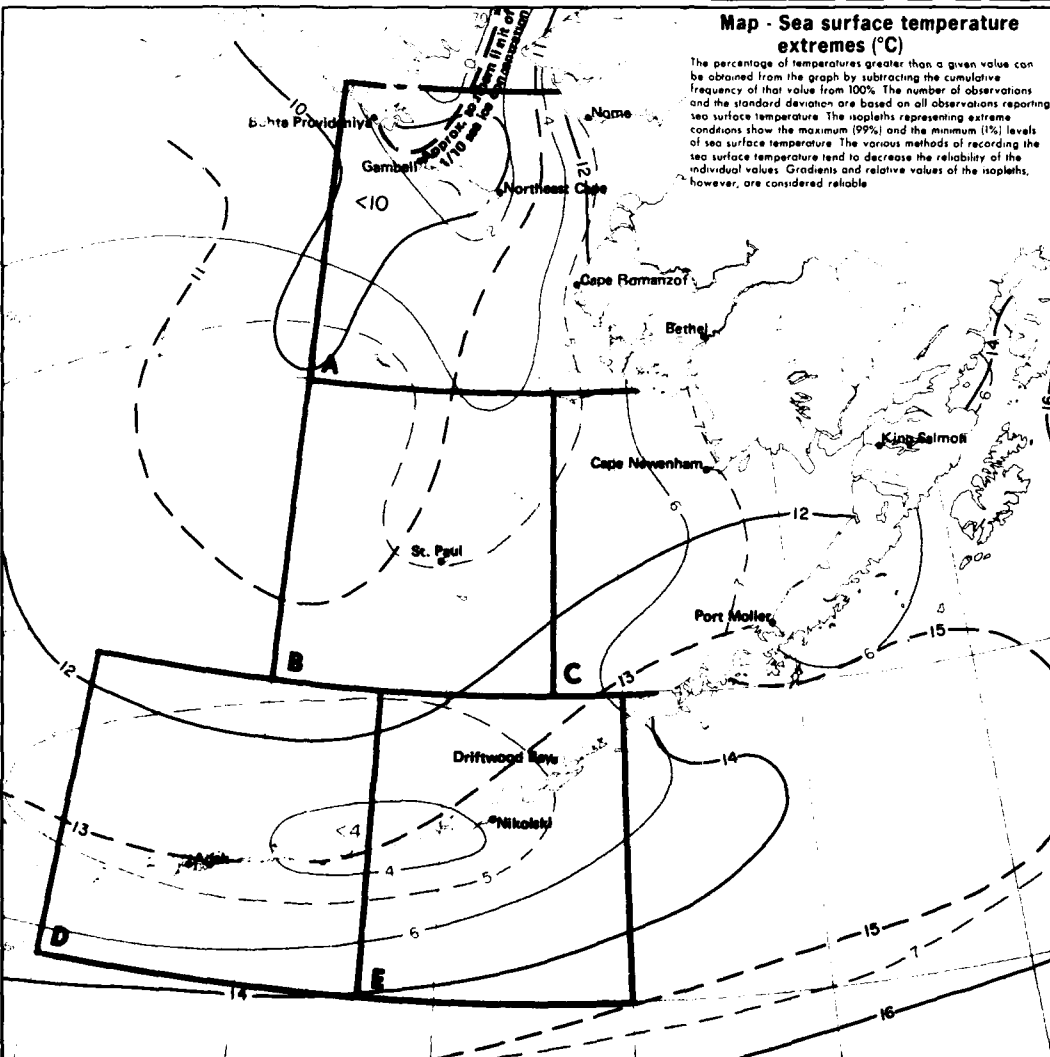
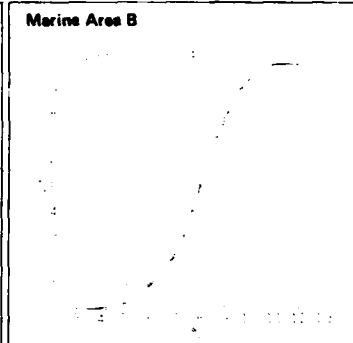
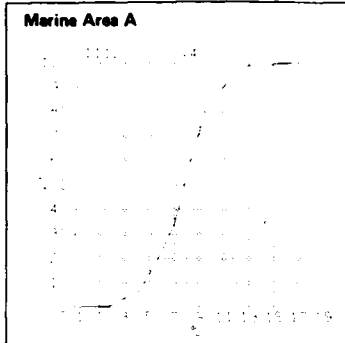
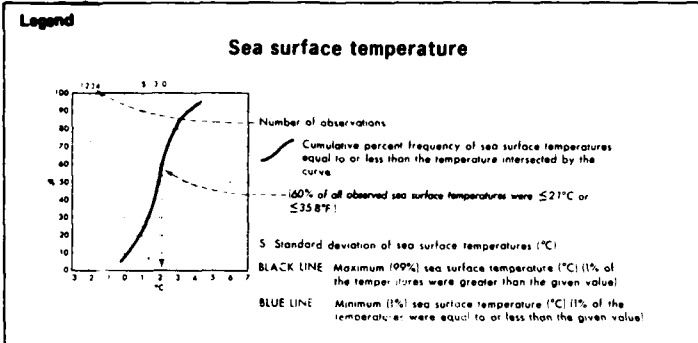
**13 Sea level pressure**



13 Mean sea level pressure

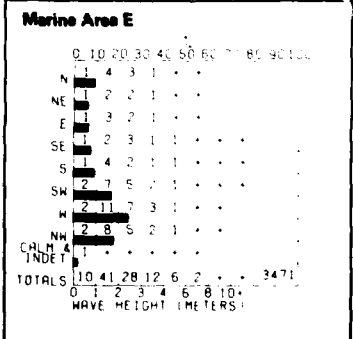
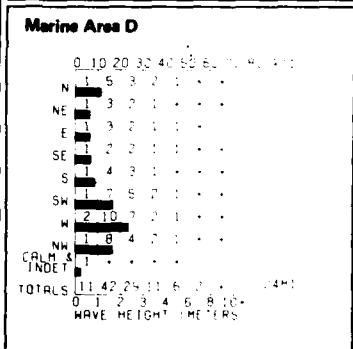
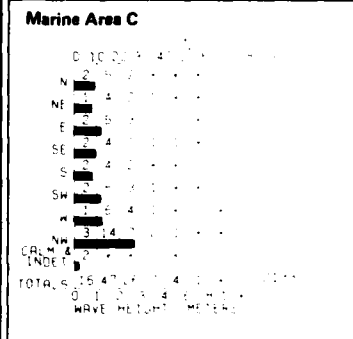
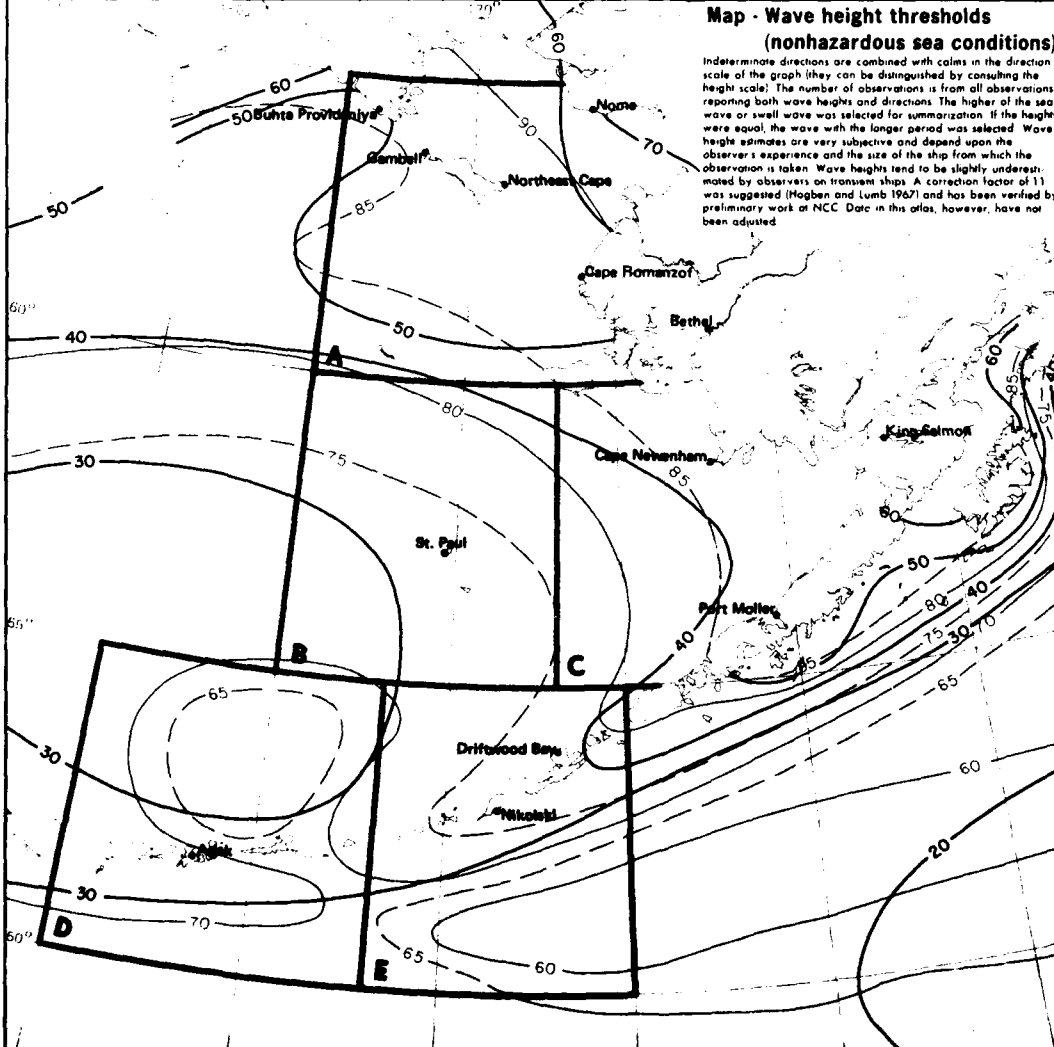
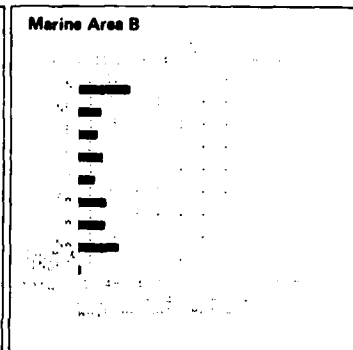
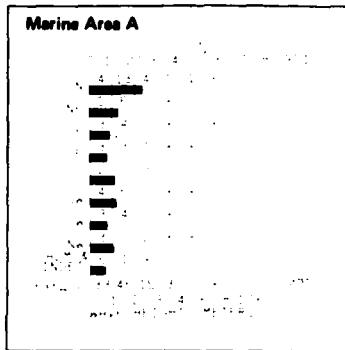
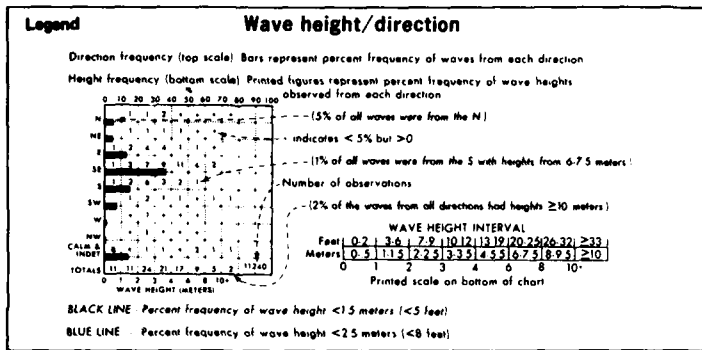
September





**15 Sea surface temperature extremes**

**September**



### Legend

#### Wave height/period

PERIOD (seconds)      Percent frequency of occurrence of wave period and height

0.5	1.0	1.5	2.0	2.5	3.0	4.0	5.0	6.0	8.0	10.0
0	1	1	1	1	2	3	3	3	4	4
1	2	2	2	3	4	5	5	5	6	7
2	3	3	4	5	6	7	7	7	8	10
3	4	4	5	6	7	8	8	8	9	12
4	5	5	6	7	8	9	9	9	10	15
5	6	6	7	8	9	10	10	10	11	20
6	7	7	8	9	10	11	11	11	12	30
7	8	8	9	10	11	12	12	12	13	40
8	9	9	10	11	12	13	13	13	14	60
9	10	10	11	12	13	14	14	14	15	80
10	11	11	12	13	14	15	15	15	16	100
4010										

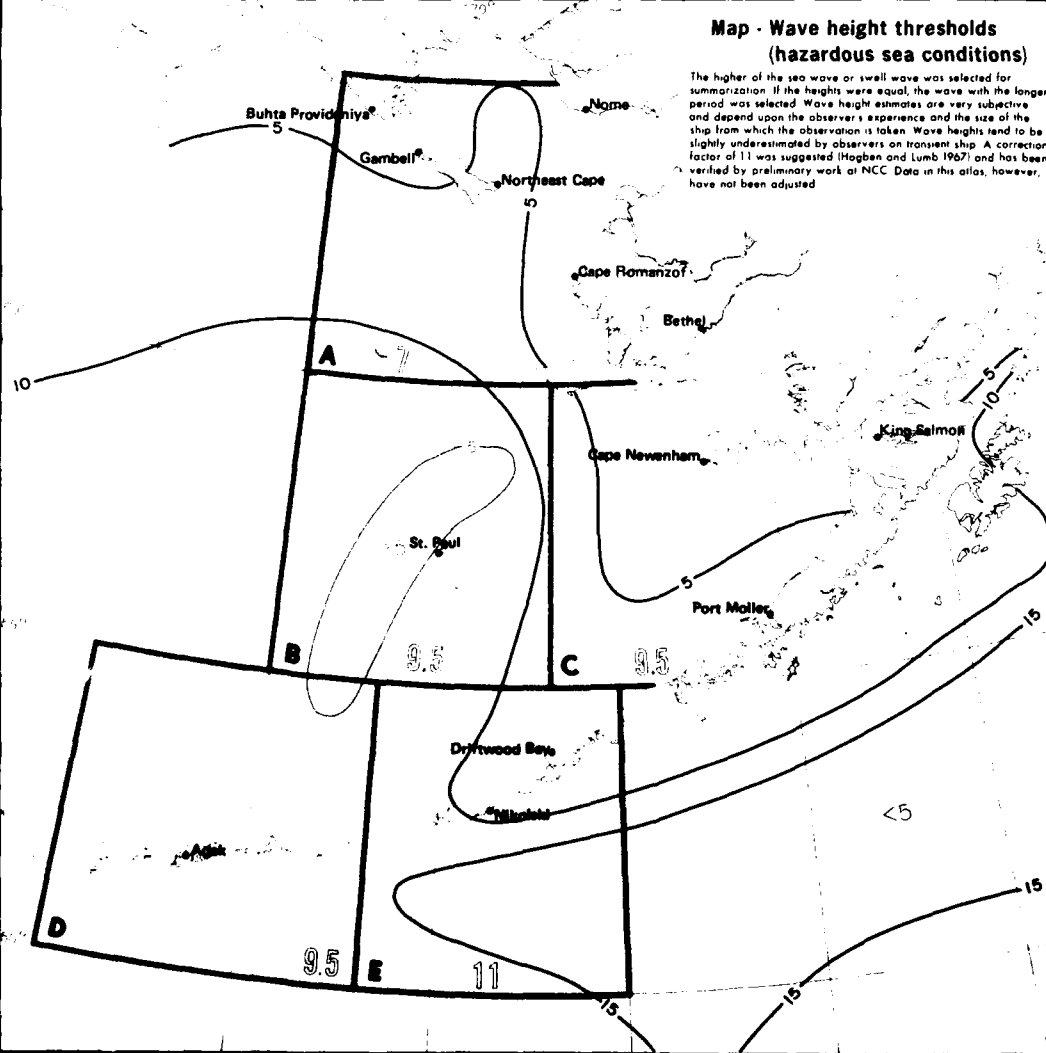
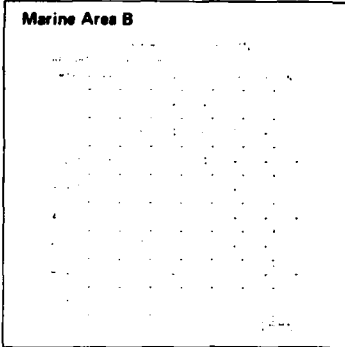
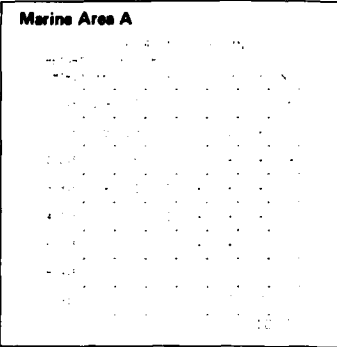
--- (2% of observed waves had a height of 11.5 meters and a period of 10-11 seconds.)

--- indicates < 5% but > 0

--- Number of observations

Waves are selected on the basis of the higher of sea and swell when both are reported. If both heights are equal, the wave with the longer period is selected.

- BLACK LINE      Percent frequency of wave height  $\geq 3.5$  meters ( $\geq 12$  feet)
- BLUE LINE      Percent frequency of wave height  $\geq 6$  meters ( $\geq 20$  feet)
- BLUE NUMBER      Maximum observed wave height (meters)



#### Marine Area C

0.5	1.0	1.5	2.0	2.5	3.0	4.0	5.0	6.0	8.0	10.0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
2113										

#### Marine Area D

0.5	1.0	1.5	2.0	2.5	3.0	4.0	5.0	6.0	8.0	10.0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
2527										

#### Marine Area E

0.5	1.0	1.5	2.0	2.5	3.0	4.0	5.0	6.0	8.0	10.0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
3538										

17 Wave height thresholds (hazardous)



**Legend**

**Low pressure center movement**

12 hour movements of low pressure centers considering only closed circulations

Mean speed: Printed figure at the end of each bar represents the mean speed of movement in knots toward the indicated direction

Direction frequency: Bars represent percent frequency of 12 hour movements toward each direction. Each circle represents 20%

Low pressure centers moving toward the N had a mean speed of 11 knots

47% of all 12 hour movements were toward the NE

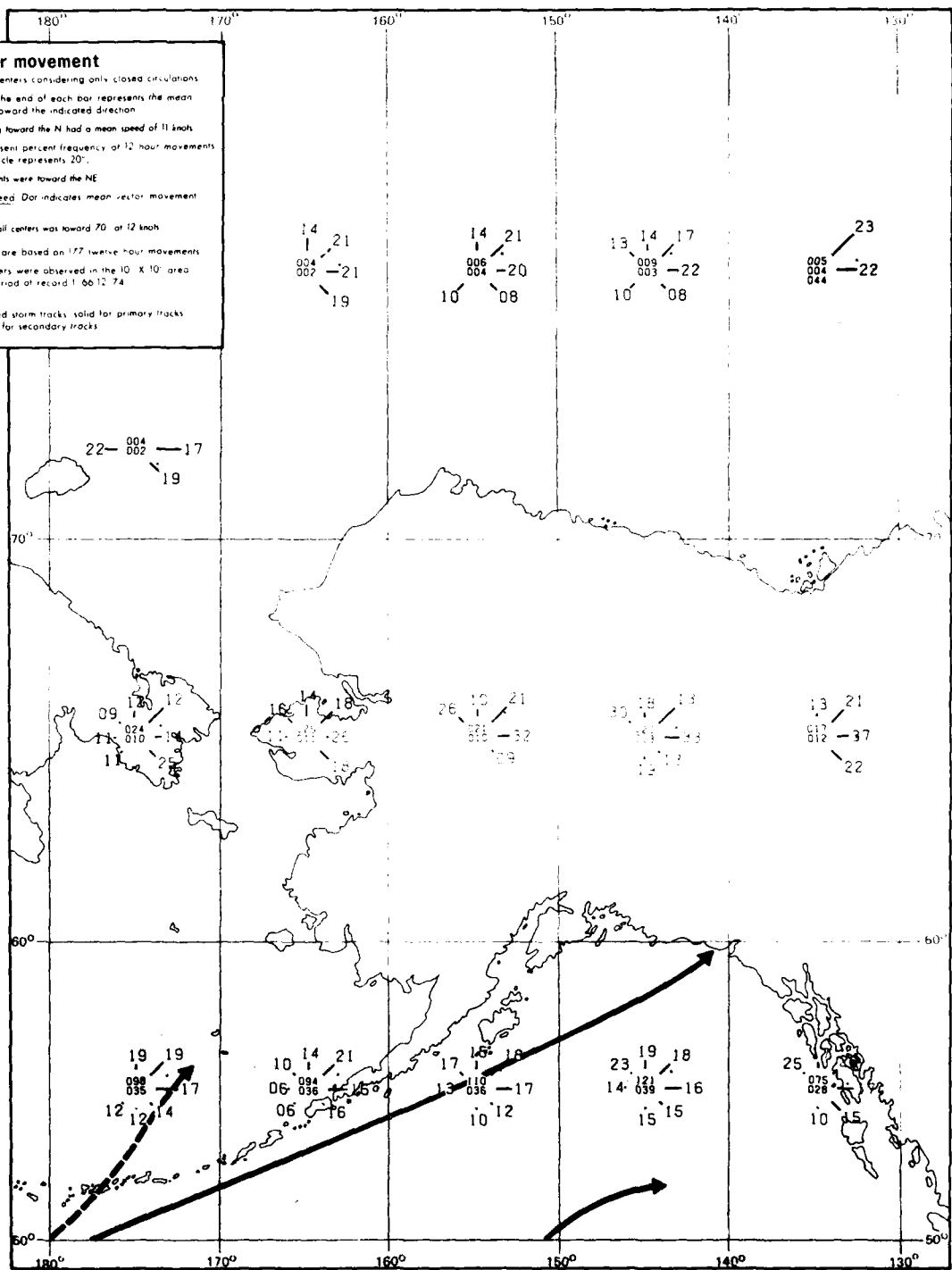
Vector mean direction and speed: Bar indicates mean vector movement. Each circle equals 10 knots

Mean vector movement of all centers was toward 70° at 12 knots

Statistics for this area are based on 177 twelve hour movements

83 low pressure centers were observed in the 10° X 10° area during the 9 year period of record 1 66 12 74

BLACK ARROWS Preferred storm tracks, solid for primary tracks, dashed for secondary tracks



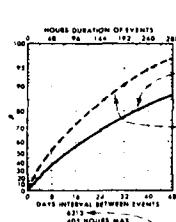
September

332

18 Low pressure center movement

**Legend**

**Persistence of visibility <2 n. mi.**



Hours duration of events - Days interval between events

Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve.

--- (80% of the events had a duration ≤ 216 hours.)

Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve.

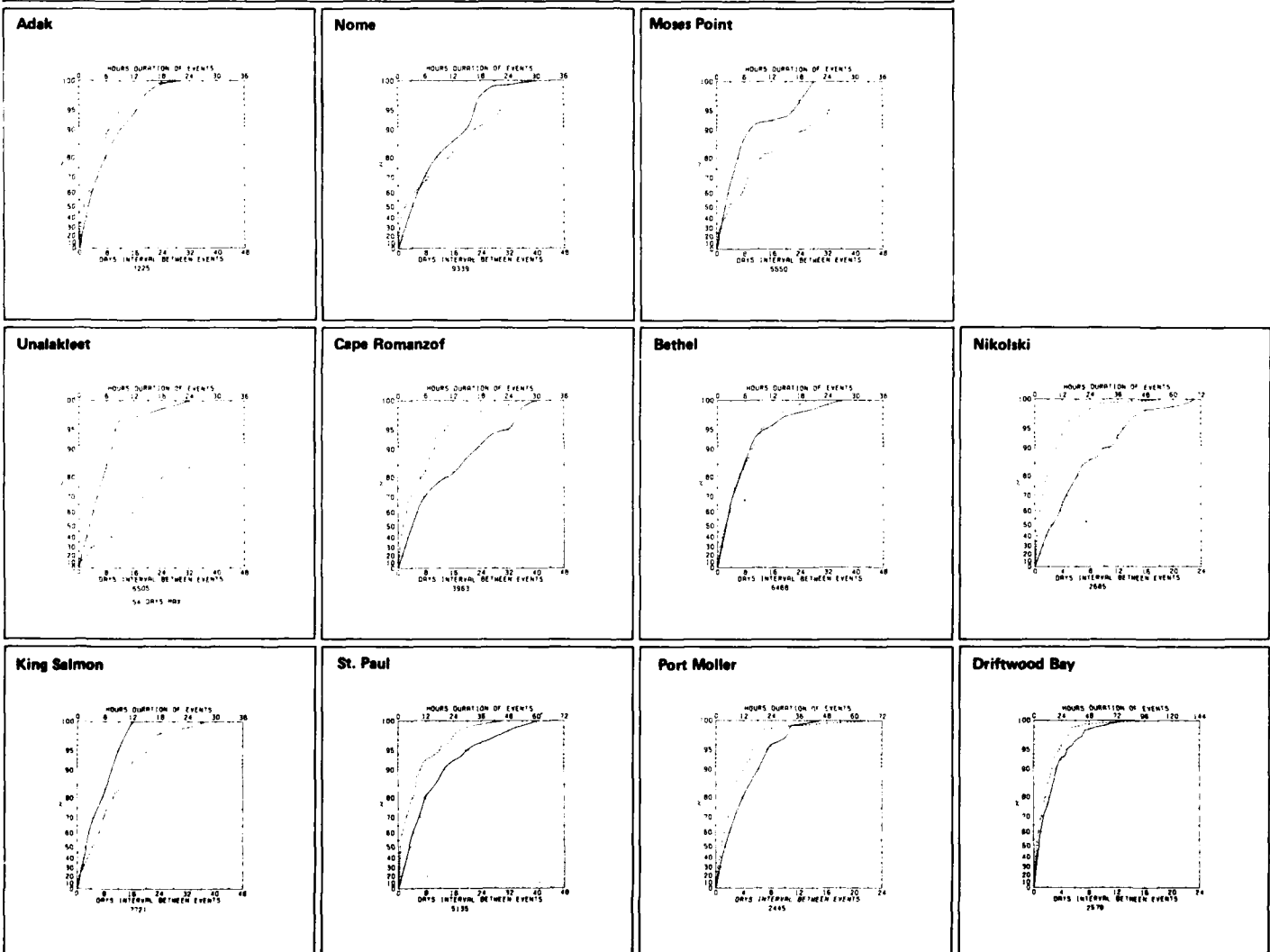
--- (88% of the events were followed by another event in 28 days or less.)

The maximum value(s) of hours duration and/or the days interval will be displayed when the graph lines are exceeded.

Durations and intervals for a particular month extend from the time they begin (or the first of the month if already in progress) and are terminated at the actual ending time, regardless of what month that may be.

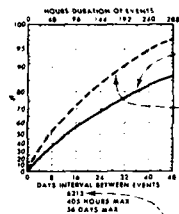
Number of observations

Top and bottom scales are variable to allow for variations in the data



**Legend**

**Persistence of wind  $\geq 10$  kts.**



Hours duration of events Days interval between events

Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve

— (80% of the events had a duration  $\leq 216$  hours.)

Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve

— (88% of the events were followed by another event in 28 days or less.)

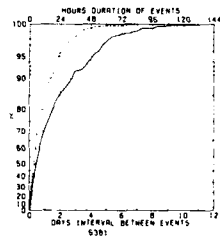
The maximum value(s) of hours duration and/or the days interval will be displayed when the graph limits are exceeded

Durations and intervals for a particular month extend from the time they begin (or the first of the month if already in progress) and are terminated at the actual ending time, regardless of what month that may be

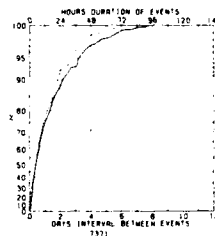
Number of observations

Top and bottom scales are variable to allow for variations in the data

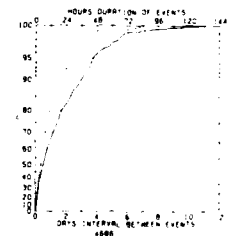
**Adak**



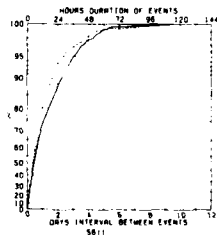
**Nome**



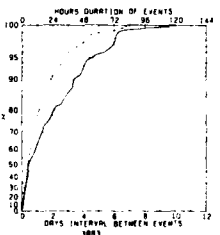
**Moses Point**



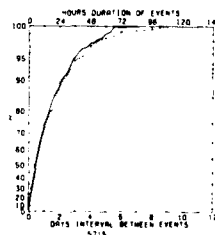
**Unalakleet**



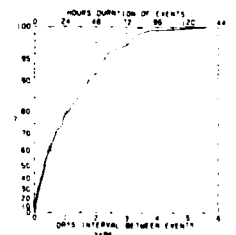
**Cape Romanzof**



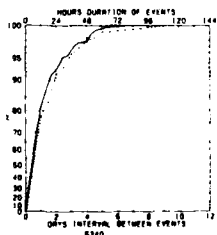
**Bethel**



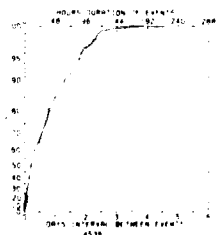
**Nikolski**



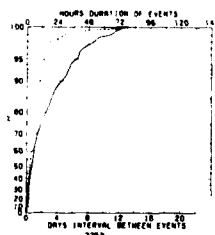
**King Salmon**



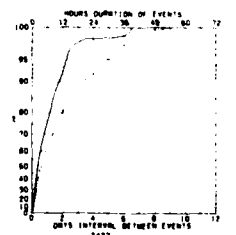
**St. Paul**



**Port Moller**

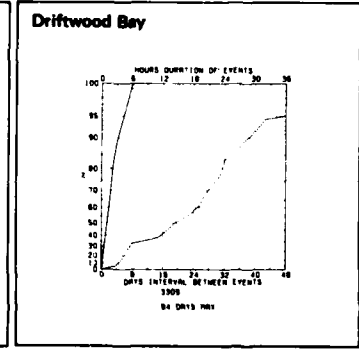
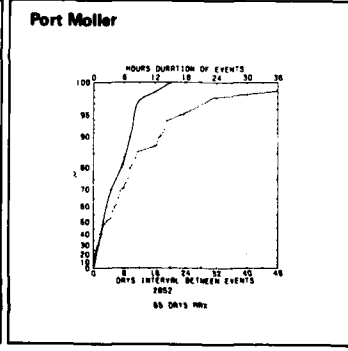
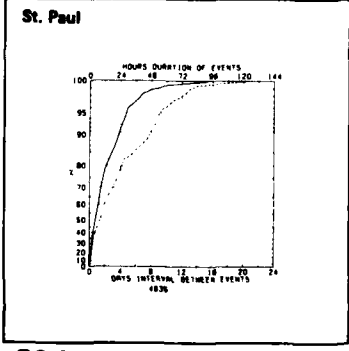
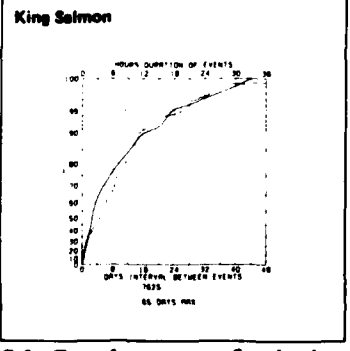
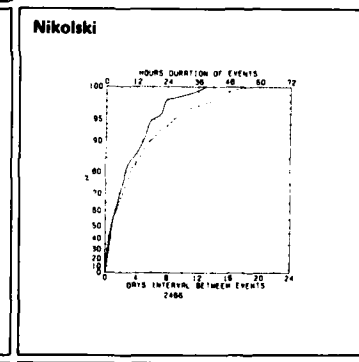
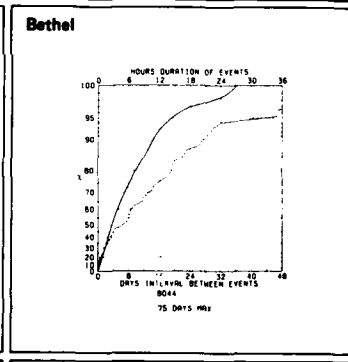
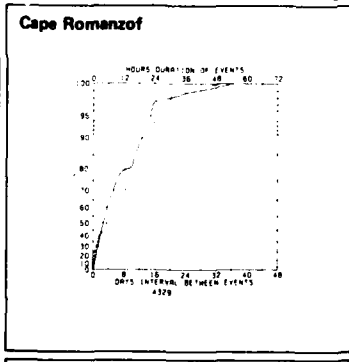
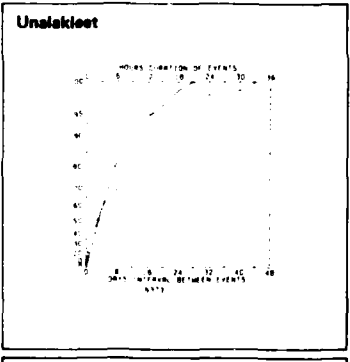
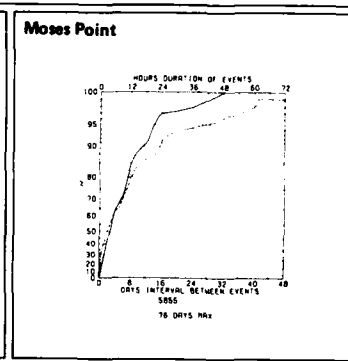
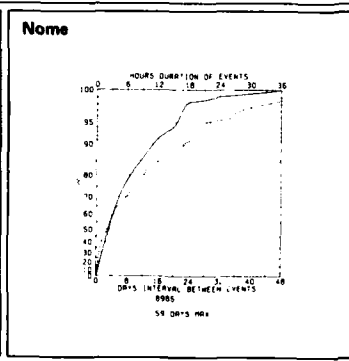
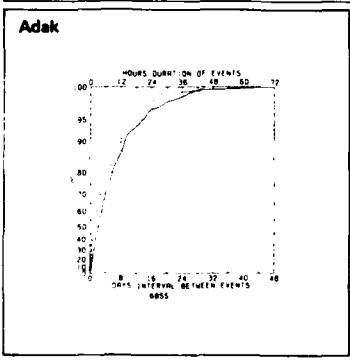
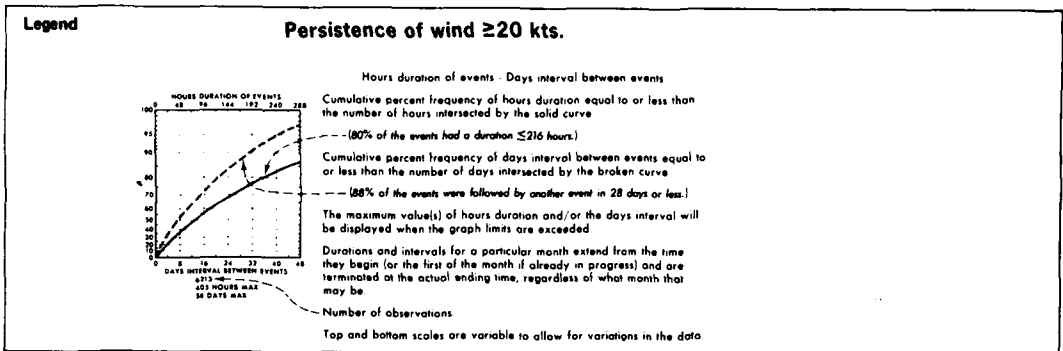


**Driftwood Bay**



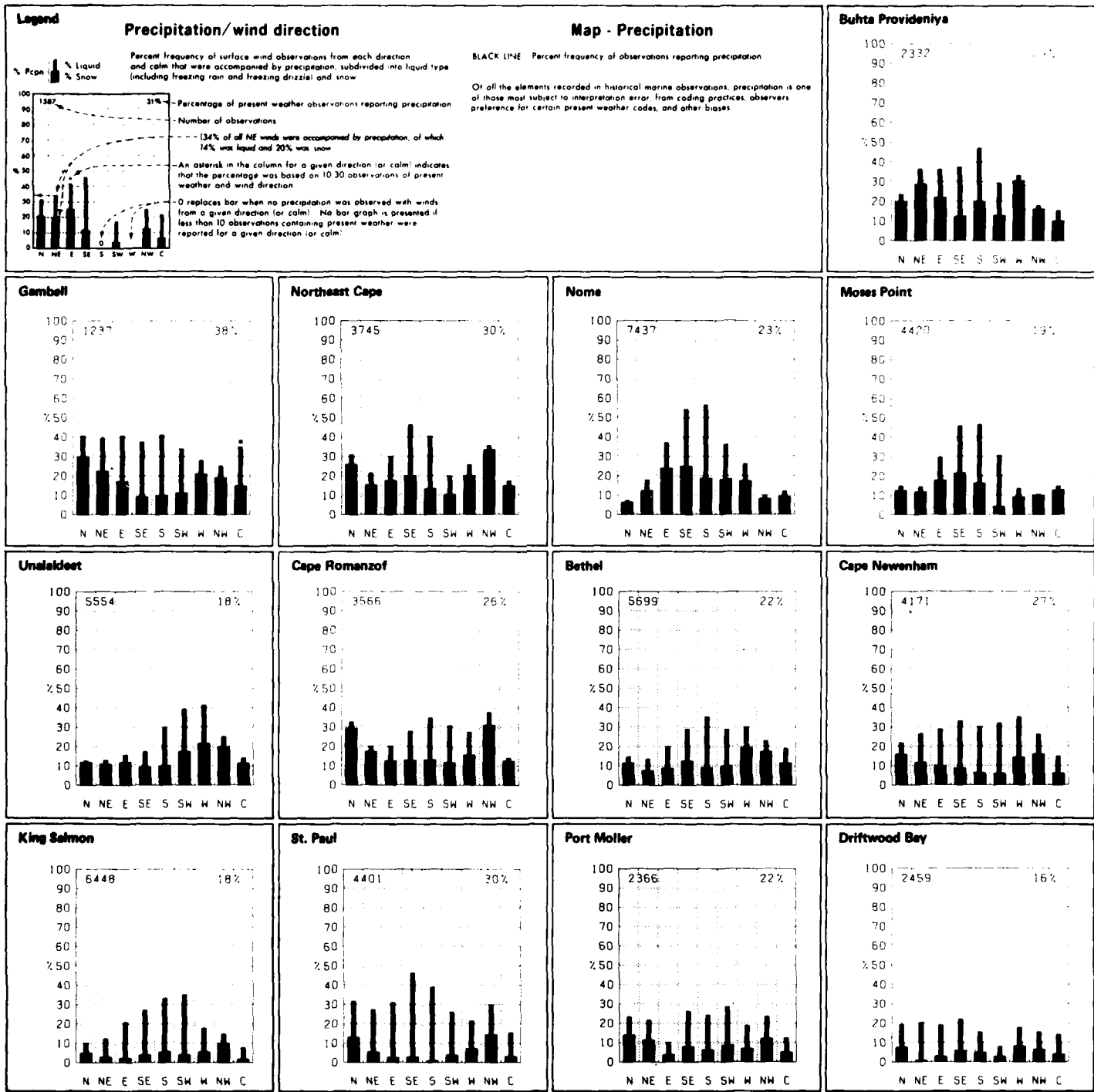
**September**

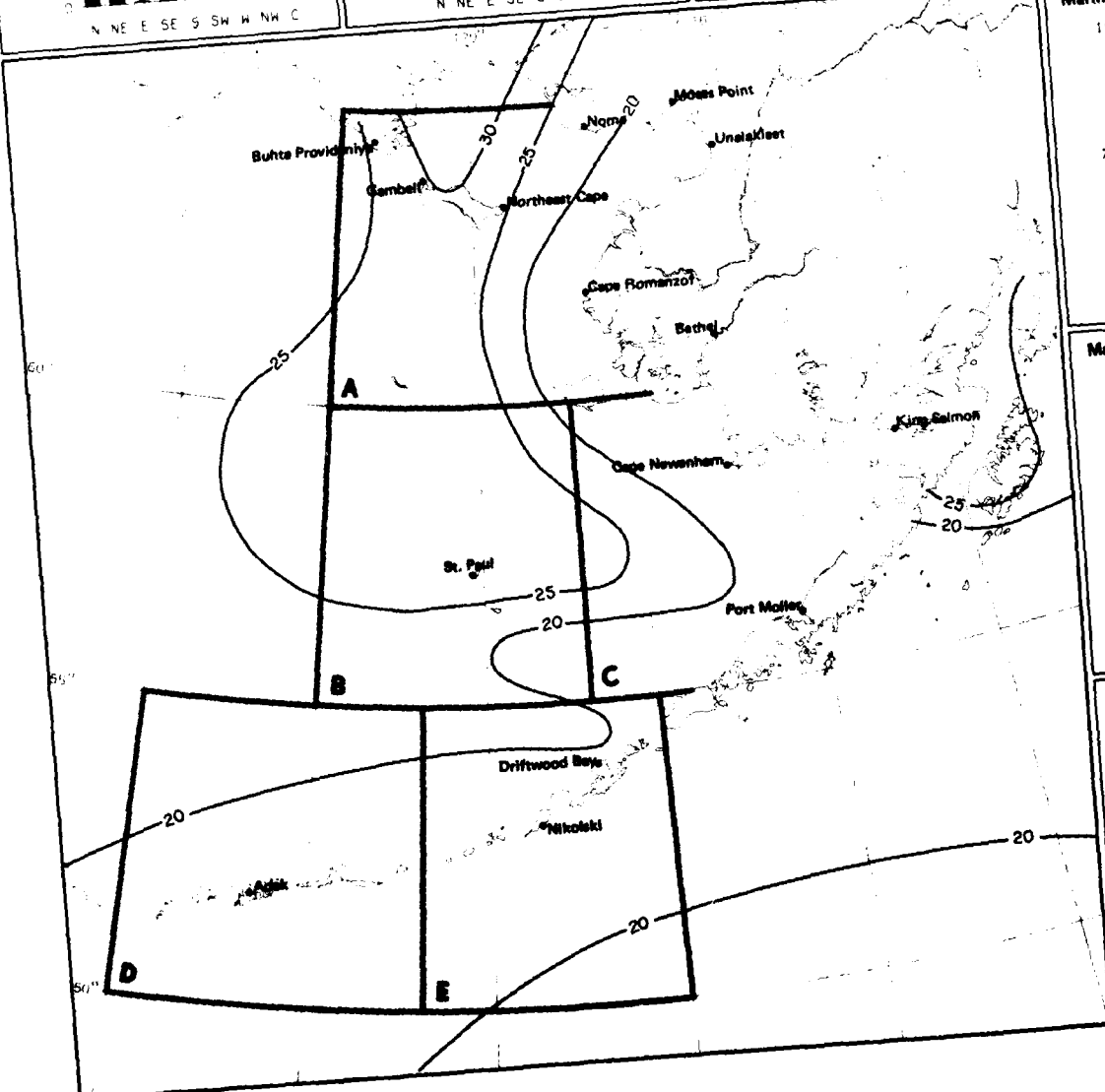
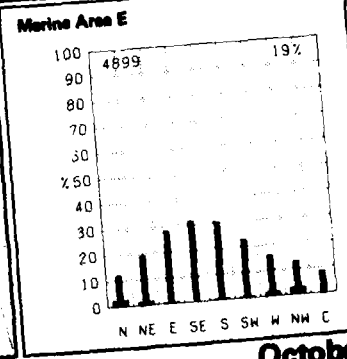
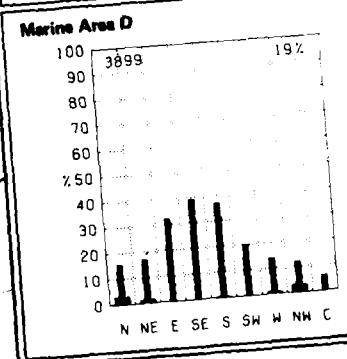
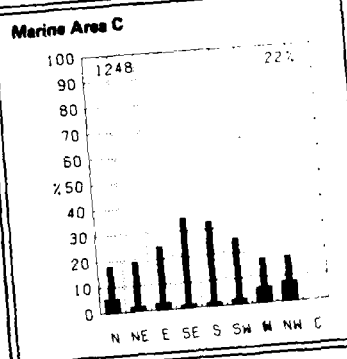
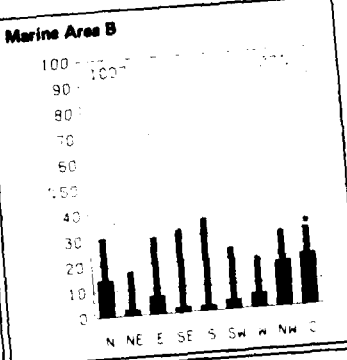
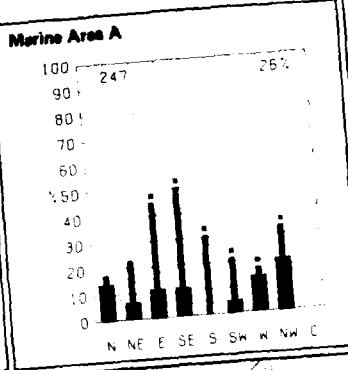
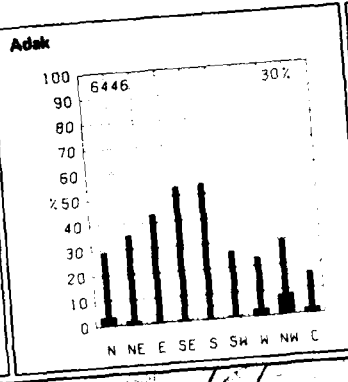
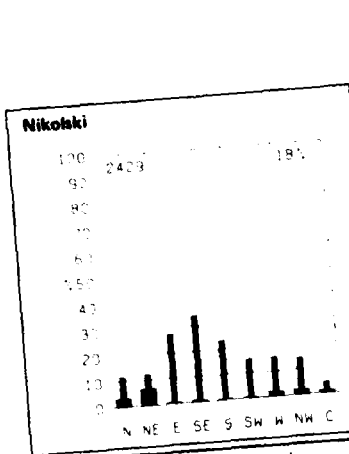
**20 Persistence of wind  $\geq 10$  kts.**



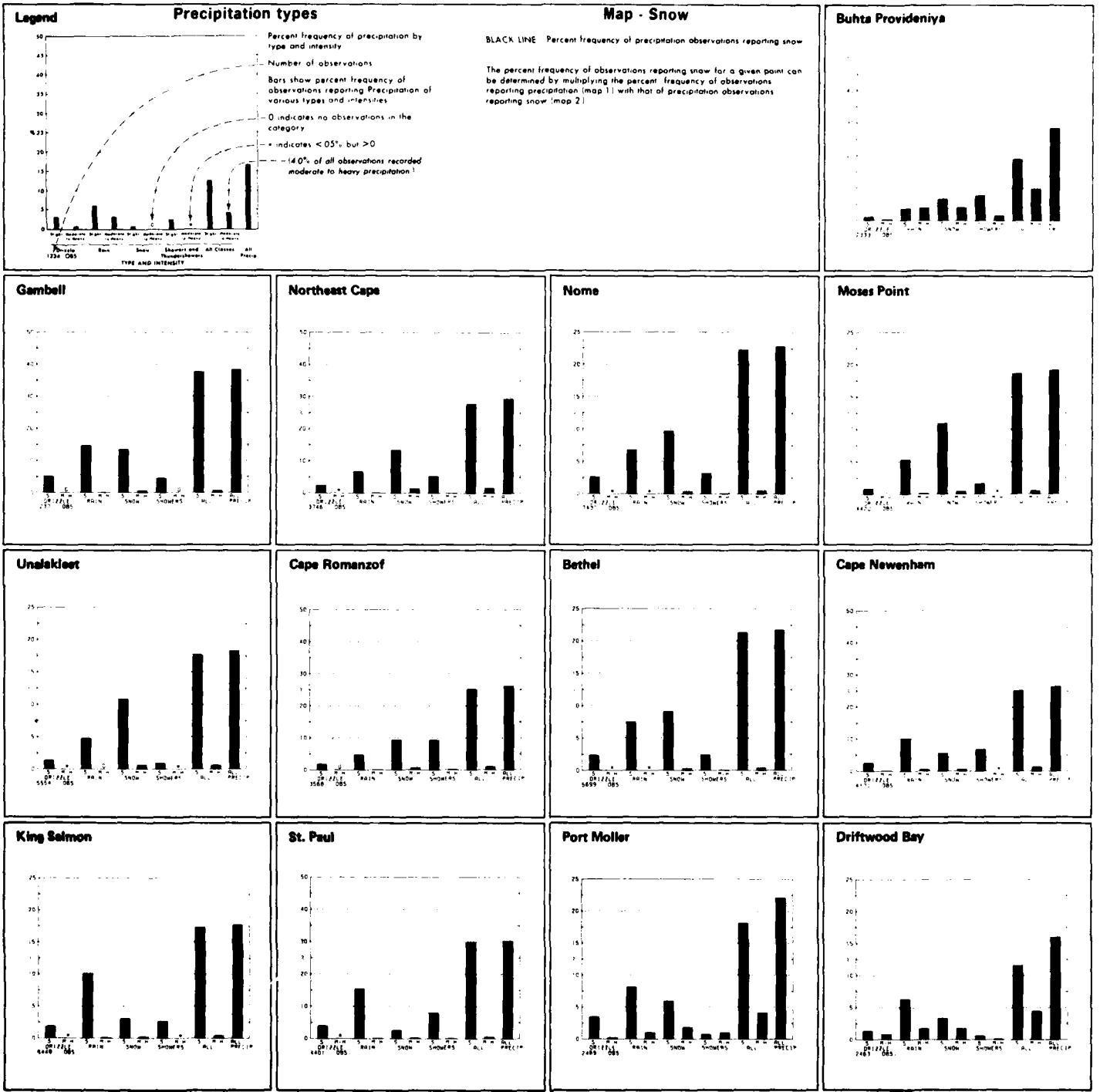
21 Persistence of wind  $\geq 20$  kts.

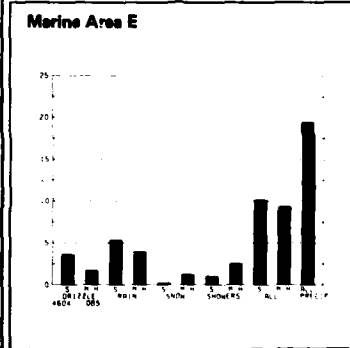
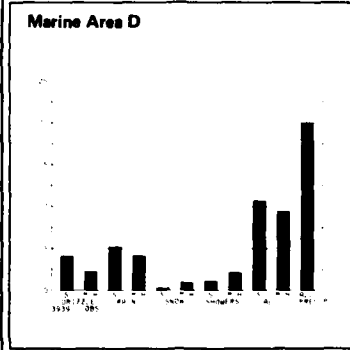
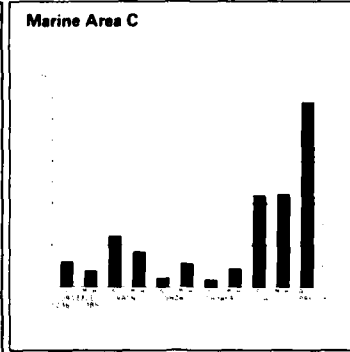
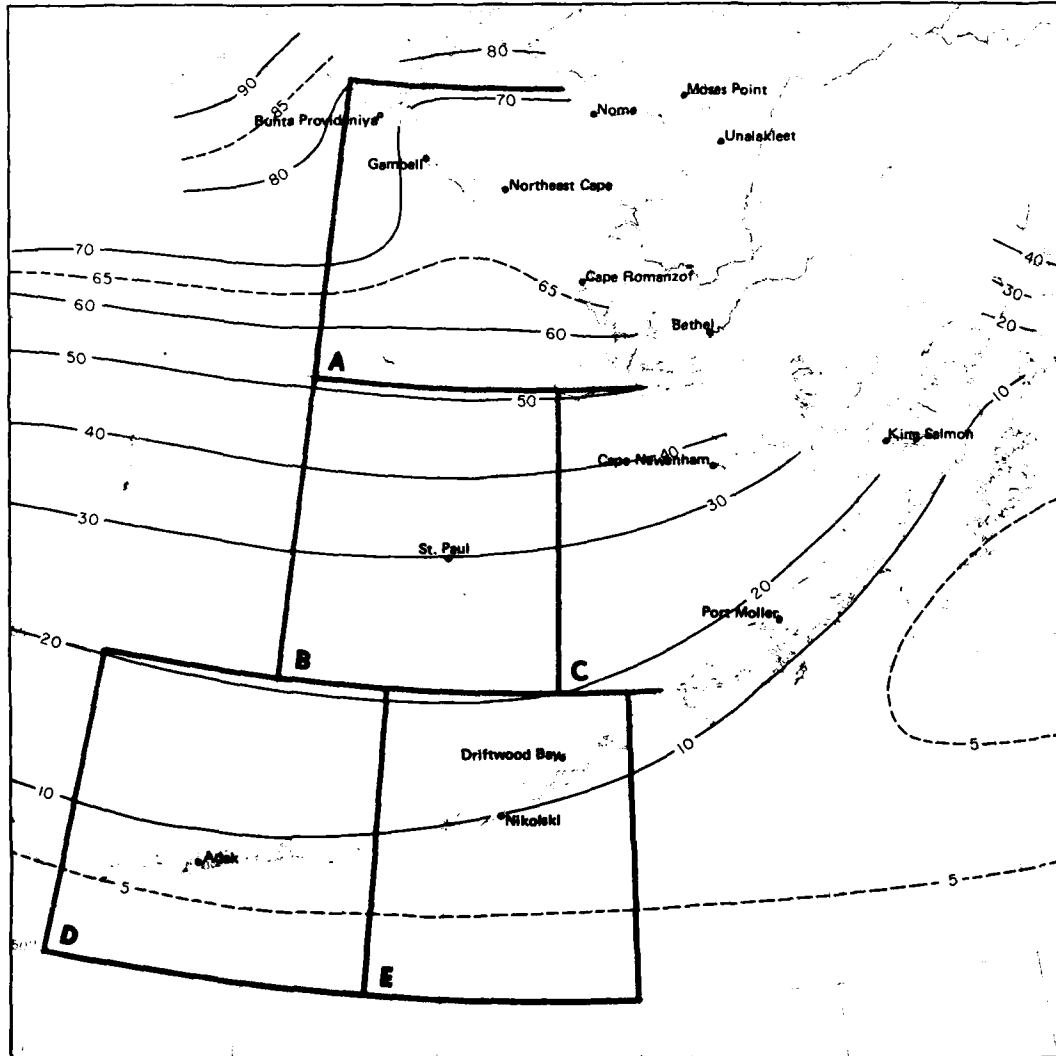
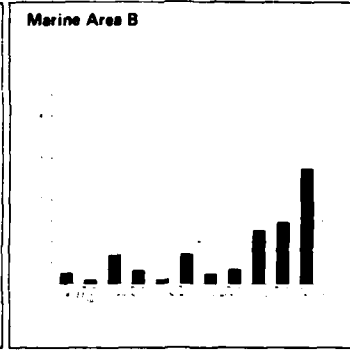
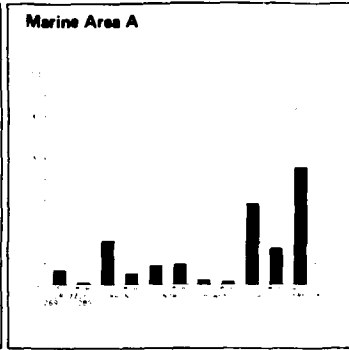
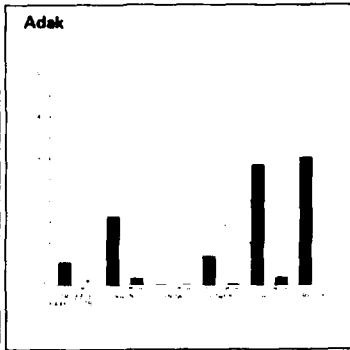
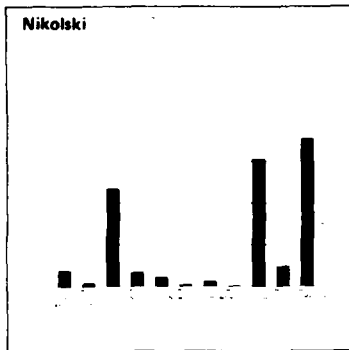
September





1 Precipitation





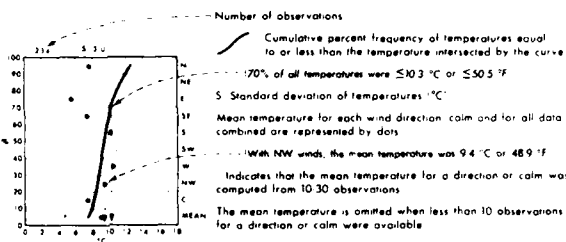
2 Snow

October



**Legend**

**Air temperature/wind direction**



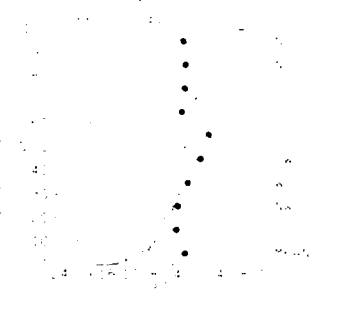
**Map - Air temperature mean and thresholds**

- BLACK LINE Percent frequency of temperature  $\leq 0^{\circ}\text{C}$   $\leq 32^{\circ}\text{F}$
- RED LINE Mean air temperature  $^{\circ}\text{C}$
- BLUE LINE Percent frequency of wind chill temperature  $\leq 30^{\circ}\text{C}$   $\leq 22^{\circ}\text{F}$

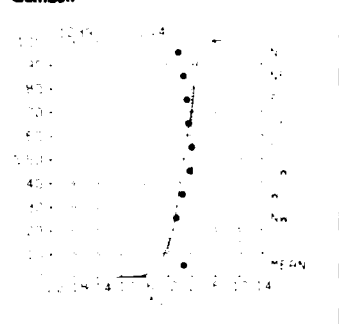
Air temperature readings recorded on transient ships in warm, sunny weather appear biased toward high temperatures, apparently because of improper instrument exposure and ventilation. Despite the inaccuracies, the large-scale patterns and mean gradients of the isotherm analyses are relatively accurate.

The temperature scale of the graph may vary in both range and class interval. The percentage of temperature observations greater than a given value can be obtained by subtracting the cumulative percent frequency of that value from 100. The number of observations and the standard deviation plus the plotted points on the graphs are based on those observations reporting both temperature and wind direction. The cumulative curve is based on all observations reporting temperature with or without wind direction.

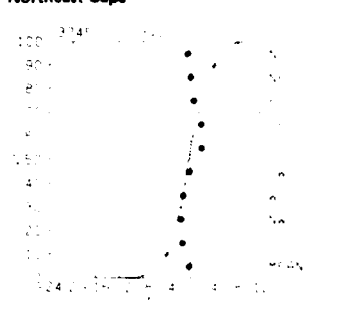
**Buhta Provideniya**



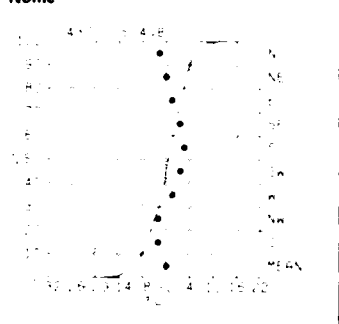
**Gambell**



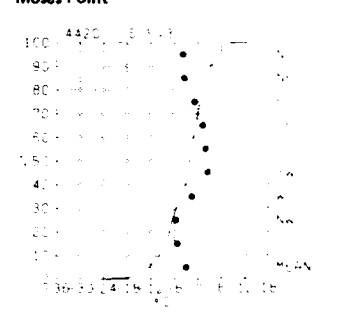
**Northeast Cape**



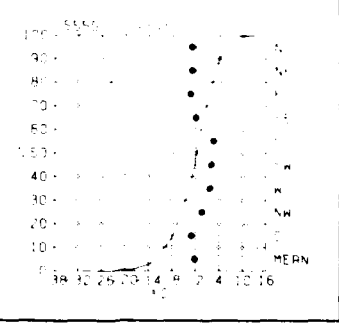
**Nome**



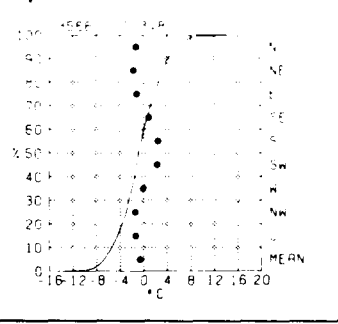
**Moses Point**



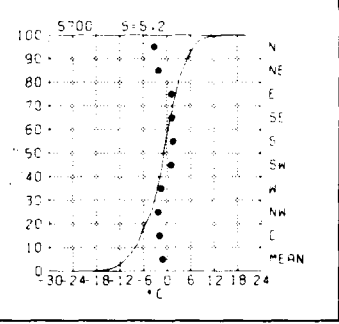
**Unalakleet**



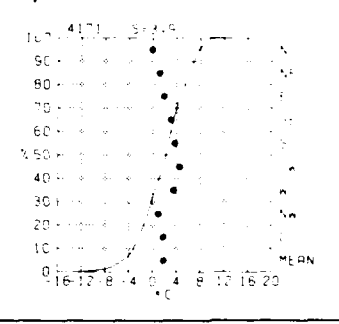
**Cape Romanzof**



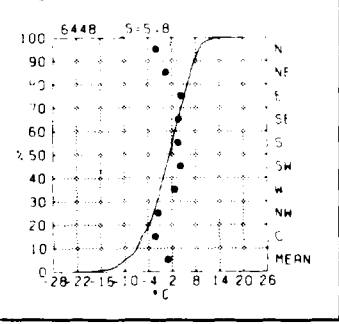
**Bethel**



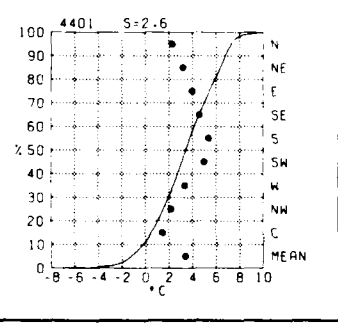
**Cape Newenham**



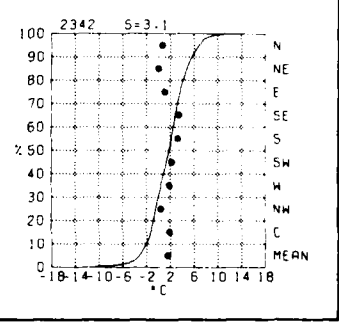
**King Salmon**



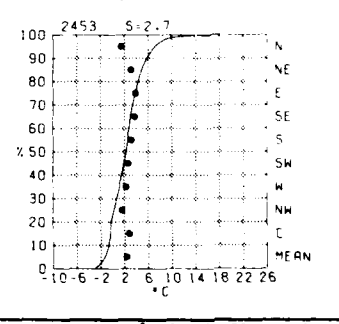
**St. Paul**



**Port Moller**

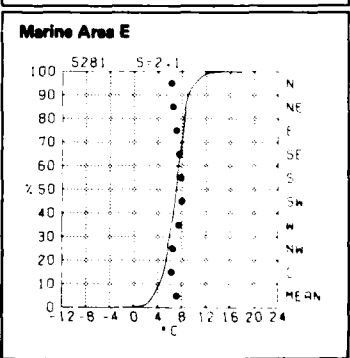
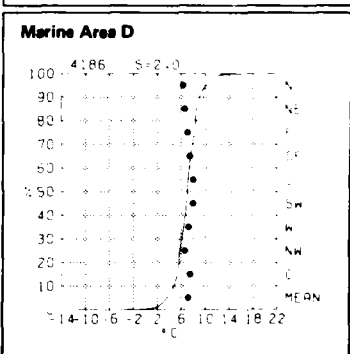
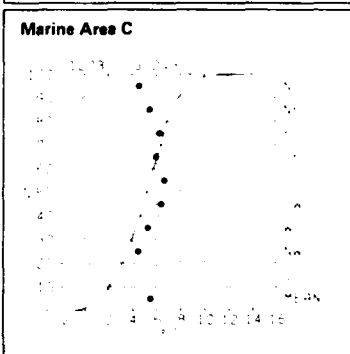
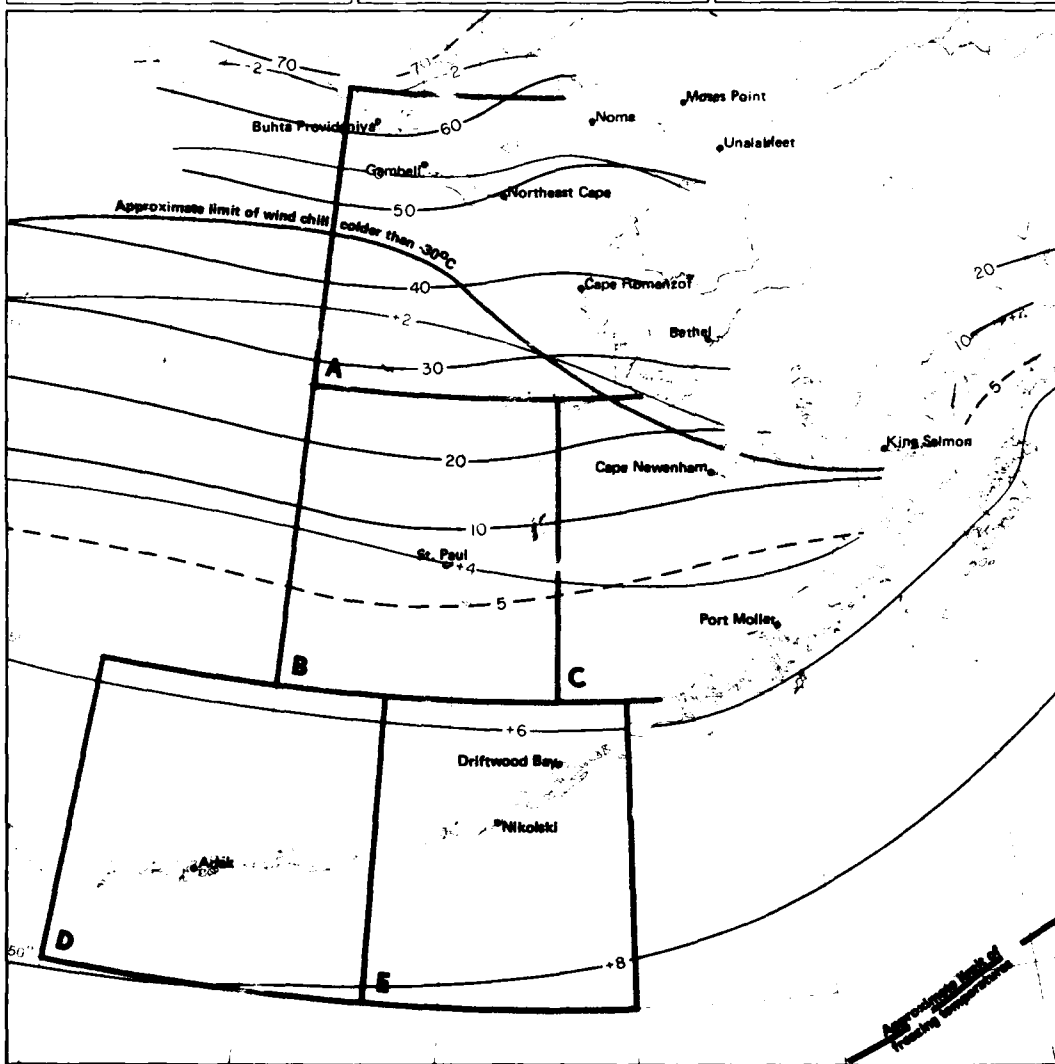
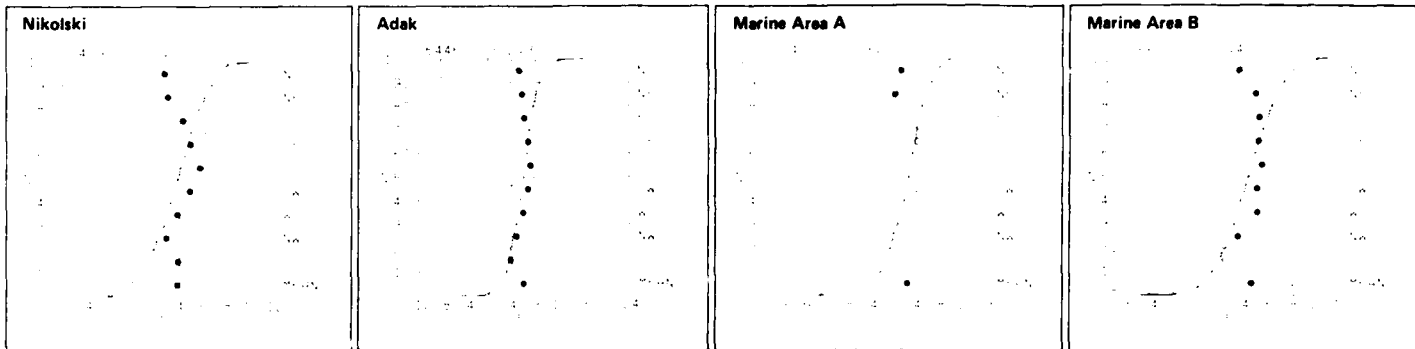


**Driftwood Bay**



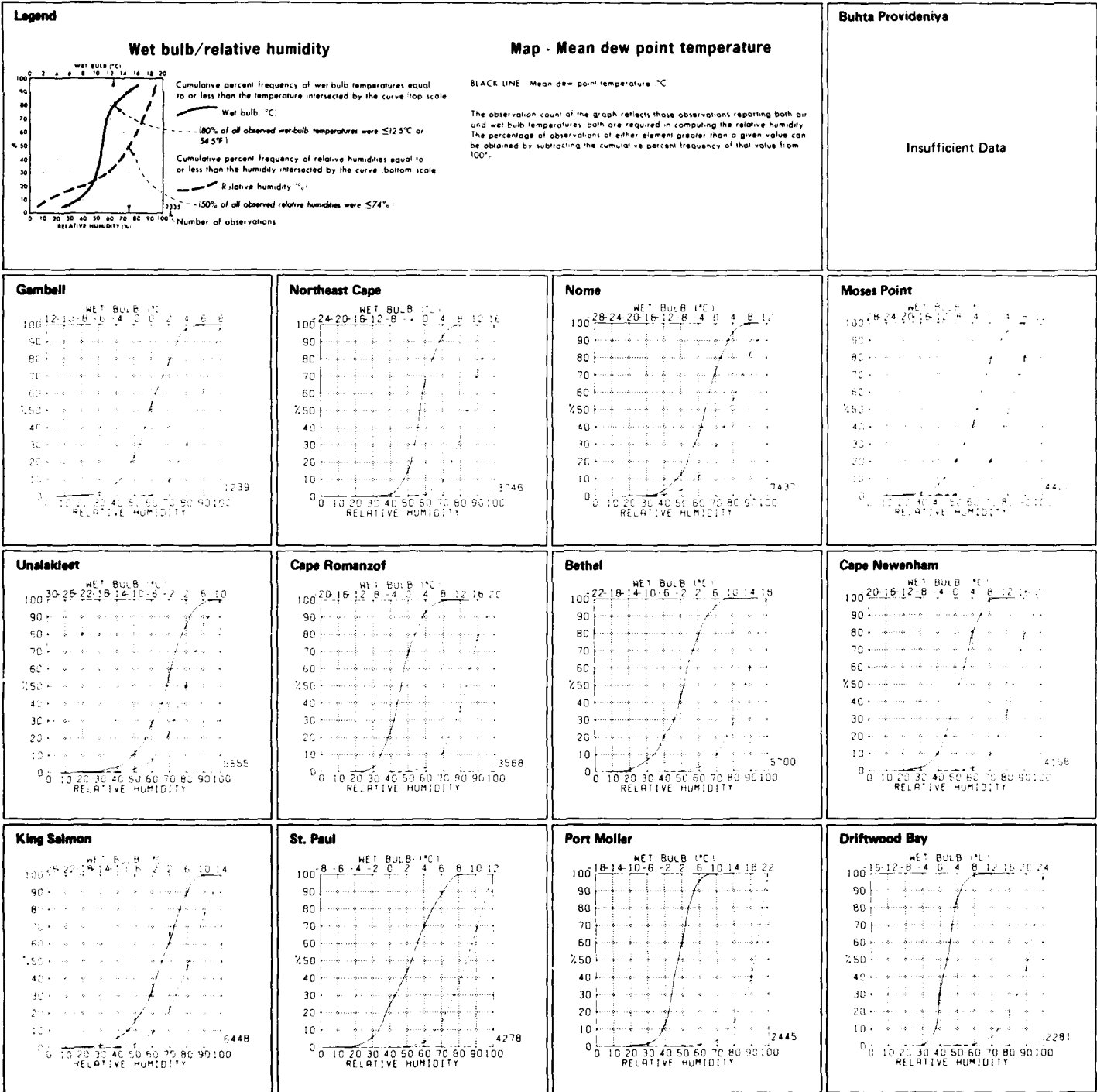
**October**

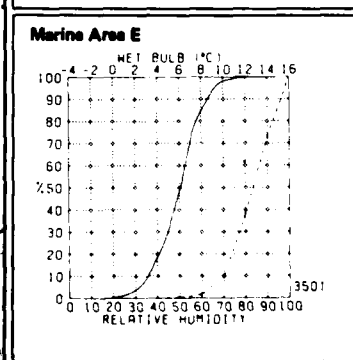
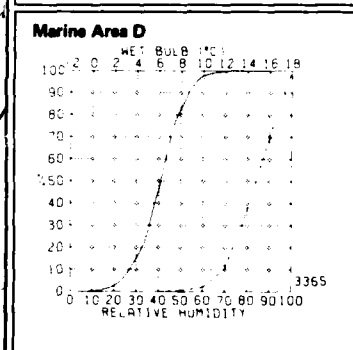
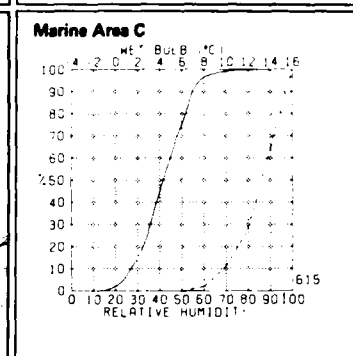
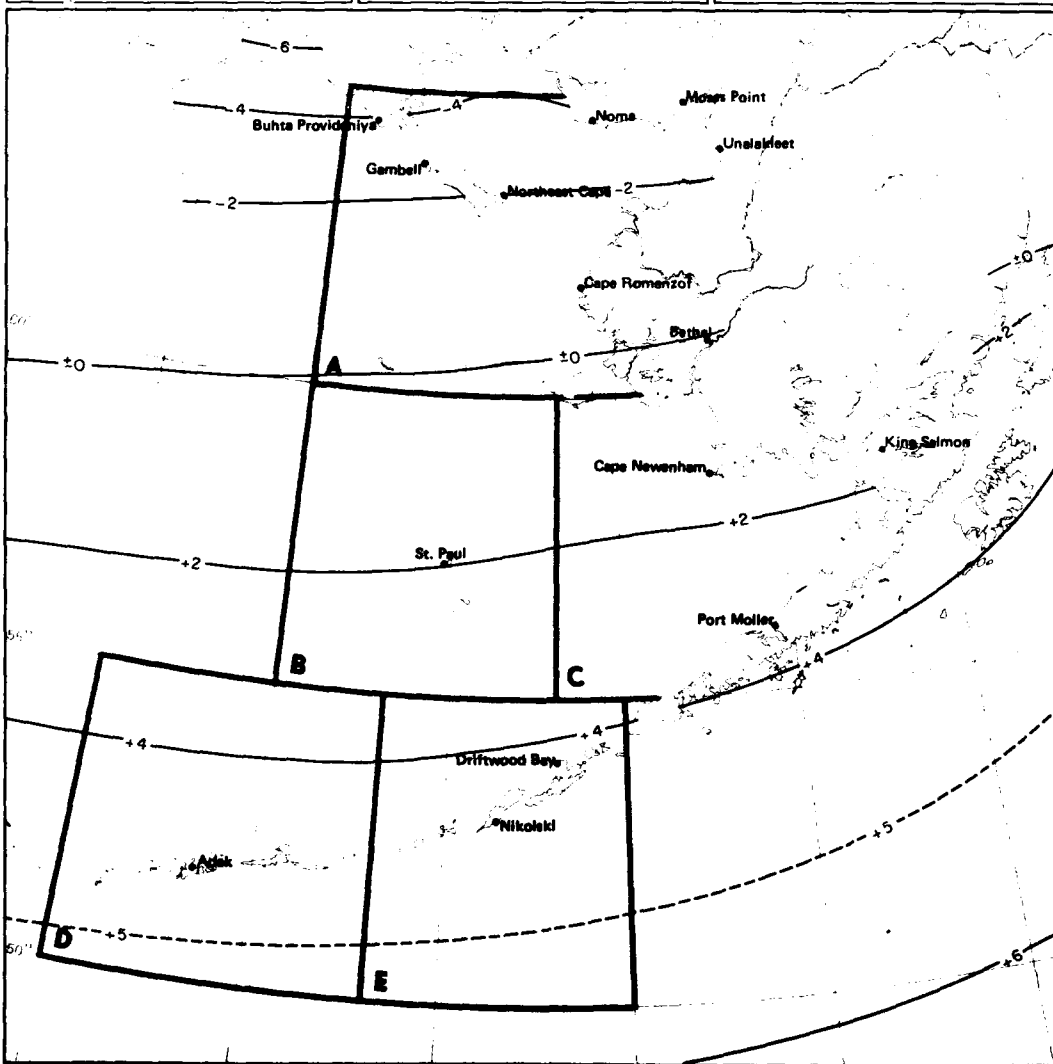
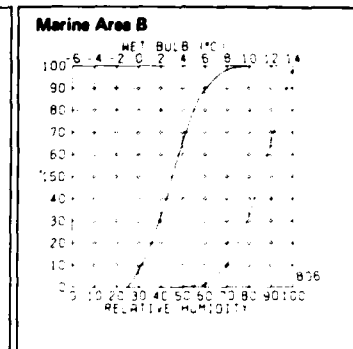
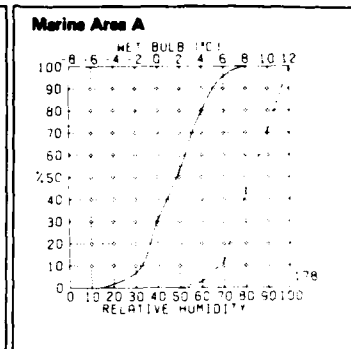
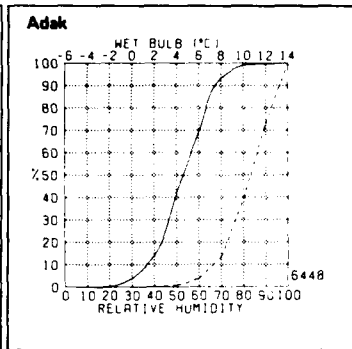
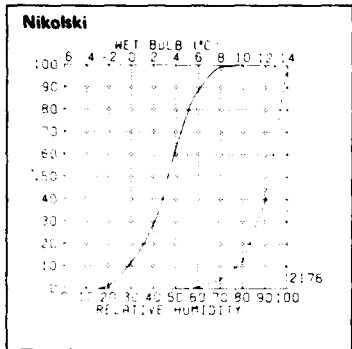
**3 Air temperature/wind direction**



3 Air temperature mean and thresholds

October





4 Mean dew point temperature

**Legend**

**Air temperature/wind speed**

WIND SPEED (KTS)	0-3	4	10	11	21	22	33	≥ 34
17.2	0	0	0	0	0	0	0	0
15.0	0	0	0	0	0	0	0	0
12.8	0	0	0	0	0	0	0	0
10.6	0	0	0	0	0	0	0	0
8.4	0	0	0	0	0	0	0	0
6.2	0	0	0	0	0	0	0	0
4.0	0	0	0	0	0	0	0	0
1.8	0	0	0	0	0	0	0	0
0.0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>3350</b>							

Percent frequency of simultaneous occurrence of specified temperature (°C) and wind speed (knots) (1% of all observations reported temperature 2.3°C simultaneously with wind speed of 22.33 kts)

--- Indicates < 5% but > 0

--- Number of observations

**Map - Air temperature extremes (°C)**

**BLACK LINE** Maximum 99% air temperature 1% of temperatures were greater than the given value

**BLUE LINE** Minimum 1% air temperature 1% of temperatures were equal to or less than the given value

The graph can be used to determine the extent of human discomfort from the combined effects of extreme heat or cold and winds or to estimate the likelihood of superstructure icing (icing potential increases as the air temperature drops below freezing and the winds increase above 10 knots/12 mph) and may become quite severe with temperatures equal to or less than 9°C (16°F) and winds equal to or greater than 34 knots/39 mph.

**Buhta Provideniya**

TEMP (°C)	0-3	4	10	11	21	22	33	≥ 34
17.2	0	0	0	0	0	0	0	0
15.0	0	0	0	0	0	0	0	0
12.8	0	0	0	0	0	0	0	0
10.6	0	0	0	0	0	0	0	0
8.4	0	0	0	0	0	0	0	0
6.2	0	0	0	0	0	0	0	0
4.0	0	0	0	0	0	0	0	0
1.8	0	0	0	0	0	0	0	0
0.0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>4420</b>							

**Gambell**

**WIND SPEED (KTS)**

TEMP (°C)	0-3	4	10	11	21	22	33	≥ 34
8.9	0	0	0	0	0	0	0	0
6.7	0	0	0	0	0	0	0	0
4.5	0	0	0	0	0	0	0	0
2.3	1	5	16	10	0	0	0	0
0.1	1	5	13	9	1	0	0	0
2.1	1	5	10	6	0	0	0	0
4.3	1	3	0	3	0	0	0	0
6.5	0	0	0	0	0	0	0	0
8.7	0	0	0	0	0	0	0	0
10.9	0	0	0	0	0	0	0	0
13.1	0	0	0	0	0	0	0	0
<b>Total</b>	<b>1239</b>							

**Northeast Cape**

**WIND SPEED (KTS)**

TEMP (°C)	0-3	4	10	11	21	22	33	≥ 34
8.9	0	0	0	0	0	0	0	0
6.7	0	0	0	0	0	0	0	0
4.5	0	0	0	0	0	0	0	0
2.3	1	4	10	2	0	0	0	0
0.1	1	5	12	4	0	0	0	0
2.1	2	7	13	3	0	0	0	0
4.3	1	4	7	2	0	0	0	0
6.5	0	0	0	0	0	0	0	0
8.7	0	0	0	0	0	0	0	0
10.9	0	0	0	0	0	0	0	0
13.1	0	0	0	0	0	0	0	0
<b>Total</b>	<b>3745</b>							

**Nome**

**WIND SPEED (KTS)**

TEMP (°C)	0-3	4	10	11	21	22	33	≥ 34
14.15	0	0	0	0	0	0	0	0
12.13	0	0	0	0	0	0	0	0
10.11	0	0	0	0	0	0	0	0
8.9	0	0	0	0	0	0	0	0
6.7	0	2	2	1	0	0	0	0
4.5	0	3	3	1	0	0	0	0
2.3	1	6	7	1	0	0	0	0
0.1	1	6	6	1	0	0	0	0
2.1	2	9	5	1	0	0	0	0
4.3	2	8	5	1	0	0	0	0
6.5	6	15	5	0	0	0	0	0
<b>Total</b>	<b>7437</b>							

**Moses Point**

**WIND SPEED (KTS)**

TEMP (°C)	0-3	4	10	11	21	22	33	≥ 34
14.15	0	0	0	0	0	0	0	0
12.13	0	0	0	0	0	0	0	0
10.11	0	0	0	0	0	0	0	0
8.9	0	0	0	0	0	0	0	0
6.7	0	0	0	0	0	0	0	0
4.5	0	0	0	0	0	0	0	0
2.3	1	4	4	1	0	0	0	0
0.1	1	5	5	1	0	0	0	0
2.1	2	6	5	1	0	0	0	0
4.3	2	5	5	1	0	0	0	0
6.5	5	16	11	1	0	0	0	0
<b>Total</b>	<b>4420</b>							

**Unalakleet**

**WIND SPEED (KTS)**

TEMP (°C)	0-3	4	10	11	21	22	33	≥ 34
12.13	0	0	0	0	0	0	0	0
10.11	0	0	0	0	0	0	0	0
8.9	0	0	0	0	0	0	0	0
6.7	0	1	2	0	0	0	0	0
4.5	1	2	3	1	0	0	0	0
2.3	1	5	6	1	0	0	0	0
0.1	2	5	5	1	0	0	0	0
2.1	2	7	6	1	0	0	0	0
4.3	2	5	5	2	0	0	0	0
6.5	1	4	3	1	0	0	0	0
8.7	3	10	7	1	0	0	0	0
<b>Total</b>	<b>5555</b>							

**Cape Romanzof**

**WIND SPEED (KTS)**

TEMP (°C)	0-3	4	10	11	21	22	33	≥ 34
14.15	0	0	0	0	0	0	0	0
12.13	0	0	0	0	0	0	0	0
10.11	0	0	0	0	0	0	0	0
8.9	0	0	0	0	0	0	0	0
6.7	0	2	2	1	0	0	0	0
4.5	1	3	3	1	0	0	0	0
2.3	1	6	7	1	0	0	0	0
0.1	2	5	8	2	0	0	0	0
2.1	3	8	10	2	0	0	0	0
4.3	2	5	7	1	0	0	0	0
6.5	3	5	5	1	0	0	0	0
<b>Total</b>	<b>3566</b>							

**Bethel**

**WIND SPEED (KTS)**

TEMP (°C)	0-3	4	10	11	21	22	33	≥ 34
20.21	0	0	0	0	0	0	0	0
18.19	0	0	0	0	0	0	0	0
16.17	0	0	0	0	0	0	0	0
14.15	0	0	0	0	0	0	0	0
12.13	0	0	0	0	0	0	0	0
10.11	0	0	0	0	0	0	0	0
8.9	0	0	0	0	0	0	0	0
6.7	0	1	1	0	0	0	0	0
4.5	0	1	1	0	0	0	0	0
2.3	0	1	1	0	0	0	0	0
0.1	3	3	3	1	0	0	0	0
2.1	3	3	3	1	0	0	0	0
4.3	4	3	3	1	0	0	0	0
6.5	1	8	5	1	0	0	0	0
8.7	5	39	22	2	0	0	0	0
<b>Total</b>	<b>5700</b>							

**Cape Newenham**

**WIND SPEED (KTS)**

TEMP (°C)	0-3	4	10	11	21	22	33	≥ 34
16.17	0	0	0	0	0	0	0	0
14.15	0	0	0	0	0	0	0	0
12.13	0	0	0	0	0	0	0	0
10.11	0	0	0	0	0	0	0	0
8.9	0	0	0	0	0	0	0	0
6.7	1	7	5	1	0	0	0	0
4.5	2	7	5	1	0	0	0	0
2.3	3	9	9	1	0	0	0	0
0.1	3	6	5	1	0	0	0	0
2.1	2	5	5	1	0	0	0	0
4.3	2	5	5	1	0	0	0	0
<b>Total</b>	<b>4171</b>							

**King Salmon**

**WIND SPEED (KTS)**

TEMP (°C)	0-3	4	10	11	21	22	33	≥ 34
20.21	0	0	0	0	0	0	0	0
18.19	0	0	0	0	0	0	0	0
16.17	0	0	0	0	0	0	0	0
14.15	0	0	0	0	0	0	0	0
12.13	0	0	0	0	0	0	0	0
10.11	0	0	0	0	0	0	0	0
8.9	0	0	0	0	0	0	0	0
6.7	0	0	0	0	0	0	0	0
4.5	0	0	0	0	0	0	0	0
2.3	0	0	0	0	0	0	0	0
0.1	0	0	0	0	0	0	0	0
2.1	0	0	0	0	0	0	0	0
4.3	0	0	0	0	0	0	0	0
6.5	0	0	0	0	0	0	0	0
8.7	0	0	0	0	0	0	0	0
<b>Total</b>	<b>6448</b>							

**St. Paul**

**WIND SPEED (KTS)**

TEMP (°C)	0-3	4	10	11	21	22	33	≥ 34
10.11	0	0	0	0	0	0	0	0
8.9	0	1	2	1	0	0	0	0
6.7	0	4	13	6	0	0	0	0
4.5	0	4	11	6	1	0	0	0
2.3	1	7	13	7	1	0	0	0
0.1	5	7	3	0	0	0	0	0
2.1	3	3	3	1	0	0	0	0
4.3	1	1	1	0	0	0	0	0
6.5	0	0	0	0	0	0	0	0
8.7	0	0	0	0	0	0	0	0
10.9	0	0	0	0	0	0	0	0
<b>Total</b>	<b>4401</b>							

**Port Moller**

**WIND SPEED (KTS)**

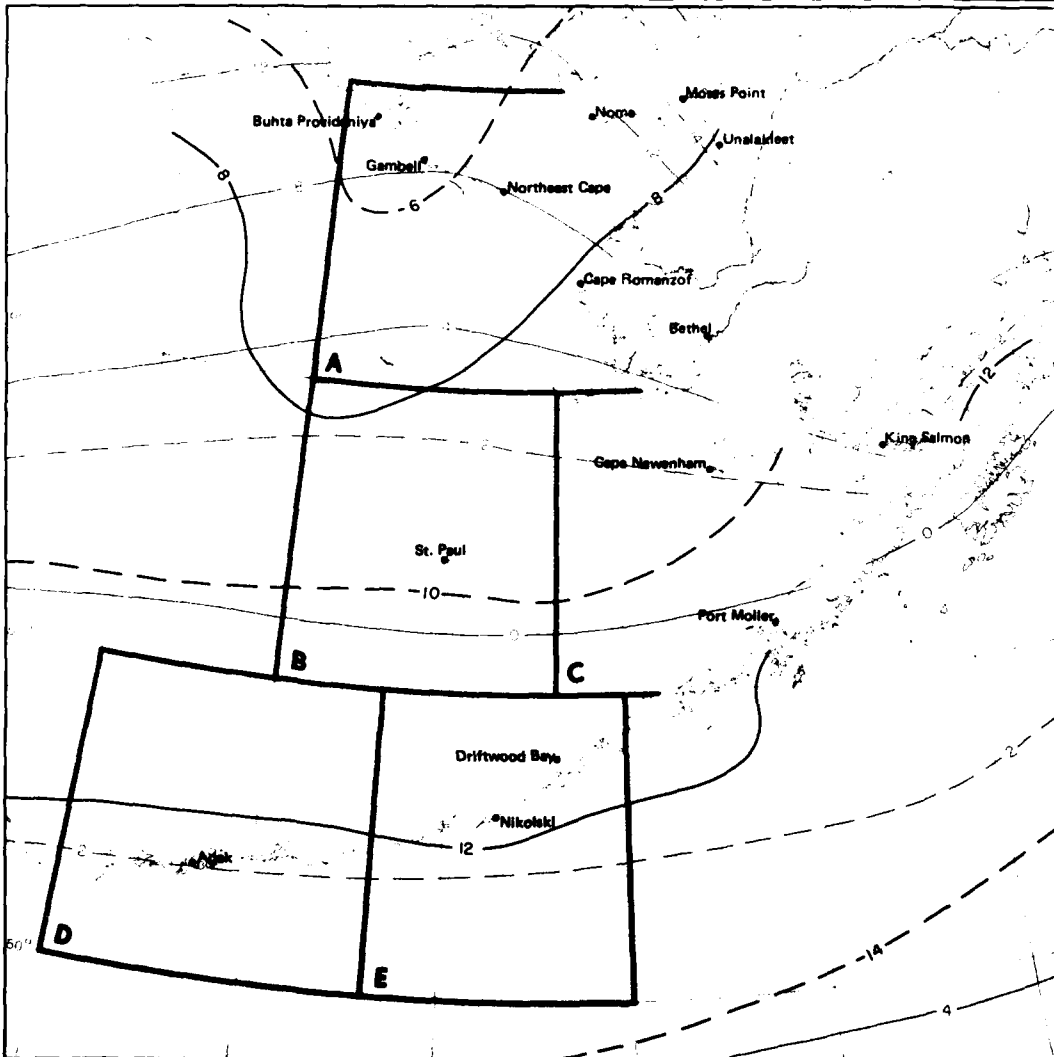
TEMP (°C)	0-3	4	10	11	21	22	33	≥ 34
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Nikolski		WIND SPEED (KTS)											
TEMP (°C)	1	2	3	4	10	11	21	22	33	34			
14.15	0	0	0	0	0	0	0	0	0	0	0	0	
12.73	0	0	0	0	0	0	0	0	0	0	0	0	
10.11	0	0	0	0	0	0	0	0	0	0	0	0	
8.9	0	0	0	0	0	0	0	0	0	0	0	0	
6.7	0	0	0	0	0	0	0	0	0	0	0	0	
4.5	0	0	0	0	0	0	0	0	0	0	0	0	
2.3	0	0	0	0	0	0	0	0	0	0	0	0	
0.1	0	0	0	0	0	0	0	0	0	0	0	0	
-2.1	0	0	0	0	0	0	0	0	0	0	0	0	
-4.3	0	0	0	0	0	0	0	0	0	0	0	0	
-6.5	0	0	0	0	0	0	0	0	0	0	0	0	
2425													

Adak		WIND SPEED (KTS)											
TEMP (°C)	1	2	3	4	10	11	21	22	33	34			
14.15	0	0	0	0	0	0	0	0	0	0	0	0	
12.73	0	0	0	0	0	0	0	0	0	0	0	0	
10.11	0	0	0	0	1	2	1	0	0	0	0	0	
8.9	0	0	0	0	1	5	9	3	0	0	0	0	
6.7	0	0	0	0	3	12	17	6	1	0	0	0	
4.5	0	0	0	0	3	8	8	2	0	0	0	0	
2.3	0	0	0	0	3	5	4	1	0	0	0	0	
0.1	0	0	0	0	1	0	0	0	0	0	0	0	
-2.1	0	0	0	0	0	0	0	0	0	0	0	0	
-4.3	0	0	0	0	0	0	0	0	0	0	0	0	
-6.5	0	0	0	0	0	0	0	0	0	0	0	0	
5445													

Marine Area A		WIND SPEED (KTS)											
TEMP (°C)	1	2	3	4	10	11	21	22	33	34			
14.15	0	0	0	0	0	0	0	0	0	0	0	0	
12.73	0	0	0	0	0	0	0	0	0	0	0	0	
10.11	0	0	0	0	0	0	0	0	0	0	0	0	
8.9	0	0	0	0	0	0	0	0	0	0	0	0	
6.7	0	0	0	0	0	0	0	0	0	0	0	0	
4.5	0	0	0	0	0	0	0	0	0	0	0	0	
2.3	0	0	0	0	0	0	0	0	0	0	0	0	
0.1	0	0	0	0	0	0	0	0	0	0	0	0	
-2.1	0	0	0	0	0	0	0	0	0	0	0	0	
-4.3	0	0	0	0	0	0	0	0	0	0	0	0	
-6.5	0	0	0	0	0	0	0	0	0	0	0	0	
41													

Marine Area B		WIND SPEED (KTS)											
TEMP (°C)	1	2	3	4	10	11	21	22	33	34			
14.15	0	0	0	0	0	0	0	0	0	0	0	0	
12.73	0	0	0	0	0	0	0	0	0	0	0	0	
10.11	0	0	0	0	0	0	0	0	0	0	0	0	
8.9	0	0	0	0	0	0	0	0	0	0	0	0	
6.7	0	0	0	0	0	0	0	0	0	0	0	0	
4.5	0	0	0	0	0	0	0	0	0	0	0	0	
2.3	0	0	0	0	0	0	0	0	0	0	0	0	
0.1	0	0	0	0	0	0	0	0	0	0	0	0	
-2.1	0	0	0	0	0	0	0	0	0	0	0	0	
-4.3	0	0	0	0	0	0	0	0	0	0	0	0	
-6.5	0	0	0	0	0	0	0	0	0	0	0	0	
27													



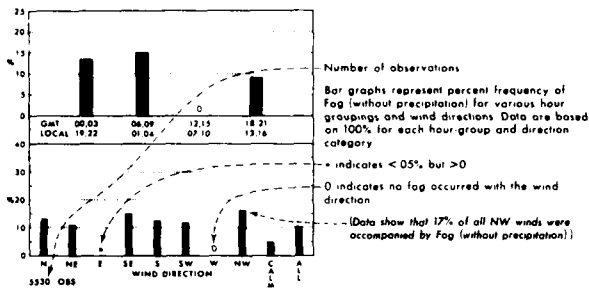
Marine Area C		WIND SPEED (KTS)											
TEMP (°C)	1	2	3	4	10	11	21	22	33	34			
14.15	0	0	0	0	0	0	0	0	0	0	0	0	
12.73	0	0	0	0	0	0	0	0	0	0	0	0	
10.11	0	0	0	0	0	0	0	0	0	0	0	0	
8.9	0	0	0	0	0	0	0	0	0	0	0	0	
6.7	0	0	0	0	0	0	0	0	0	0	0	0	
4.5	0	0	0	0	0	0	0	0	0	0	0	0	
2.3	0	0	0	0	0	0	0	0	0	0	0	0	
0.1	0	0	0	0	0	0	0	0	0	0	0	0	
-2.1	0	0	0	0	0	0	0	0	0	0	0	0	
-4.3	0	0	0	0	0	0	0	0	0	0	0	0	
-6.5	0	0	0	0	0	0	0	0	0	0	0	0	
1273													

Marine Area D		WIND SPEED (KTS)											
TEMP (°C)	1	2	3	4	10	11	21	22	33	34			
18.17	0	0	0	0	0	0	0	0	0	0	0	0	
14.15	0	0	0	0	0	0	0	0	0	0	0	0	
12.73	0	0	0	0	0	0	0	0	0	0	0	0	
10.11	0	0	0	0	0	0	0	0	0	0	0	0	
8.9	0	0	0	0	0	0	0	0	0	0	0	0	
6.7	0	0	0	0	0	0	0	0	0	0	0	0	
4.5	0	0	0	0	0	0	0	0	0	0	0	0	
2.3	0	0	0	0	0	0	0	0	0	0	0	0	
0.1	0	0	0	0	0	0	0	0	0	0	0	0	
-2.1	0	0	0	0	0	0	0	0	0	0	0	0	
-4.3	0	0	0	0	0	0	0	0	0	0	0	0	
-6.5	0	0	0	0	0	0	0	0	0	0	0	0	
4186													

Marine Area E		WIND SPEED (KTS)											
TEMP (°C)	1	2	3	4	10	11	21	22	33	34			
16.17	0	0	0	0	0	0	0	0	0	0	0	0	
14.15	0	0	0	0	0	0	0	0	0	0	0	0	
12.73	0	0	0	0	0	0	0	0	0	0	0	0	
10.11	0	0	0	0	0	0	0	0	0	0	0	0	
8.9	0	0	0	0	0	0	0	0	0	0	0	0	
6.7	0	0	0	0	0	0	0	0	0	0	0	0	
4.5	0	0	0	0	0	0	0	0	0	0	0	0	
2.3	0	0	0	0	0	0	0	0	0	0	0	0	
0.1	0	0	0	0	0	0	0	0	0	0	0	0	
-2.1	0	0	0	0	0	0	0	0	0	0	0	0	
-4.3	0	0	0	0	0	0	0	0	0	0	0	0	
-6.5	0	0	0	0	0	0	0	0	0	0	0	0	
5281													

5 Air temperature extremes (°C)

**Legend Fog/time and fog/wind direction**

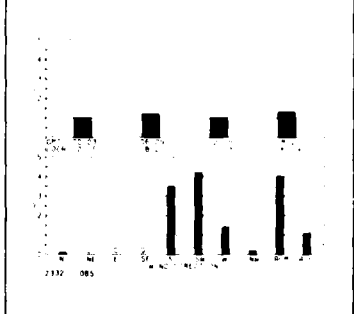


**Map - Fog**

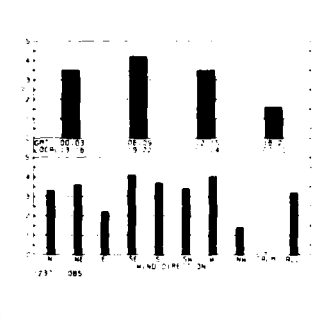
BLACK LINE Percent frequency of occurrence of all fog  
 BLUE LINE Percent frequency of fog occurring without precipitation

The percent frequency of observations reporting fog with precipitation for a given point can be determined by computing the difference between the two analyses

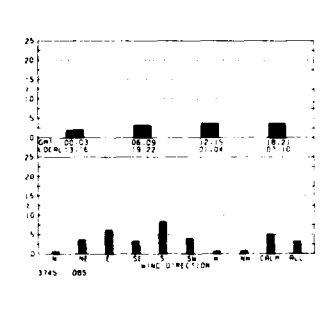
**Buhta Provideniya**



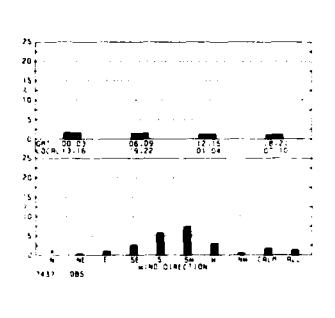
**Gambell**



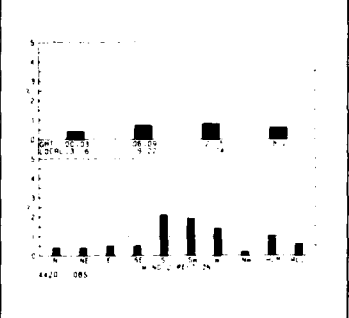
**Northeast Cape**



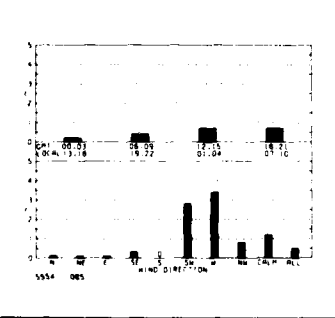
**Nome**



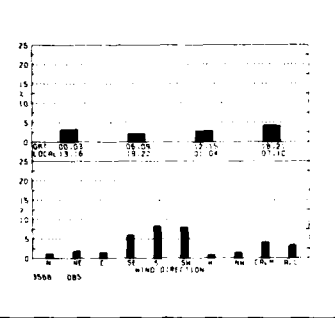
**Moses Point**



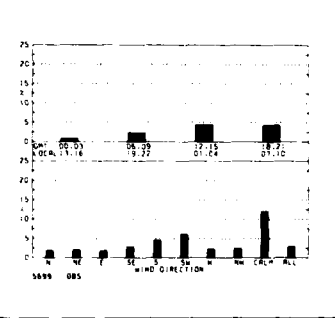
**Unalakleet**



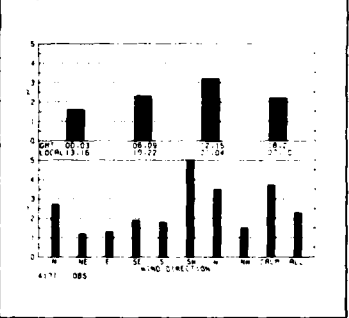
**Cape Romanzof**



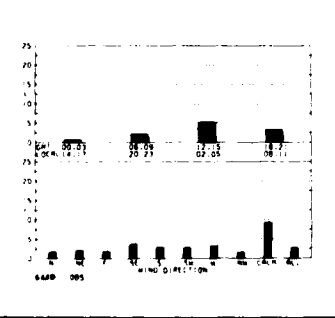
**Bethel**



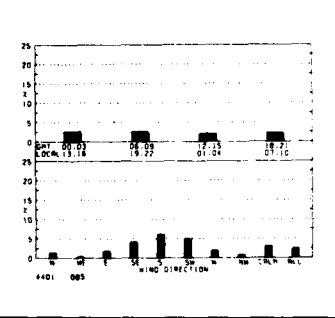
**Cape Newenham**



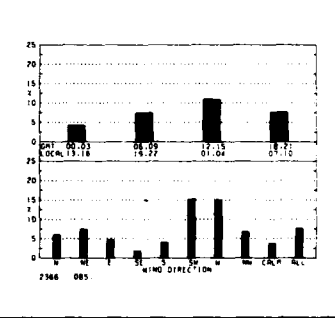
**King Salmon**



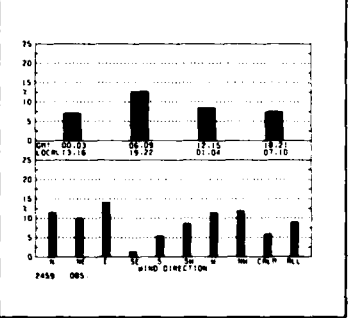
**St. Paul**

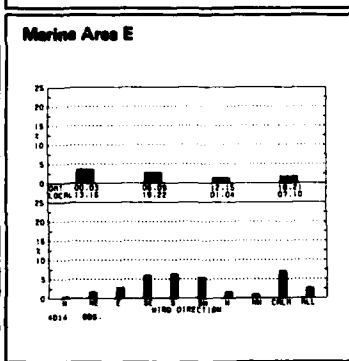
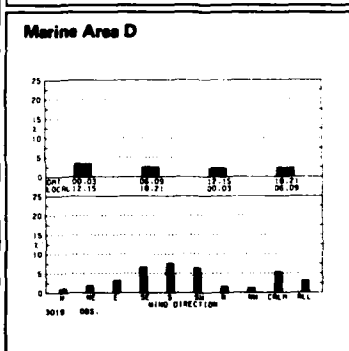
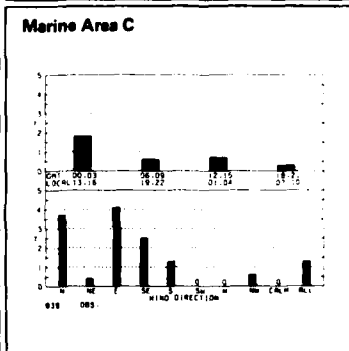
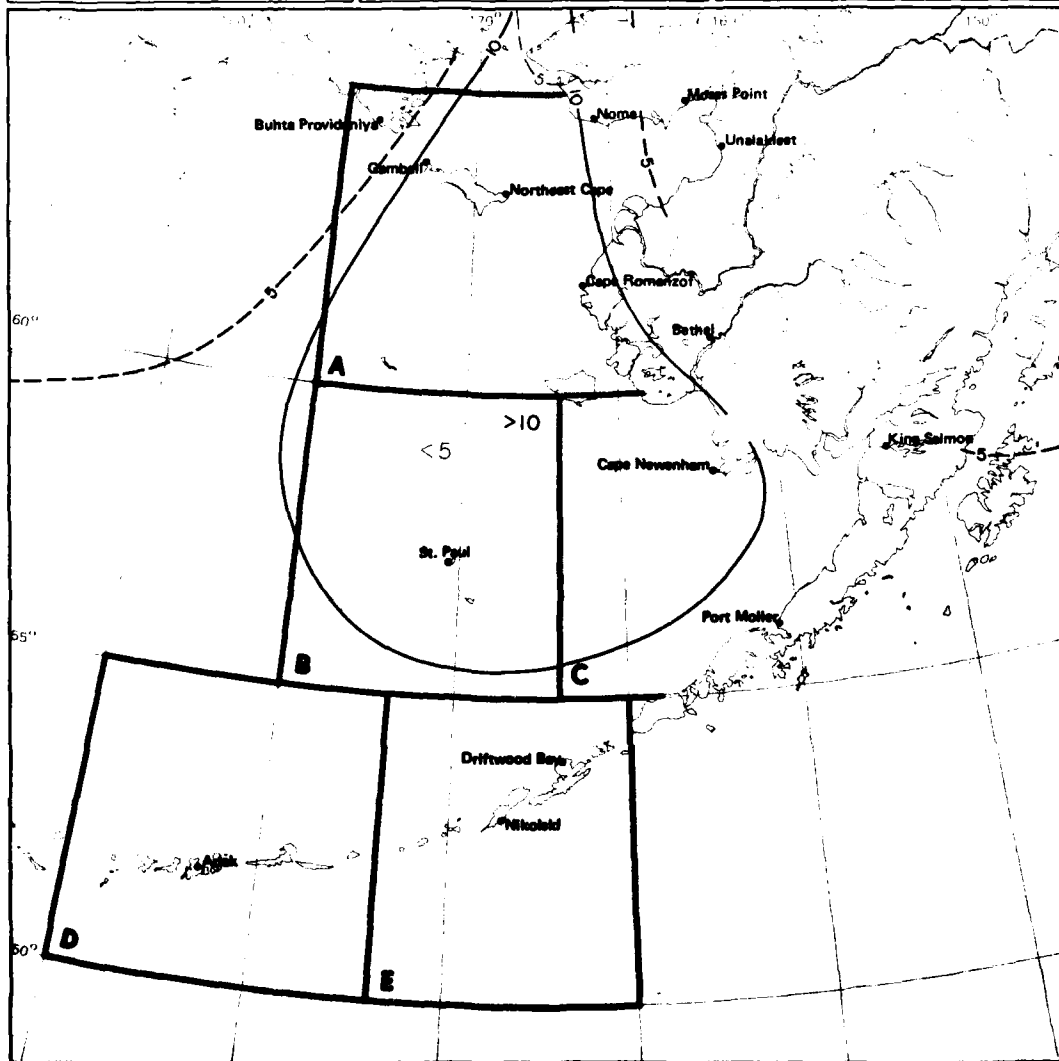
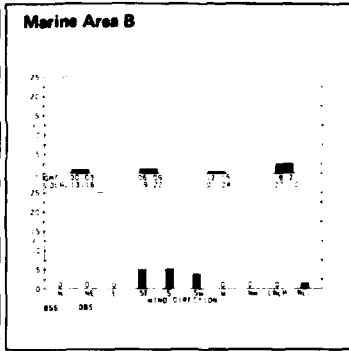
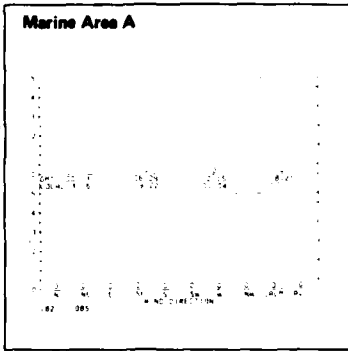
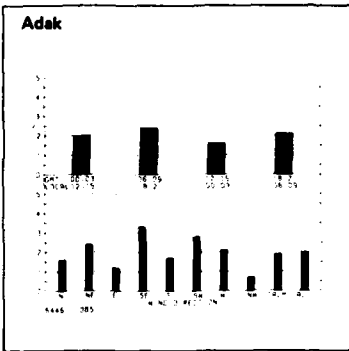
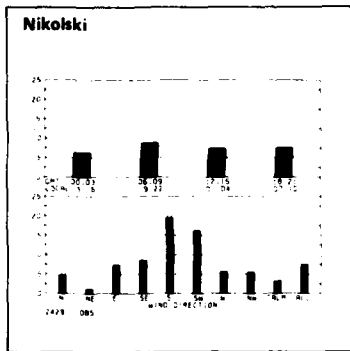


**Port Moller**



**Driftwood Bay**

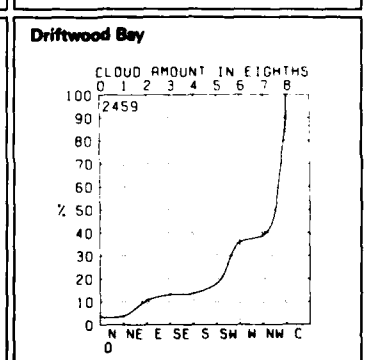
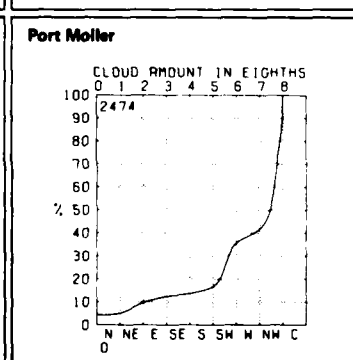
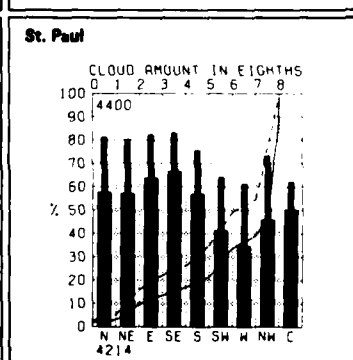
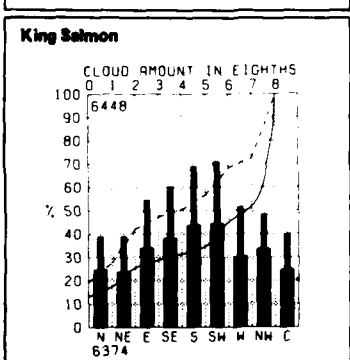
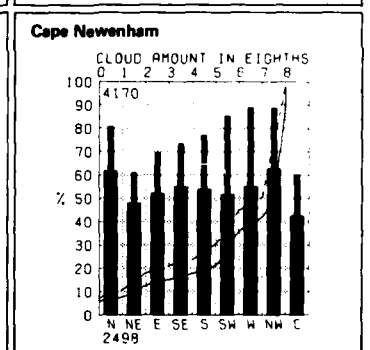
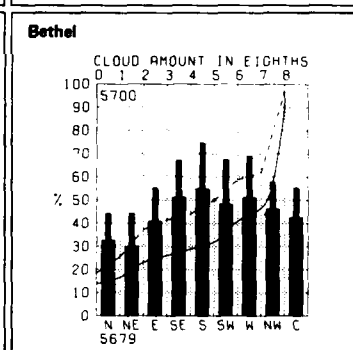
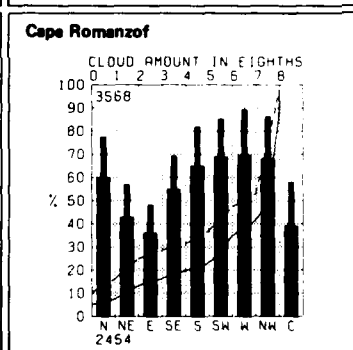
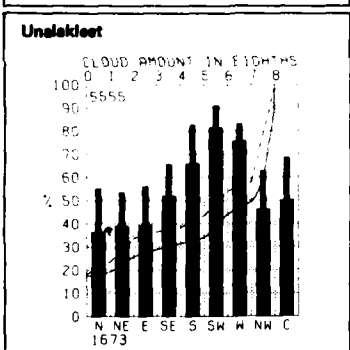
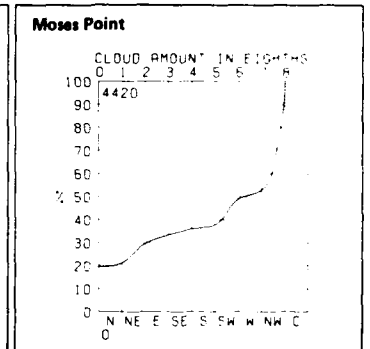
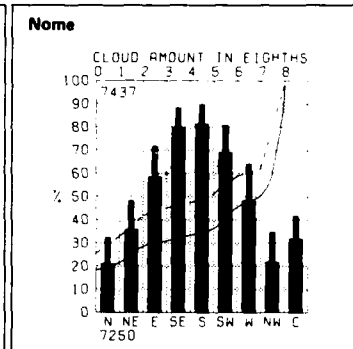
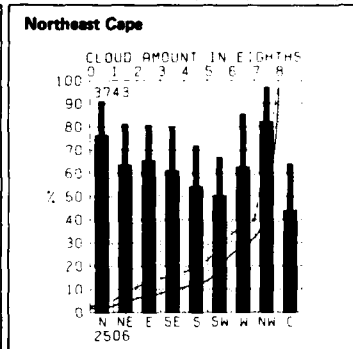
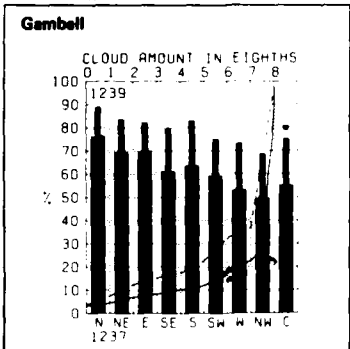
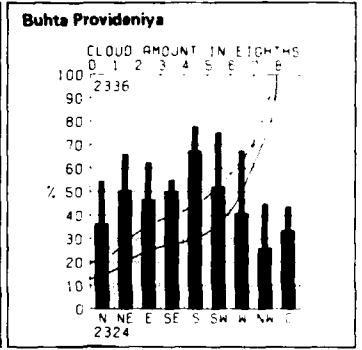
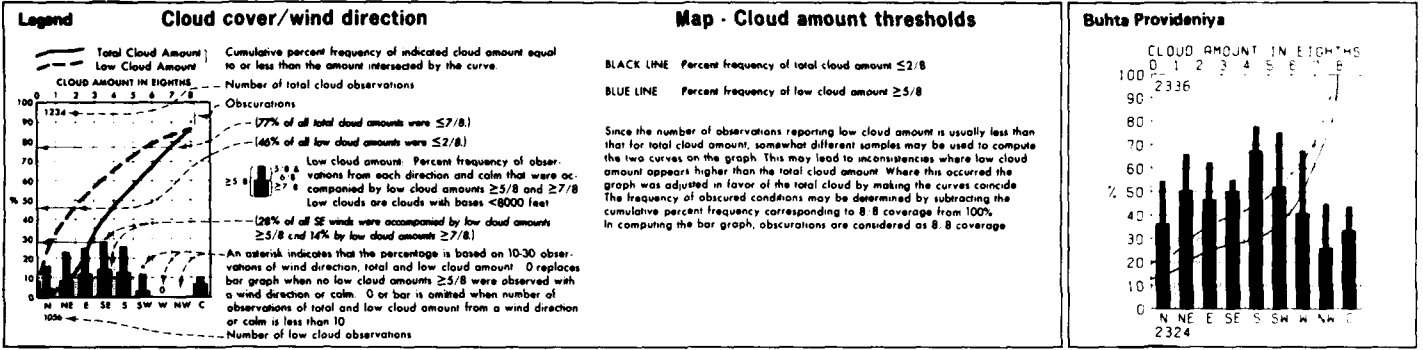


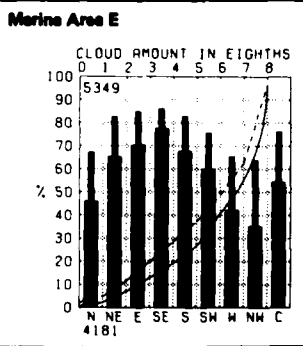
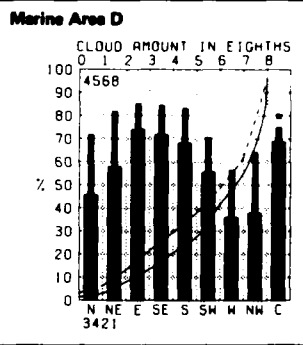
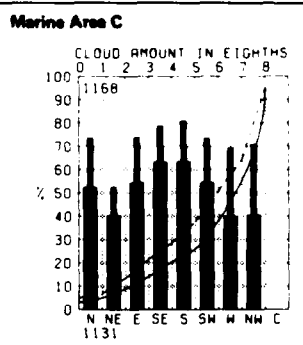
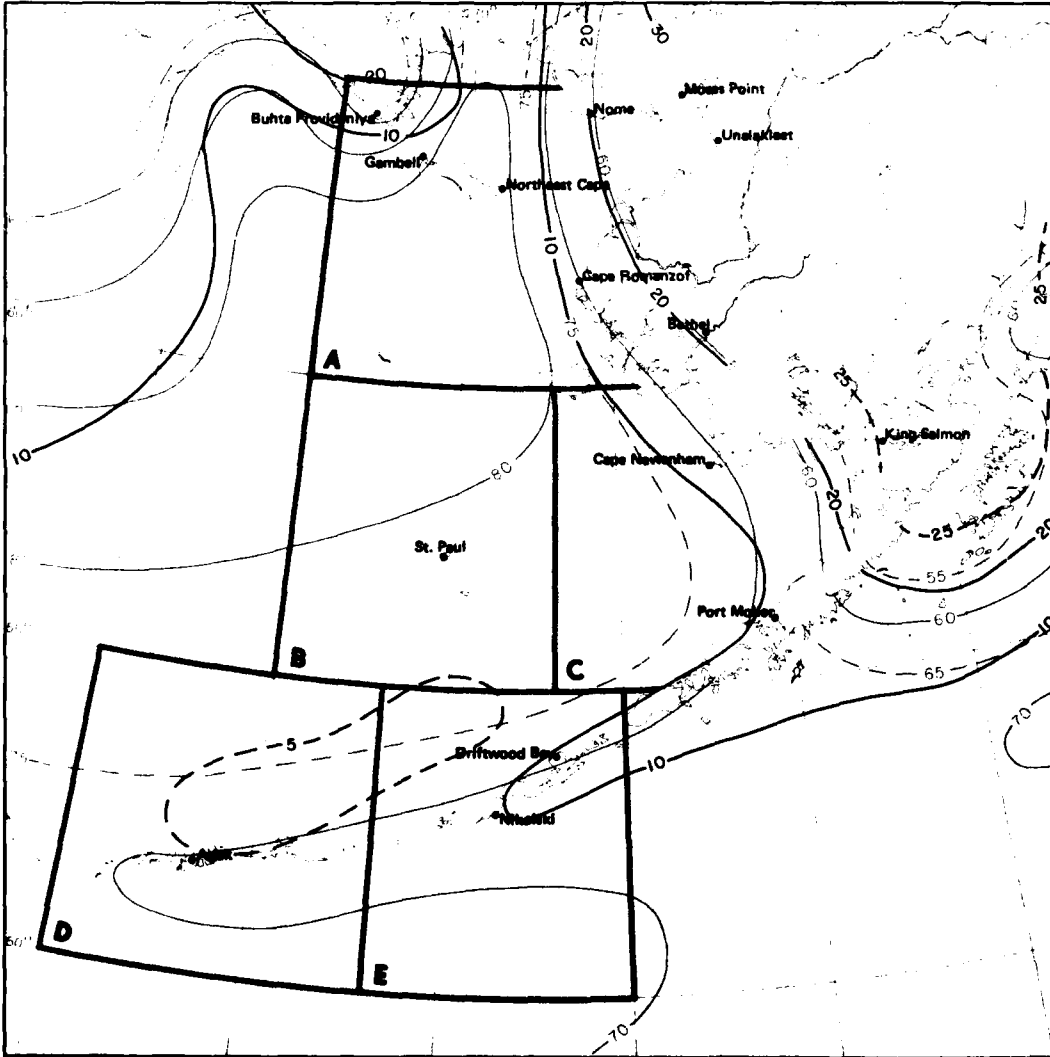
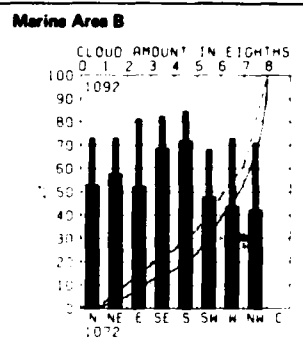
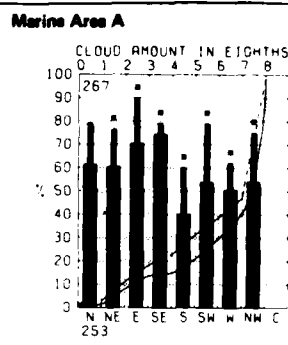
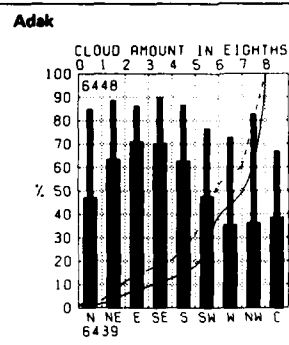
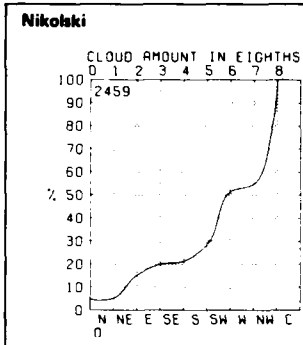


6 Fog

October



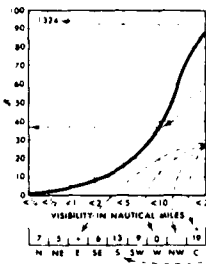




7 Cloud amount thresholds

**Legend**

**Visibility/wind direction**



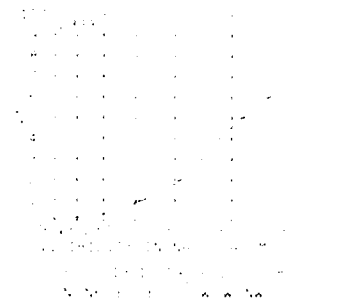
Number of observations  
 Cumulative percent frequency of visibilities less than the visibility intersected by the curve  
 37% of all visibilities reported were <10 nautical miles  
 The table below the graph indicates percent frequency of occurrence of visibility <2 nautical miles versus wind direction  
 \* indicates <5% but >0. 0 indicates that no visibilities <2 nautical miles were observed with winds from a direction or calm  
 No percentage is given if less than 10 observations were available for visibility and wind direction. An asterisk indicates that the percentage was based on 10-30 observations of visibility and wind direction  
 11% of all S winds were accompanied by visibilities <2 nautical miles

**Map - Visibility thresholds**

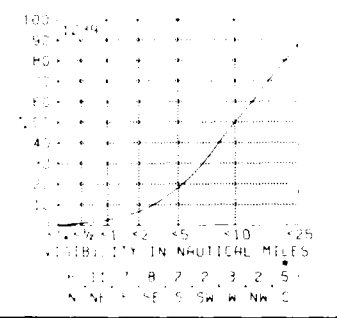
BLACK LINE Percent frequency of visibilities  $\geq 5$  nautical miles  
 BLUE LINE Percent frequency of visibilities <2 nautical miles

The percentage of visibility equal to or greater than a given value can be obtained from the graph by subtracting the cumulative percent frequency of that value from 100%. Visibility at sea is difficult to measure because of the lack of reference points. Also, some observers seem to report reduced visibilities at night because of darkness though this tendency has abated in recent years. The coarseness of the coding intervals, however, tends to minimize serious biases in the summarized data. Visibilities greater than 25 nm should be interpreted cautiously because the earth's curvature makes it impossible to see 25 nm horizontally from the bridges of most ships.

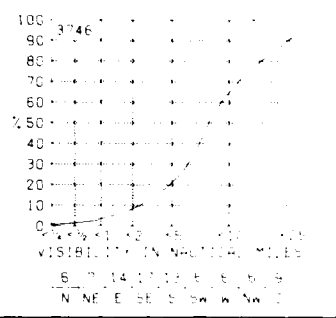
**Buhta Provideniya**



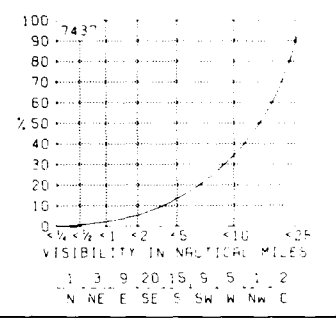
**Gambell**



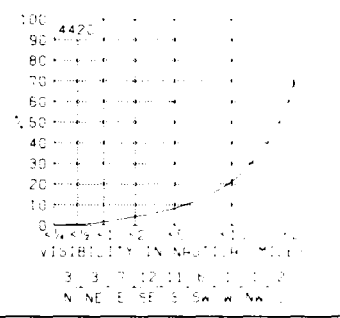
**Northeast Cape**



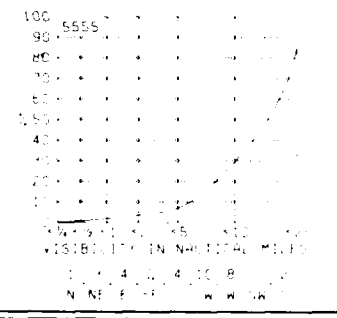
**Nome**



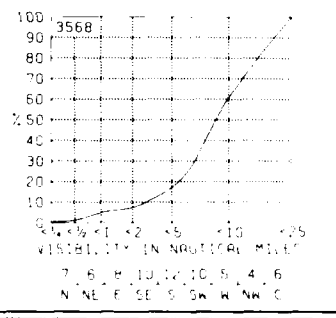
**Moses Point**



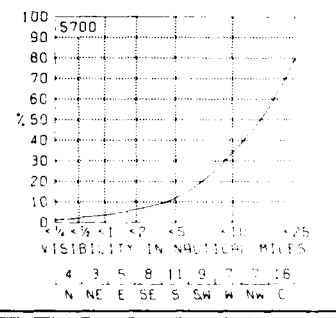
**Unalakleet**



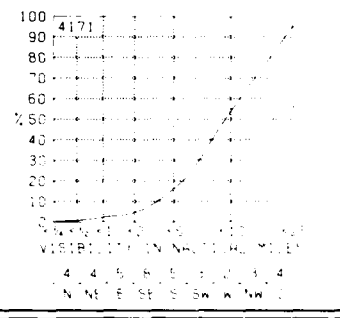
**Cape Romanzof**



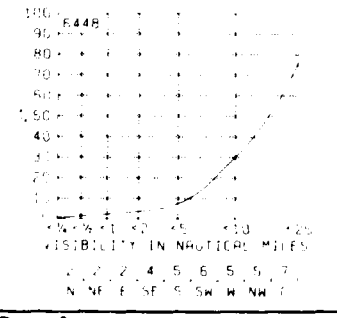
**Bethel**



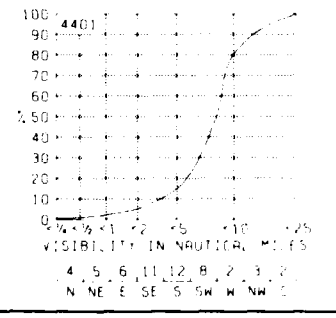
**Cape Newenham**



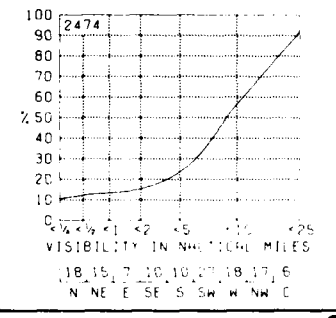
**King Salmon**



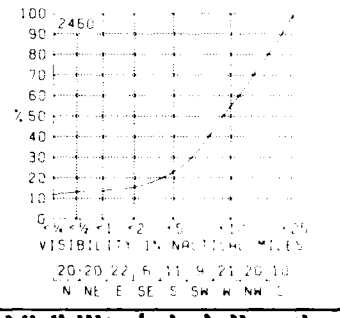
**St. Paul**



**Port Moller**

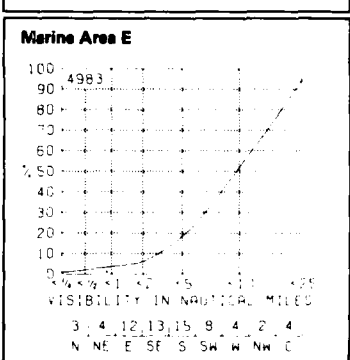
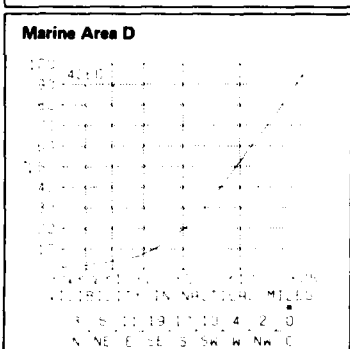
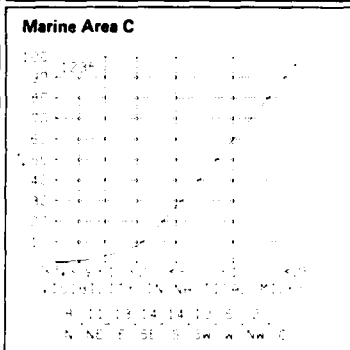
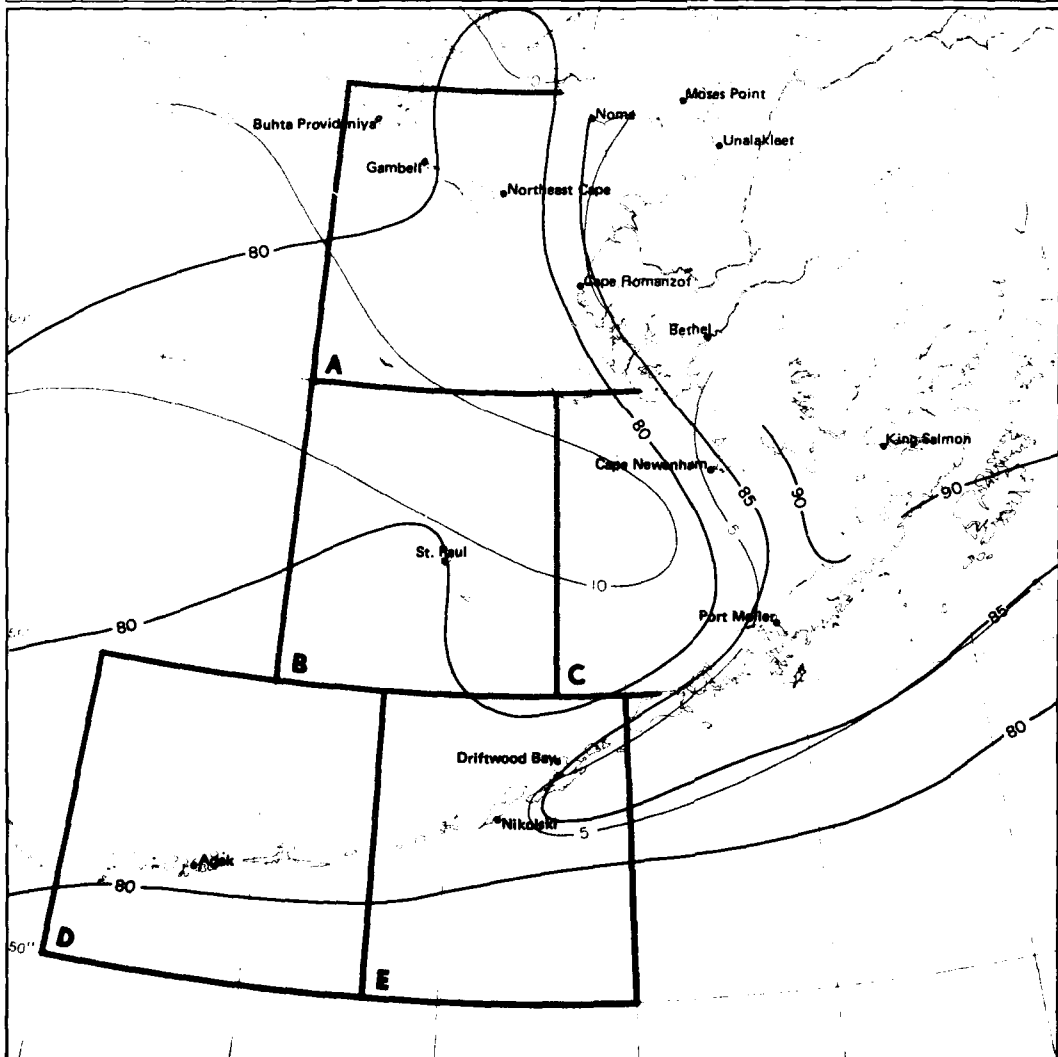
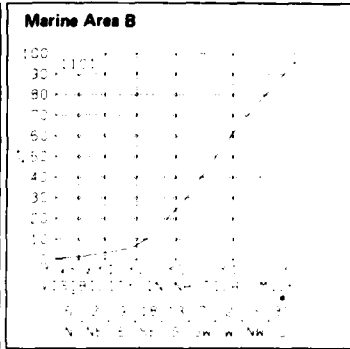
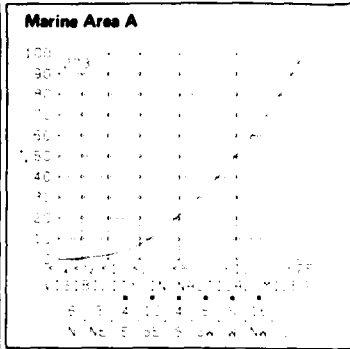
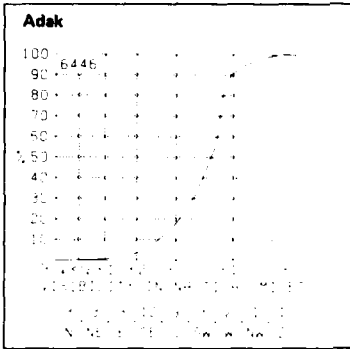
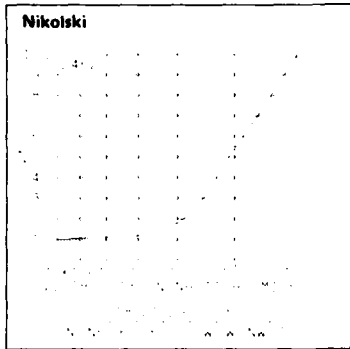


**Driftwood Bay**



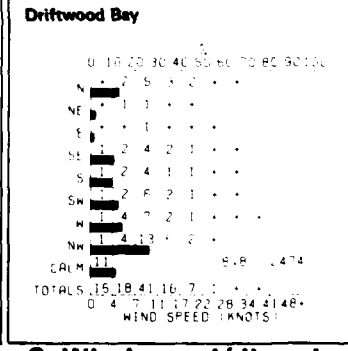
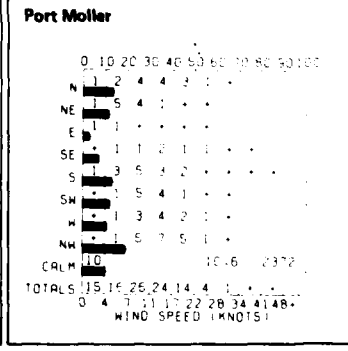
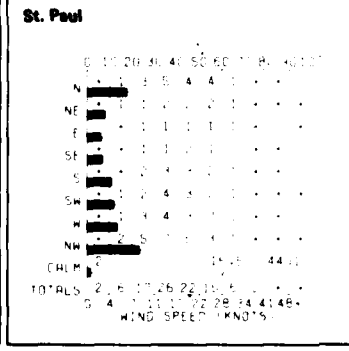
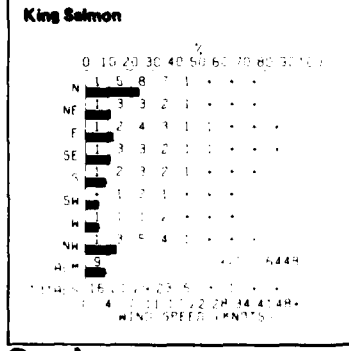
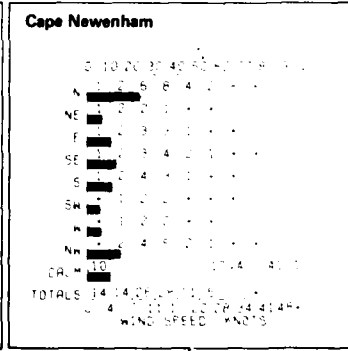
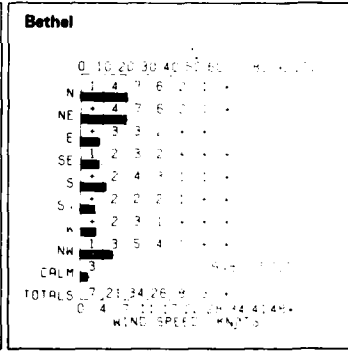
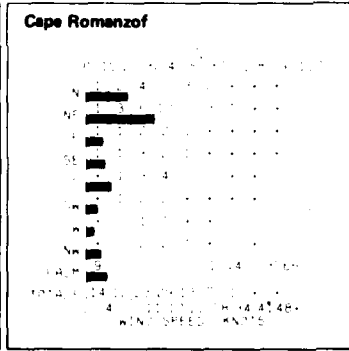
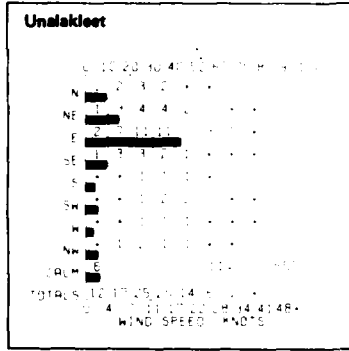
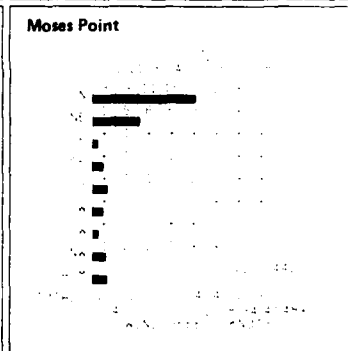
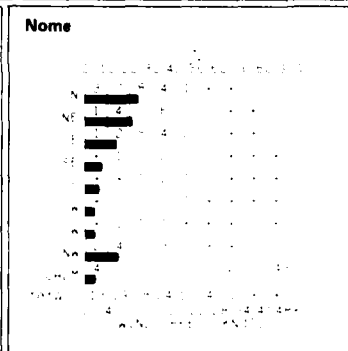
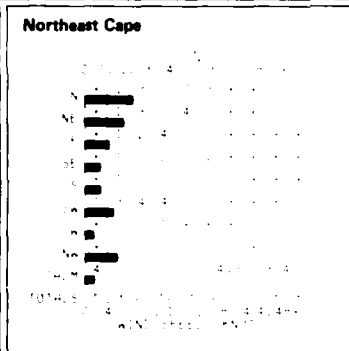
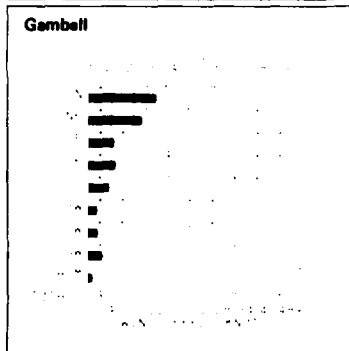
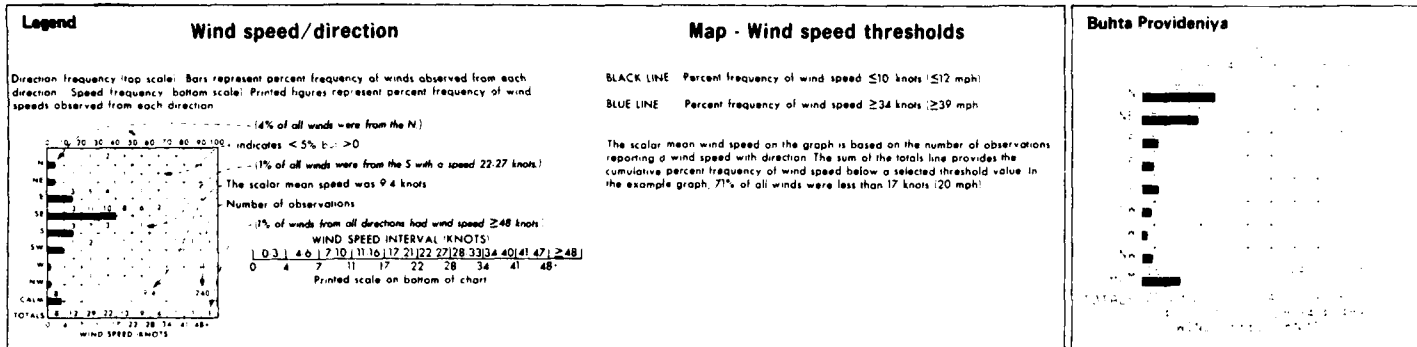
**October**

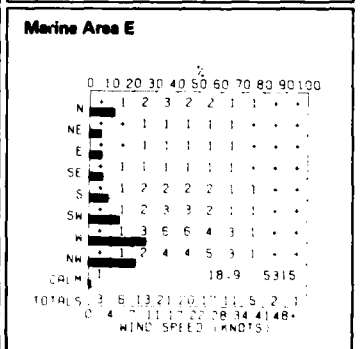
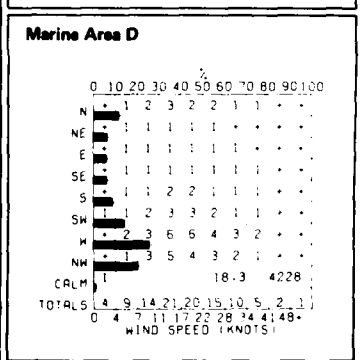
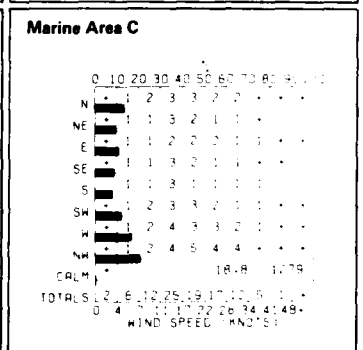
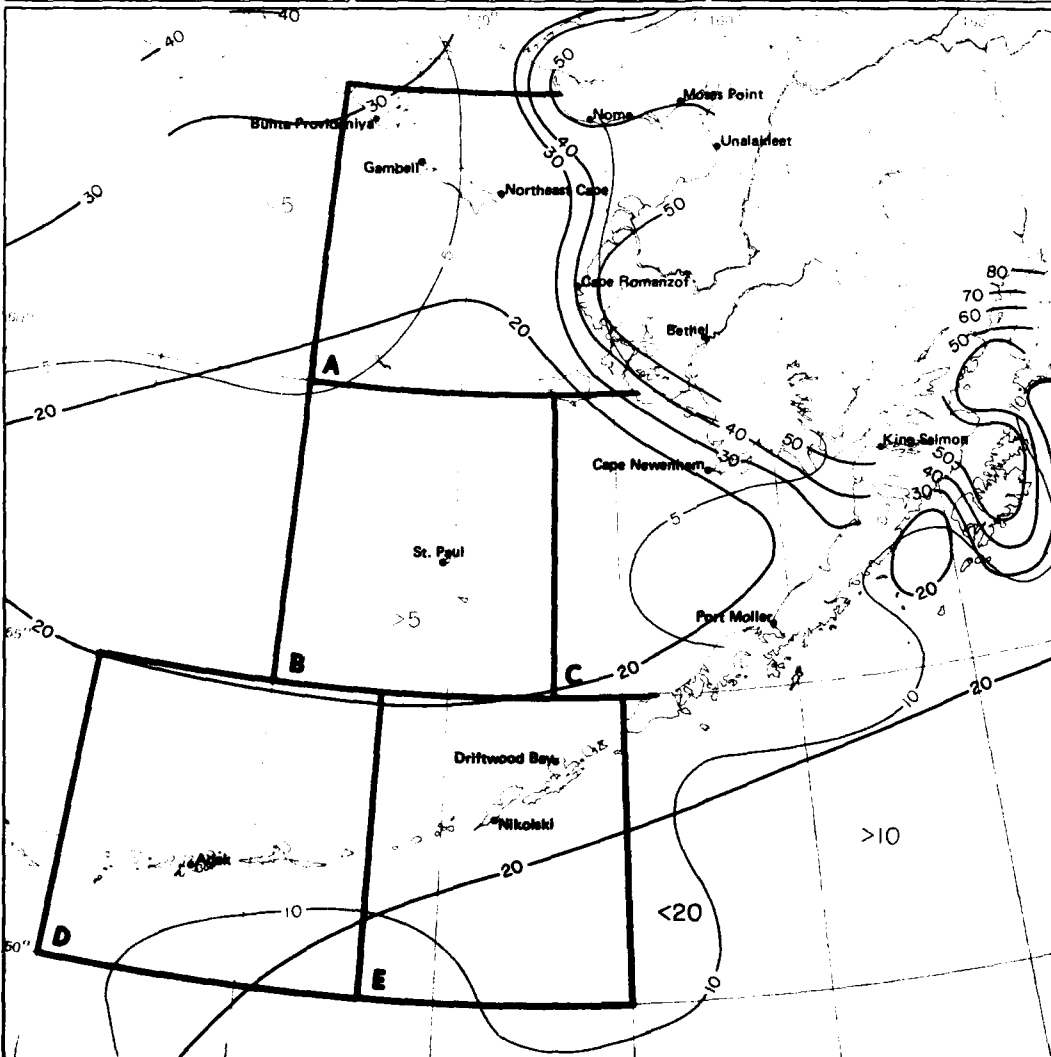
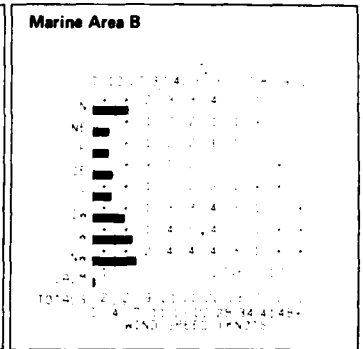
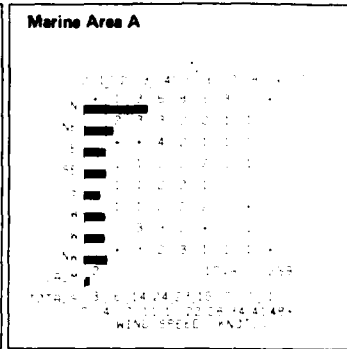
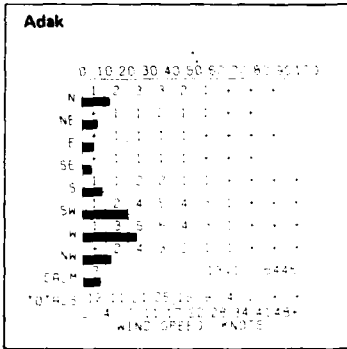
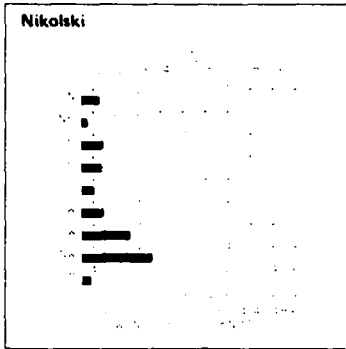
**8 Visibility/wind direction**



**8 Visibility thresholds**

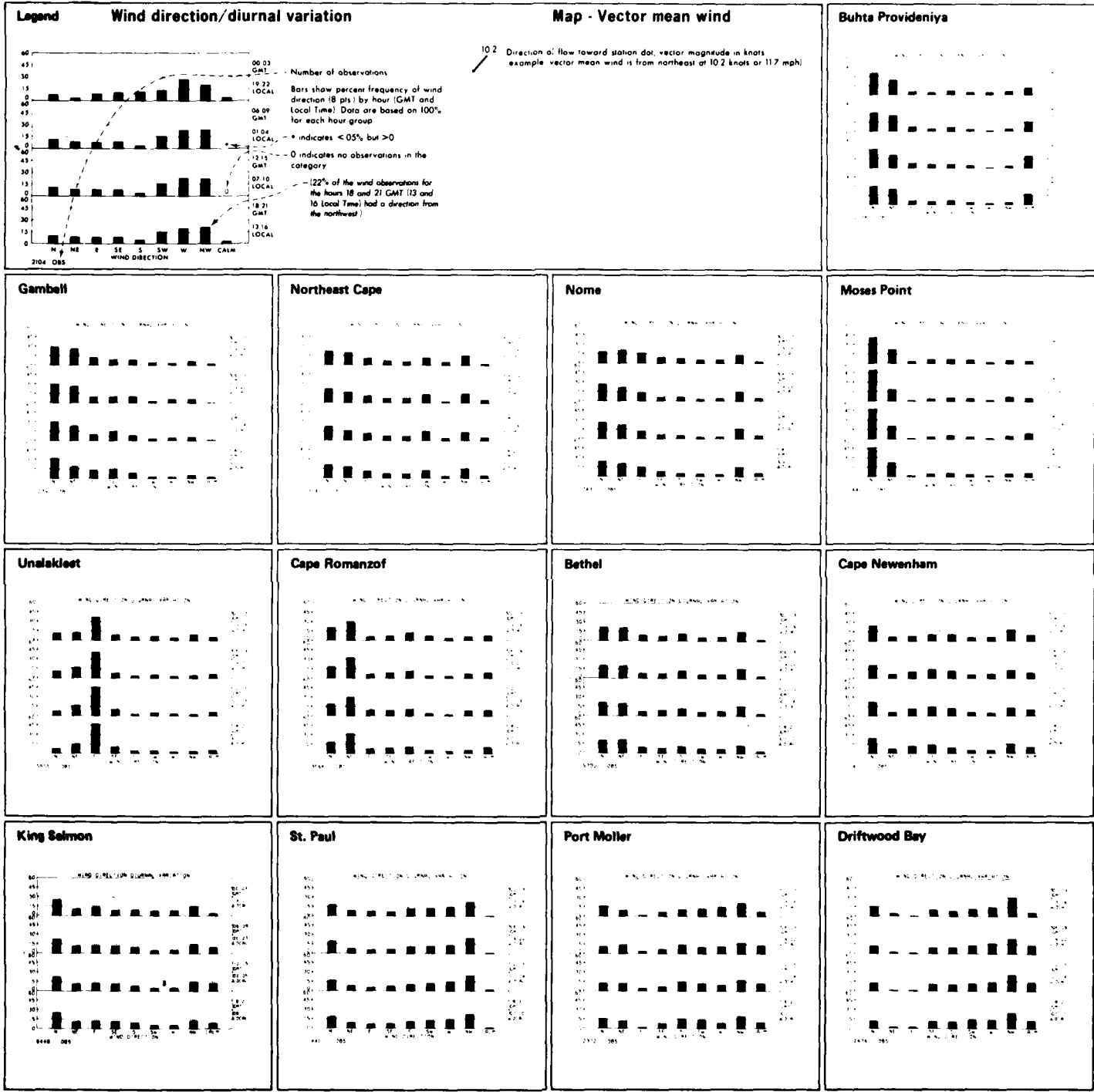
**October**

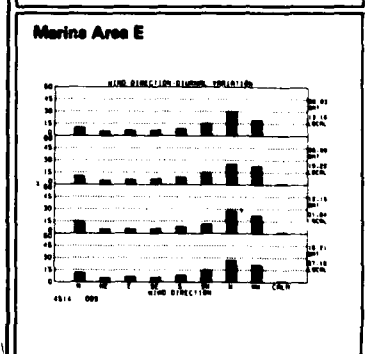
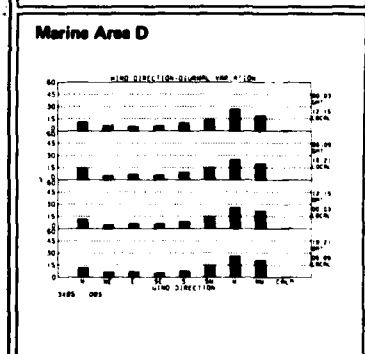
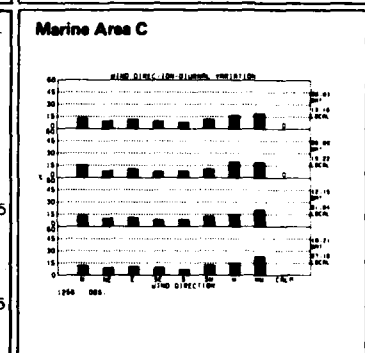
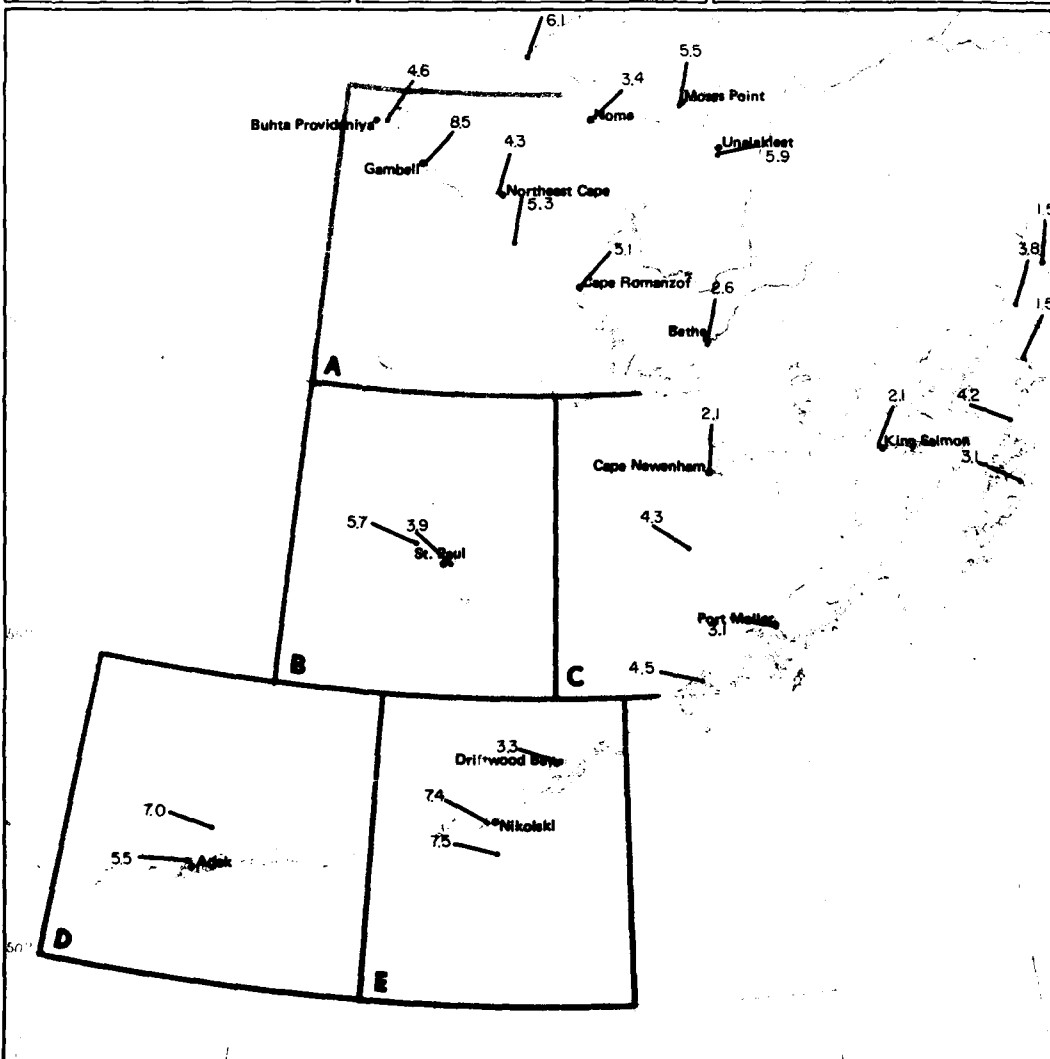
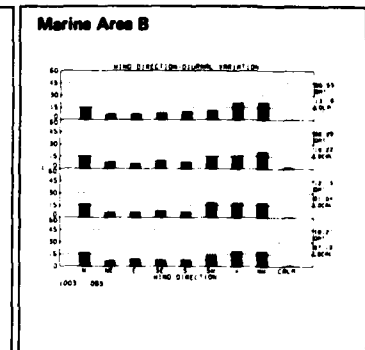
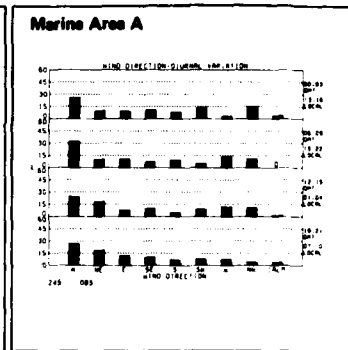
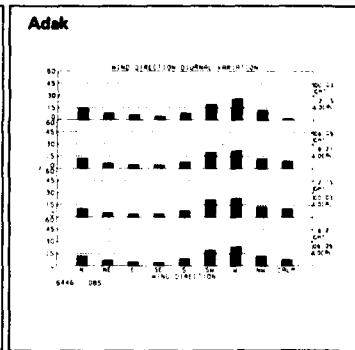
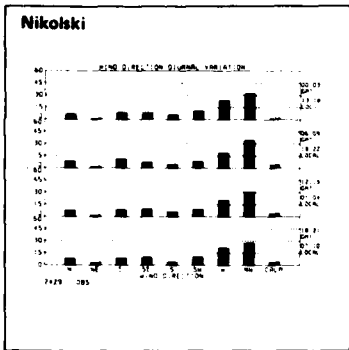




9 Wind speed thresholds

October

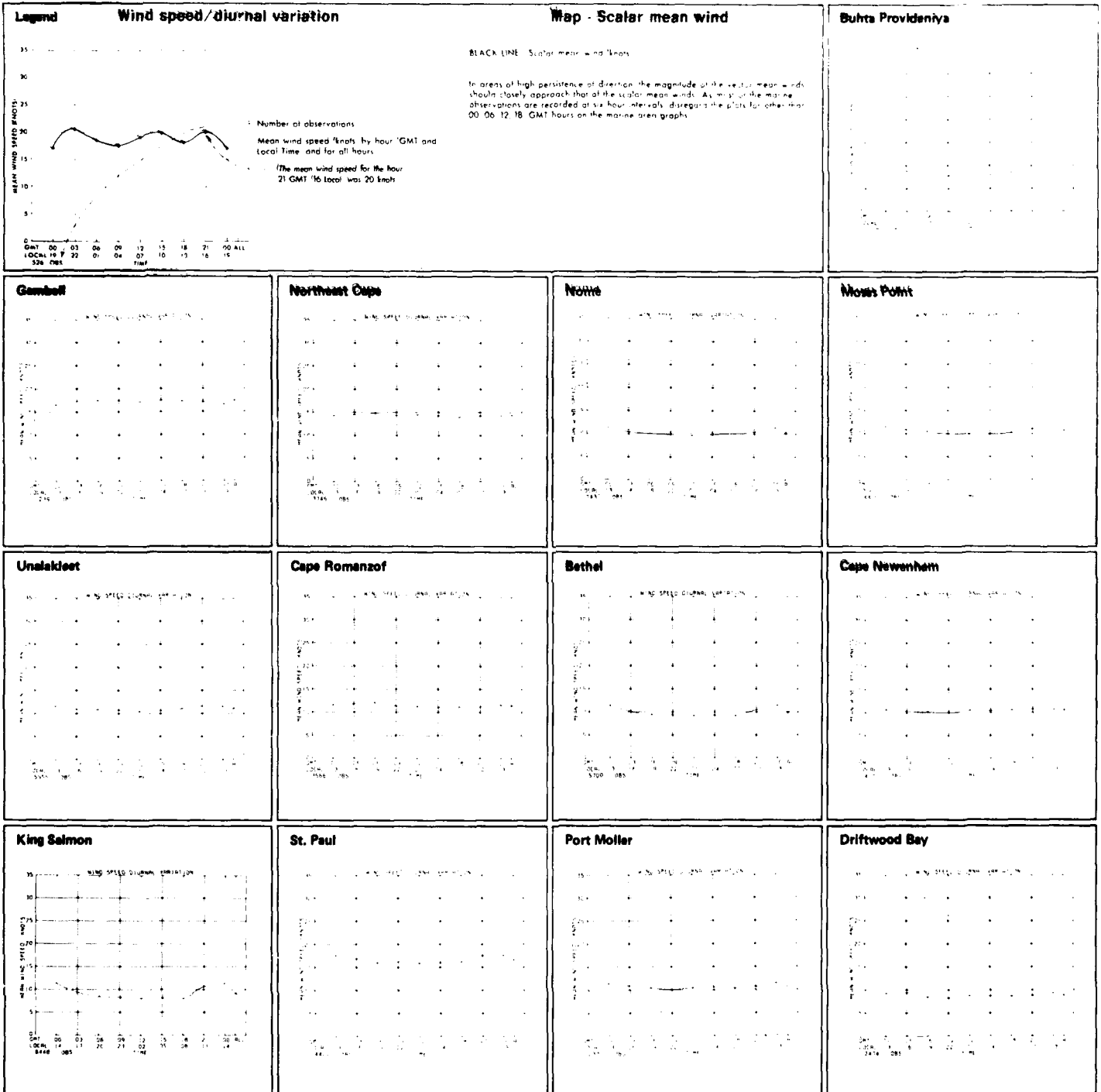


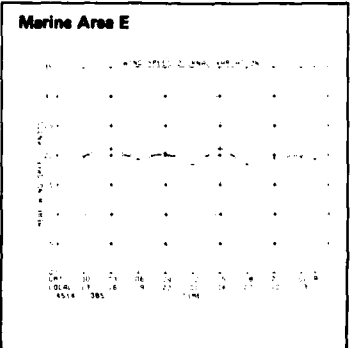
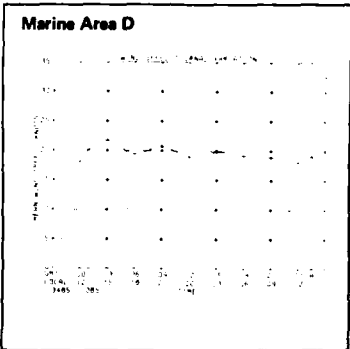
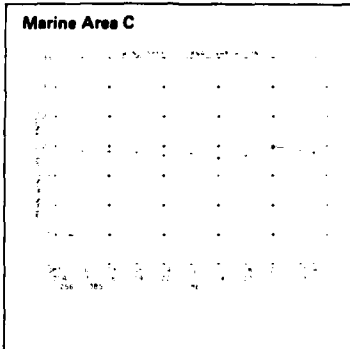
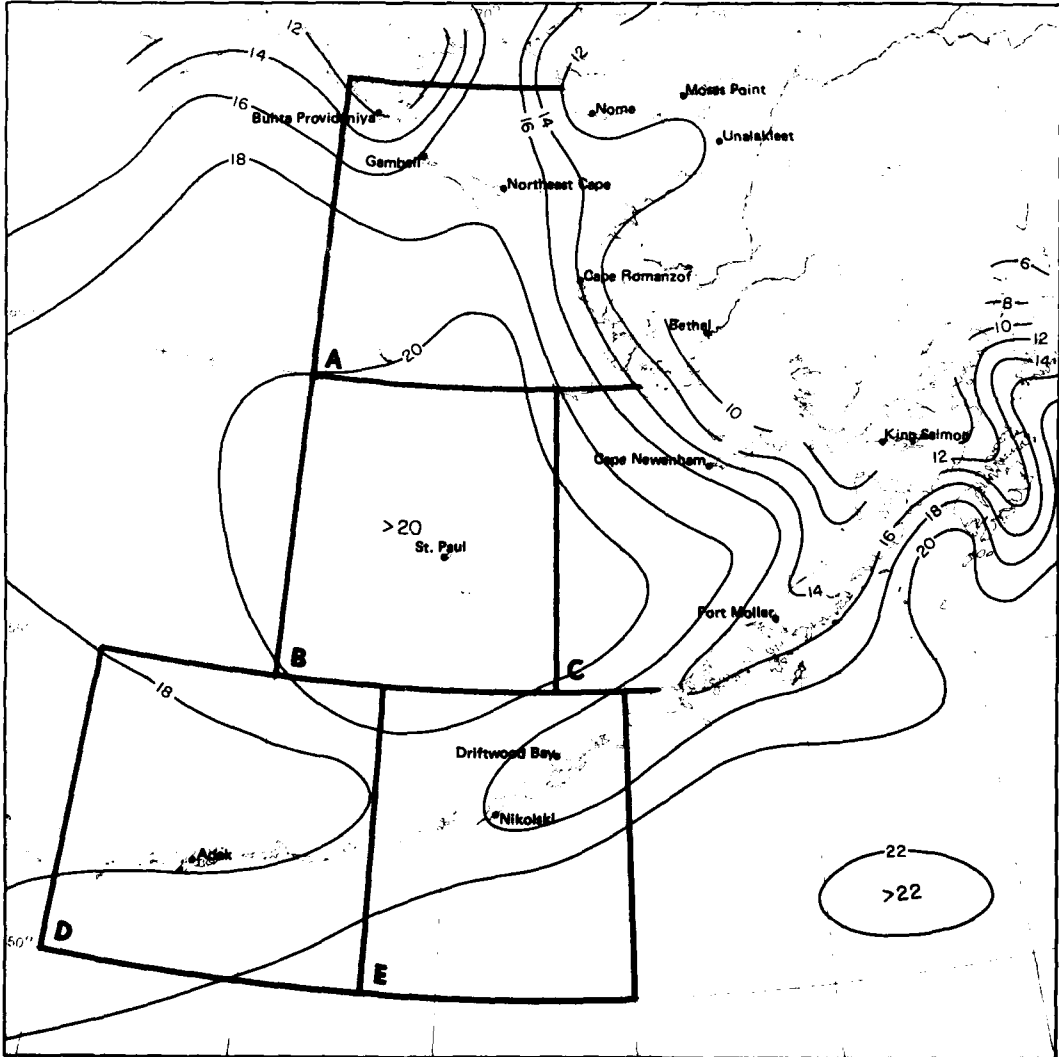
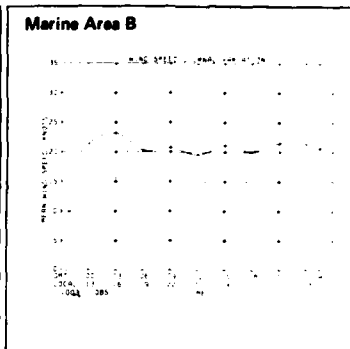
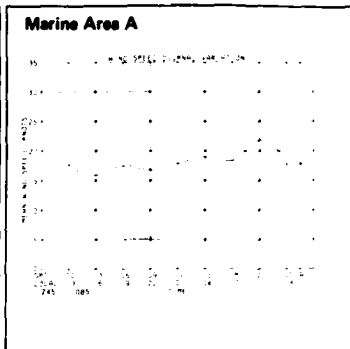
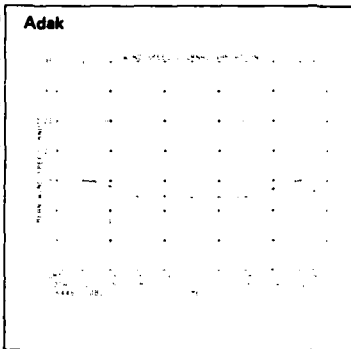
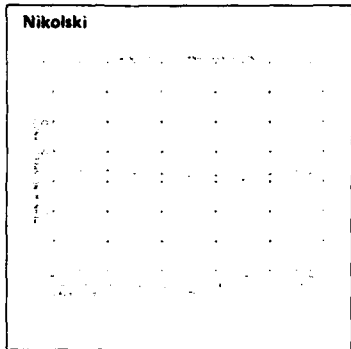


10 Vector mean wind

October







11 Scalar mean wind

October

**Legend** **Low cloud ceiling/visibility**

Percent frequency of simultaneous occurrence of specified low cloud ceilings, hundreds of feet and visibilities, nautical miles.

Low cloud ceiling heights are estimated from the height of low clouds (h) when low cloud amount (N<sub>h</sub>) is  $\geq 5$ .

Observations are included under ceiling 0 < 1.5.

NC: no ceiling, includes bases of clouds  $\geq 8000$  feet as well as occurrences of N<sub>h</sub>  $\leq 5$ .

2% of all observations reported ceiling  $\geq 1000$  but  $< 2000$  feet simultaneously with visibility  $\geq 5$  but  $< 10$  nautical miles.

• indicates  $< 5\%$  but  $> 0$ .

Number of observations

**Map - Low cloud ceiling and visibility thresholds**

BLACK LINE: Percent frequency of low cloud ceiling  $\geq 1000$  feet or no low cloud ceiling, and visibility  $\geq 5$  nautical miles.

BLUE LINE: Percent frequency of low cloud ceiling  $< 600$  feet and/or visibility  $< 2$  nautical miles.

**Buhta Provideniya**

**Gambell**

VISIBILITY  
1/2 1 2 5 10  $\geq 10$

NC	0	0	0	0	3	14	
50+80	0	0	0	0	0	0	
35+50	0	0	0	0	0	0	
20+35	0	0	0	0	5	19	
10+20	0	0	0	0	3	13	12
6+10	0	0	0	0	2	7	8
3+6	0	0	0	0	1	1	2
1.5+3	0	0	0	0	0	0	0
0+1.5	1	1	0	0	0	0	0

1237

**Northeast Cape**

VISIBILITY  
1/2 1 2 5 10  $\geq 10$

NC	0	0	0	0	6	10	
50+80	0	0	0	0	0	0	
35+50	0	0	0	0	0	0	
20+35	0	0	0	0	0	0	
10+20	0	0	0	0	0	14	2
6+10	0	0	0	0	0	4	5
3+6	0	0	0	0	0	0	0
1.5+3	0	0	0	0	0	0	0
0+1.5	1	1	1	1	0	0	0

2506

**Nome**

VISIBILITY  
1/2 1 2 5 10  $\geq 10$

NC	0	0	0	0	5	45	
50+80	0	0	0	0	0	0	
35+50	0	0	0	0	0	0	
20+35	0	0	0	0	0	9	
10+20	0	0	0	0	0	0	0
6+10	0	0	0	0	0	3	3
3+6	0	0	0	0	0	0	0
1.5+3	0	0	0	0	0	0	0
0+1.5	1	1	1	1	0	0	0

7250

**Moses Point**

VISIBILITY  
1/2 1 2 5 10  $\geq 10$

NC	0	0	0	0	0	4	0	
50+80	0	0	0	0	0	0	0	
35+50	0	0	0	0	0	1	4	
20+35	0	0	0	0	0	6	4	
10+20	0	0	0	0	0	3	2	1
6+10	0	0	0	0	0	0	0	0
3+6	0	0	0	0	0	0	0	0
1.5+3	0	0	0	0	0	0	0	0
0+1.5	4	4	2	1	0	0	0	0

248

**Unalakleet**

VISIBILITY  
1/2 1 2 5 10  $\geq 10$

NC	0	0	0	0	0	0	0
50+80	0	0	0	0	0	0	0
35+50	0	0	0	0	0	0	0
20+35	0	0	0	0	0	0	0
10+20	0	0	0	0	0	0	0
6+10	0	0	0	0	0	0	0
3+6	0	0	0	0	0	0	0
1.5+3	0	0	0	0	0	0	0
0+1.5	1	1	1	1	0	0	0

1673

**Cape Romanzof**

VISIBILITY  
1/2 1 2 5 10  $\geq 10$

NC	0	0	0	0	1	13	19		
50+80	0	0	0	0	0	0	0		
35+50	0	0	0	0	0	2	2		
20+35	0	0	0	0	0	1	1	6	
10+20	0	0	0	0	1	1	3	14	5
6+10	0	0	0	0	1	1	3	5	1
3+6	0	0	0	0	0	0	1	2	1
1.5+3	0	0	0	0	0	0	0	0	0
0+1.5	1	2	1	0	0	0	0	0	0

2454

**Bethel**

VISIBILITY  
1/2 1 2 5 10  $\geq 10$

NC	0	0	0	0	1	5	4	
50+80	0	0	0	0	0	0	0	
35+50	0	0	0	0	0	2	5	
20+35	0	0	0	0	0	5	9	
10+20	0	0	0	0	2	5	6	
6+10	0	0	0	0	1	2	3	2
3+6	0	0	0	0	0	1	1	0
1.5+3	0	0	0	0	0	0	0	0
0+1.5	1	1	1	0	0	0	0	0

5679

**Cape Newenham**

VISIBILITY  
1/2 1 2 5 10  $\geq 10$

NC	0	0	0	0	0	1	1	3
50+80	0	0	0	0	0	0	0	0
35+50	0	0	0	0	0	0	2	2
20+35	0	0	0	0	0	1	9	3
10+20	0	0	0	0	3	12	1	1
6+10	0	0	0	0	1	6	6	3
3+6	0	0	0	0	0	2	2	0
1.5+3	0	0	0	0	0	0	0	0
0+1.5	1	2	1	0	0	0	0	0

2498

**King Salmon**

VISIBILITY  
1/2 1 2 5 10  $\geq 10$

NC	1	0	0	1	8	45	
50+80	0	0	0	0	1	4	
35+50	0	0	0	0	2	5	
20+35	0	0	0	0	1	5	10
10+20	0	0	0	0	1	4	4
6+10	0	0	0	0	1	2	1
3+6	0	0	0	0	1	1	0
1.5+3	0	0	0	0	0	0	0
0+1.5	1	0	0	0	0	0	0

6374

**St. Paul**

VISIBILITY  
1/2 1 2 5 10  $\geq 10$

NC	0	0	0	0	1	19	7	
50+80	0	0	0	0	0	1	0	
35+50	0	0	0	0	0	0	2	1
20+35	0	0	0	0	0	1	14	6
10+20	0	0	0	0	4	24	4	
6+10	0	0	0	0	1	3	5	1
3+6	0	0	0	0	2	1	1	0
1.5+3	0	0	0	0	0	0	0	0
0+1.5	1	0	0	0	0	0	0	0

4214

**Port Moller**

Insufficient Data

**Driftwood Bay**

Insufficient Data

**Nikolski**

Insufficient Data

**Adak**

VISIBILITY  
\*1/2 \*1/2 \*1 \*2 2\*5 5\*10 \*10

NC	0	0	0	1	1	4
50*80	0	0	0	1	1	1
35*50	0	0	0	1	5	1
20*35	0	0	0	2	27	3
10*20	0	0	0	1	23	1
6*10	0	0	0	3	3	1
3*6	0	0	0	1	2	1
1.5*3	0	0	0	0	0	0
0*1.5	0	0	0	0	0	0

6437

**Marine Area A**

VISIBILITY  
\*1/2 \*1/2 \*1 \*2 2\*5 5\*10 \*10

NC	0	0	0	0	0	0
50*80	0	0	0	0	0	0
35*50	0	0	0	0	0	0
20*35	0	0	0	0	0	0
10*20	0	0	0	0	0	0
6*10	0	0	0	0	0	0
3*6	0	0	0	0	0	0
1.5*3	0	0	0	0	0	0
0*1.5	0	0	0	0	0	0

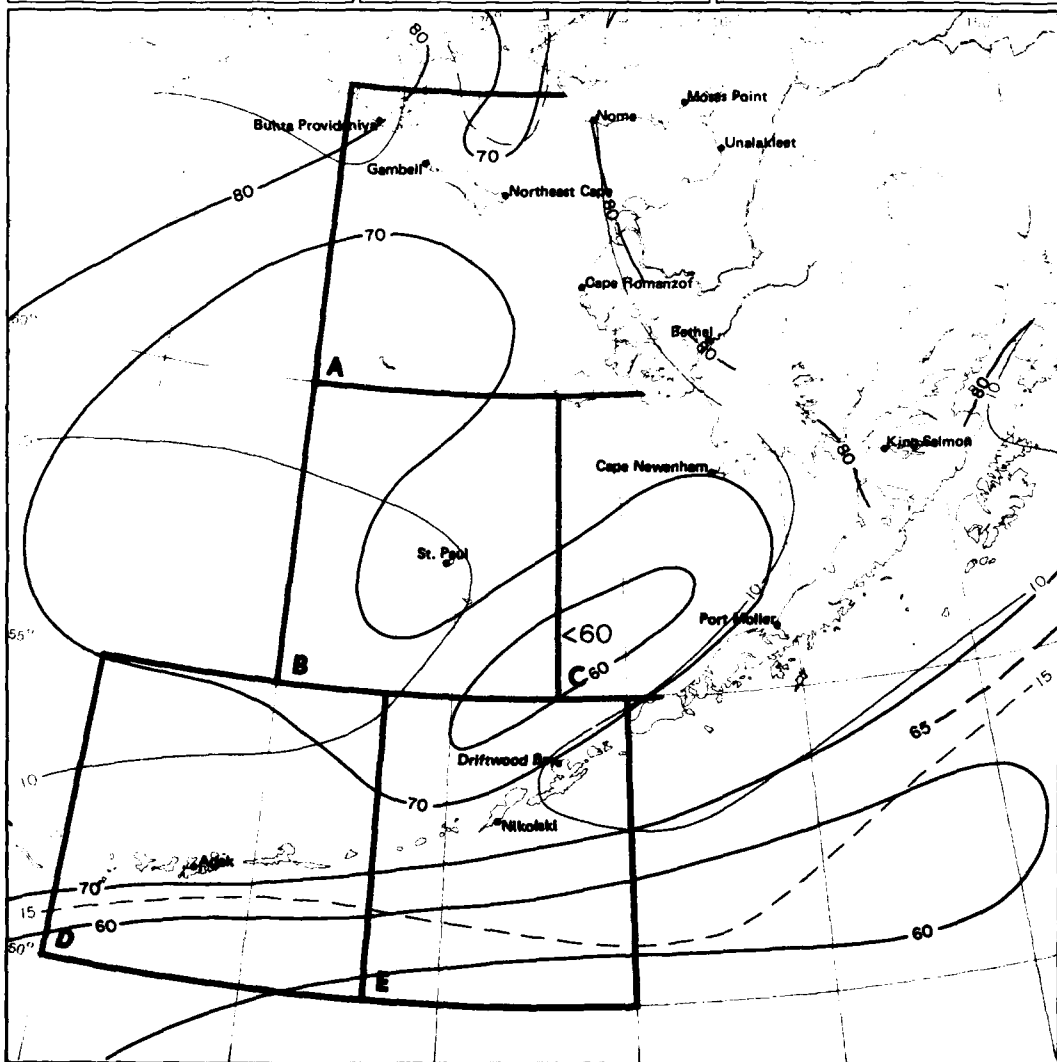
158

**Marine Area B**

VISIBILITY  
\*1/2 \*1/2 \*1 \*2 2\*5 5\*10 \*10

NC	0	0	0	0	0	0
50*80	0	0	0	0	0	0
35*50	0	0	0	0	0	0
20*35	0	0	0	0	0	0
10*20	0	0	0	0	0	0
6*10	0	0	0	0	0	0
3*6	0	0	0	0	0	0
1.5*3	0	0	0	0	0	0
0*1.5	0	0	0	0	0	0

1044



**Marine Area C**

VISIBILITY  
\*1/2 \*1/2 \*1 \*2 2\*5 5\*10 \*10

NC	0	0	0	0	0	0
50*80	0	0	0	0	0	0
35*50	0	0	0	0	0	0
20*35	0	0	0	0	0	0
10*20	0	0	0	0	0	0
6*10	0	0	0	0	0	0
3*6	0	0	0	0	0	0
1.5*3	0	0	0	0	0	0
0*1.5	0	0	0	0	0	0

1044

**Marine Area D**

VISIBILITY  
\*1/2 \*1/2 \*1 \*2 2\*5 5\*10 \*10

NC	0	0	0	2	6	22
50*80	0	0	0	0	0	0
35*50	0	0	0	0	1	7
20*35	0	0	0	1	5	8
10*20	0	0	0	1	3	6
6*10	0	0	0	1	4	5
3*6	0	0	0	1	2	1
1.5*3	0	0	0	0	0	0
0*1.5	2	1	1	1	1	1

3126

**Marine Area E**

VISIBILITY  
\*1/2 \*1/2 \*1 \*2 2\*5 5\*10 \*10

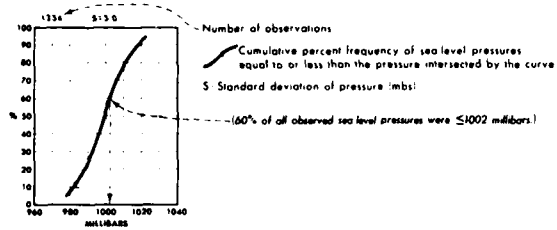
NC	0	0	0	1	7	21
50*80	0	0	0	0	0	1
35*50	0	0	0	0	1	4
20*35	0	0	0	1	4	8
10*20	0	0	0	1	4	11
6*10	0	0	0	1	4	5
3*6	0	0	0	2	2	1
1.5*3	0	0	0	0	0	0
0*1.5	1	1	1	1	1	1

3885

12 Low cloud ceiling and visibility thresholds

**Legend**

**Sea level pressure**

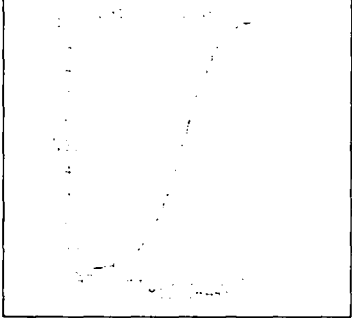


**Map - Mean sea level pressure**

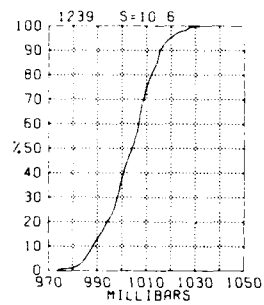
BLACK LINE Mean sea level pressure (millibars)

Sea level pressure is one of the most frequently recorded elements but one of the least accurate because of instrument and coding errors. Despite the inaccuracies of the individual readings, however, the large-scale patterns and mean gradients of the isopleth analyses are relatively accurate.

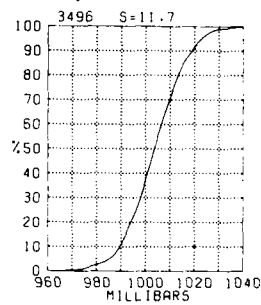
**Buhta Provideniya**



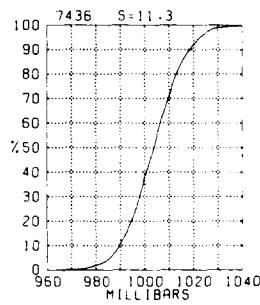
**Gambell**



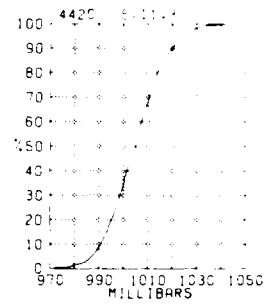
**Northeast Cape**



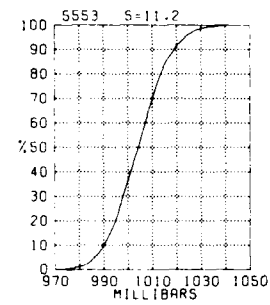
**Nome**



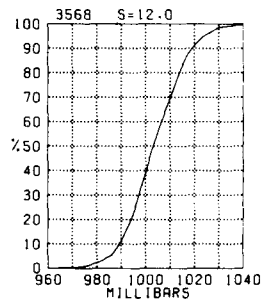
**Moses Point**



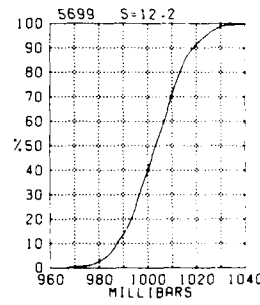
**Unalakleet**



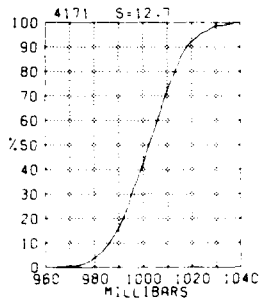
**Cape Romanzof**



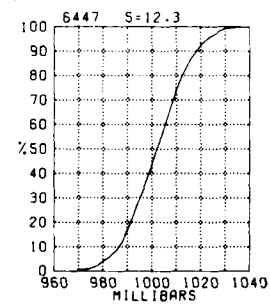
**Bethel**



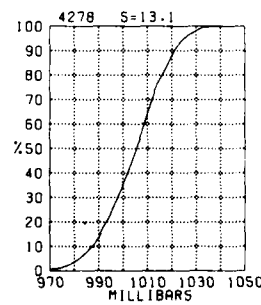
**Cape Newenham**



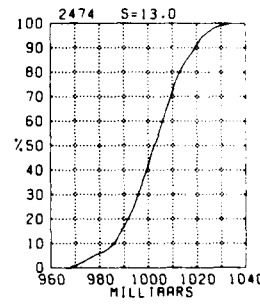
**King Salmon**



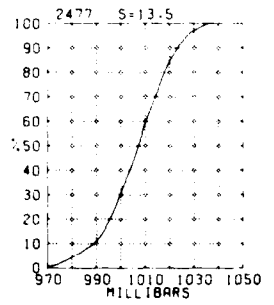
**St. Paul**

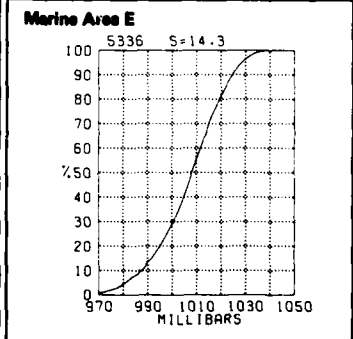
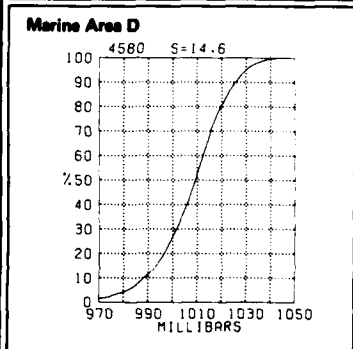
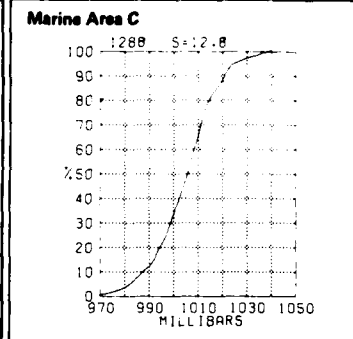
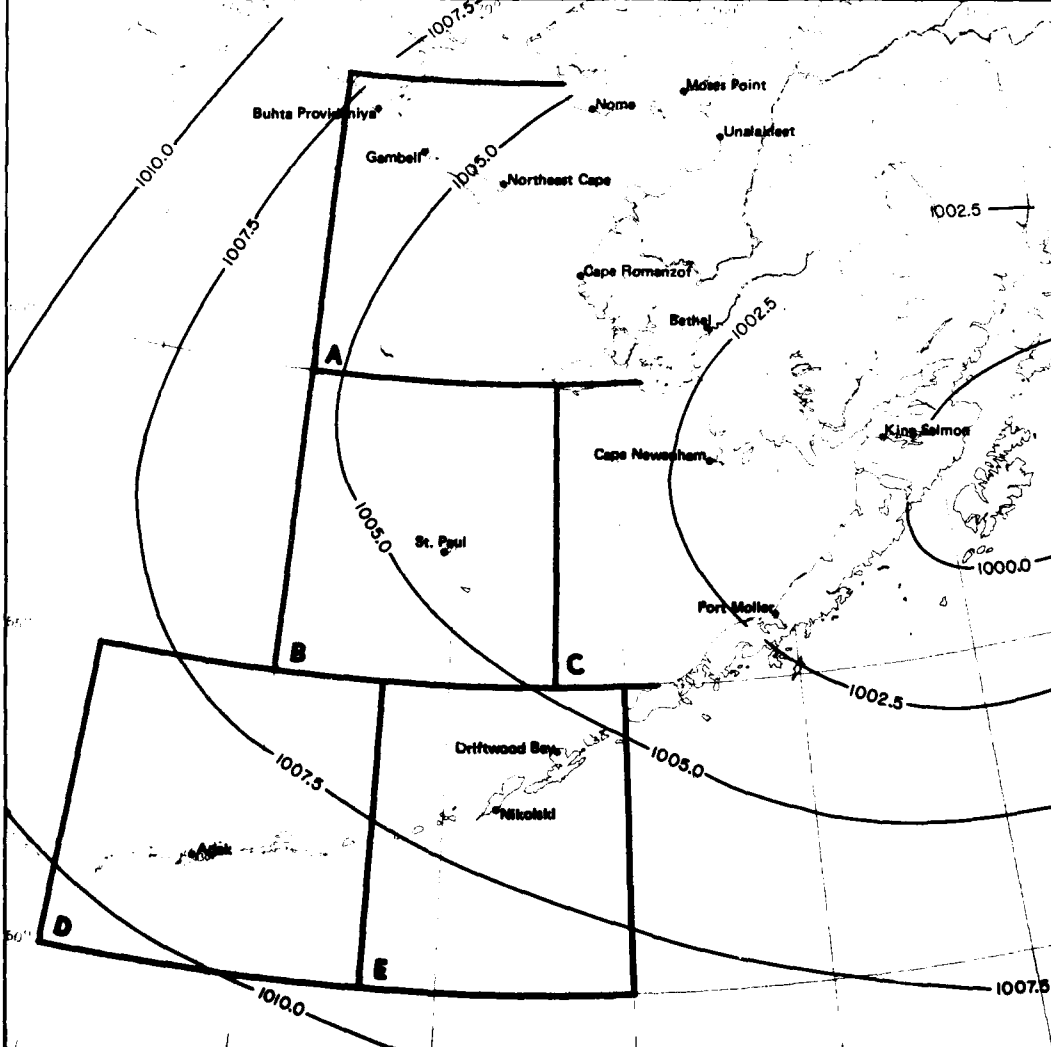
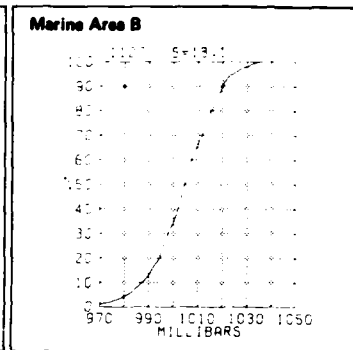
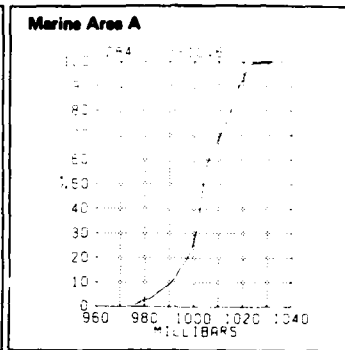
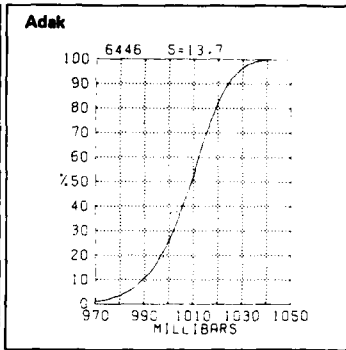
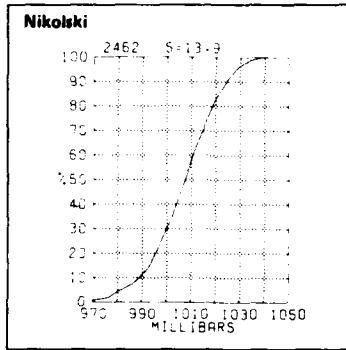


**Port Moller**



**Driftwood Bay**

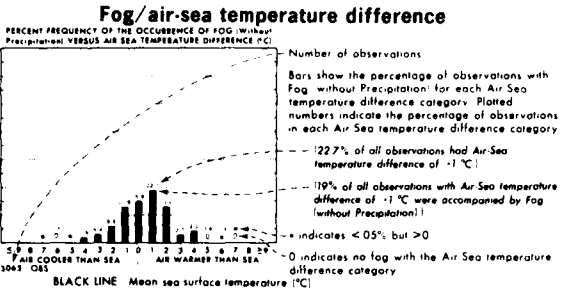




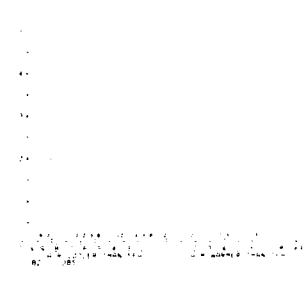
13 Mean sea level pressure

October

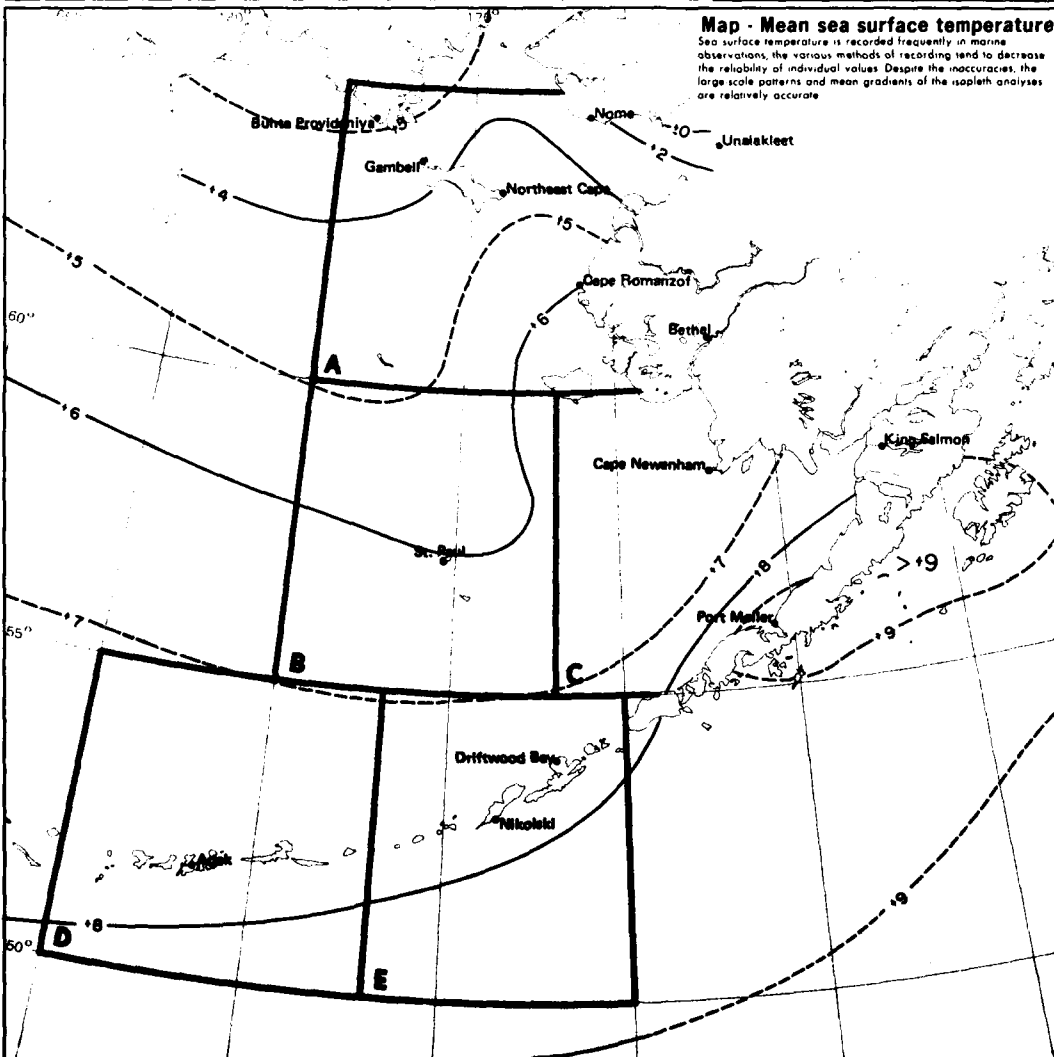
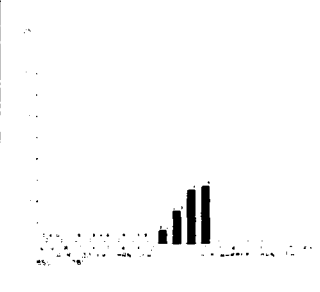
**Legend**



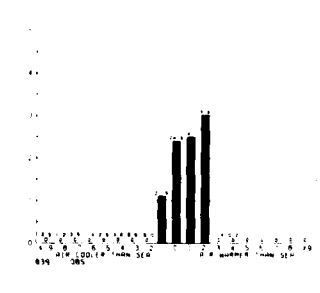
**Marine Area A**



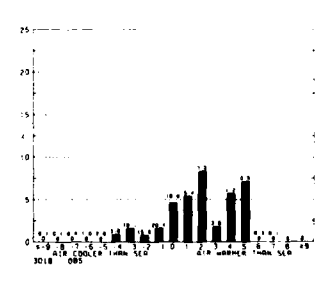
**Marine Area B**



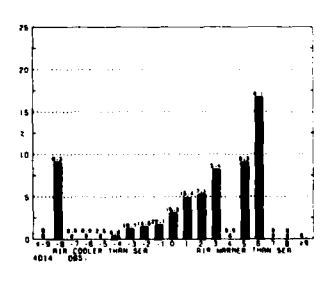
**Marine Area C**

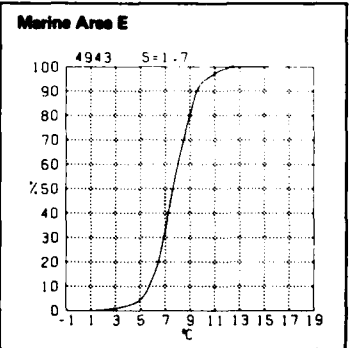
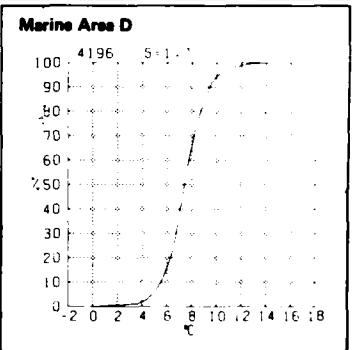
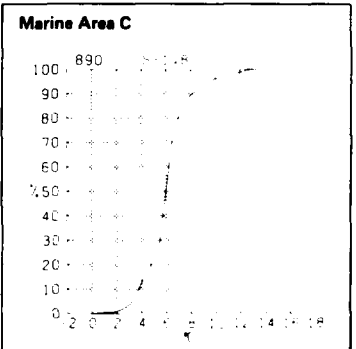
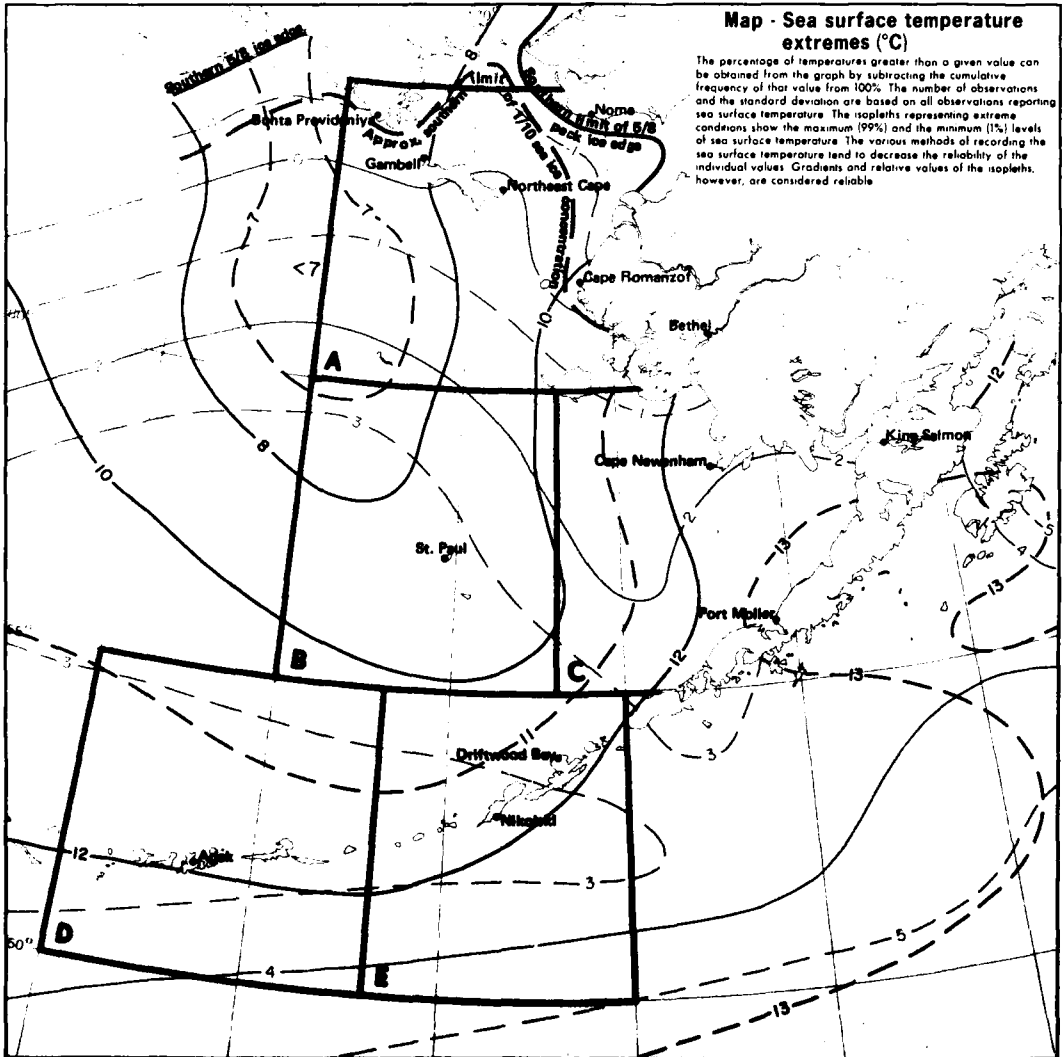
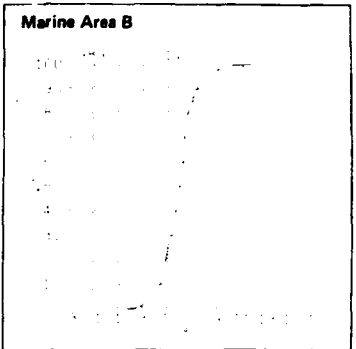
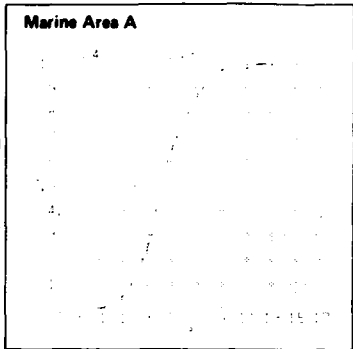
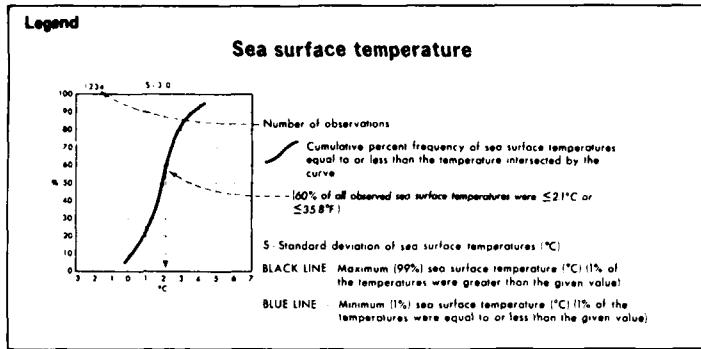


**Marine Area D**



**Marine Area E**

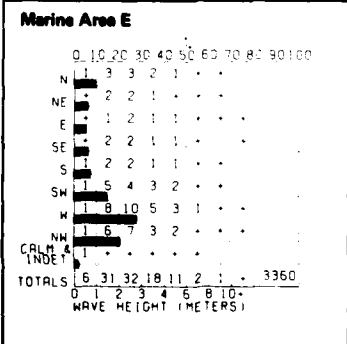
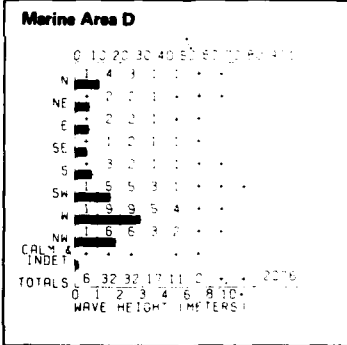
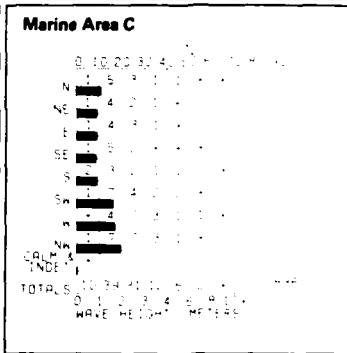
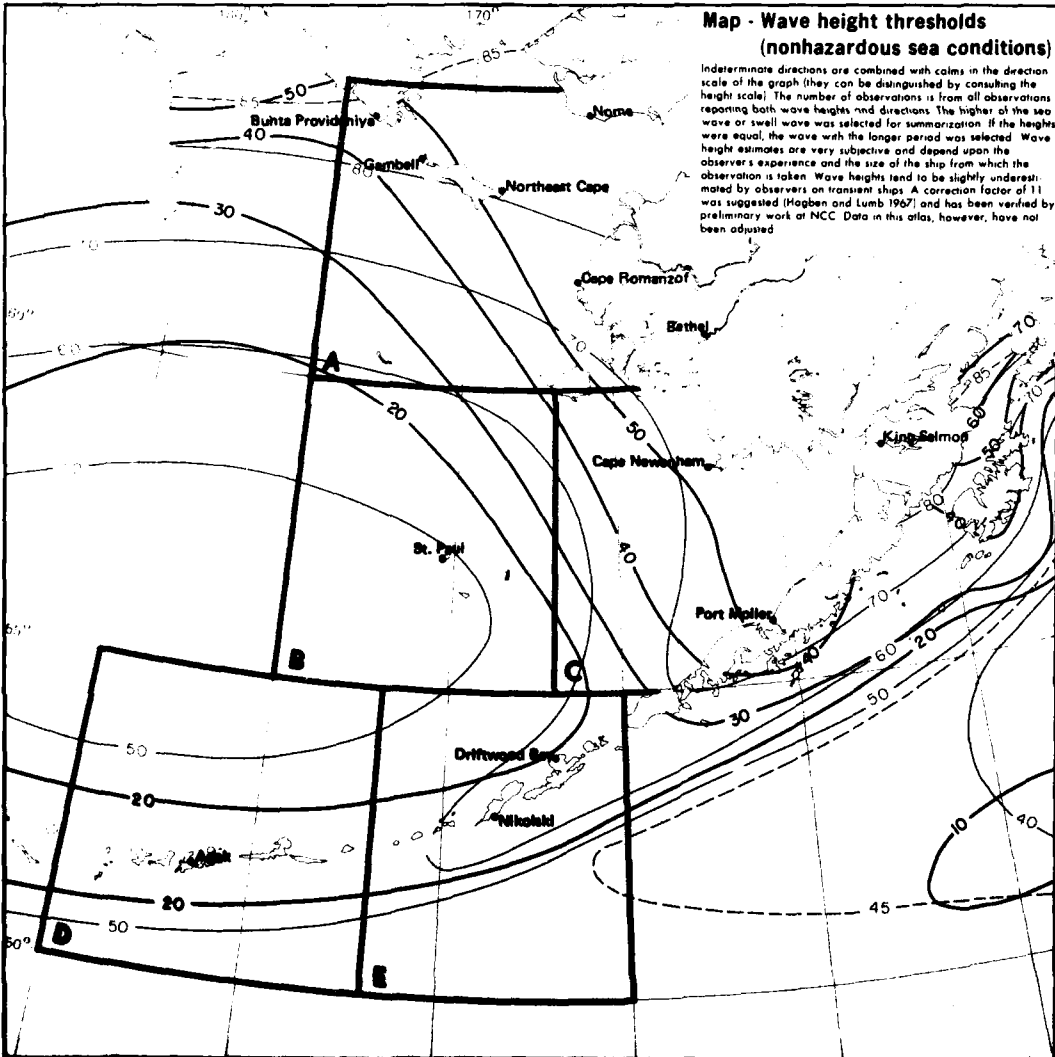
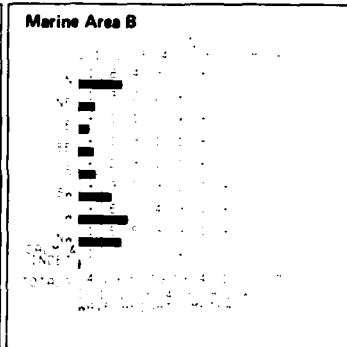
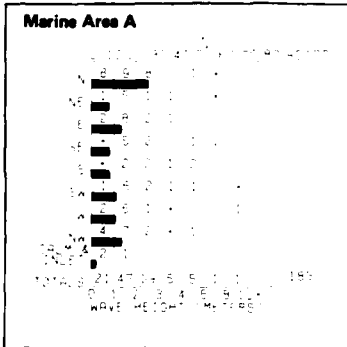
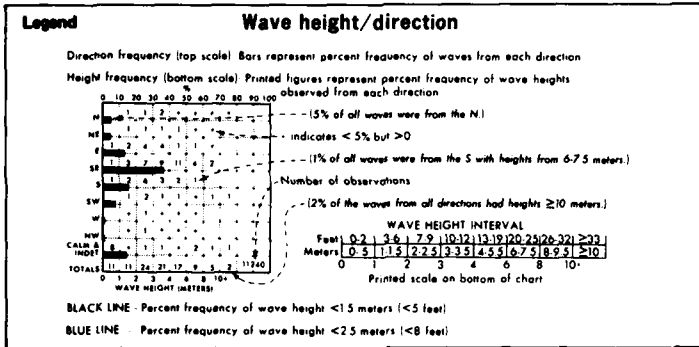




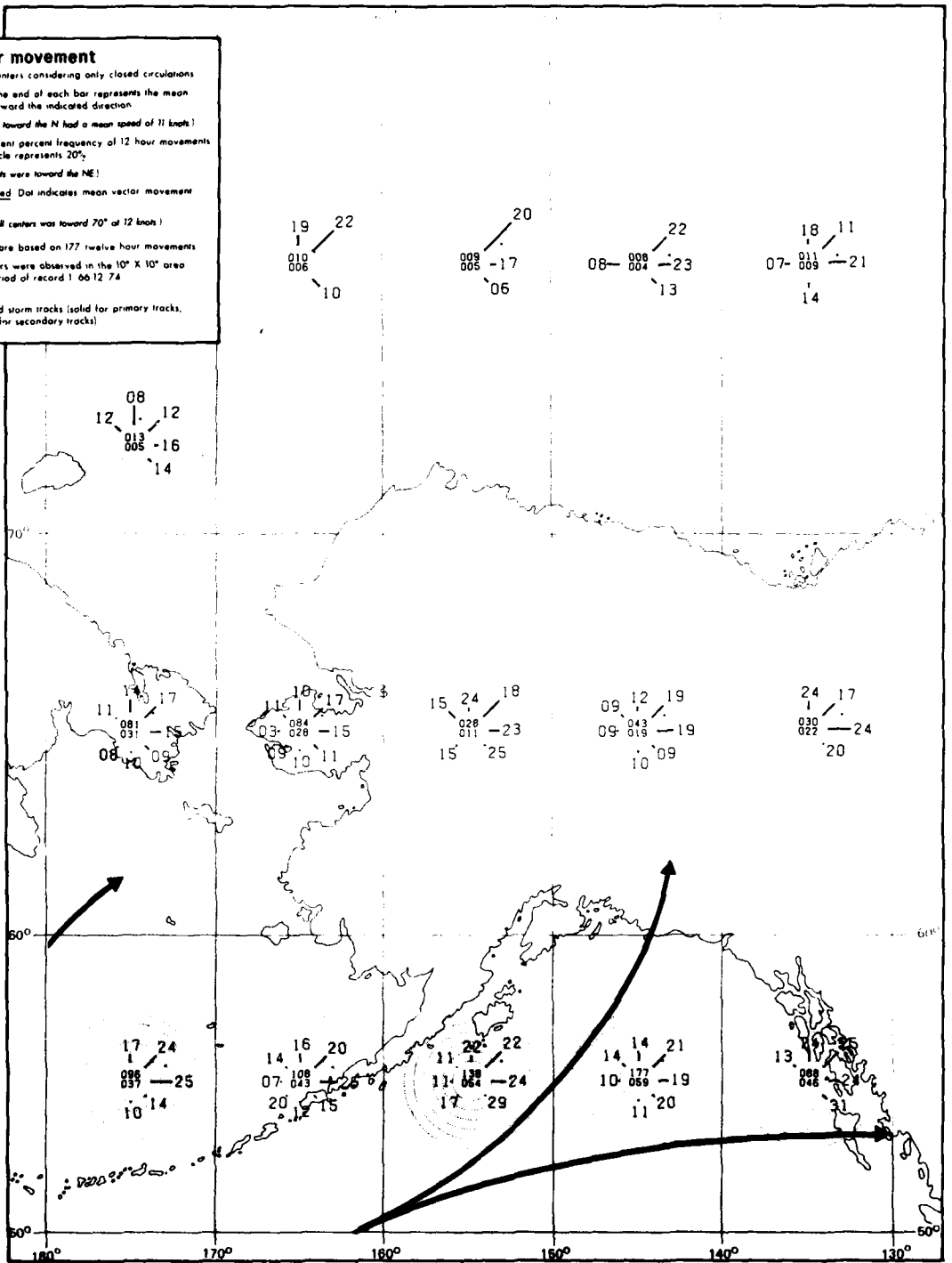
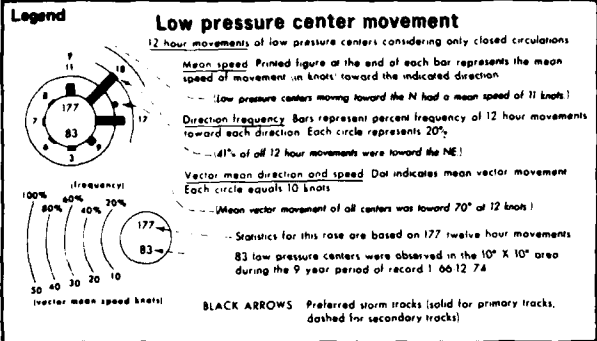
**15 Sea surface temperature extremes**

**October**









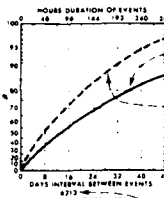
October

386

18 Low pressure center movement

**Legend**

**Persistence of visibility <2 n. mi.**



Hours duration of events Days interval between events

Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve  
 --- (80% of the events had a duration  $\leq 216$  hours.)

Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve  
 --- (88% of the events were followed by another event in 28 days or less.)

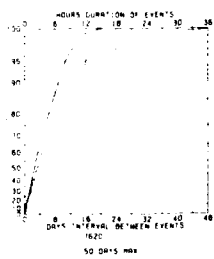
The maximum value(s) of hours duration and/or the days interval will be displayed when the graph limits are exceeded.

Durations and intervals for a particular month extend from the time they begin for the first of the month (if already in progress) and are terminated at the actual ending time, regardless of what month that may be.

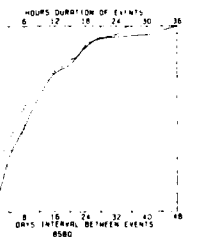
Number of observations

Top and bottom scales are variable to allow for variations in the data

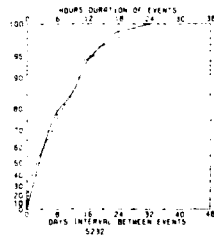
**Adak**



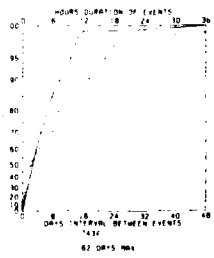
**Nome**



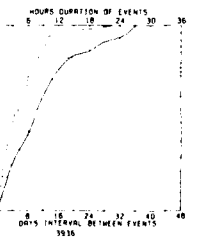
**Moses Point**



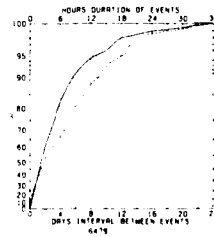
**Unalakleet**



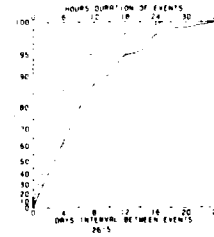
**Cape Romanzof**



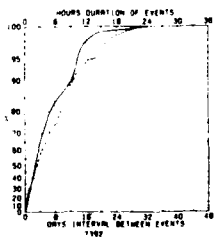
**Bethel**



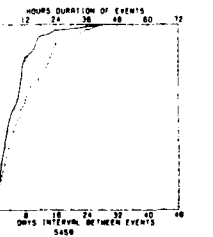
**Nikolski**



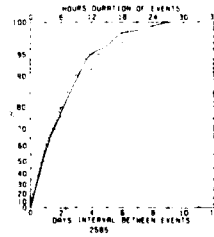
**King Salmon**



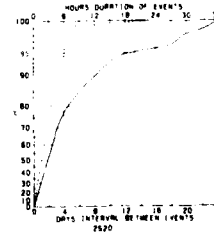
**St. Paul**



**Port Moller**

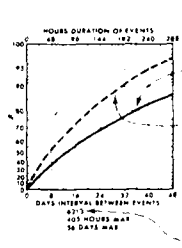


**Driftwood Bay**



**Legend**

**Persistence of wind  $\geq 10$  kts.**



Hours duration of events Days interval between events

Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve

--- 80% of the events had a duration  $\leq 216$  hours.

Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve

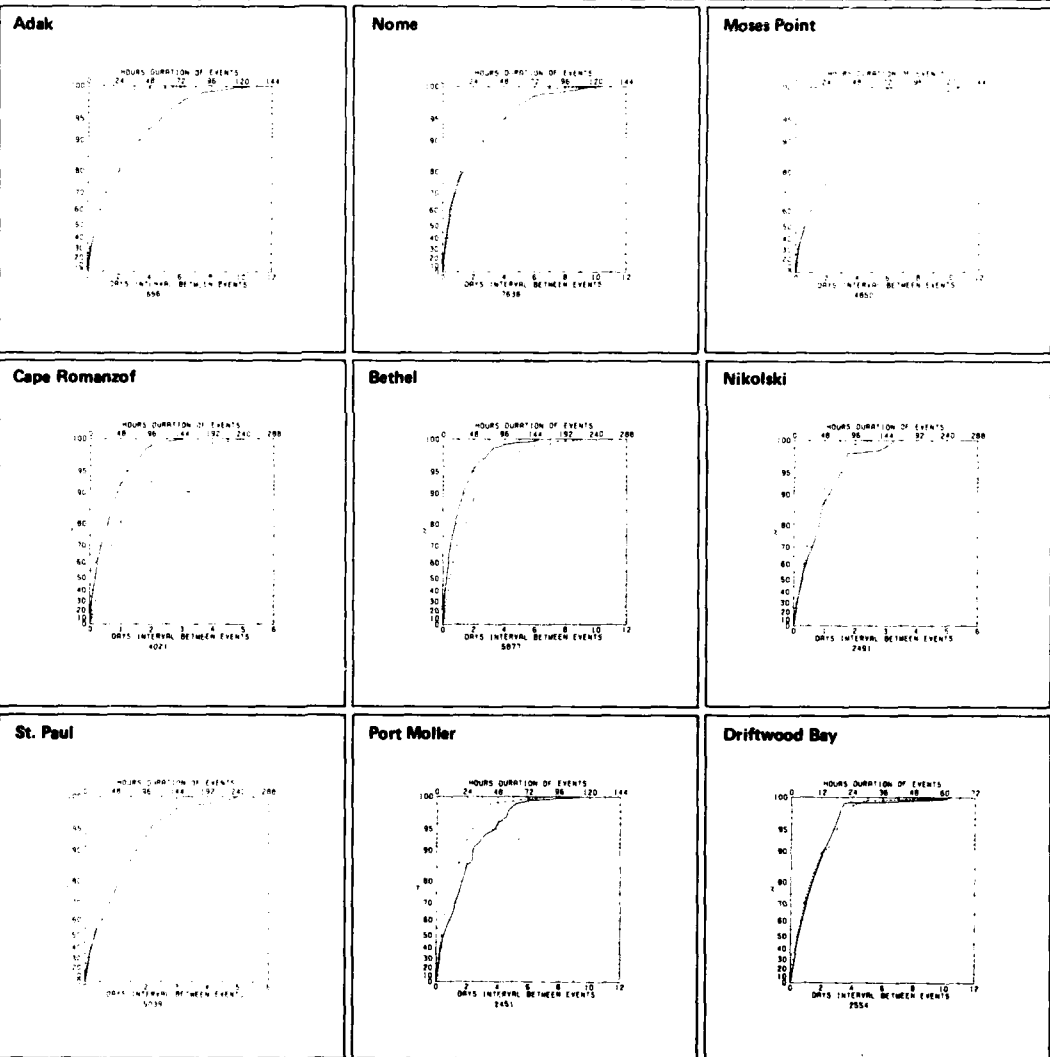
--- 88% of the events were followed by another event in 28 days or less

The maximum values of hours duration and/or the days interval will be displayed when the graph limits are exceeded

Durations and intervals for a particular month extend from the time they begin (or the first of the month if already in progress) and are terminated at the actual ending time, regardless of what month that may be

Number of observations

Top and bottom scales are variable to allow for variations in the data



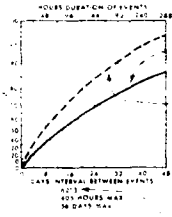
**October**

368

**20 Persistence of wind  $\geq 10$  kts.**

**Legend**

**Persistence of wind  $\geq 20$  kts.**



Hours duration of events Days interval between events

Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve

80% of the events had a duration  $\leq 21.6$  hours

Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve

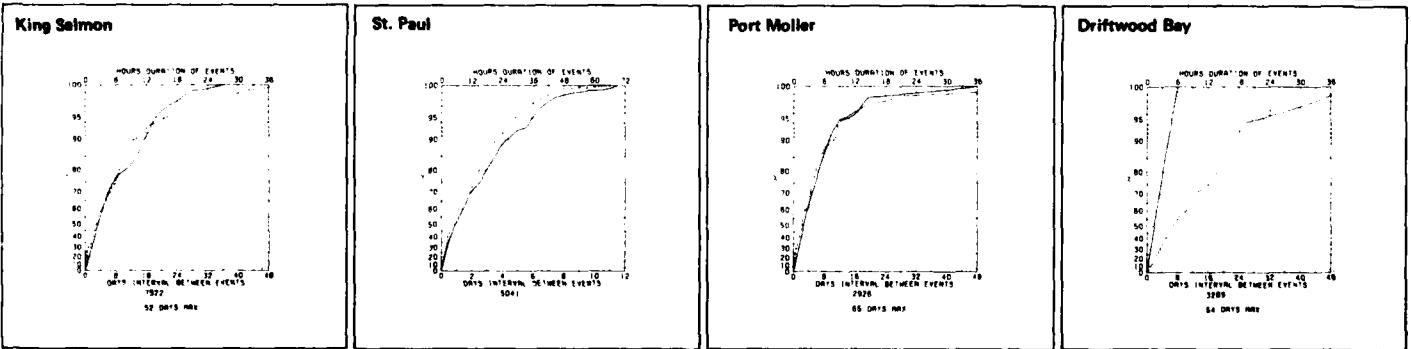
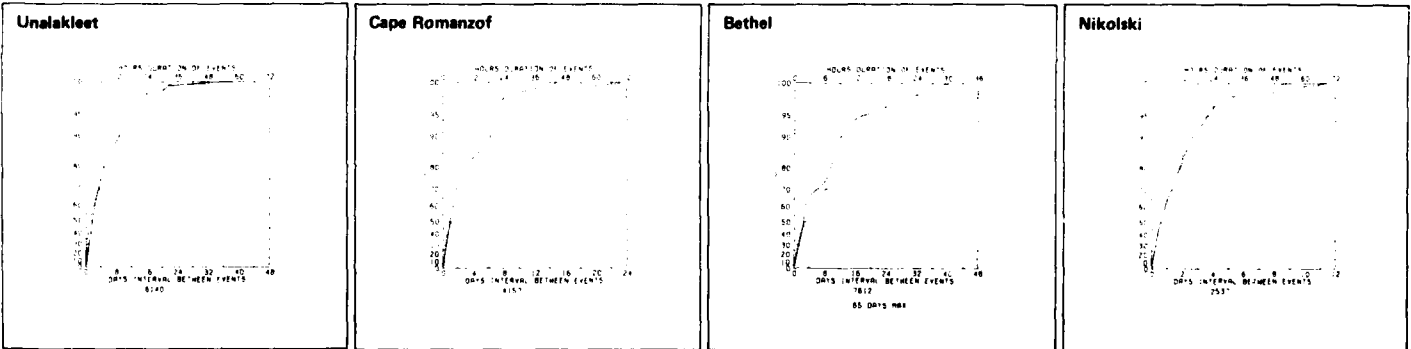
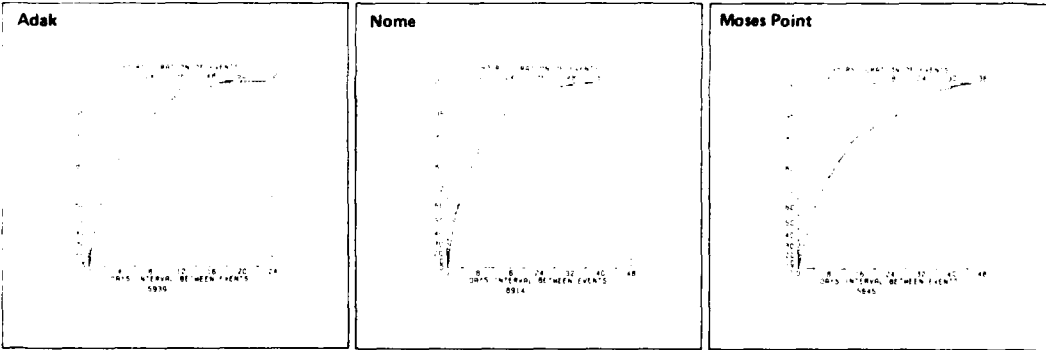
88% of the events were followed by another event in 28 days or less

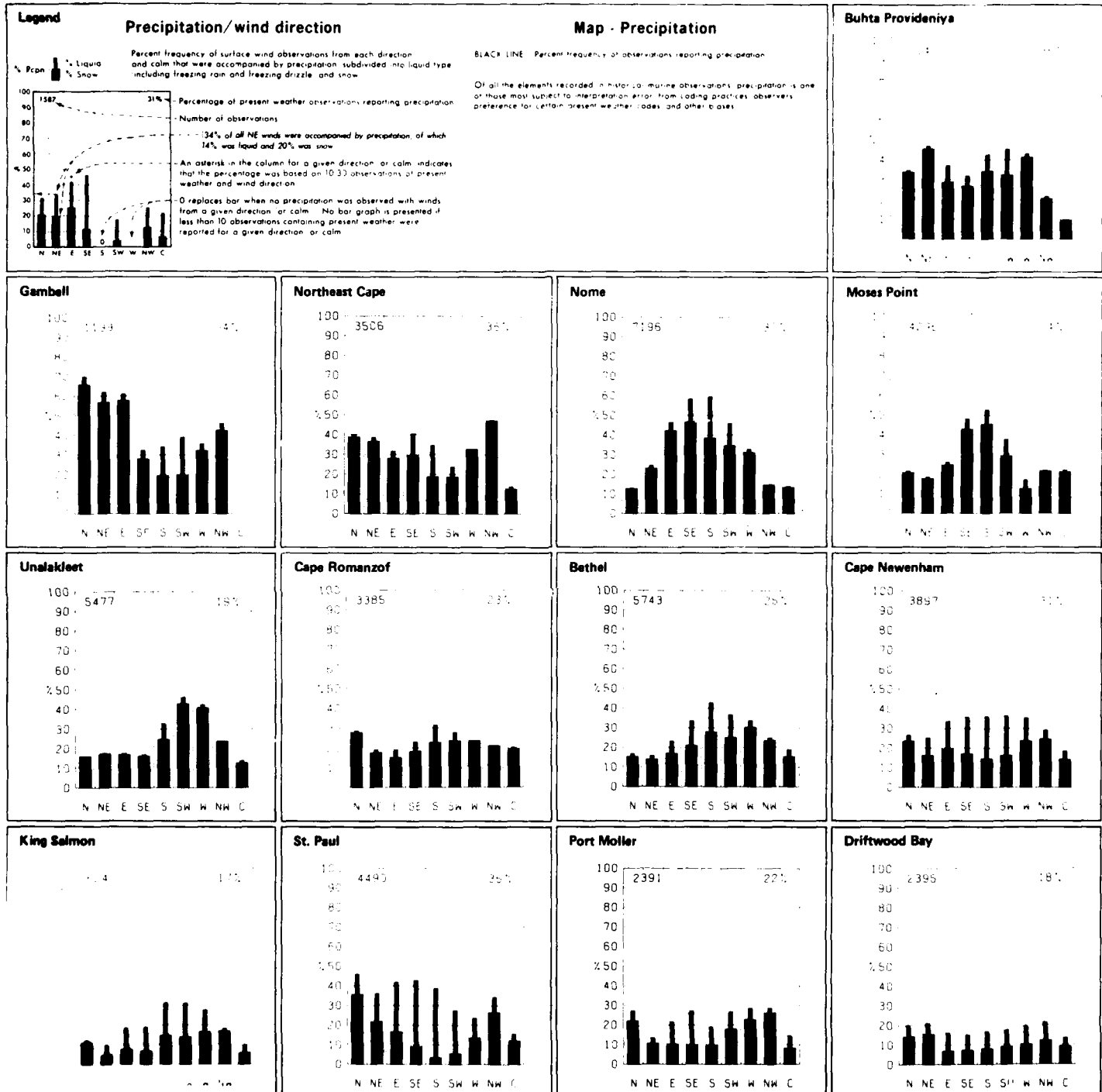
The maximum values of hours duration and of the days interval will be displayed when the graph limits are exceeded

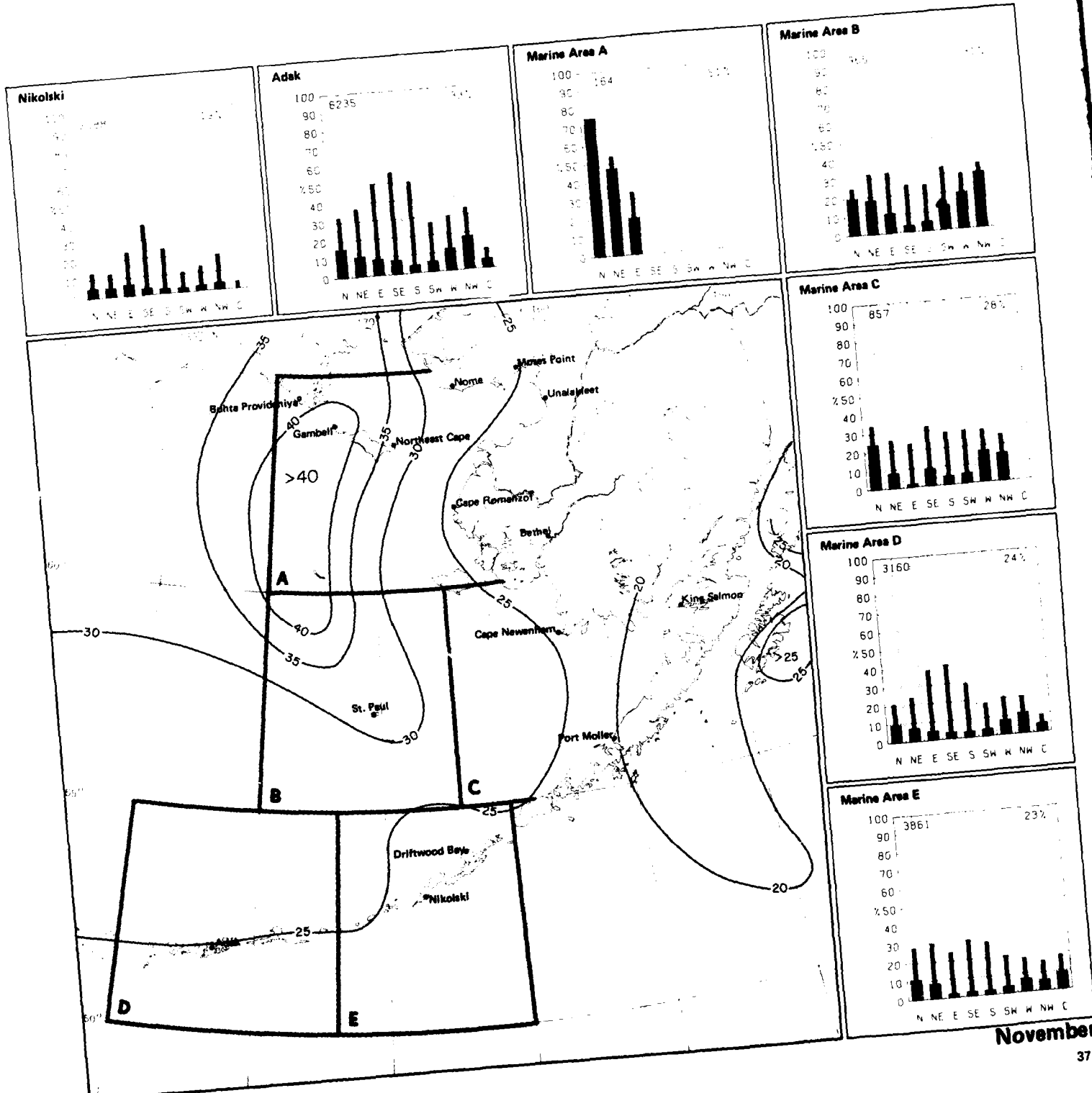
Durations and intervals for a particular month extend from the time they begin on the first of the month already in progress and are terminated at the actual ending time, regardless of what month that may be

Number of observations

Top and bottom scales are variable to allow for variations in the data



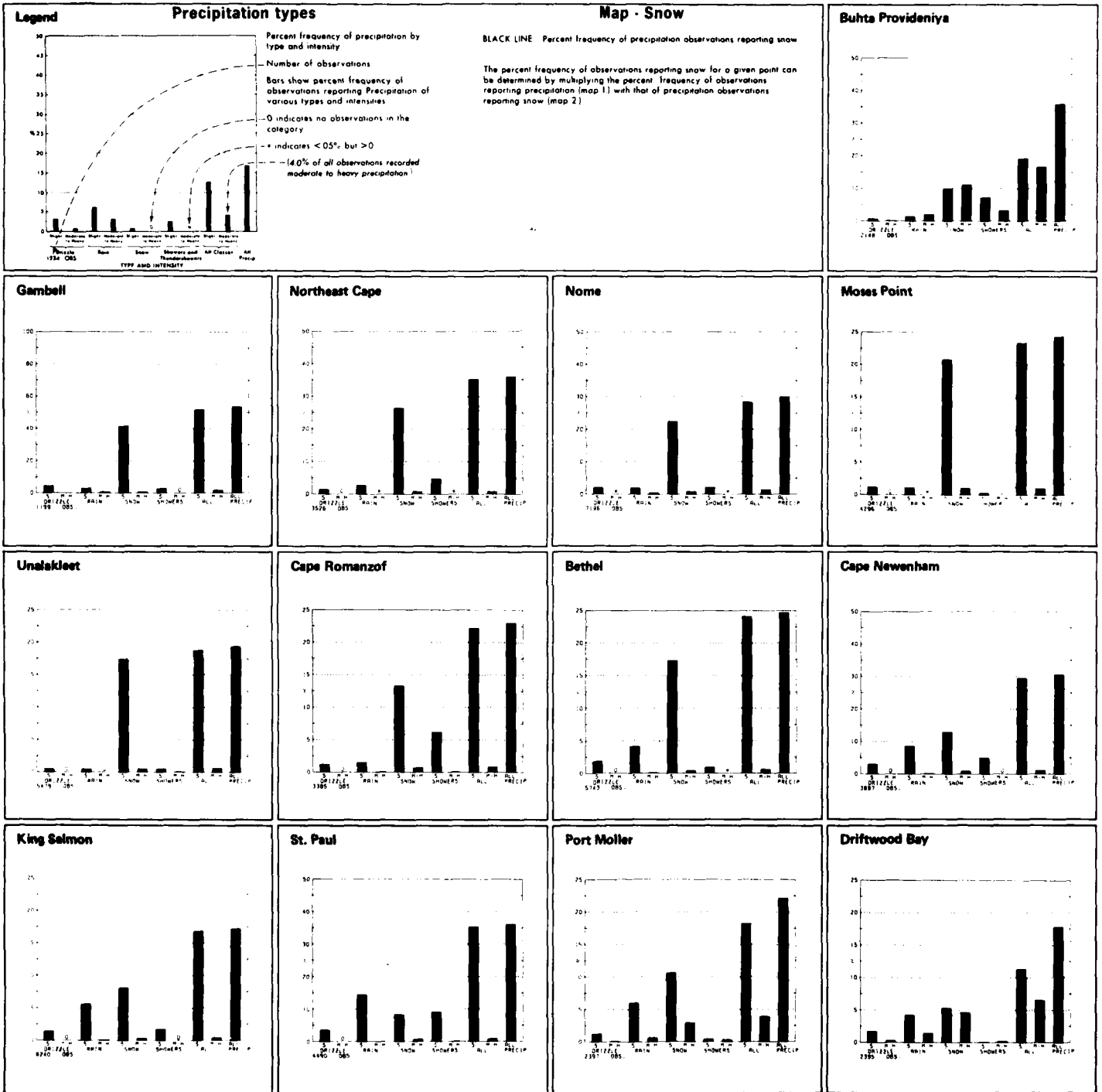




1 Precipitation

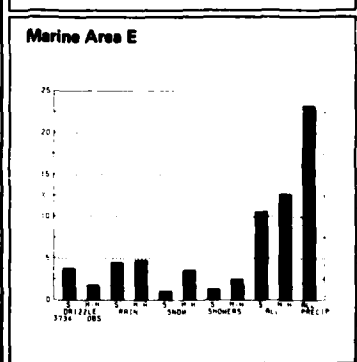
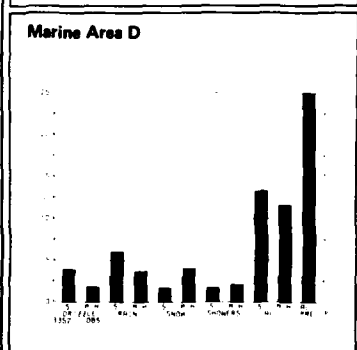
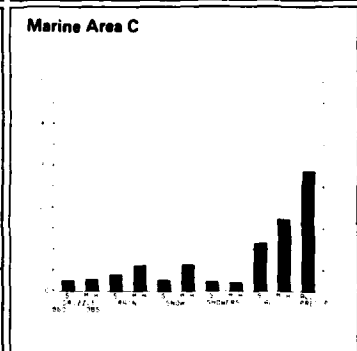
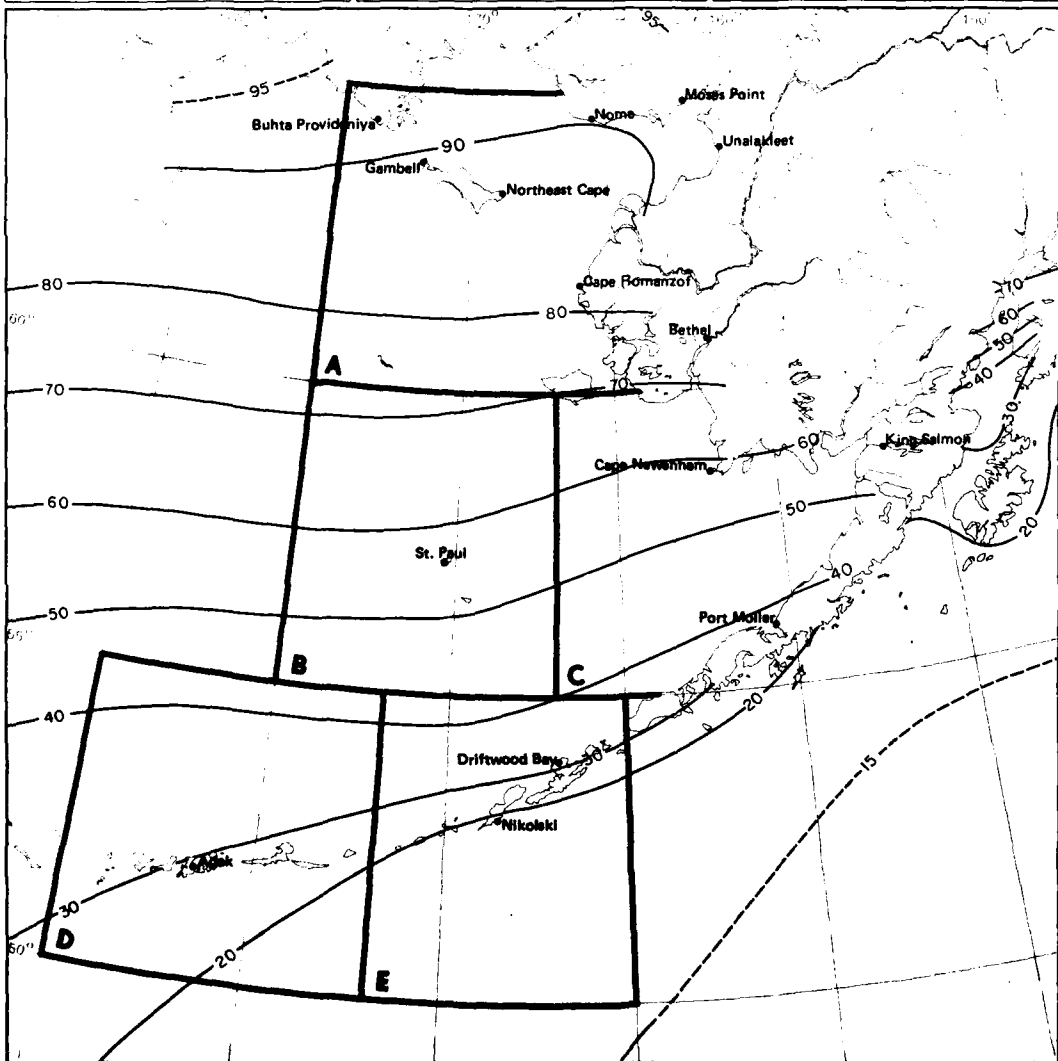
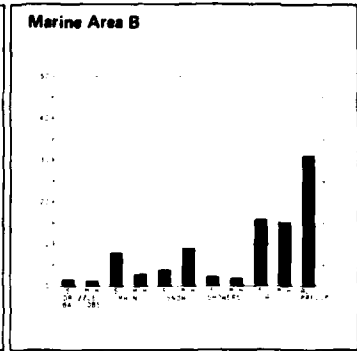
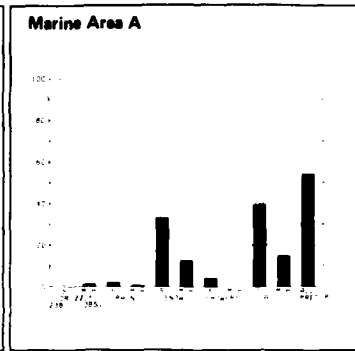
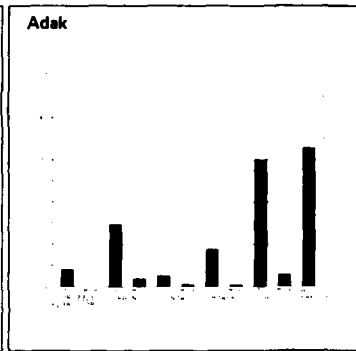
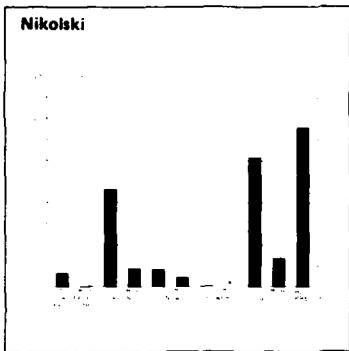
November





November

2 Precipitation types

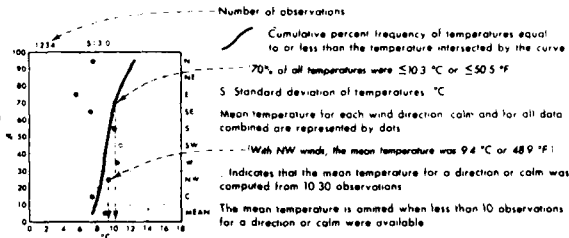


2 Snow

November

**Legend**

**Air temperature/wind direction**



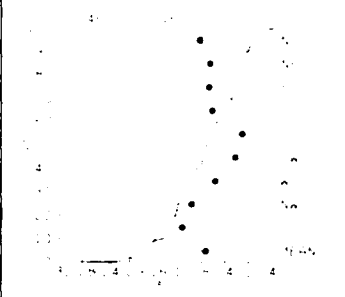
**Map - Air temperature mean and thresholds**

- BLACK LINE Percent frequency of temperature  $\leq 0^{\circ}\text{C}$   $\leq 32^{\circ}\text{F}$
- RED LINE Mean air temperature  $^{\circ}\text{C}$
- BLUE LINE Percent frequency of wind chill temperature  $\leq 30^{\circ}\text{C}$   $\leq 22^{\circ}\text{F}$

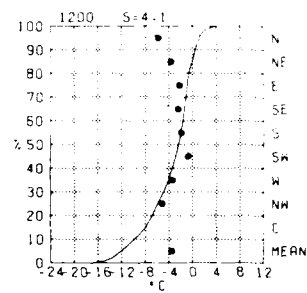
Air temperature readings recorded on transient ships in warm sunny weather appear biased toward high temperatures, apparently because of improper instrument exposure and ventilation. Despite the inaccuracies the large scale patterns and mean gradients of the isopleth analyses are relatively accurate.

The temperature scale of the graph may vary in both range and class interval. The percentage of temperature observations greater than a given value can be obtained by subtracting the cumulative percent frequency of that value from 100%. The number of observations and the standard deviation plus the plotted points on the graphs are based on those observations reporting both temperature and wind direction. The cumulative curve is based on all observations reporting temperature with or without wind direction.

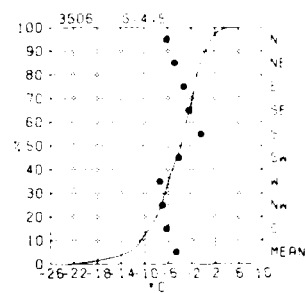
**Buhta Provideniya**



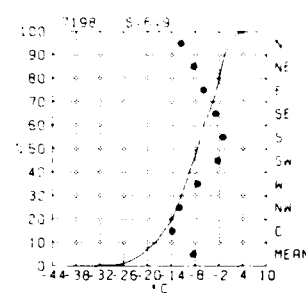
**Gambell**



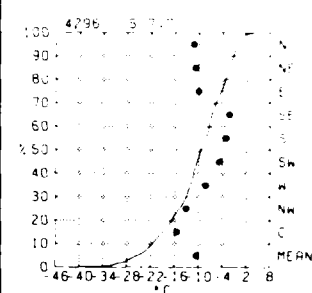
**Northeast Cape**



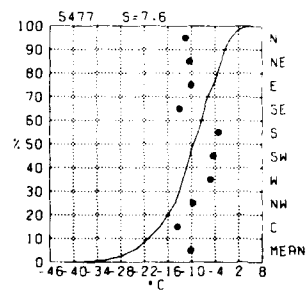
**Nome**



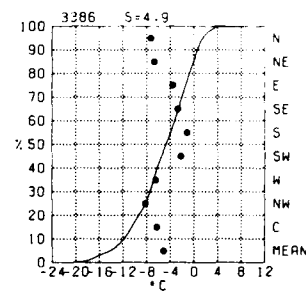
**Moses Point**



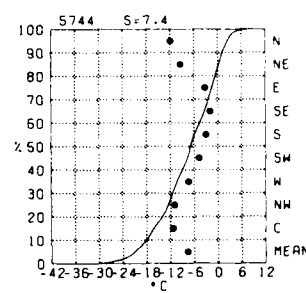
**Unalakleet**



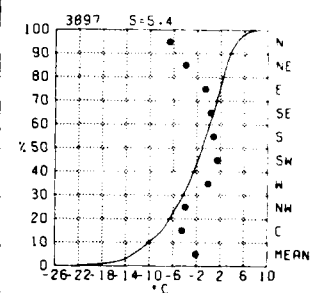
**Cape Romanzof**



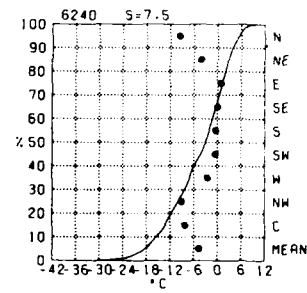
**Bethel**



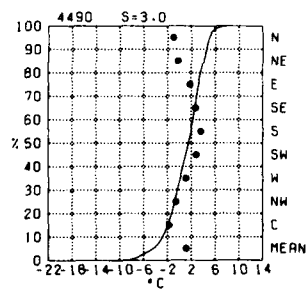
**Cape Newenham**



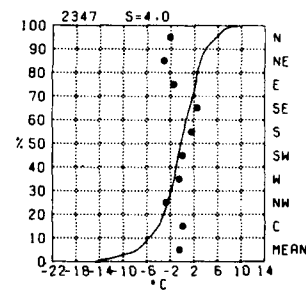
**King Salmon**



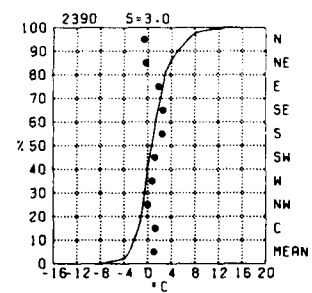
**St. Paul**

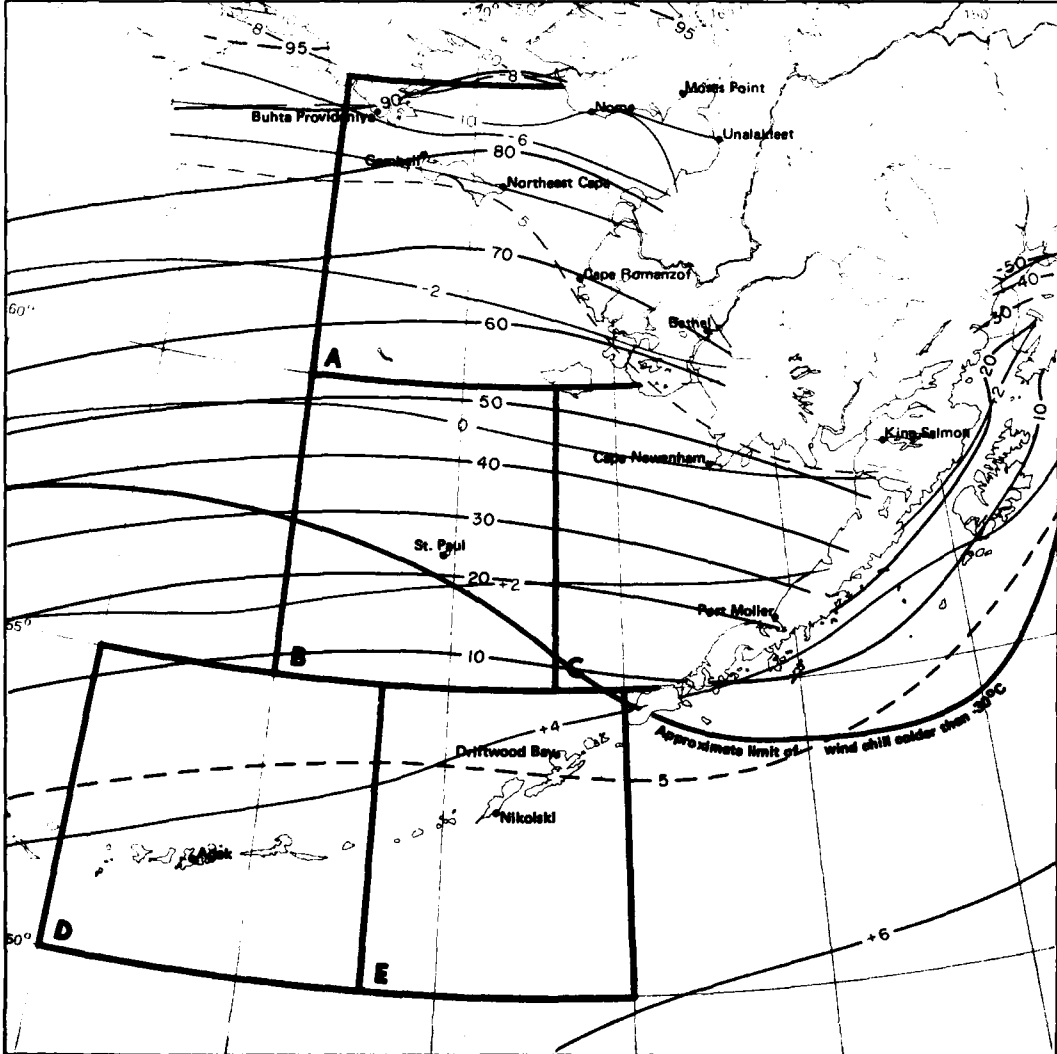
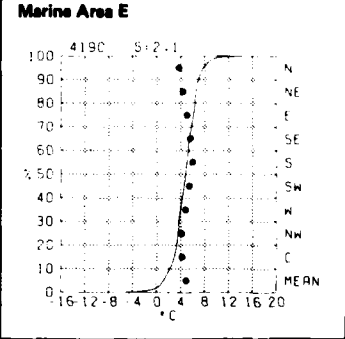
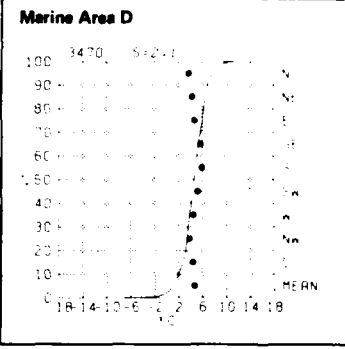
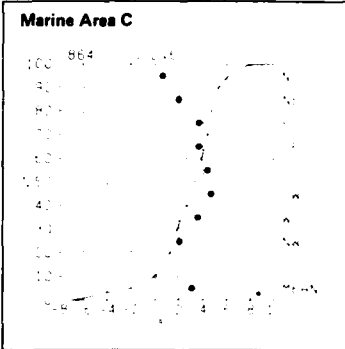
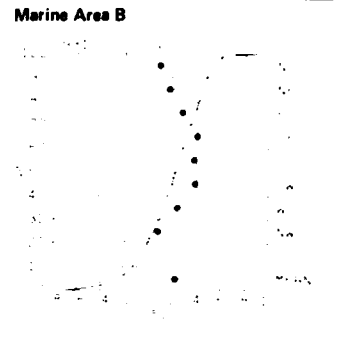
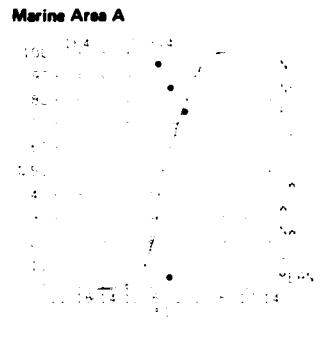
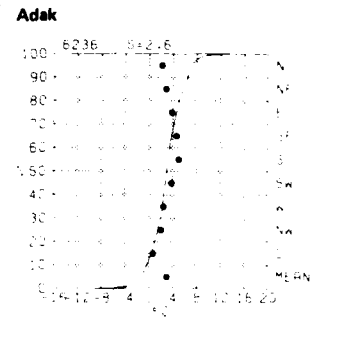
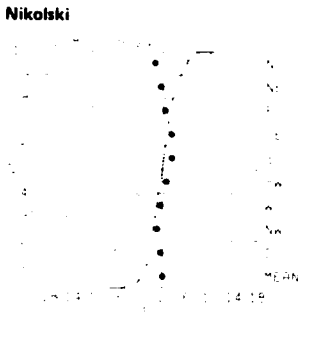
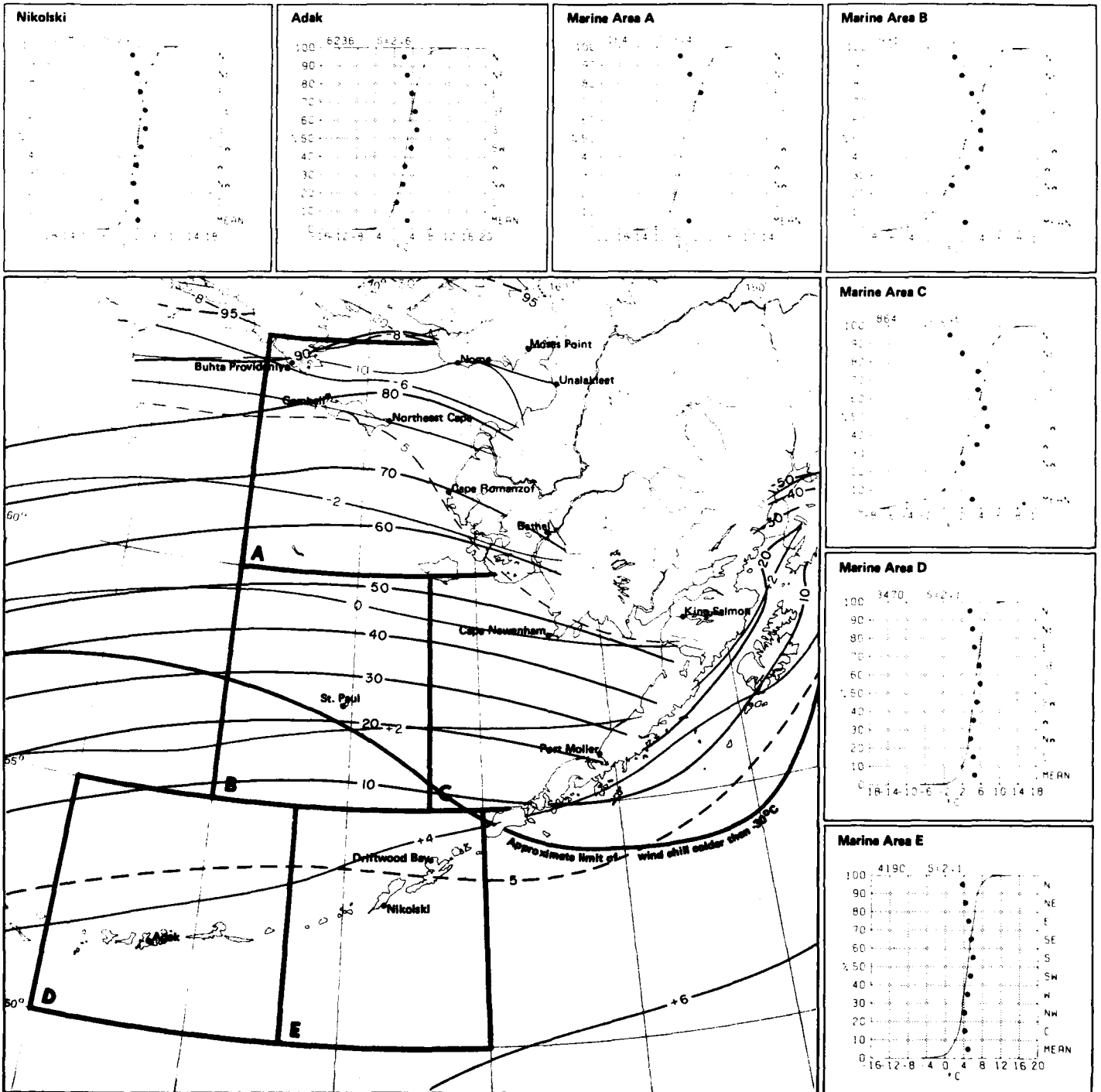


**Port Moller**



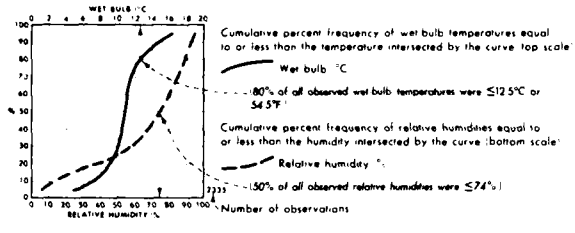
**Driftwood Bay**





**Legend**

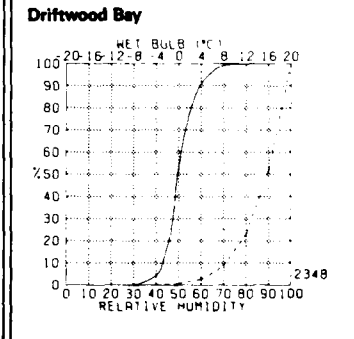
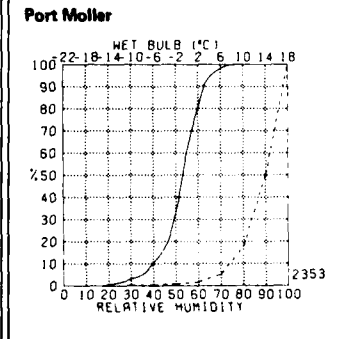
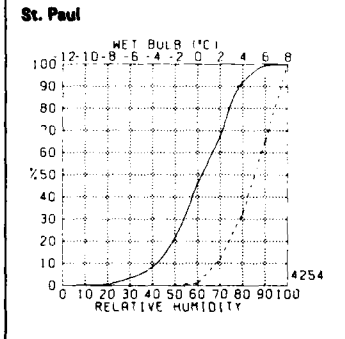
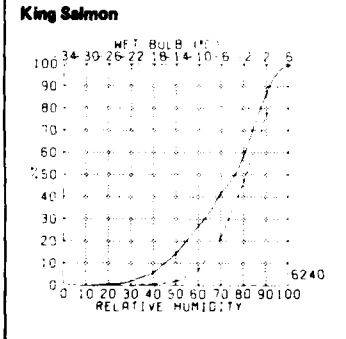
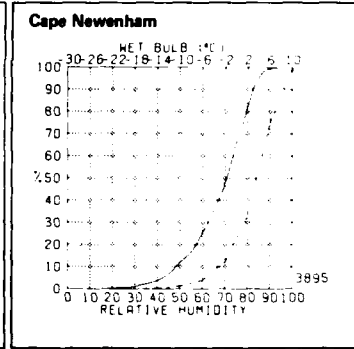
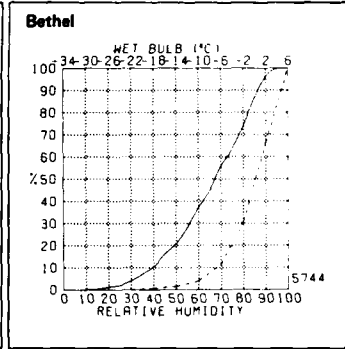
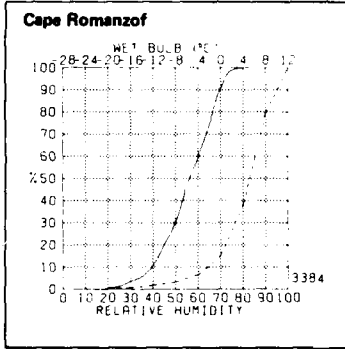
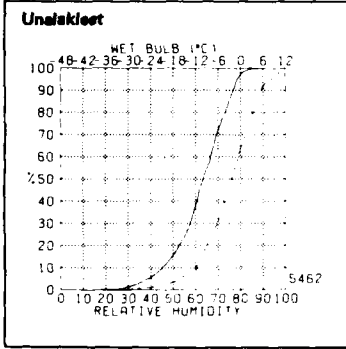
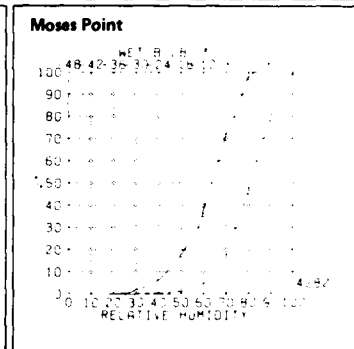
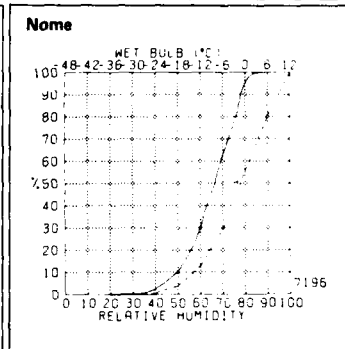
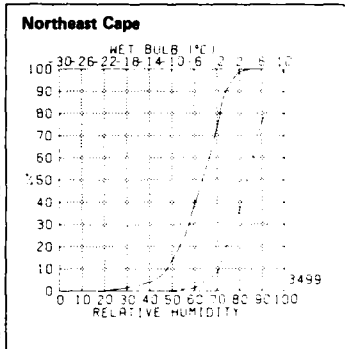
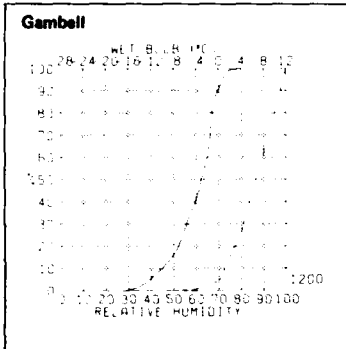
**Wet bulb/relative humidity**

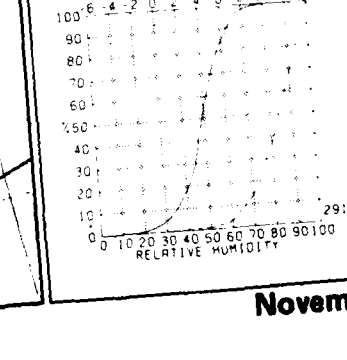
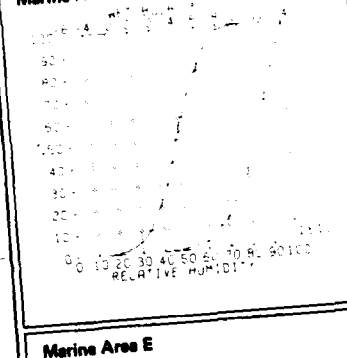
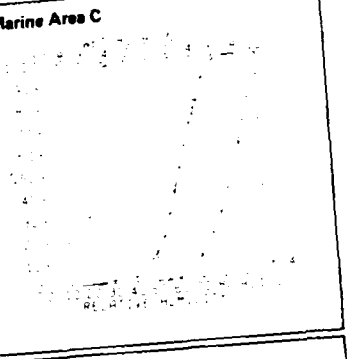
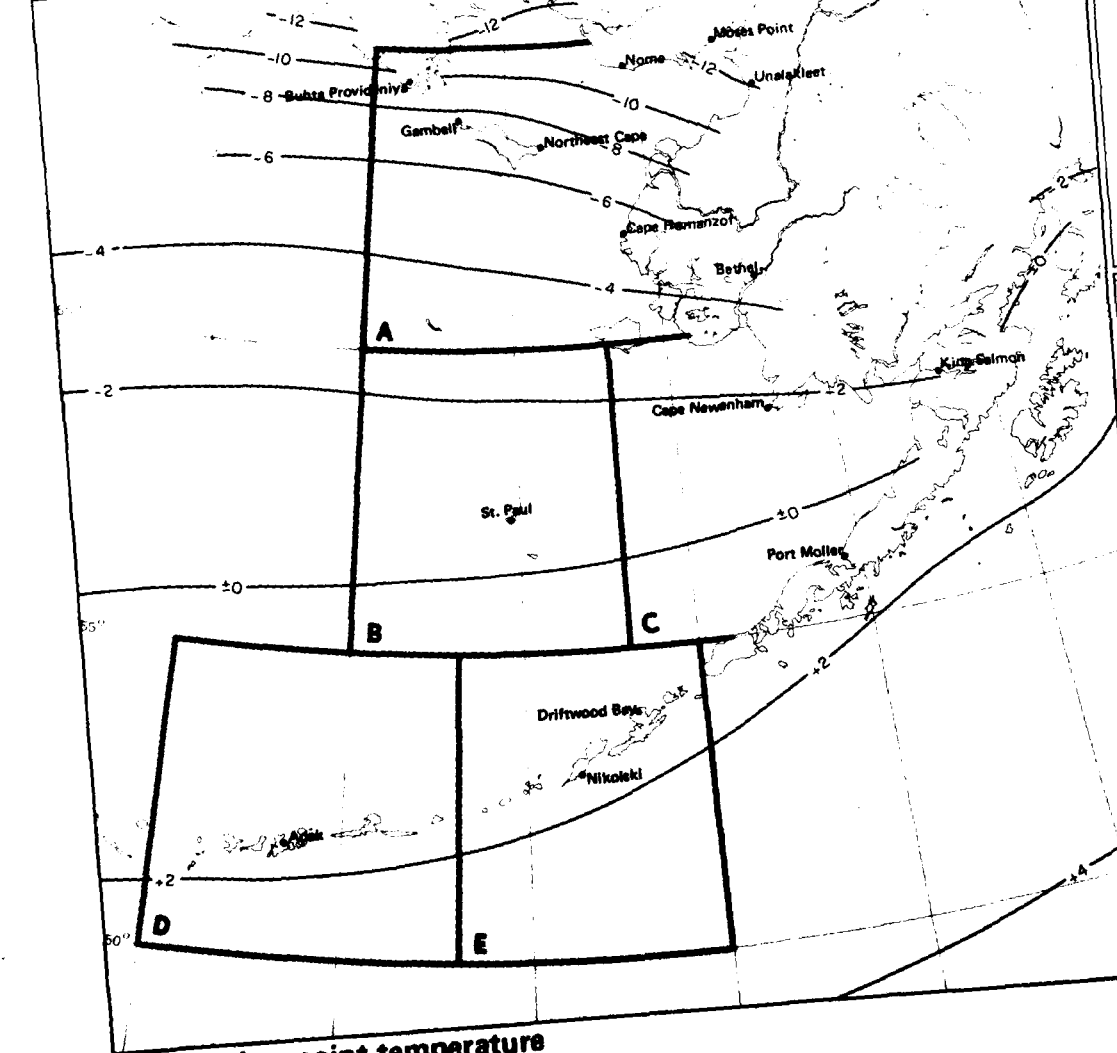
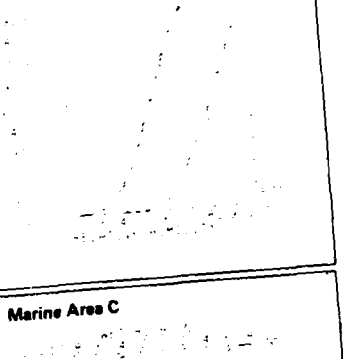
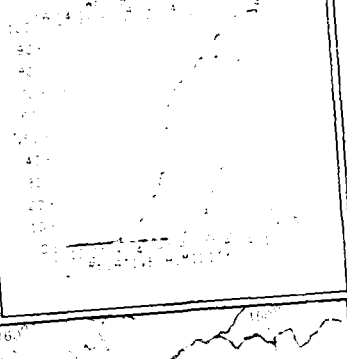
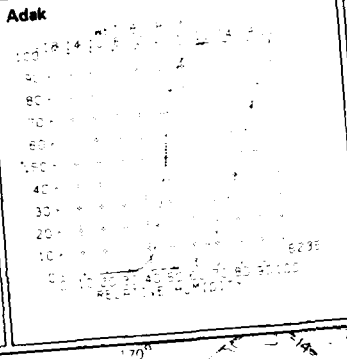
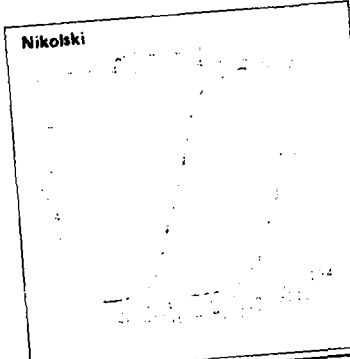
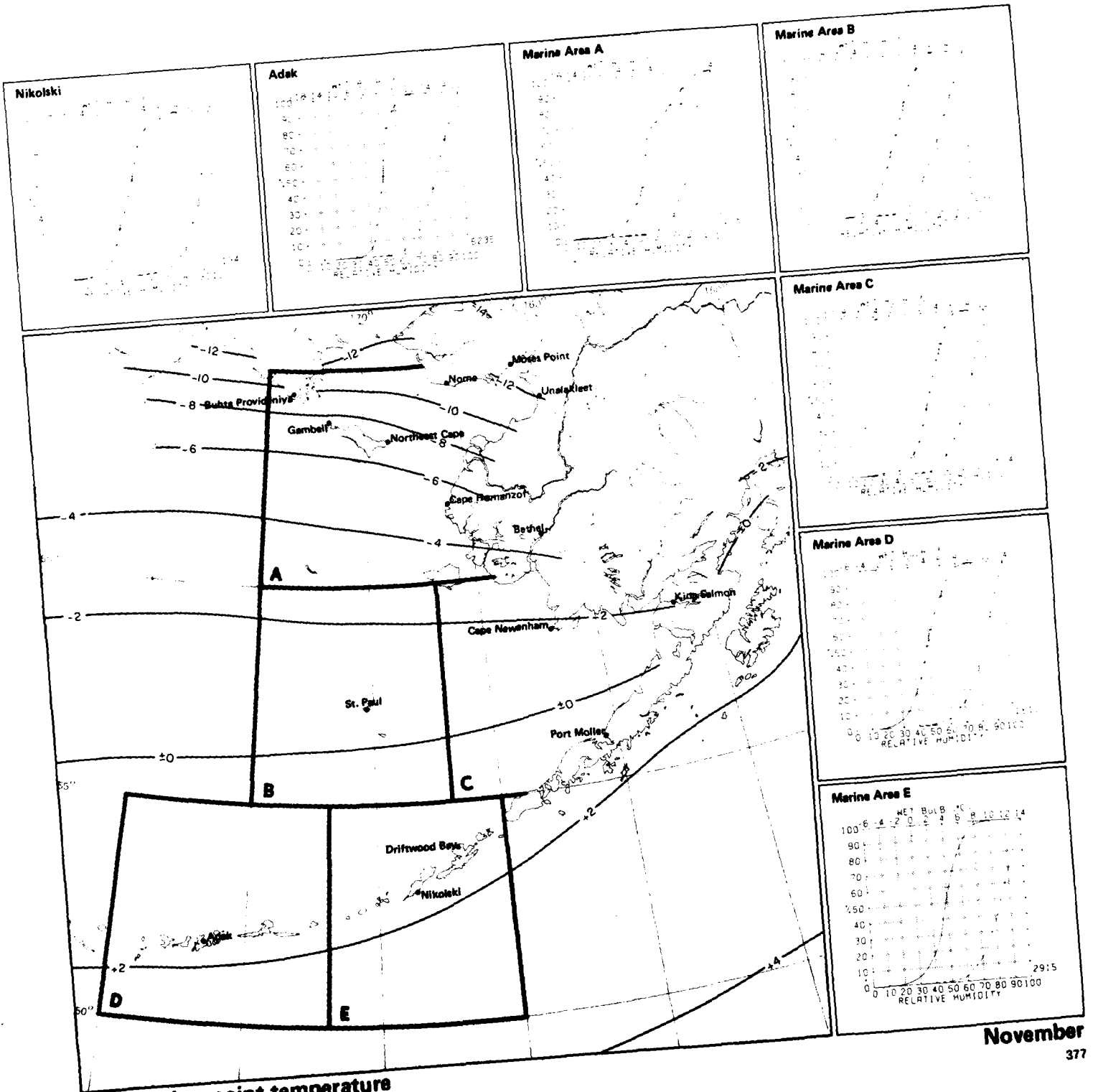


**Map - Mean dew point temperature**

BLACK LINE Mean dew point temperature (°C)  
 The observation count of the graph reflects those observations reporting both air and wet bulb temperatures; both are required in computing the relative humidity. The percentage of observations of either element greater than a given value can be obtained by subtracting the cumulative percent frequency of that value from 100%.

**Buhta Provideniya**  
  
 Insufficient Data





**Legend**

**Air temperature/wind speed**

WIND SPEED (KTS)	
0-3	4-10
11-21	22-33
34	

Percent frequency of simultaneous occurrence of specified temperature (°C) and wind speed (knots)

1% of all observations reported temperature 2.3°C simultaneously with wind speed of 22-33 kts

Indicates <5% but >0

Number of observations

**Map - Air temperature extremes (°C)**

**BLACK LINE** Maximum (99%) air temperature (1% of temperatures were greater than the given value)

**BLUE LINE** Minimum (1%) air temperature (1% of temperatures were equal to or less than the given value)

The graph can be used to determine the extent of human discomfort from the combined effects of extreme heat or cold and winds or to estimate the likelihood of superstructure icing (icing potential increases as the air temperature drops below freezing and the winds increase above 10 knots (12 mph) and may become quite severe with temperatures equal to or less than 9°C (16°F) and winds equal to or greater than 34 knots (39 mph).

**Buhta Provideniya**

**Gambell**

WIND SPEED (KTS)	
TEMP (°C)	0-3 4-10 11-21 22-33 ≥ 34
6.7	0 0 0 0 0
4.5	0 0 0 0 0
2.3	0 1 2 2 0
0.1	0 0 0 0 0
-2.1	1 1 1 1 1
-4.3	1 1 1 1 1
-6.5	1 1 1 1 1
-8.7	1 1 1 1 1
-10.9	1 1 1 1 1
-12.11	1 1 1 1 1
-14.13	1 1 1 1 1
-16.15	1 1 1 1 1
-18.17	1 1 1 1 1
Σ	1200

**Northeast Cape**

WIND SPEED (KTS)	
TEMP (°C)	0-3 4-10 11-21 22-33 ≥ 34
6.7	0 0 0 0 0
4.5	0 0 0 0 0
2.3	0 1 2 2 0
0.1	0 0 0 0 0
-2.1	1 1 1 1 1
-4.3	1 1 1 1 1
-6.5	1 1 1 1 1
-8.7	1 1 1 1 1
-10.9	1 1 1 1 1
-12.11	1 1 1 1 1
-14.13	1 1 1 1 1
-16.15	1 1 1 1 1
-18.17	1 1 1 1 1
Σ	3506

**Nome**

WIND SPEED (KTS)	
TEMP (°C)	0-3 4-10 11-21 22-33 ≥ 34
6.7	0 0 0 0 0
4.5	0 0 0 0 0
2.3	0 1 1 1 0
0.1	0 0 0 0 0
-2.1	1 1 1 1 1
-4.3	1 1 1 1 1
-6.5	1 1 1 1 1
-8.7	1 1 1 1 1
-10.9	1 1 1 1 1
-12.11	1 1 1 1 1
-14.13	1 1 1 1 1
-16.15	1 1 1 1 1
-18.17	1 1 1 1 1
Σ	7198

**Moses Point**

WIND SPEED (KTS)	
TEMP (°C)	0-3 4-10 11-21 22-33 ≥ 34
4.5	0 0 0 0 0
2.3	0 0 0 0 0
0.1	0 0 0 0 0
-2.1	1 1 1 1 1
-4.3	1 1 1 1 1
-6.5	1 1 1 1 1
-8.7	1 1 1 1 1
-10.9	1 1 1 1 1
-12.11	1 1 1 1 1
-14.13	1 1 1 1 1
-16.15	1 1 1 1 1
-18.17	1 1 1 1 1
Σ	4295

**Unalakleet**

WIND SPEED (KTS)	
TEMP (°C)	0-3 4-10 11-21 22-33 ≥ 34
6.7	0 0 0 0 0
4.5	0 0 0 0 0
2.3	0 1 1 1 0
0.1	0 0 0 0 0
-2.1	1 1 1 1 1
-4.3	1 1 1 1 1
-6.5	1 1 1 1 1
-8.7	1 1 1 1 1
-10.9	1 1 1 1 1
-12.11	1 1 1 1 1
-14.13	1 1 1 1 1
-16.15	1 1 1 1 1
-18.17	1 1 1 1 1
Σ	5474

**Cape Romanzof**

WIND SPEED (KTS)	
TEMP (°C)	0-3 4-10 11-21 22-33 ≥ 34
6.7	0 0 0 0 0
4.5	0 0 0 0 0
2.3	0 1 3 1 0
0.1	0 0 0 0 0
-2.1	1 1 1 1 1
-4.3	1 1 1 1 1
-6.5	1 1 1 1 1
-8.7	1 1 1 1 1
-10.9	1 1 1 1 1
-12.11	1 1 1 1 1
-14.13	1 1 1 1 1
-16.15	1 1 1 1 1
-18.17	1 1 1 1 1
Σ	3386

**Bethel**

WIND SPEED (KTS)	
TEMP (°C)	0-3 4-10 11-21 22-33 ≥ 34
8.9	0 0 0 0 0
6.7	0 0 0 0 0
4.5	0 1 1 1 0
2.3	0 0 0 0 0
0.1	0 0 0 0 0
-2.1	1 1 1 1 1
-4.3	1 1 1 1 1
-6.5	1 1 1 1 1
-8.7	1 1 1 1 1
-10.9	1 1 1 1 1
-12.11	1 1 1 1 1
-14.13	1 1 1 1 1
-16.15	1 1 1 1 1
-18.17	1 1 1 1 1
Σ	5744

**Cape Newenham**

WIND SPEED (KTS)	
TEMP (°C)	0-3 4-10 11-21 22-33 ≥ 34
8.9	0 0 0 0 0
6.7	0 0 0 0 0
4.5	0 1 3 1 0
2.3	0 0 0 0 0
0.1	0 0 0 0 0
-2.1	1 1 1 1 1
-4.3	1 1 1 1 1
-6.5	1 1 1 1 1
-8.7	1 1 1 1 1
-10.9	1 1 1 1 1
-12.11	1 1 1 1 1
-14.13	1 1 1 1 1
-16.15	1 1 1 1 1
-18.17	1 1 1 1 1
Σ	3897

**King Salmon**

WIND SPEED (KTS)	
TEMP (°C)	0-3 4-10 11-21 22-33 ≥ 34
10.11	0 0 0 0 0
8.9	0 0 0 0 0
6.7	0 0 0 0 0
4.5	0 0 0 0 0
2.3	0 1 5 6 1
0.1	0 0 0 0 0
-2.1	1 1 1 1 1
-4.3	1 1 1 1 1
-6.5	1 1 1 1 1
-8.7	1 1 1 1 1
-10.9	1 1 1 1 1
-12.11	1 1 1 1 1
-14.13	1 1 1 1 1
-16.15	1 1 1 1 1
-18.17	1 1 1 1 1
Σ	6240

**St. Paul**

WIND SPEED (KTS)	
TEMP (°C)	0-3 4-10 11-21 22-33 ≥ 34
6.7	0 0 1 2 0
4.5	0 0 2 10 6
2.3	0 0 4 15 8
0.1	0 0 5 9 5
-2.1	1 1 4 8 3
-4.3	1 1 2 3 2
-6.5	1 1 1 1 1
-8.7	1 1 1 1 1
-10.9	1 1 1 1 1
-12.11	1 1 1 1 1
-14.13	1 1 1 1 1
-16.15	1 1 1 1 1
-18.17	1 1 1 1 1
Σ	4490

**Port Moller**

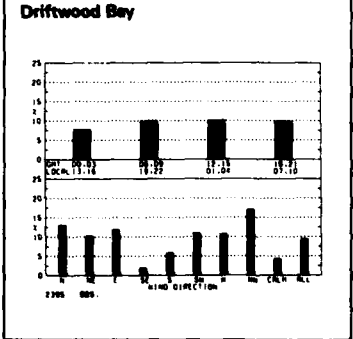
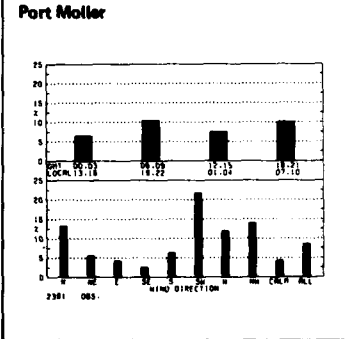
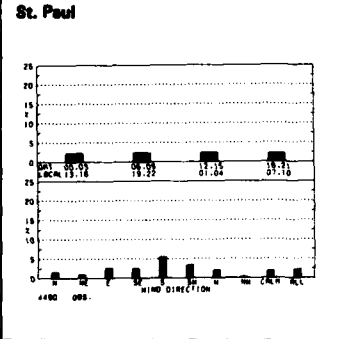
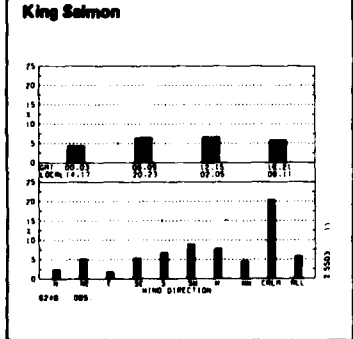
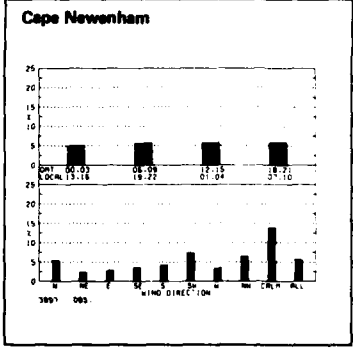
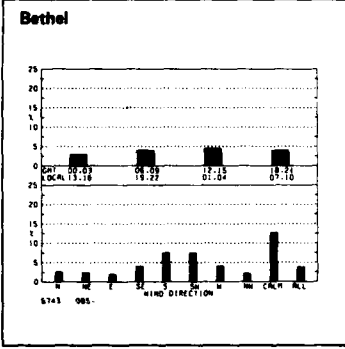
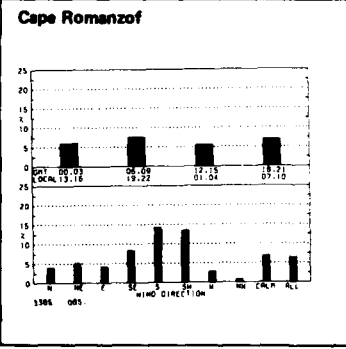
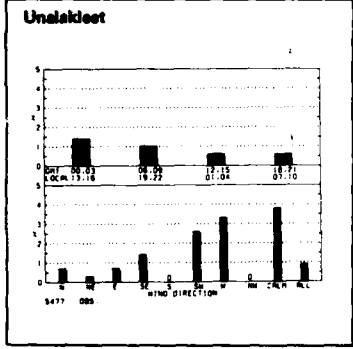
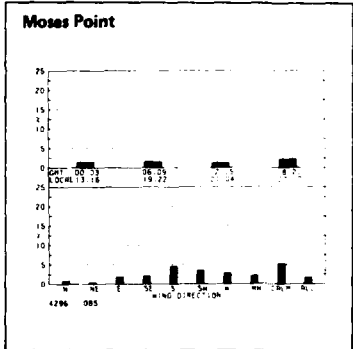
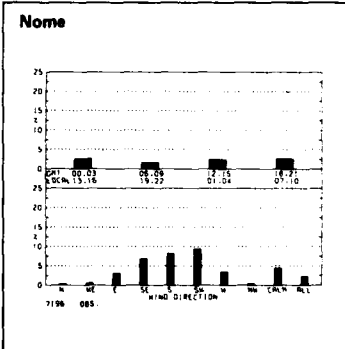
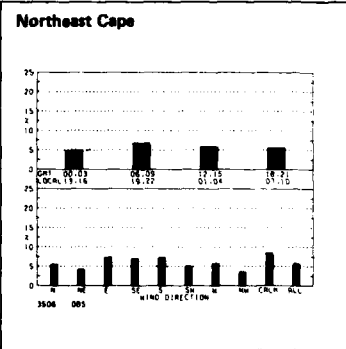
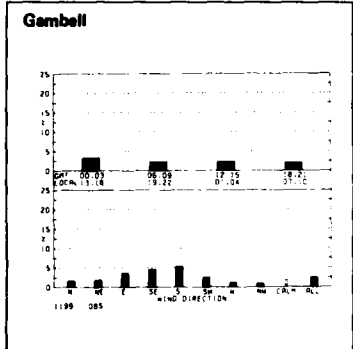
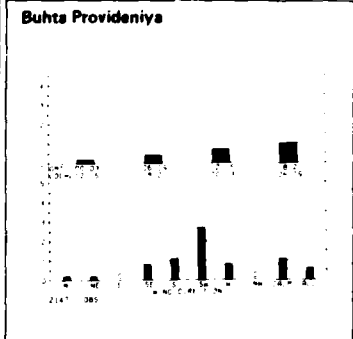
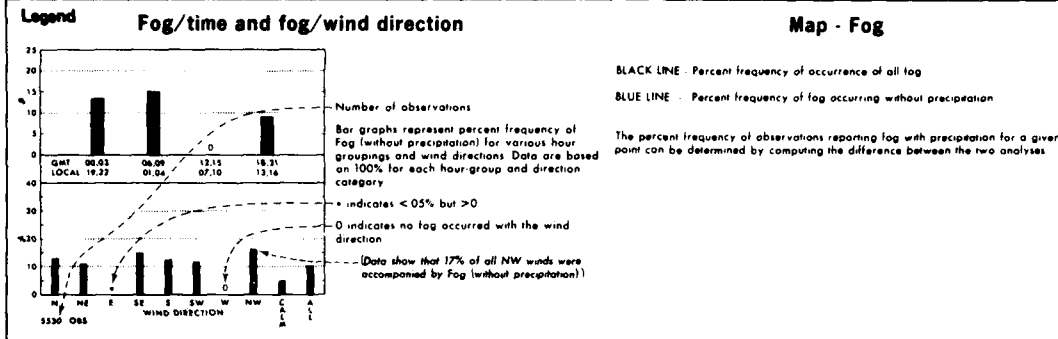
WIND SPEED (KTS)	
TEMP (°C)	0-3 4-10 11-21 22-33 ≥ 34
10.11	0 0 0 0 0
8.9	0 0 0 0 0
6.7	1 1 2 1 0
4.5	1 3 3 1 0
2.3	5 8 7 1 0
0.1	4 9 7 1 0
-2.1	3 9 7 1 0
-4.3	2 5 5 1 0
-6.5	1 2 2 0 0
-8.7	1 1 1 0 0
-10.9	1 1 1 0 0
-12.11	1 1 1 0 0
-14.13	1 1 1 0 0
-16.15	1 1 1 0 0
-18.17	1 1 1 0 0
Σ	2347

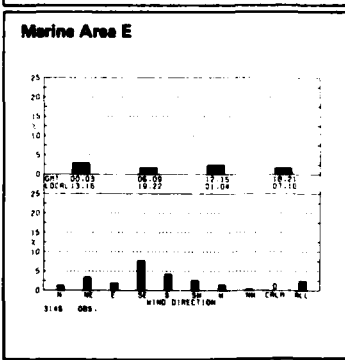
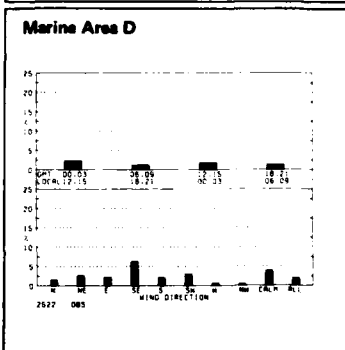
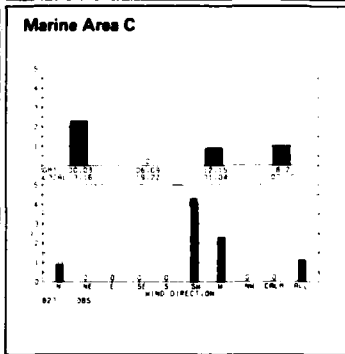
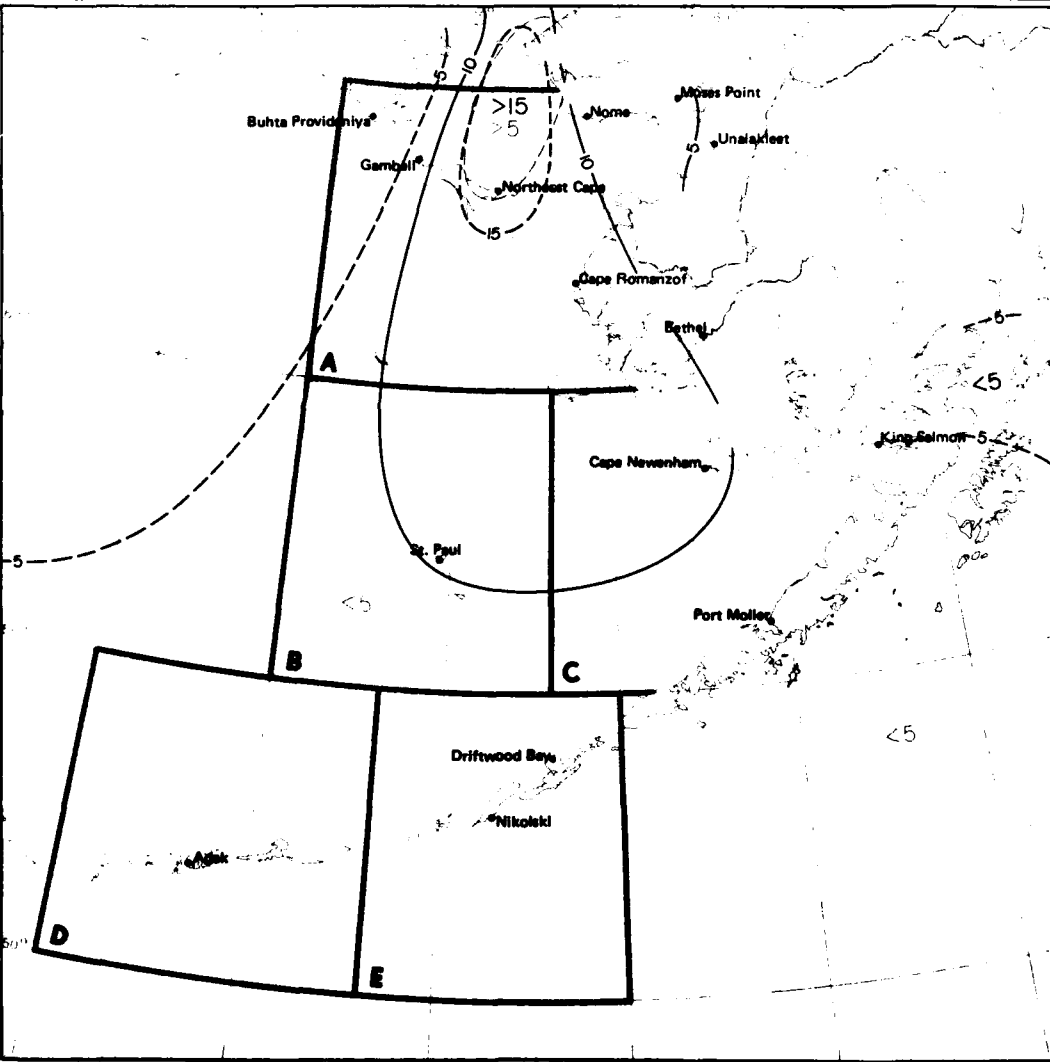
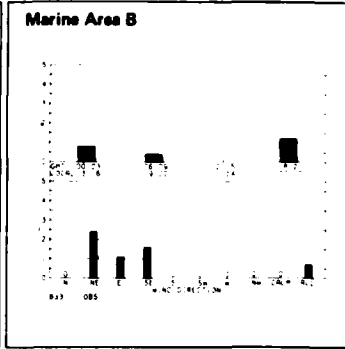
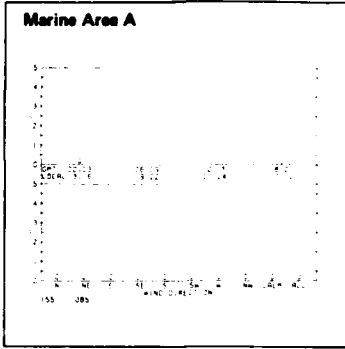
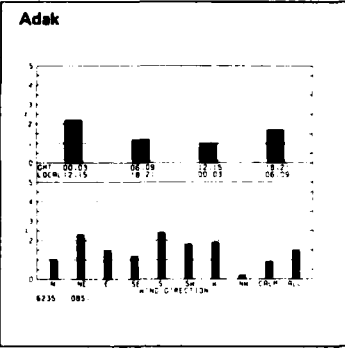
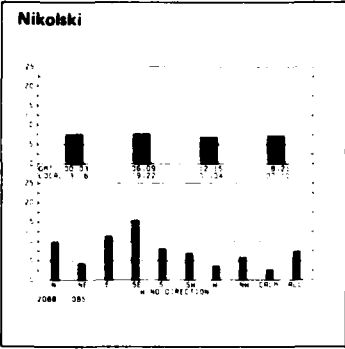
**Driftwood Bay**

WIND SPEED (KTS)	
TEMP (°C)	0-3 4-10 11-21 22-33 ≥ 34
14.15	0 0 0 0 0
12.13	0 0 0 0 0
10.11	0 0 0 0 0
8.9	0 0 0 0 0
6.7	1 3 1 0 0
4.5	1 3 2 0 0
2.3	6 13 6 0 0
0.1	4 16 7 0 0
-2.1	4 12 5 0 0
-4.3	1 4 2 0 0
-6.5	1 1 1 0 0
-8.7	1 1 1 0 0
-10.9	1 1 1 0 0
-12.11	1 1 1 0 0
-14.13	1 1 1 0 0
-16.15	1 1 1 0 0
-18.17	1 1 1 0 0
Σ	2390



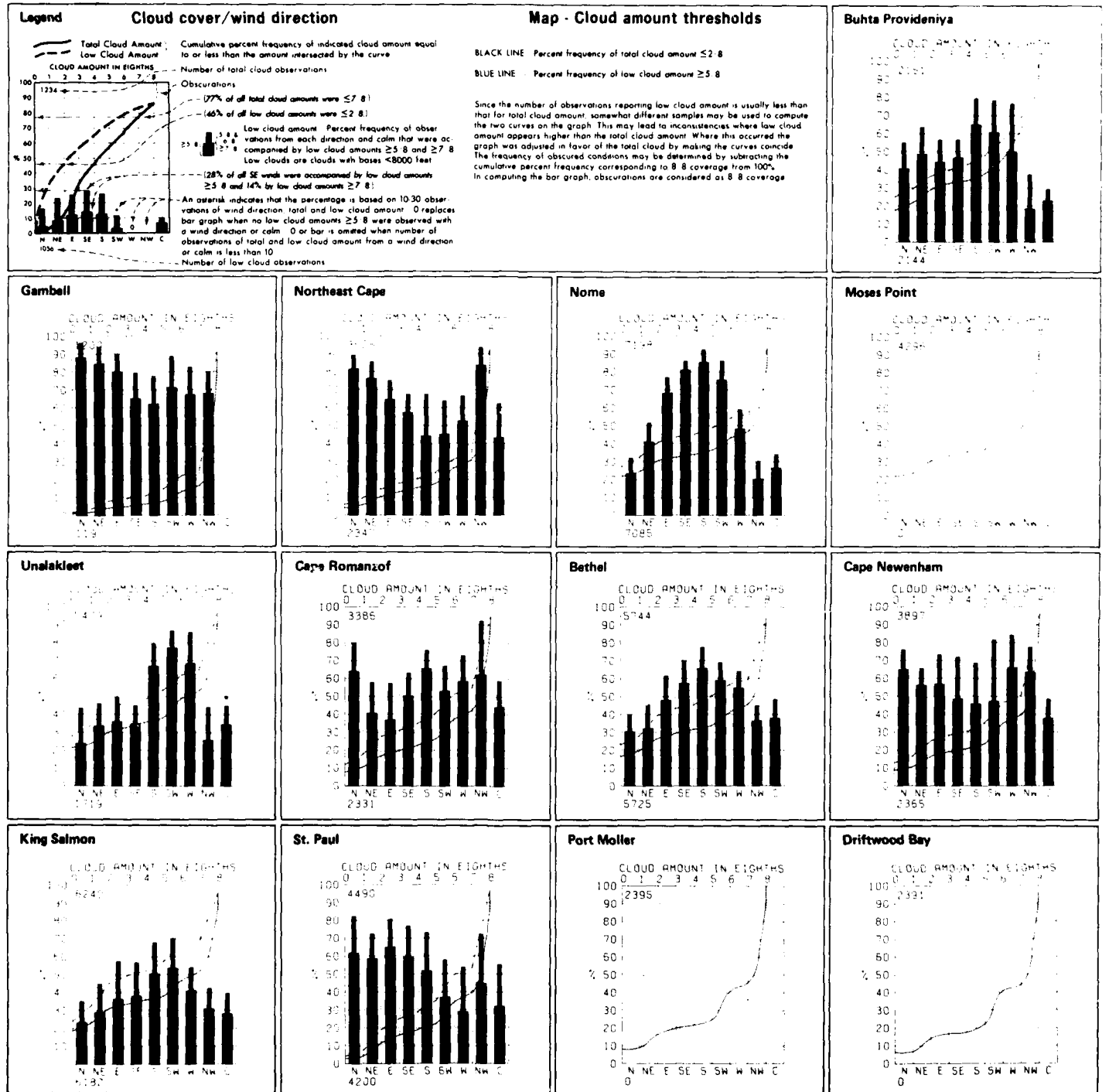






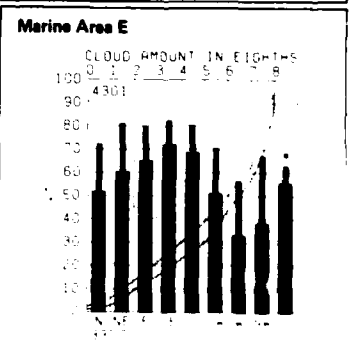
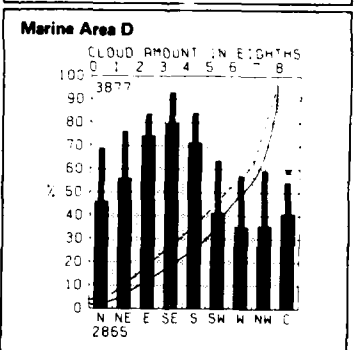
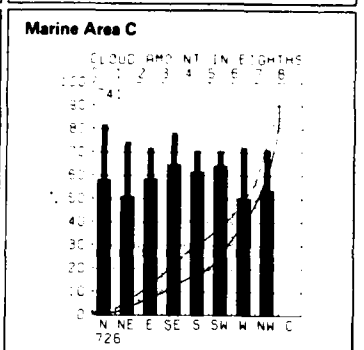
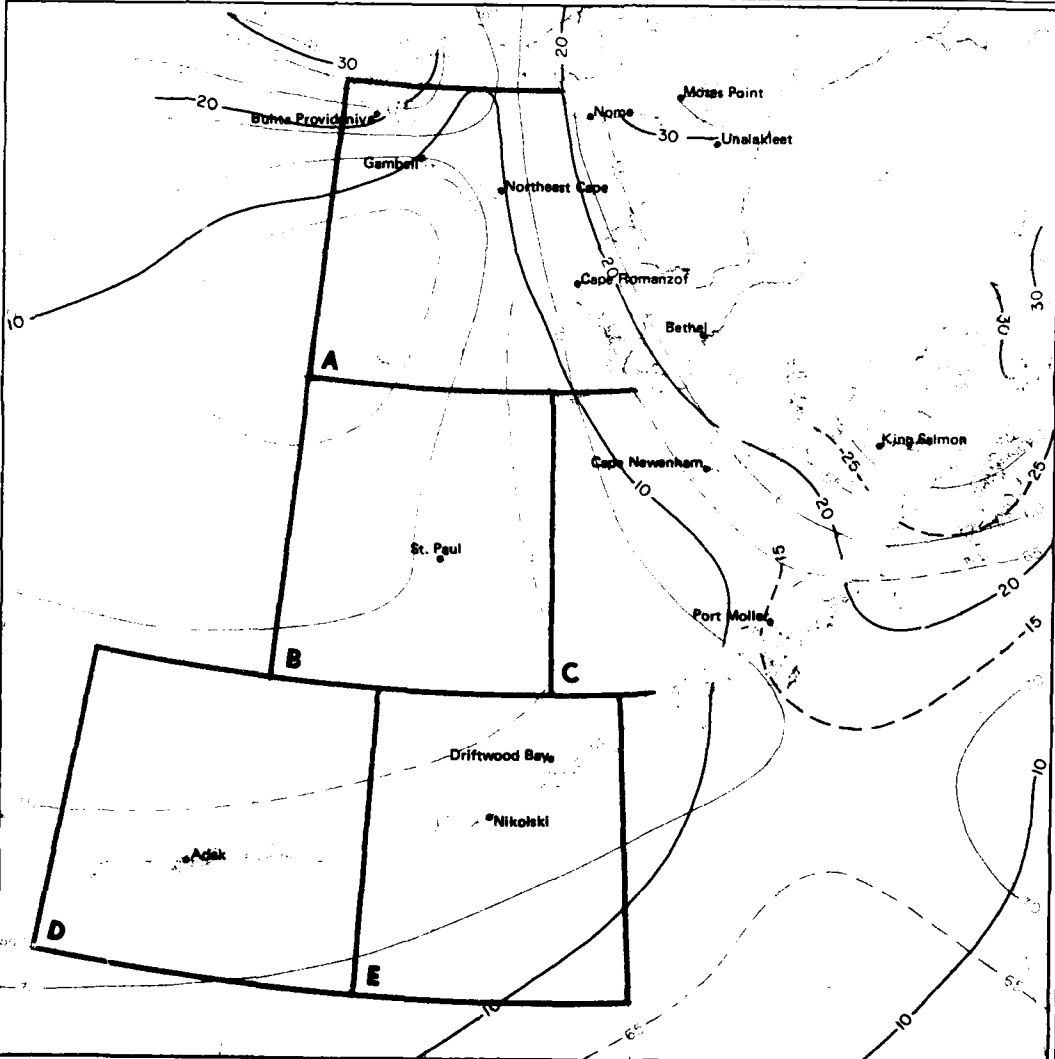
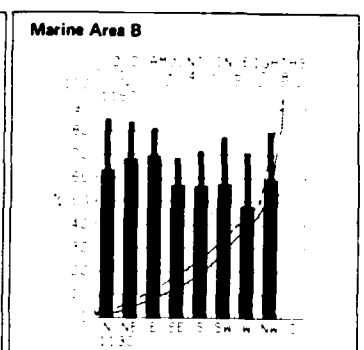
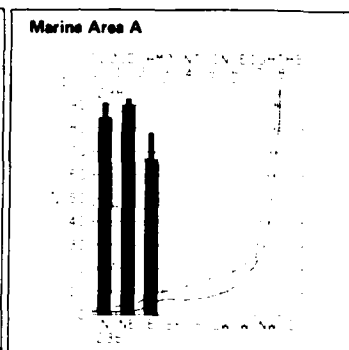
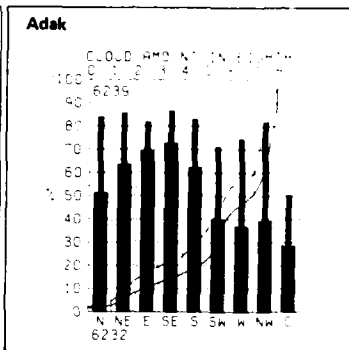
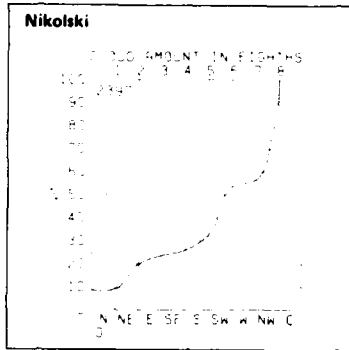
6 Fog

November



November

7 Cloud cover/wind direction



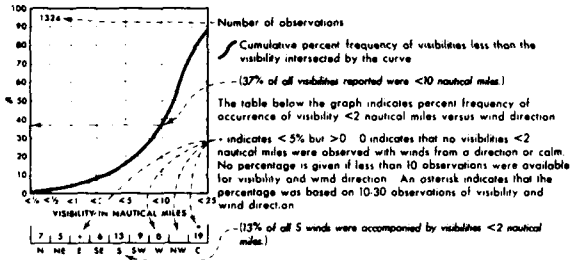
7 Cloud amount thresholds

November



**Legend**

**Visibility/wind direction**



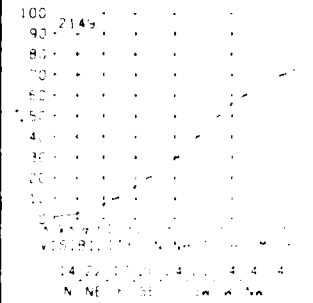
**Map - Visibility thresholds**

BLACK LINE Percent frequency of visibilities  $\geq 5$  nautical miles

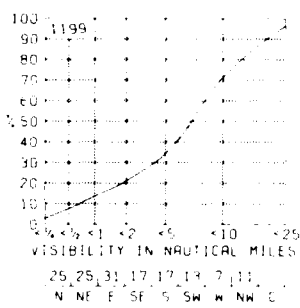
BLUE LINE Percent frequency of visibilities <2 nautical miles

The percentage of visibility equal to or greater than a given value can be obtained from the graph by subtracting the cumulative percent frequency of that value from 100%. Visibility at sea is difficult to measure because of the lack of reference points. Also, some observers seem to report reduced visibilities at night because of darkness, though this tendency has abated in recent years. The coarseness of the coding intervals, however, tends to minimize serious biases in the summarized data. Visibilities greater than 25 nm. should be interpreted cautiously because the earth's curvature makes it impossible to see 25 nm. horizontally from the bridges of most ships.

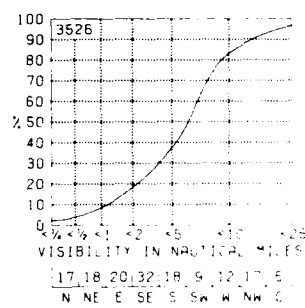
**Buhta Provideniya**



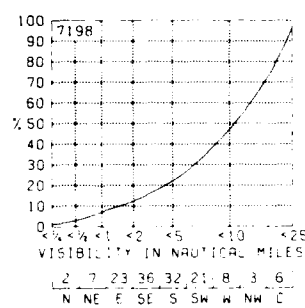
**Gambell**



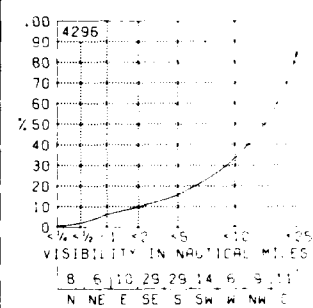
**Northeast Cape**



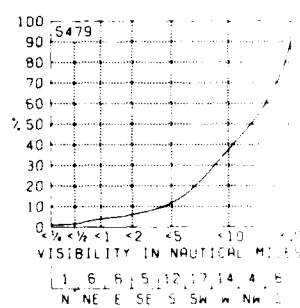
**Nome**



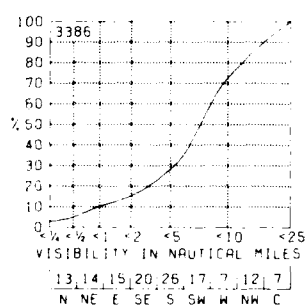
**Moses Point**



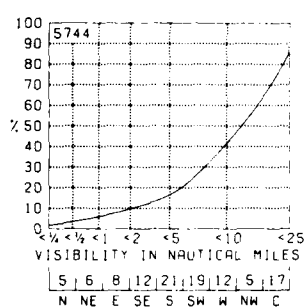
**Unalakleet**



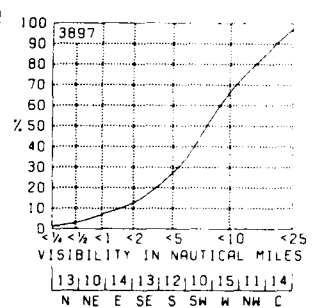
**Cape Romanzof**



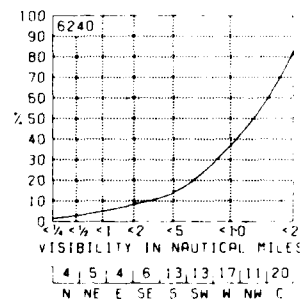
**Bethel**



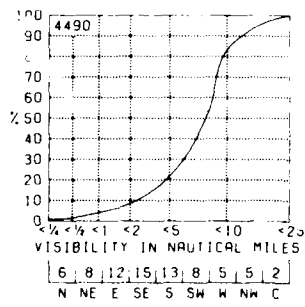
**Cape Newenham**



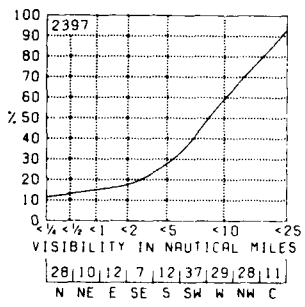
**King Salmon**



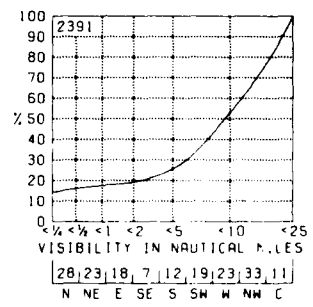
**St. Paul**

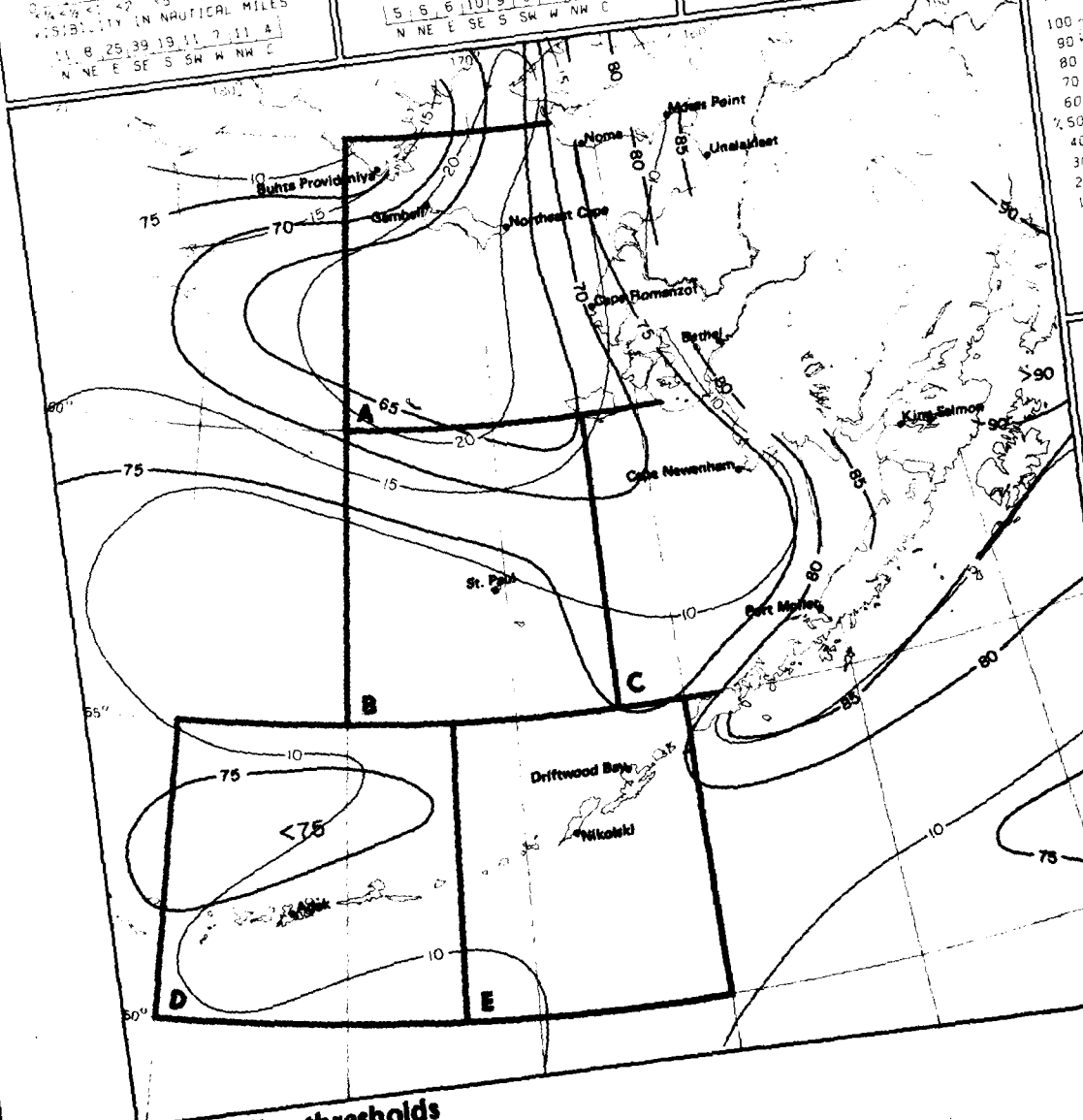
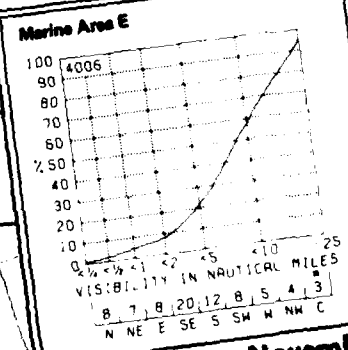
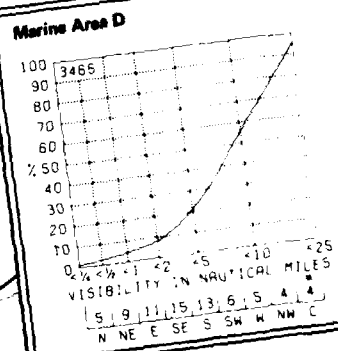
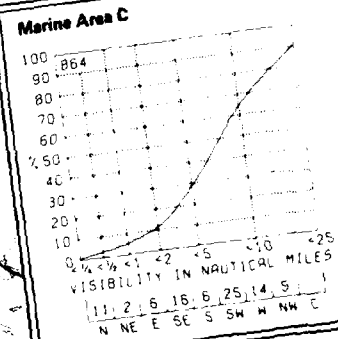
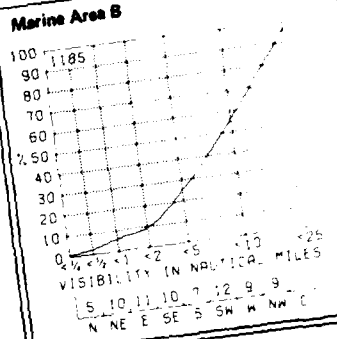
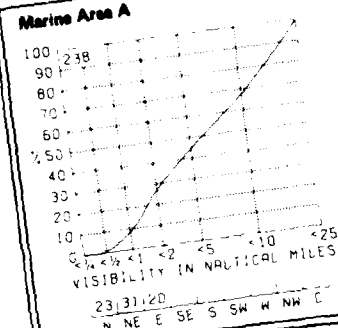
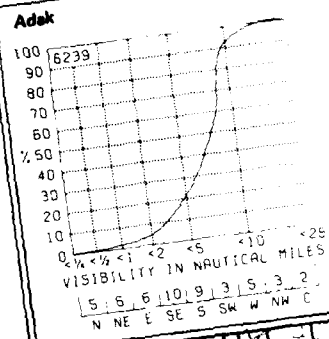
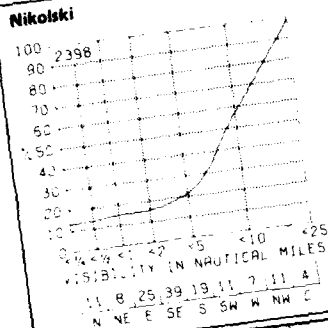


**Port Moller**



**Driftwood Bay**





**8 Visibility thresholds**

**Legend**

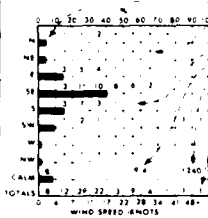
**Wind speed/direction**

**Map - Wind speed thresholds**

**Buhta Provideniya**

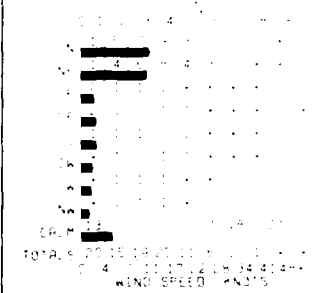
Direction frequency top scale: Bars represent percent frequency of winds observed from each direction. Speed frequency bottom scale: Printed figures represent percent frequency of wind speeds observed from each direction.

BLACK LINE Percent frequency of wind speed  $\leq 10$  knots ( $\leq 12$  mph)  
 BLUE LINE Percent frequency of wind speed  $\geq 34$  knots ( $\geq 39$  mph)



4% of all winds were from the N!  
 indicates  $< 5\%$ , but  $> 0$   
 11% of all winds were from the S with a speed 22-27 knots!  
 The scalar mean speed was 9.4 knots  
 Number of observations  
 1% of winds from all directions had wind speed  $\geq 48$  knots!  
 WIND SPEED INTERVAL (KNOTS):  
 0 3 | 4 6 | 7 10 | 11 16 | 17 21 | 22 27 | 28 33 | 34 40 | 41 47 |  $\geq 48$   
 Printed scale on bottom of chart

The scalar mean wind speed on the graph is based on the number of observations reporting a wind speed with direction. The sum of the totals line provides the cumulative percent frequency of wind speed below a selected threshold value. In the example graph, 71% of all winds were less than 17 knots (20 mph).

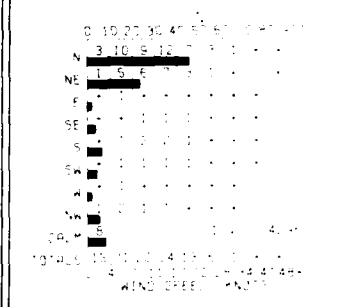
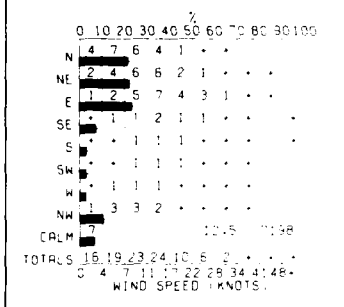
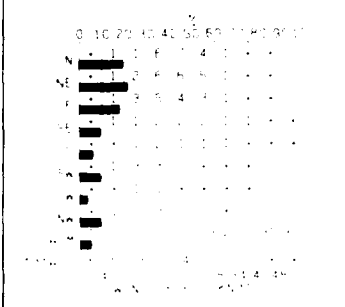
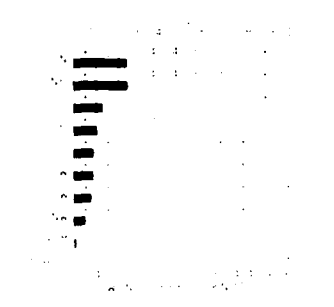


**Gambell**

**Northeast Cape**

**Nome**

**Moses Point**

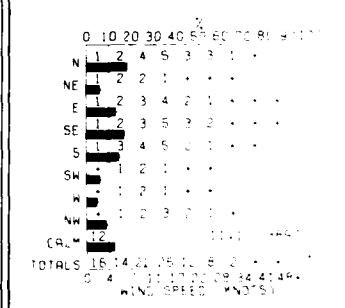
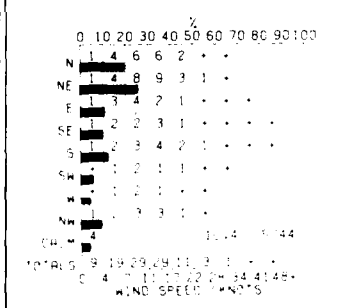
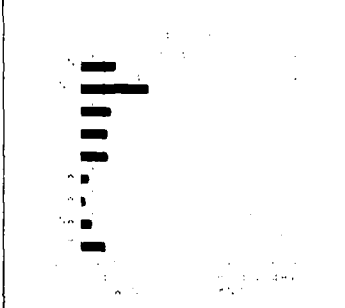


**Unalakleet**

**Cape Romanzof**

**Bethel**

**Cape Newenham**

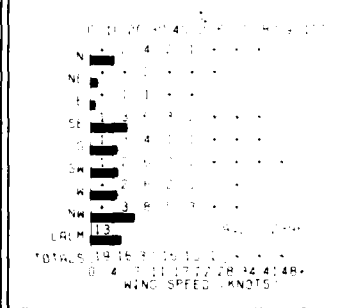
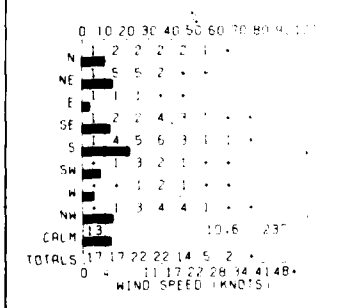
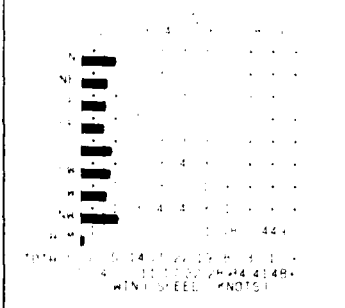
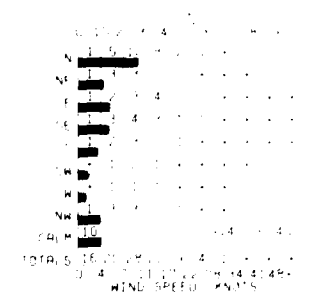


**King Salmon**

**St. Paul**

**Port Moller**

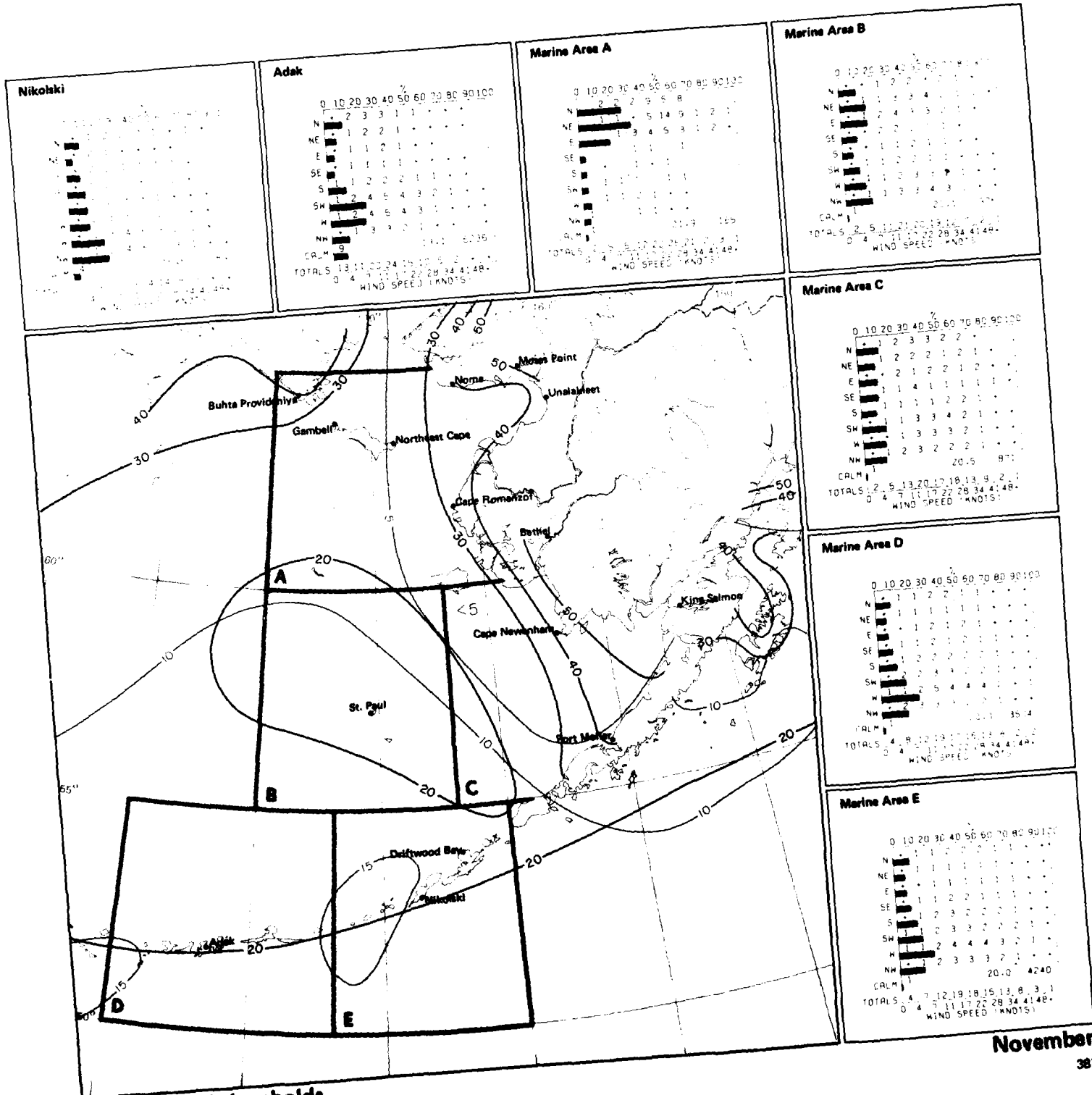
**Driftwood Bay**



**November**

**9 Wind speed/direction**





**Nikolski**

Direction	0	10	20	30	40	50	60	70	80	90	100
N	1	1	1	1	1	1	1	1	1	1	1
NE	1	1	1	1	1	1	1	1	1	1	1
E	1	1	1	1	1	1	1	1	1	1	1
SE	1	1	1	1	1	1	1	1	1	1	1
S	1	1	1	1	1	1	1	1	1	1	1
SW	1	1	1	1	1	1	1	1	1	1	1
W	1	1	1	1	1	1	1	1	1	1	1
NW	1	1	1	1	1	1	1	1	1	1	1
CALM	1	1	1	1	1	1	1	1	1	1	1
TOTALS	13	11	20	24	25	20	18	16	14	12	11
WIND SPEED (KNOTS)	0	4	7	11	17	22	28	34	41	48	56

**Adak**

Direction	0	10	20	30	40	50	60	70	80	90	100
N	2	3	3	1	1	1	1	1	1	1	1
NE	1	2	2	1	1	1	1	1	1	1	1
E	1	1	2	1	1	1	1	1	1	1	1
SE	1	1	1	1	1	1	1	1	1	1	1
S	1	2	2	2	1	1	1	1	1	1	1
SW	1	2	4	5	4	3	2	1	1	1	1
W	1	2	4	5	4	3	1	1	1	1	1
NW	1	3	3	2	1	1	1	1	1	1	1
CALM	9	1	1	1	1	1	1	1	1	1	1
TOTALS	13	11	20	24	25	20	18	16	14	12	11
WIND SPEED (KNOTS)	0	4	7	11	17	22	28	34	41	48	56

**Marine Area A**

Direction	0	10	20	30	40	50	60	70	80	90	100
N	2	2	2	2	5	6	8	1	1	1	1
NE	1	3	4	5	3	1	2	1	1	1	1
E	1	3	4	5	3	1	2	1	1	1	1
SE	1	1	1	1	1	1	1	1	1	1	1
S	1	1	1	1	1	1	1	1	1	1	1
SW	1	1	1	1	1	1	1	1	1	1	1
W	1	1	1	1	1	1	1	1	1	1	1
NW	1	1	1	1	1	1	1	1	1	1	1
CALM	1	1	1	1	1	1	1	1	1	1	1
TOTALS	13	11	20	24	25	20	18	16	14	12	11
WIND SPEED (KNOTS)	0	4	7	11	17	22	28	34	41	48	56

**Marine Area B**

Direction	0	10	20	30	40	50	60	70	80	90	100
N	1	1	1	1	1	1	1	1	1	1	1
NE	1	1	1	1	1	1	1	1	1	1	1
E	1	1	1	1	1	1	1	1	1	1	1
SE	1	1	1	1	1	1	1	1	1	1	1
S	1	1	1	1	1	1	1	1	1	1	1
SW	1	1	1	1	1	1	1	1	1	1	1
W	1	1	1	1	1	1	1	1	1	1	1
NW	1	1	1	1	1	1	1	1	1	1	1
CALM	1	1	1	1	1	1	1	1	1	1	1
TOTALS	13	11	20	24	25	20	18	16	14	12	11
WIND SPEED (KNOTS)	0	4	7	11	17	22	28	34	41	48	56

**Marine Area C**

Direction	0	10	20	30	40	50	60	70	80	90	100
N	2	3	3	2	2	2	2	2	2	2	2
NE	1	2	2	2	1	2	1	1	1	1	1
E	1	2	2	2	1	2	1	1	1	1	1
SE	1	1	4	1	1	1	1	1	1	1	1
S	1	1	1	1	2	2	1	1	1	1	1
SW	1	1	3	3	4	2	1	1	1	1	1
W	1	1	3	3	3	2	1	1	1	1	1
NW	1	2	3	2	2	2	1	1	1	1	1
CALM	1	1	1	1	1	1	1	1	1	1	1
TOTALS	12	9	13	20	17	18	13	9	2	1	1
WIND SPEED (KNOTS)	0	4	7	11	17	22	28	34	41	48	56

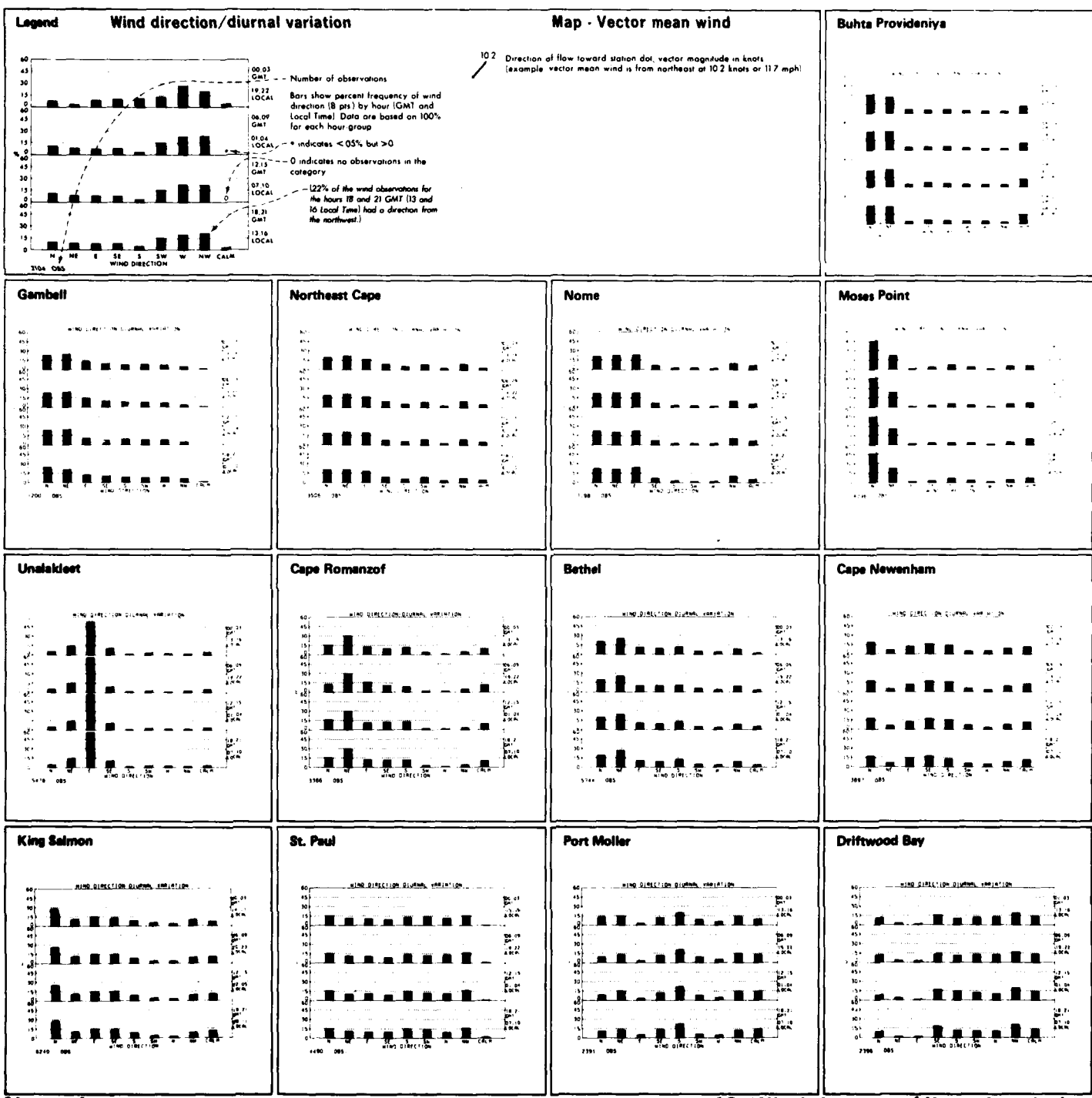
**Marine Area D**

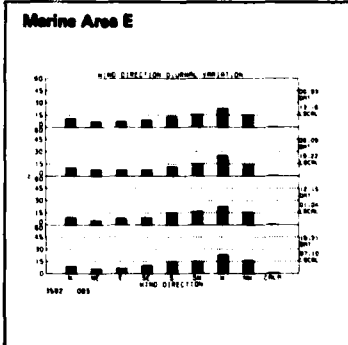
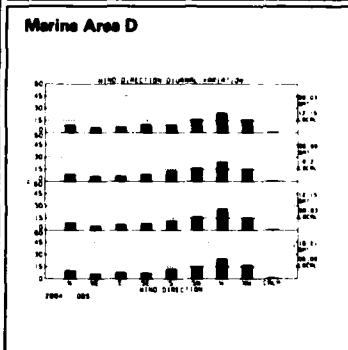
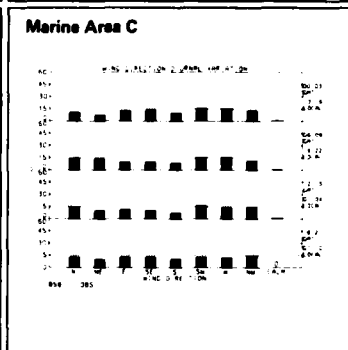
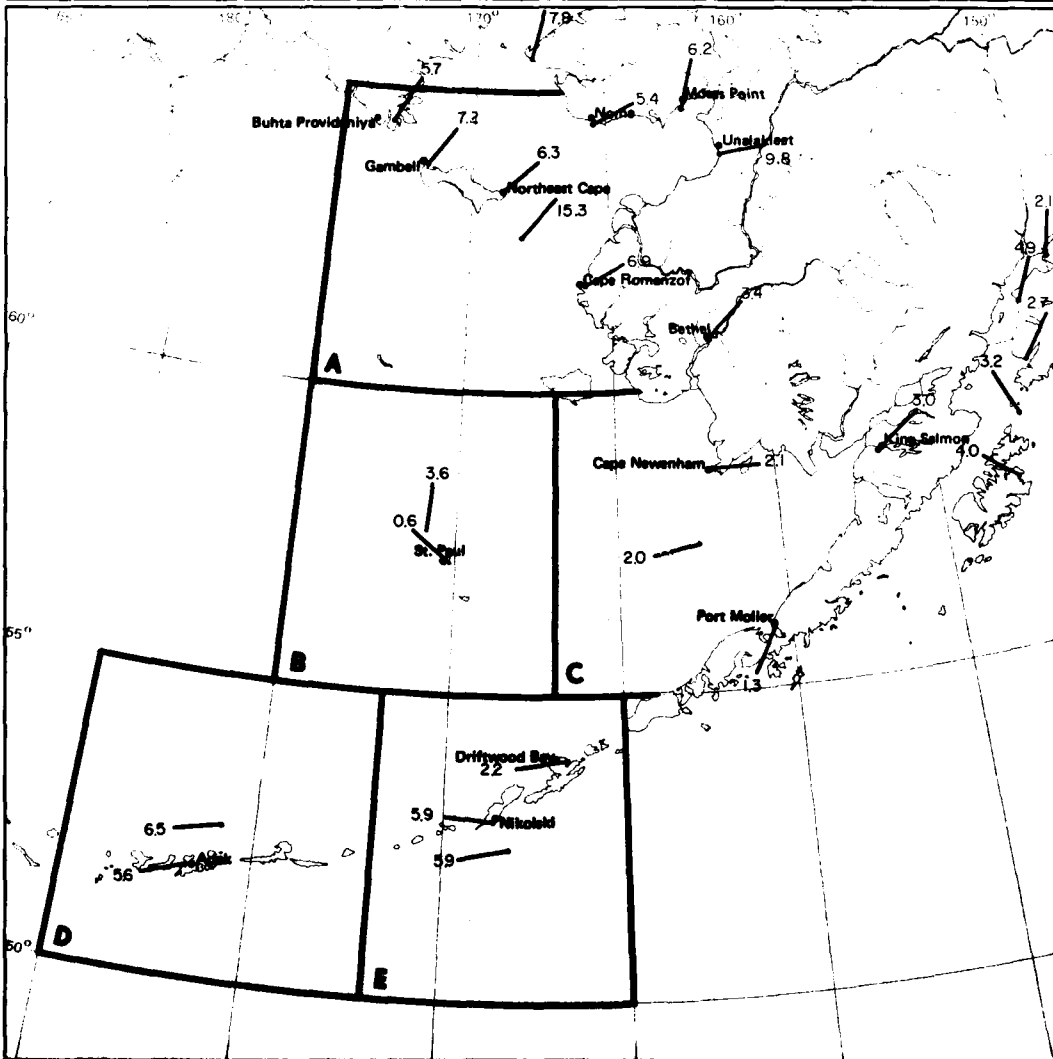
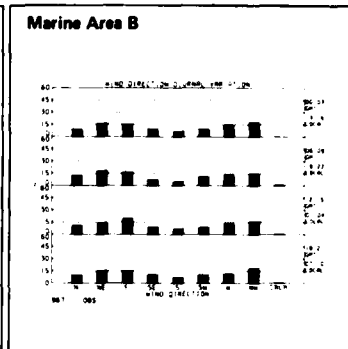
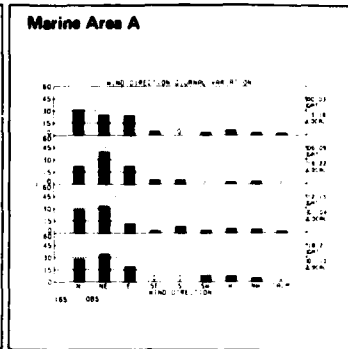
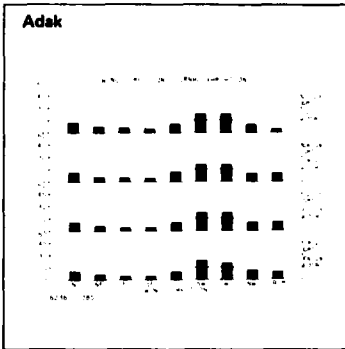
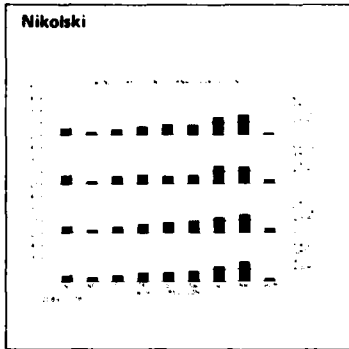
Direction	0	10	20	30	40	50	60	70	80	90	100
N	1	1	1	1	1	1	1	1	1	1	1
NE	1	1	1	1	1	1	1	1	1	1	1
E	1	1	1	1	1	1	1	1	1	1	1
SE	1	1	1	1	1	1	1	1	1	1	1
S	1	1	1	1	1	1	1	1	1	1	1
SW	1	1	1	1	1	1	1	1	1	1	1
W	1	1	1	1	1	1	1	1	1	1	1
NW	1	1	1	1	1	1	1	1	1	1	1
CALM	1	1	1	1	1	1	1	1	1	1	1
TOTALS	13	11	20	24	25	20	18	16	14	12	11
WIND SPEED (KNOTS)	0	4	7	11	17	22	28	34	41	48	56

**Marine Area E**

Direction	0	10	20	30	40	50	60	70	80	90	100
N	1	1	1	1	1	1	1	1	1	1	1
NE	1	1	1	1	1	1	1	1	1	1	1
E	1	1	1	1	1	1	1	1	1	1	1
SE	1	1	1	1	1	1	1	1	1	1	1
S	1	1	1	1	1	1	1	1	1	1	1
SW	1	1	1	1	1	1	1	1	1	1	1
W	1	1	1	1	1	1	1	1	1	1	1
NW	1	1	1	1	1	1	1	1	1	1	1
CALM	1	1	1	1	1	1	1	1	1	1	1
TOTALS	13	11	20	24	25	20	18	16	14	12	11
WIND SPEED (KNOTS)	0	4	7	11	17	22	28	34	41	48	56

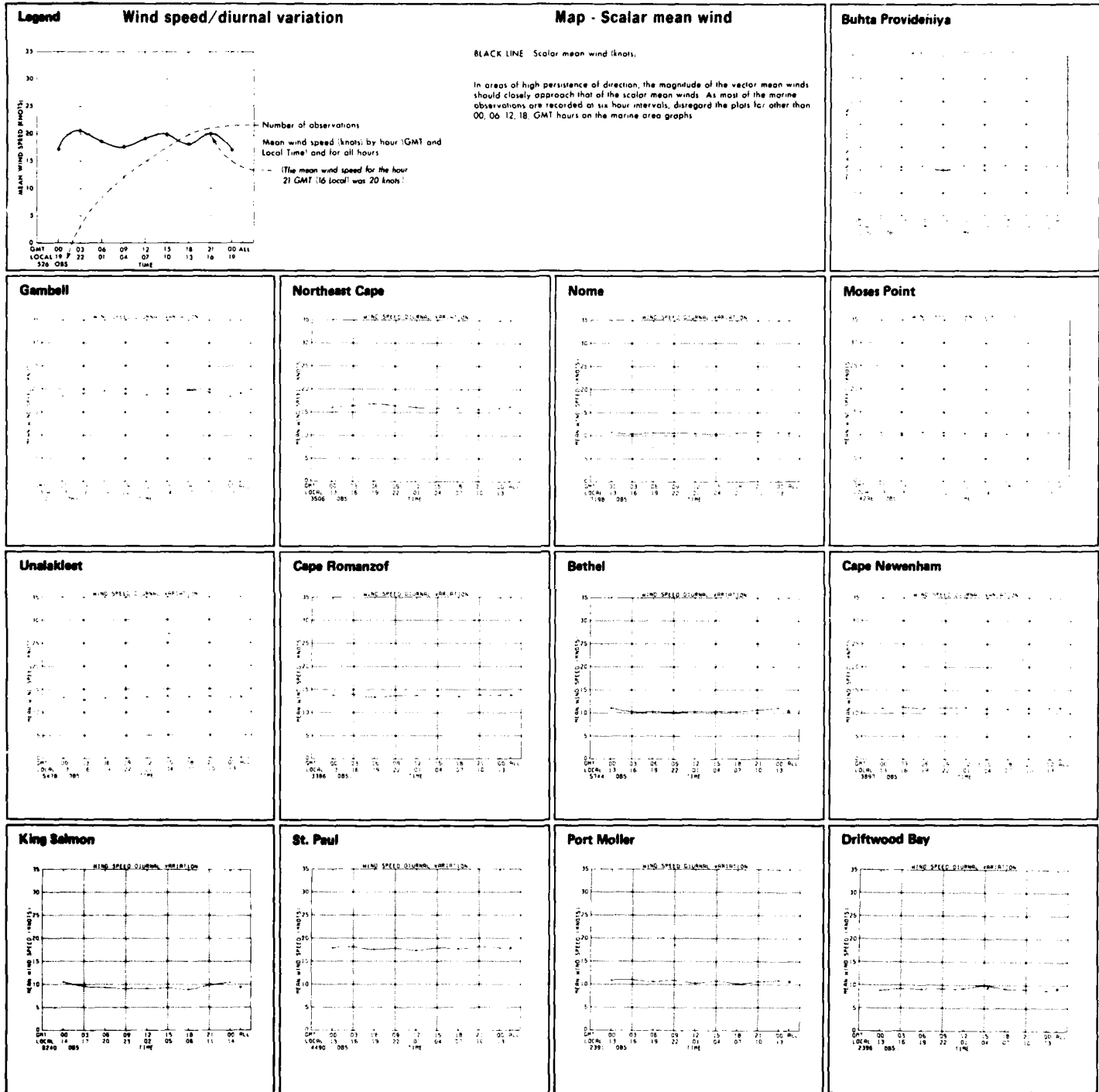
9 Wind speed thresholds

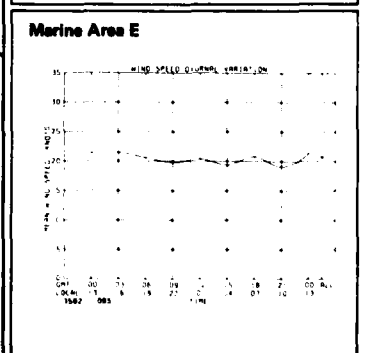
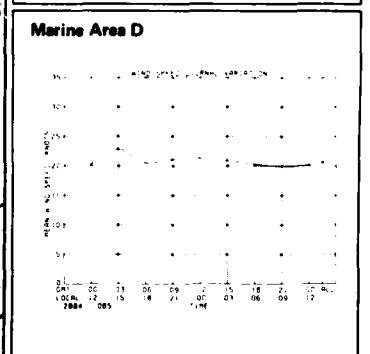
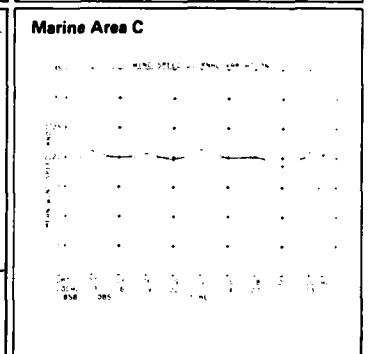
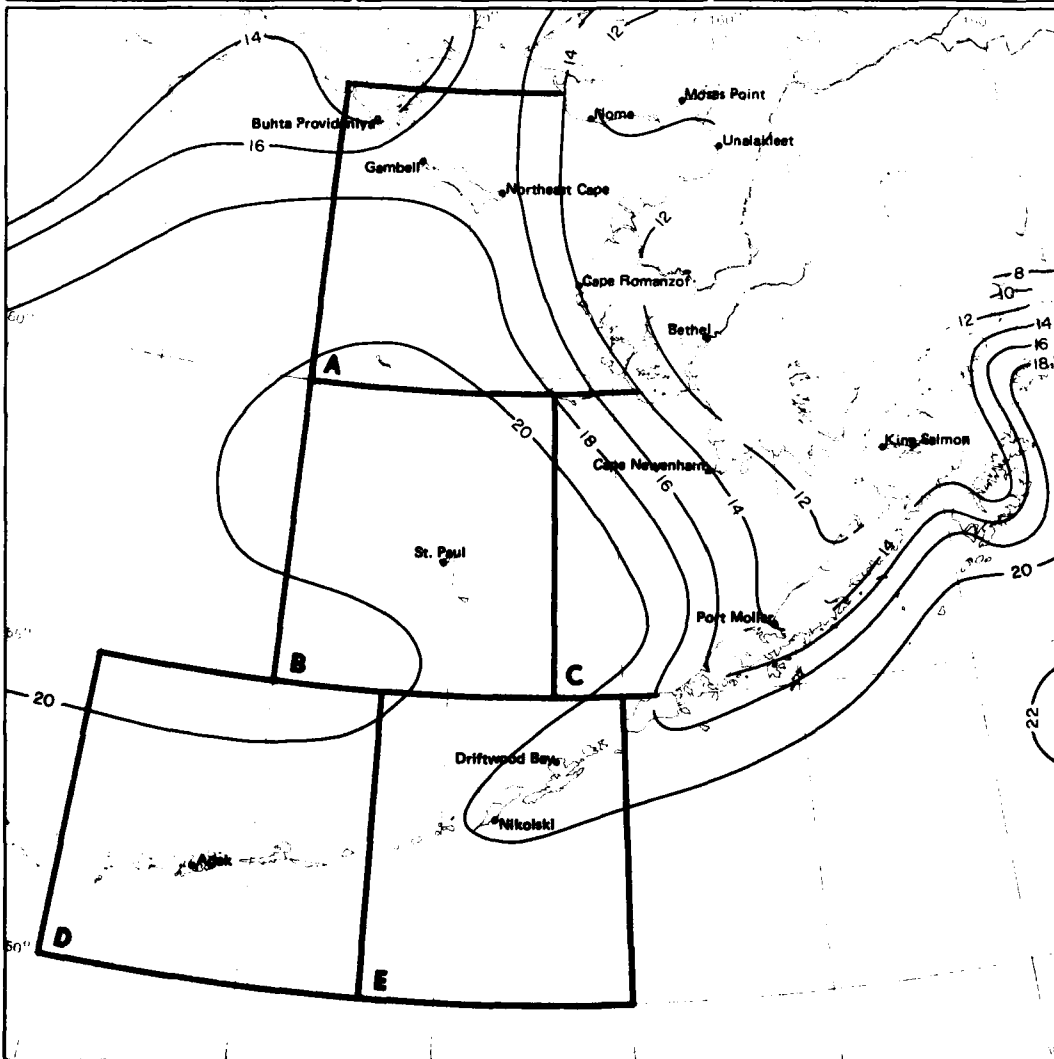
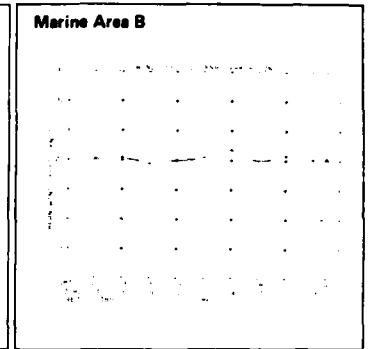
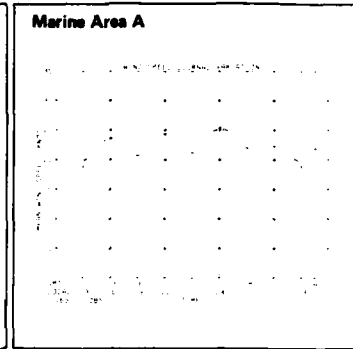
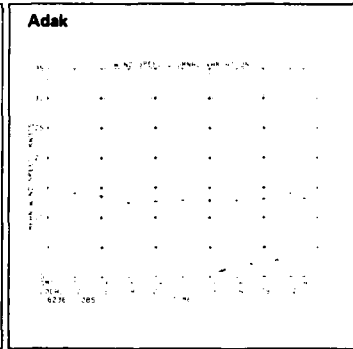
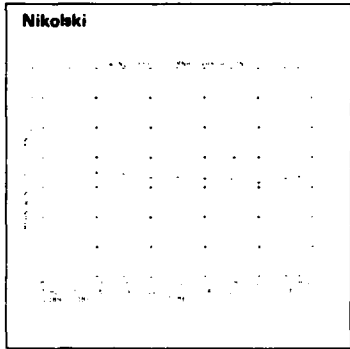




10 Vector mean wind

November





11 Scalar mean wind

November

**Legend**      **Low cloud ceiling/visibility**      **Map - Low cloud ceiling and visibility thresholds**      **Buhta Provideniya**

**VISIBILITY**  
 1/2 1 2 5 10 20  
 NC 0 0 1 1 1 6 4  
 50x80 0 0 0 0 0 4  
 35x50 0 0 0 0 0 4  
 20x35 0 1 1 2 2  
 10x20 0 1 1 2 1  
 6x10 0 1 0 1 0  
 3x6 0 0 0 0 0  
 1.5x3 0 0 0 0 0  
 0x1.5 0 0 0 0 0  
 334

Percent frequency of simultaneous occurrence of specified low cloud ceilings (hundreds of feet) and visibilities (nautical miles).  
 Low cloud ceiling heights are estimated from the height of low clouds (h) when low cloud amount (N<sub>h</sub>) is  $\geq 8$ .  
 Observations are included under ceiling 0 < 1.5  
 N.C. (no ceiling) includes bases of clouds  $\geq 8000$  feet as well as occurrences of N<sub>h</sub> < 8.  
 \* 2% of all observations reported ceiling  $\geq 1000$  but < 2000 feet simultaneously with visibility  $\geq 5$  but < 10 nautical miles.  
 - indicates < 5% but > 0  
 - Number of observations

**BLACK LINE** Percent frequency of low cloud ceiling  $\geq 1000$  feet and no low cloud ceiling and visibility  $\geq 5$  nautical miles.  
**BLUE LINE** Percent frequency of low cloud ceiling < 600 feet and/or visibility < 2 nautical miles.

**Gambell**

VISIBILITY  
 1/2 1 2 5 10 20  
 NC 0 0 0 0 4 7  
 50x80 0 0 0 0 0 0  
 35x50 0 0 0 0 0 0  
 20x35 0 0 0 0 0 0  
 10x20 0 0 0 0 0 0  
 6x10 0 0 0 0 0 0  
 3x6 0 0 0 0 0 0  
 1.5x3 0 0 0 0 0 0  
 0x1.5 0 0 0 0 0 0  
 1196

**Northeast Cape**

VISIBILITY  
 1/2 1 2 5 10 20  
 NC 0 0 1 1 8 10  
 50x80 0 0 0 0 0 0  
 35x50 0 0 0 0 0 0  
 20x35 0 0 1 3 13 4  
 10x20 0 1 3 9 1 3  
 6x10 0 0 2 3 3 1  
 3x6 0 0 0 0 0 0  
 1.5x3 0 0 0 0 0 0  
 0x1.5 4 3 2 0 0 0  
 2347

**Nome**

VISIBILITY  
 1/2 1 2 5 10 20  
 NC 0 0 0 0 8 35  
 50x80 0 0 0 0 0 0  
 35x50 0 0 0 0 0 0  
 20x35 0 0 0 0 0 0  
 10x20 0 0 0 0 0 0  
 6x10 0 0 0 0 0 0  
 3x6 0 0 0 0 0 0  
 1.5x3 0 0 0 0 0 0  
 0x1.5 3 2 1 0 0 0  
 7085

**Moses Point**

VISIBILITY  
 1/2 1 2 5 10 20  
 NC 0 0 0 0 0 0  
 50x80 0 0 0 0 0 0  
 35x50 0 0 0 0 0 0  
 20x35 0 0 0 0 0 0  
 10x20 0 0 0 0 0 0  
 6x10 0 0 0 0 0 0  
 3x6 0 0 0 0 0 0  
 1.5x3 0 0 0 0 0 0  
 0x1.5 0 0 0 0 0 0  
 1445

**Unalakleet**

VISIBILITY  
 1/2 1 2 5 10 20  
 NC 0 0 0 0 0 0  
 50x80 0 0 0 0 0 0  
 35x50 0 0 0 0 0 0  
 20x35 0 0 0 0 0 0  
 10x20 0 0 0 0 0 0  
 6x10 0 0 0 0 0 0  
 3x6 0 0 0 0 0 0  
 1.5x3 0 0 0 0 0 0  
 0x1.5 2 2 1 1 0 0  
 1710

**Cape Romanzof**

VISIBILITY  
 1/2 1 2 5 10 20  
 NC 0 1 0 2 17 16  
 50x80 0 0 0 0 1 1  
 35x50 0 0 0 0 1 2 1  
 20x35 0 1 0 2 13 4  
 10x20 0 1 1 4 11 2  
 6x10 0 1 1 3 3 1  
 3x6 0 1 0 1 1 0  
 1.5x3 0 0 0 0 0 0  
 0x1.5 4 2 1 0 0 0  
 2331

**Bethel**

VISIBILITY  
 1/2 1 2 5 10 20  
 NC 0 0 0 1 9 39  
 50x80 0 0 0 0 1 3  
 35x50 0 0 0 0 2 4  
 20x35 0 0 0 1 5 7  
 10x20 0 0 0 2 5 3  
 6x10 0 0 1 2 3 1  
 3x6 0 0 0 1 1 0  
 1.5x3 0 0 0 0 0 0  
 0x1.5 2 1 2 1 0 0  
 5725

**Cape Newenham**

VISIBILITY  
 1/2 1 2 5 10 20  
 NC 0 0 0 0 0 0  
 50x80 0 0 0 0 0 0  
 35x50 0 0 0 0 0 0  
 20x35 0 0 0 0 0 0  
 10x20 0 0 0 4 14 6  
 6x10 0 0 0 4 5 9  
 3x6 0 0 0 1 2 4  
 1.5x3 0 0 0 0 0 0  
 0x1.5 3 2 1 1 0 0  
 2365

**King Salmon**

VISIBILITY  
 1/2 1 2 5 10 20  
 NC 1 0 0 1 10 46  
 50x80 0 0 0 0 1 4  
 35x50 0 0 0 0 0 0  
 20x35 0 0 0 0 1 3 5  
 10x20 0 0 0 4 3  
 6x10 0 0 0 2 1  
 3x6 0 0 0 0 0 0  
 1.5x3 0 0 0 0 0 0  
 0x1.5 2 1 1 0 0 0  
 5182

**St. Paul**

VISIBILITY  
 1/2 1 2 5 10 20  
 NC 0 0 0 1 21 7  
 50x80 0 0 0 0 0 1  
 35x50 0 0 0 0 0 2 1  
 20x35 0 0 0 0 1 12 5  
 10x20 0 0 1 6 21 3  
 6x10 0 0 1 4 4 0  
 3x6 0 1 1 1 1 0  
 1.5x3 0 0 0 0 0 0  
 0x1.5 1 1 1 0 0 0  
 4200

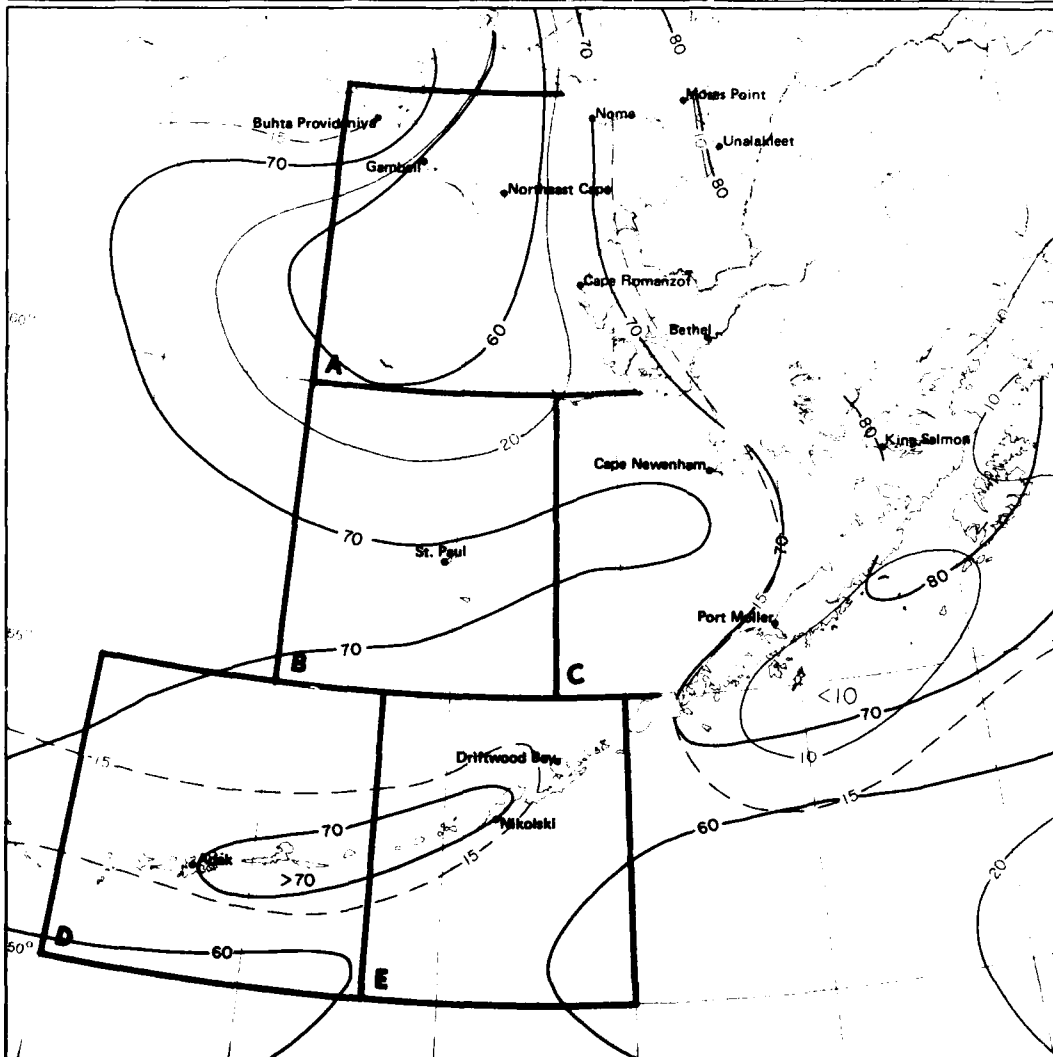
**Port Moller**

Insufficient Data

**Driftwood Bay**

Insufficient Data

<p>Nikolski</p> <p>Insufficient Data</p>	<p>Adak</p>	<p>Marine Area A</p>	<p>Marine Area B</p>
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Marine Area C

Marine Area D

Marine Area E

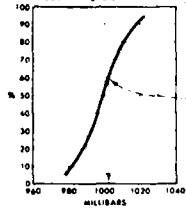
Visibility	10	15	20	30	40	50	60	70	80
Cloud Ceiling	10	15	20	30	40	50	60	70	80

12 Low cloud ceiling and visibility thresholds

November

**Legend**

**Sea level pressure**



Number of observations  
 Cumulative percent frequency of sea level pressures equal to or less than the pressure intersected by the curve  
 S Standard deviation of pressure, mbs  
 60% of all observed sea level pressures were  $\leq 1002$  millibars

**Map - Mean sea level pressure**

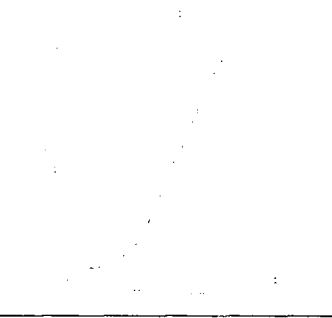
BLACK LINE Mean sea level pressure, millibars

Sea level pressure is one of the most frequently recorded elements but one of the least accurate because of instrument and coding errors. Despite the inaccuracies of the individual readings, however, the large scale patterns and mean gradients of the isopleth analyses are relatively accurate.

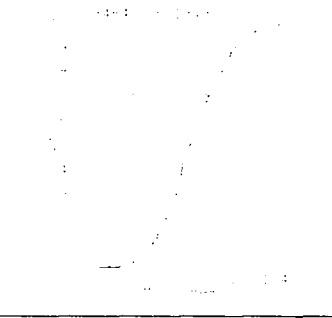
**Buhta Provideniya**



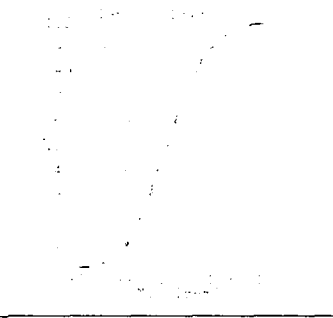
**Gambell**



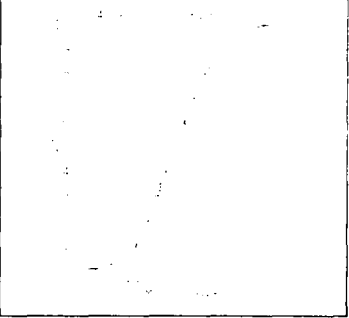
**Northeast Cape**



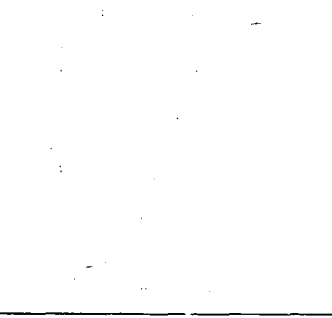
**Nome**



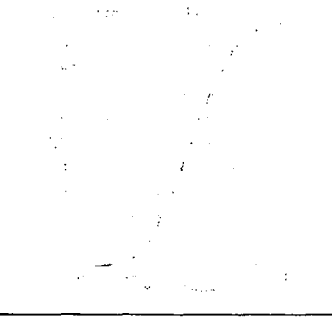
**Moses Point**



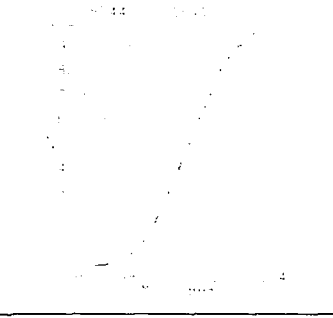
**Unalakleet**



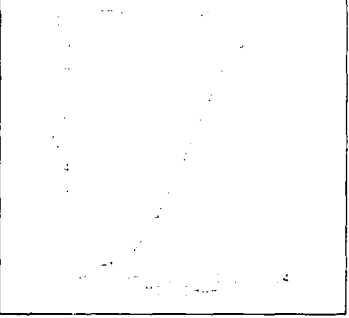
**Cape Romanzof**



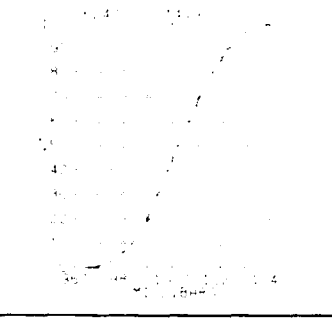
**Bethel**



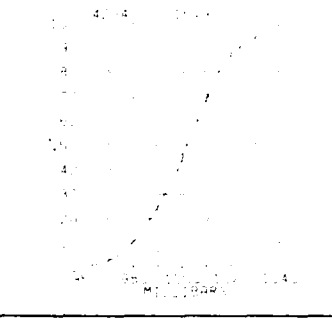
**Cape Newenham**



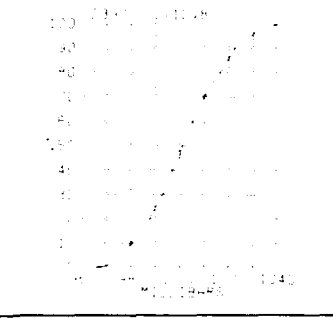
**King Salmon**



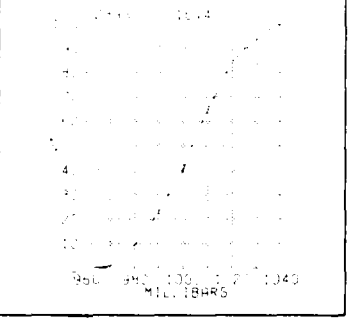
**St. Paul**



**Port Moller**



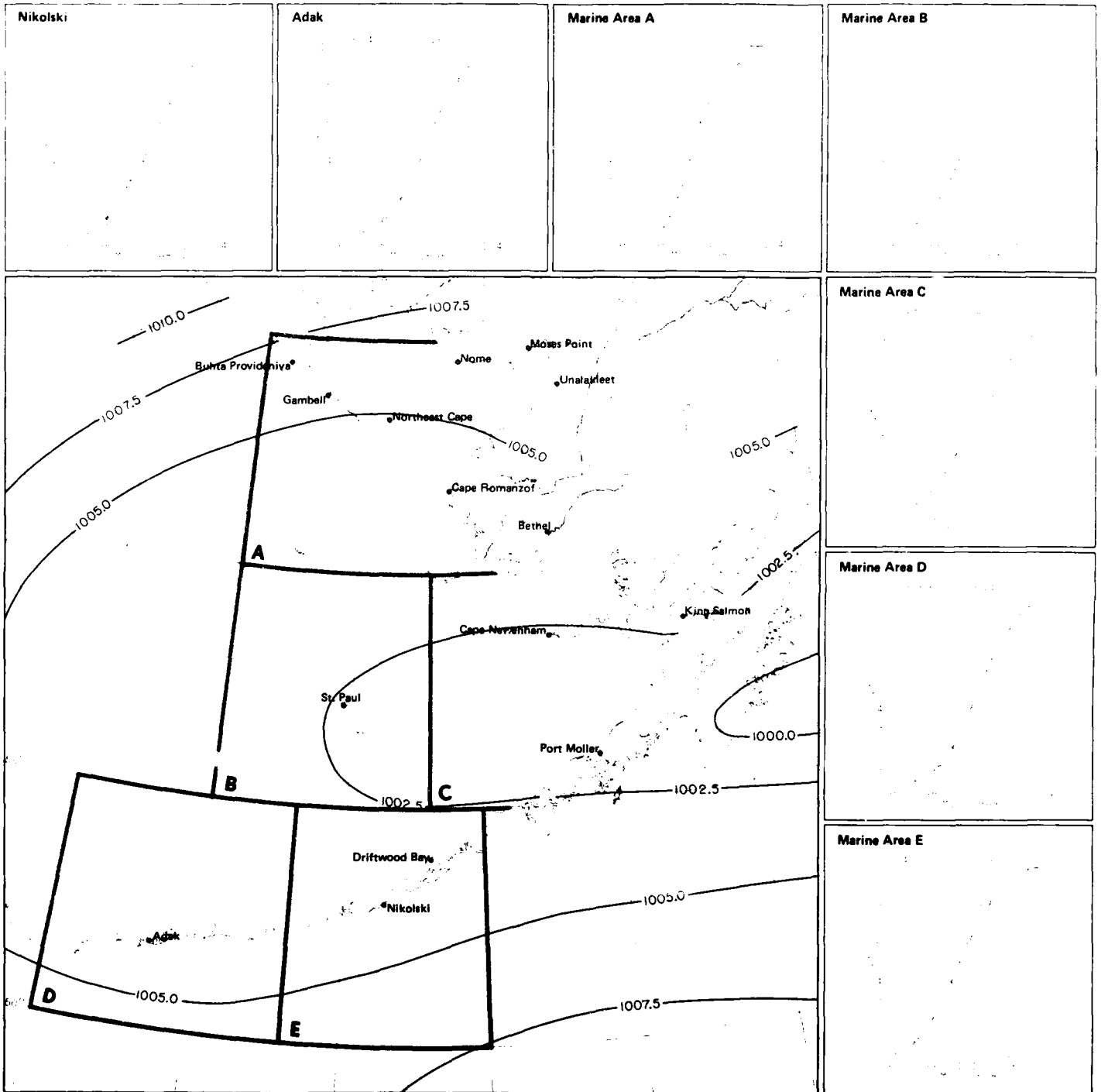
**Driftwood Bay**



**November**

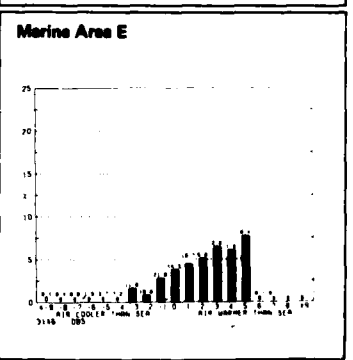
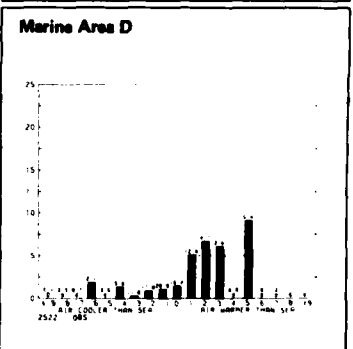
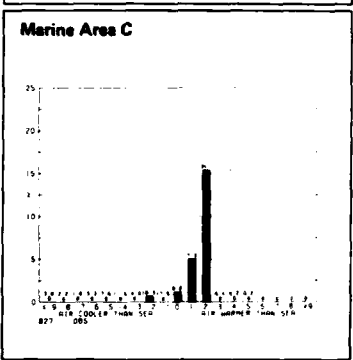
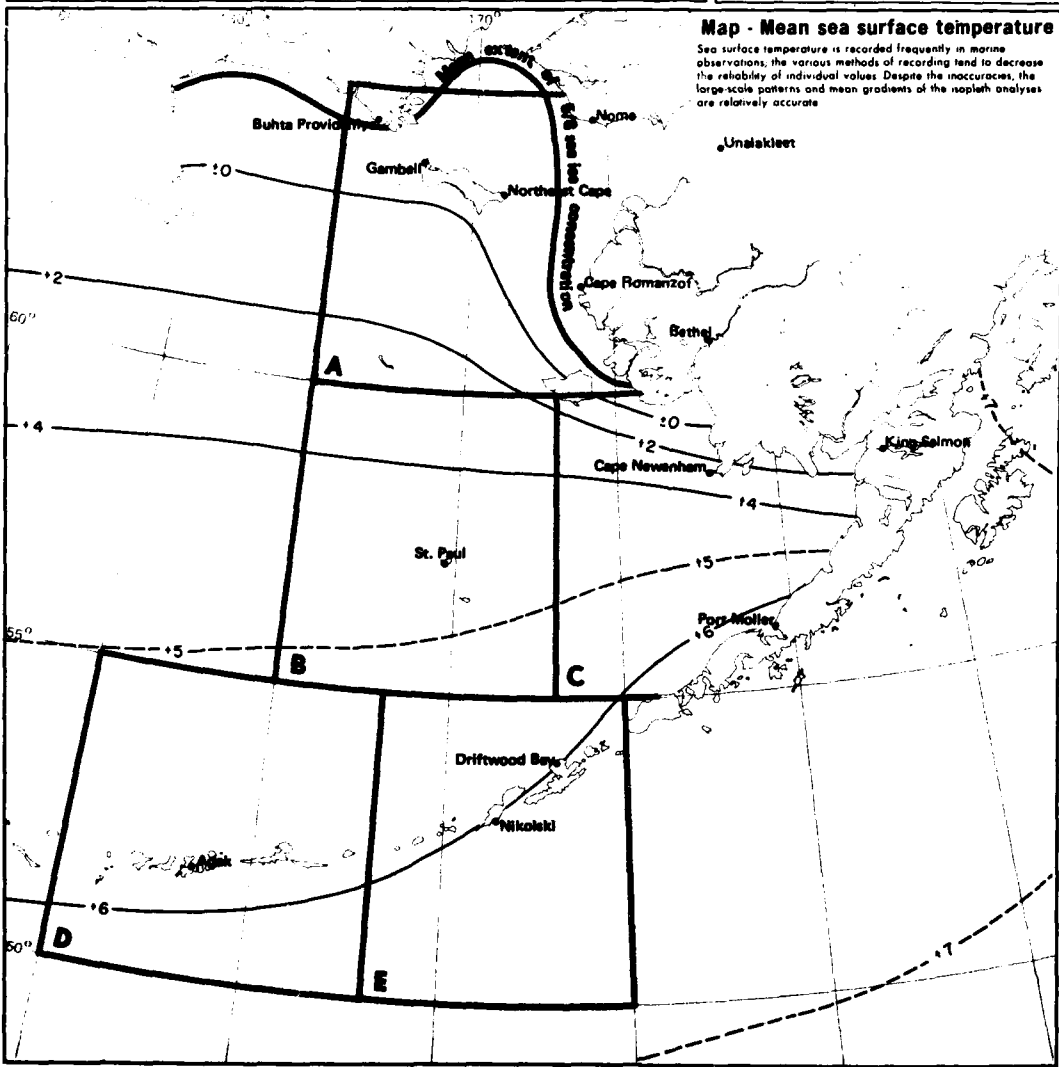
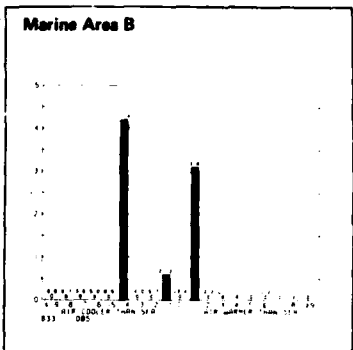
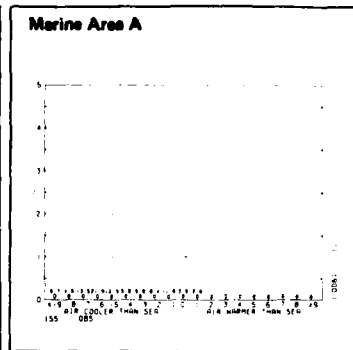
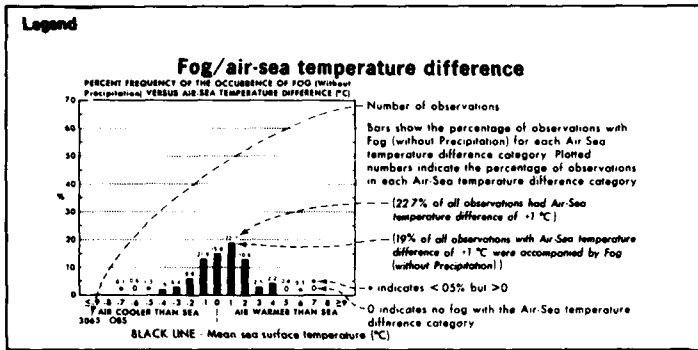
**13 Sea level pressure**

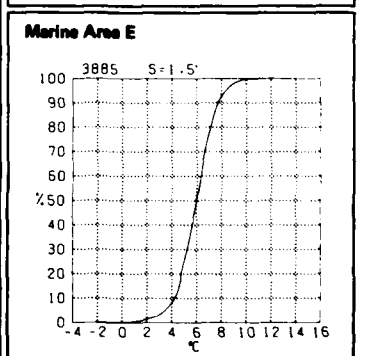
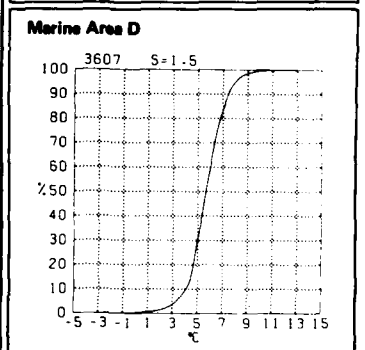
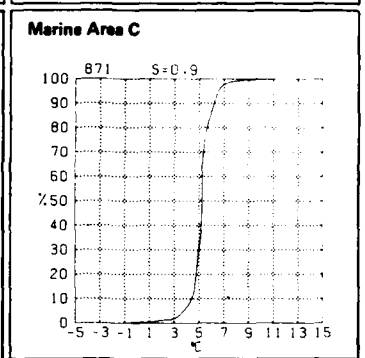
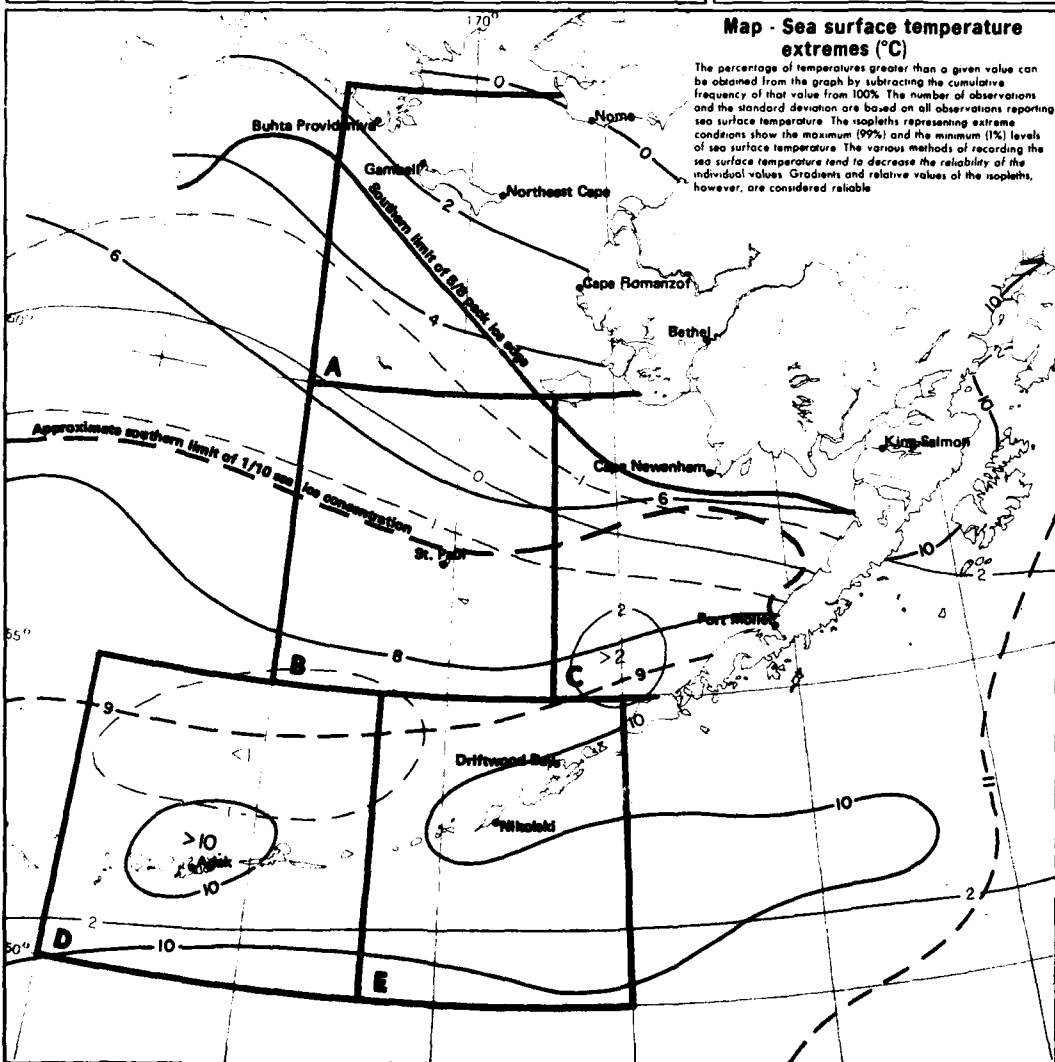
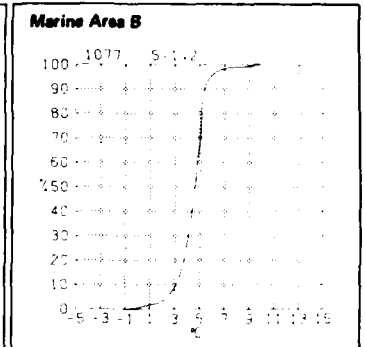
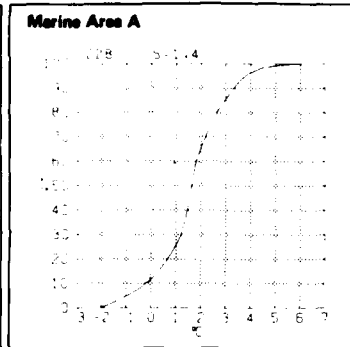
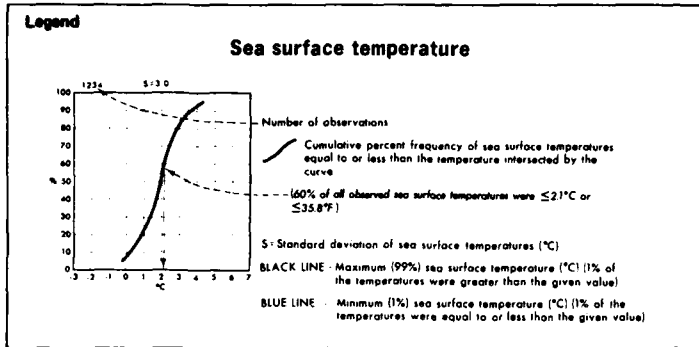




13 Mean sea level pressure

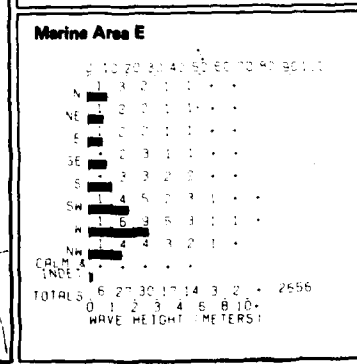
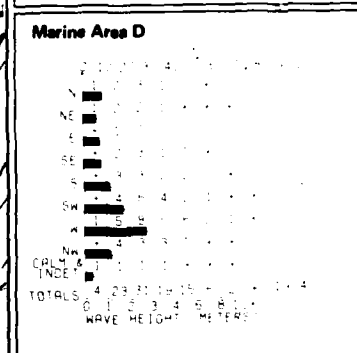
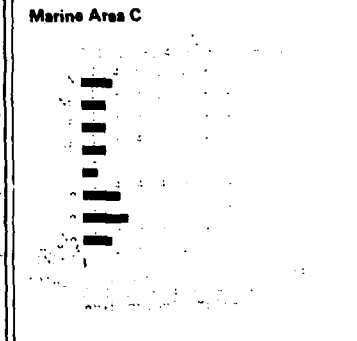
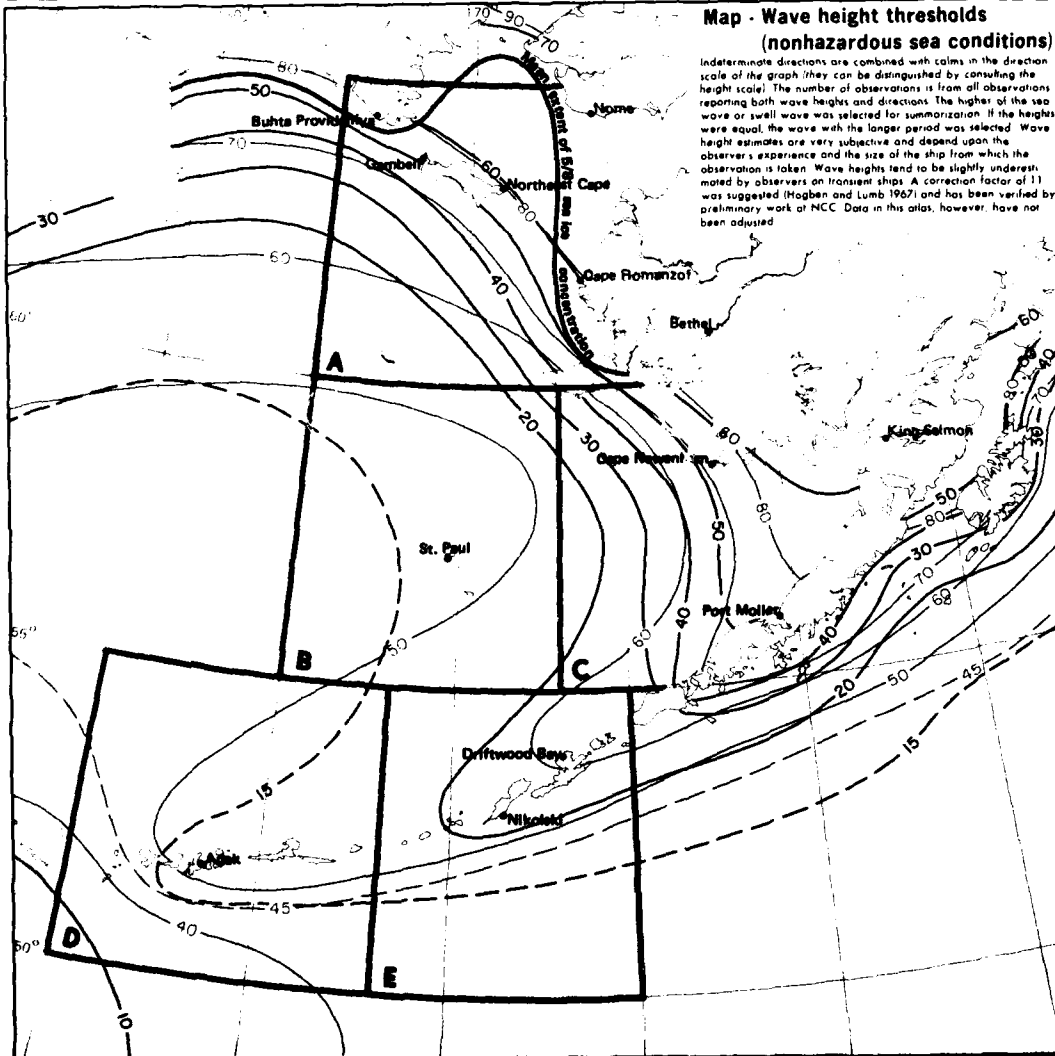
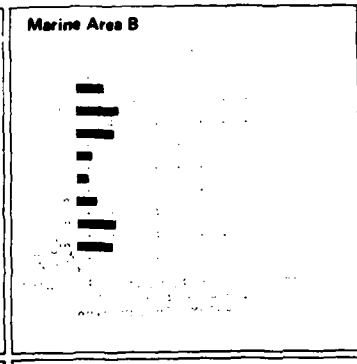
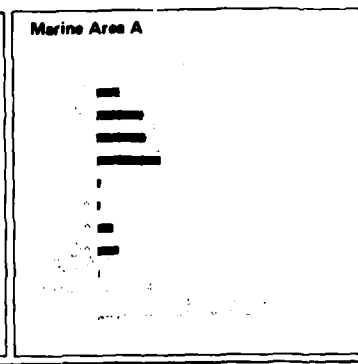
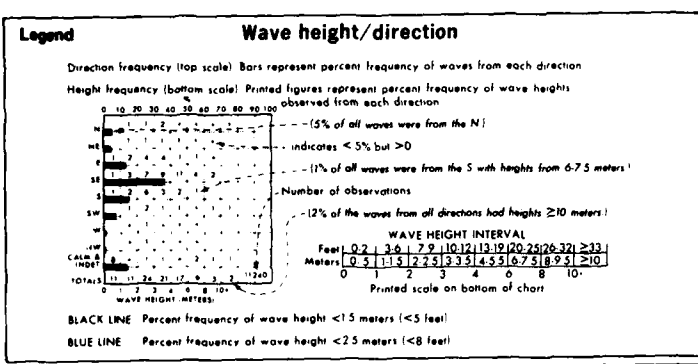
November





**15 Sea surface temperature extremes**

**November**





**Legend**

**Low pressure center movement**  
 12 hour movements of low pressure centers considering only closed circulations

**Mean speed** Printed figure at the end of each bar represents the mean speed of movement in knots, toward the indicated direction

**Direction frequency** Bars represent percent frequency of 12 hour movements toward each direction. Each circle represents 20%

Low pressure centers moving toward the N had a mean speed of 11 knots

41% of all 12 hour movements were toward the NE

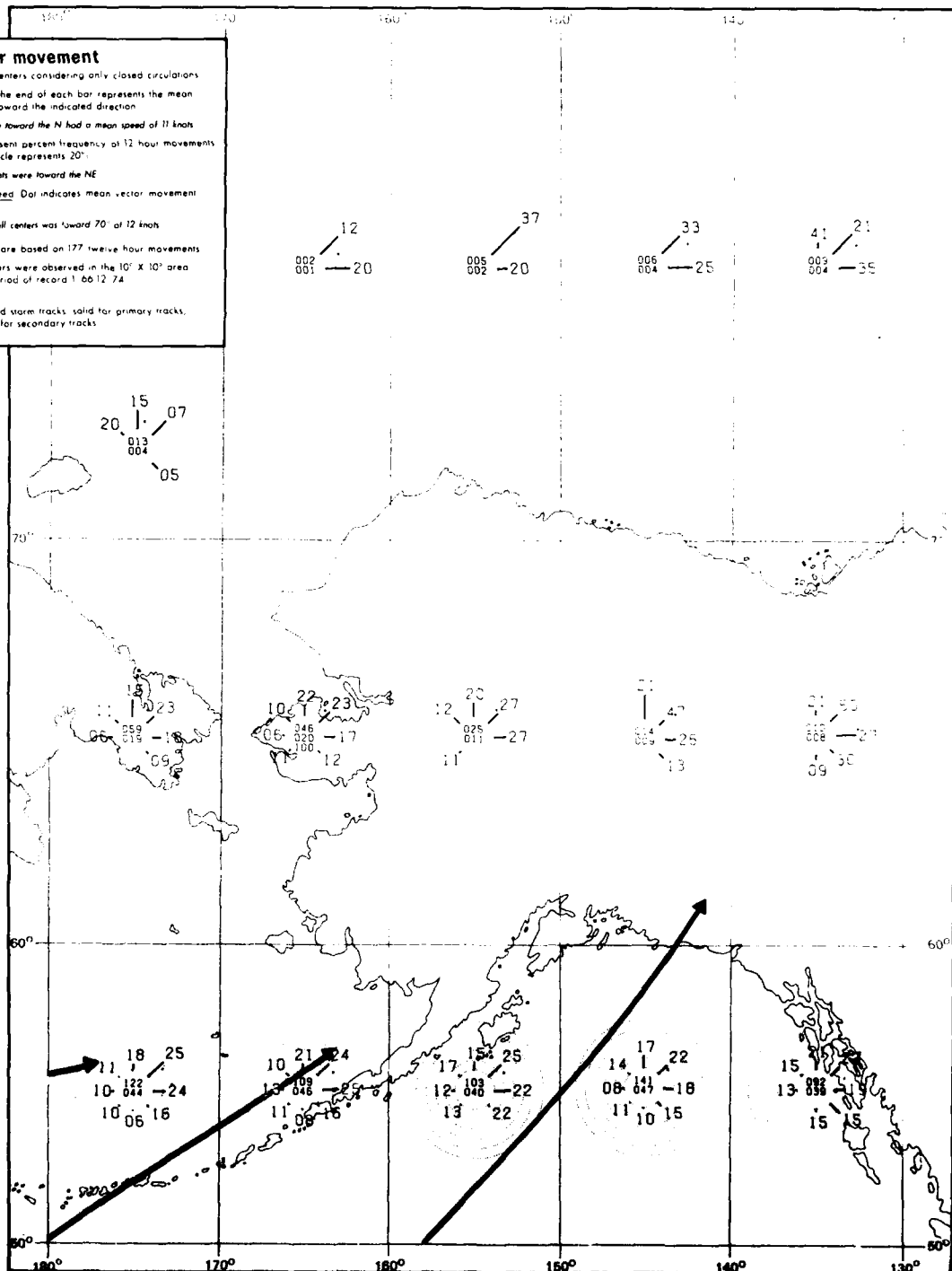
**Vector mean direction and speed** Dot indicates mean vector movement. Each circle equals 10 knots

Mean vector movement of all centers was toward 70° of 12 knots

Statistics for this rose are based on 177 twelve hour movements

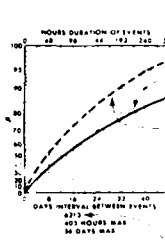
83 low pressure centers were observed in the 10° X 10° area during the 9 year period of record 1 66 12 74

**BLACK ARROWS** Preferred storm tracks, solid for primary tracks, dashed for secondary tracks



**Legend**

**Persistence of visibility <2 n. mi.**



Hours duration of events Days interval between events

Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve  
 (80% of the events had a duration  $\leq 216$  hours)

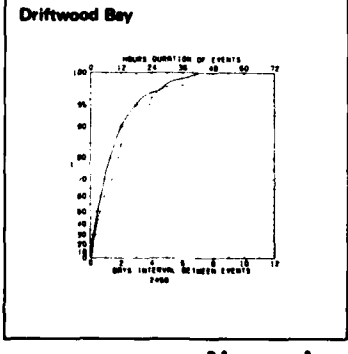
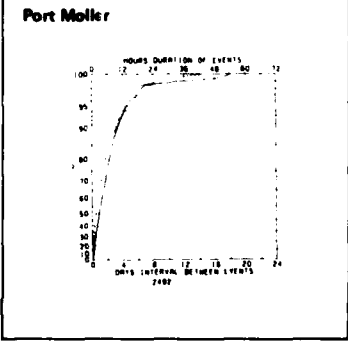
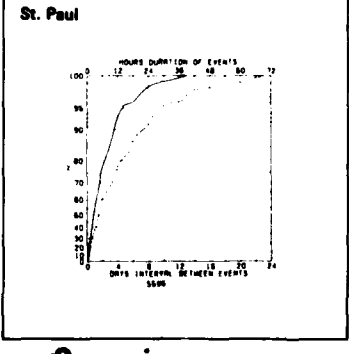
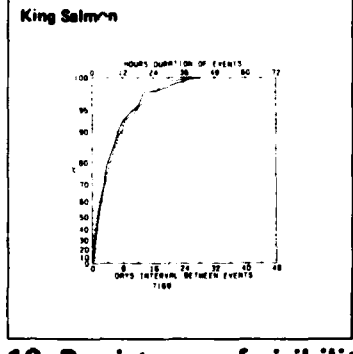
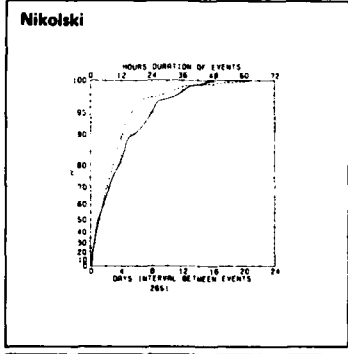
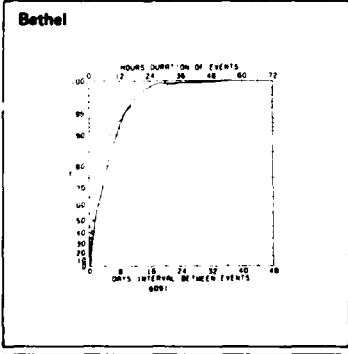
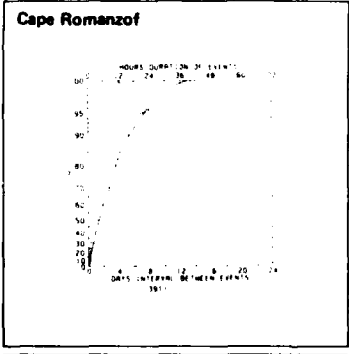
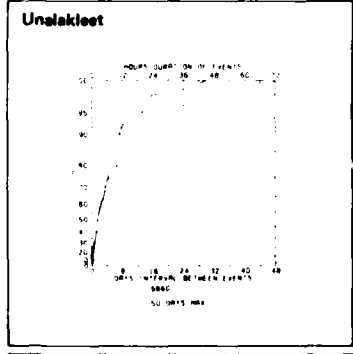
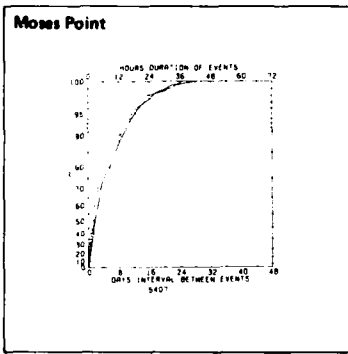
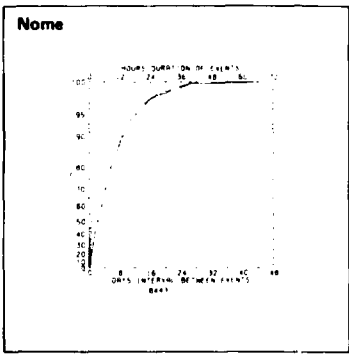
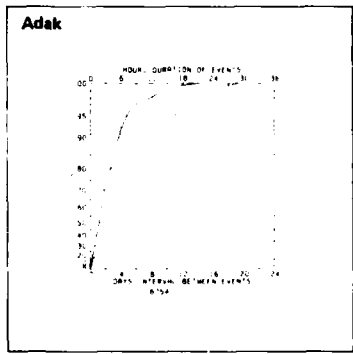
Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve  
 (88% of the events were followed by another event in 28 days or less)

The maximum value(s) of hours duration and/or of the days interval will be displayed when the graph limits are exceeded

Durations and intervals for a particular month extend from the time they begin (or the first of the month if already in progress) and are terminated at the actual ending time, regardless of what month that may be

Number of observations

Top and bottom scales are variable to allow for variations in the data

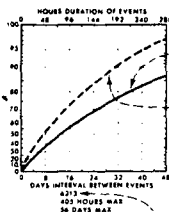


**19 Persistence of visibility <2 n. mi.**

**November**

**Legend**

**Persistence of wind  $\geq 10$  kts.**



Hours duration of events Days interval between events

Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve

--- (80% of the events had a duration  $\leq 216$  hours.)

Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve

--- (88% of the events were followed by another event in 28 days or less.)

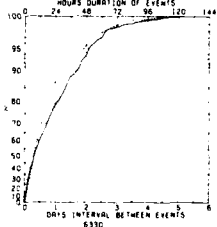
The maximum values of hours duration and/or the days interval will be displayed when the graph limits are exceeded

Durations and intervals for a particular month extend from the time they begin (or the first of the month if already in progress) and are terminated at the actual ending time, regardless of what month that may be

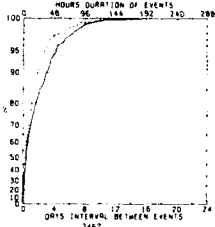
Number of observations

Top and bottom scales are variable to allow for variations in the data

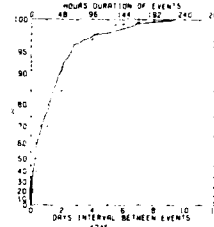
**Adak**



**Nome**



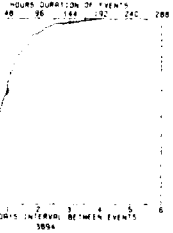
**Moses Point**



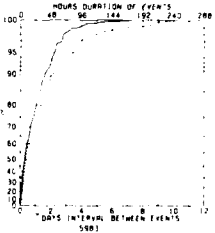
**Unalakleet**



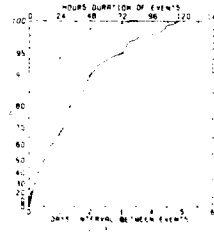
**Cape Romanzof**



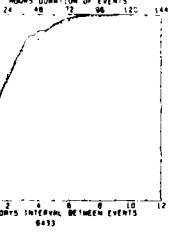
**Bethel**



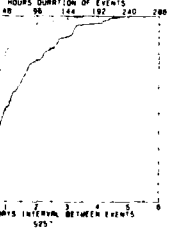
**Nikolski**



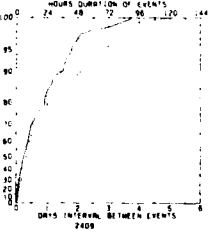
**King Salmon**



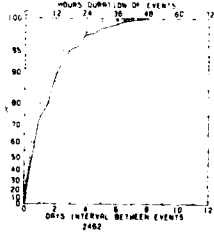
**St. Paul**



**Port Moller**



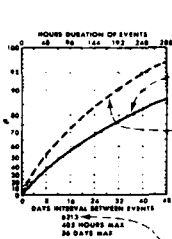
**Driftwood Bay**





**Legend**

**Persistence of wind  $\geq 20$  kts.**



Hours duration of events - Days interval between events  
 Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve

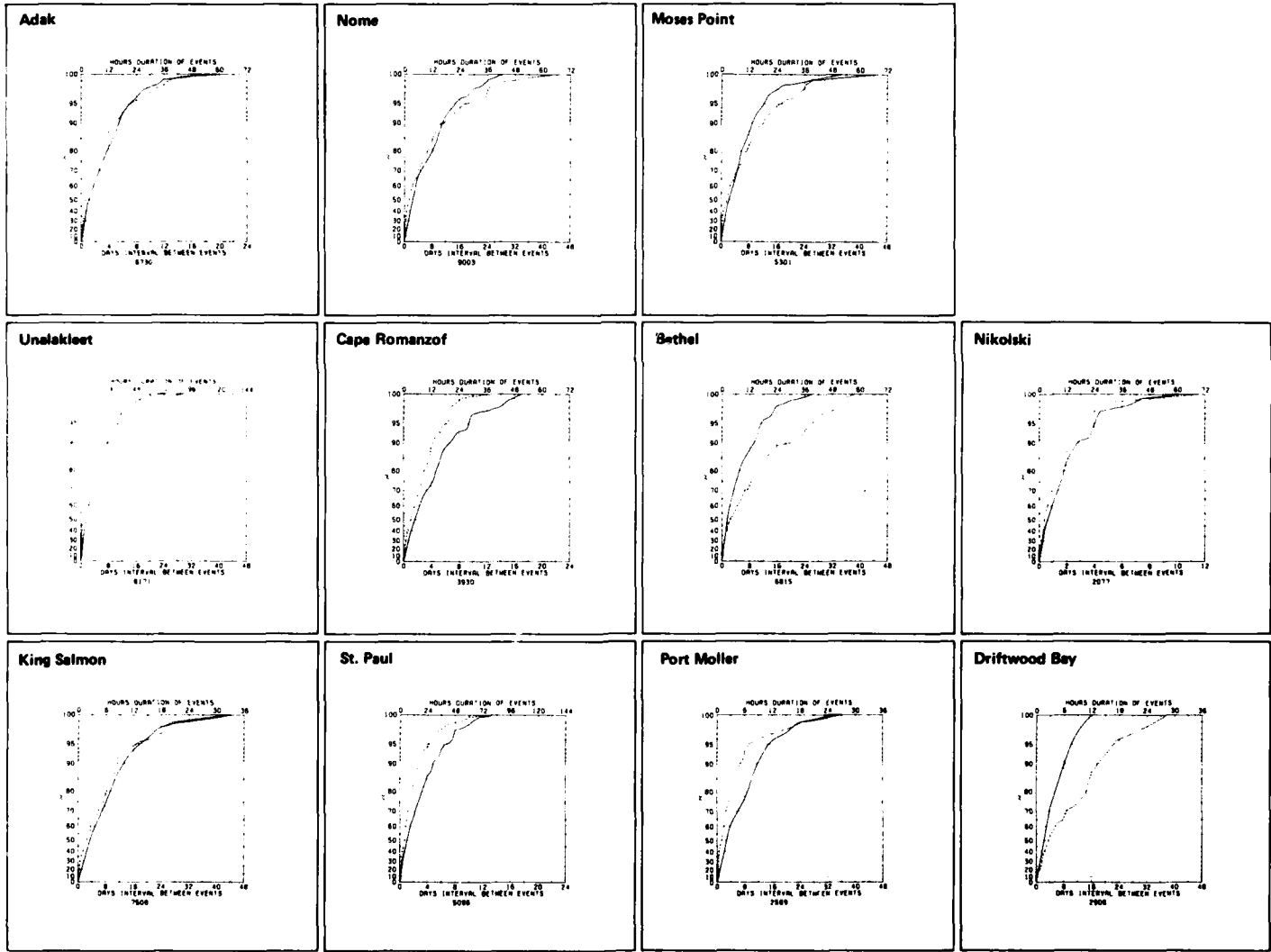
--- (80% of the events had a duration  $\leq 216$  hours.)  
 Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve

--- (88% of the events were followed by another event in 28 days or less.)

The maximum value(s) of hours duration and/or the days interval will be displayed when the graph limits are exceeded

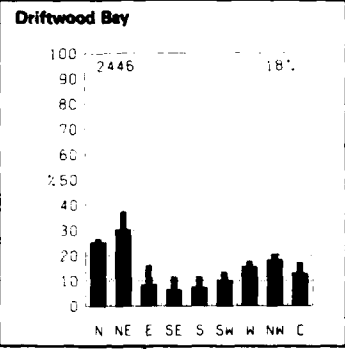
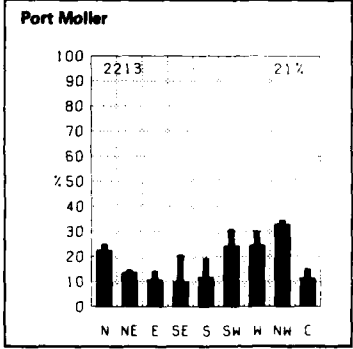
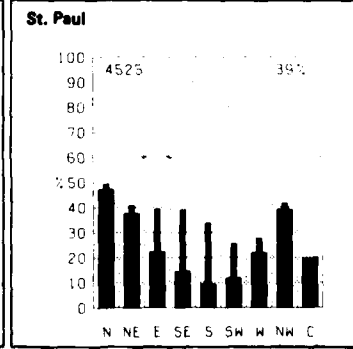
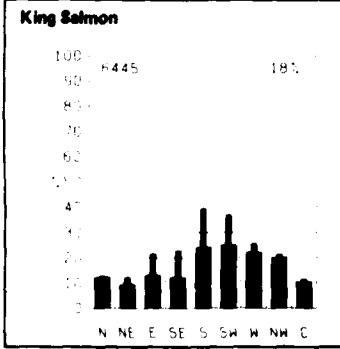
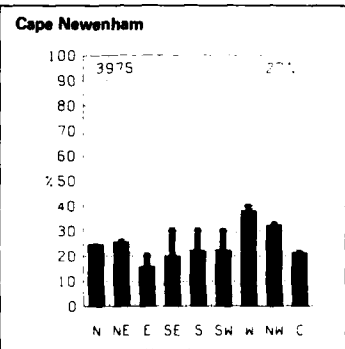
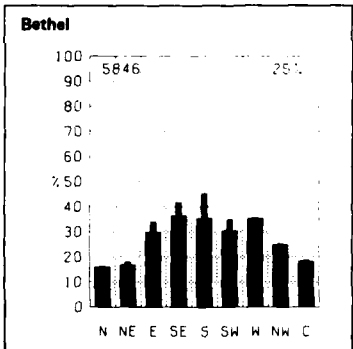
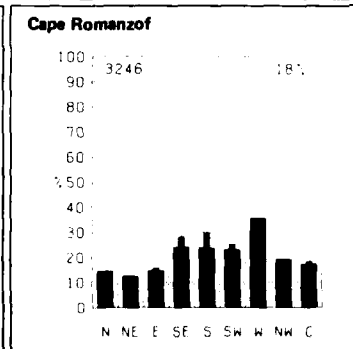
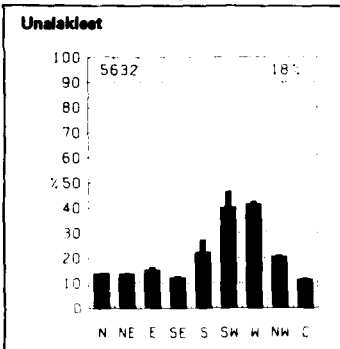
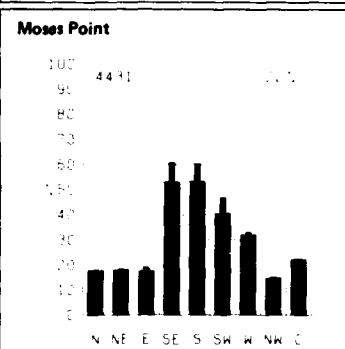
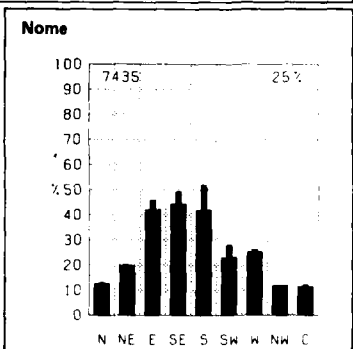
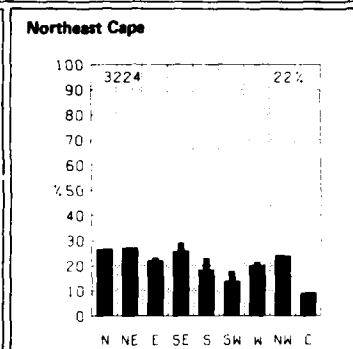
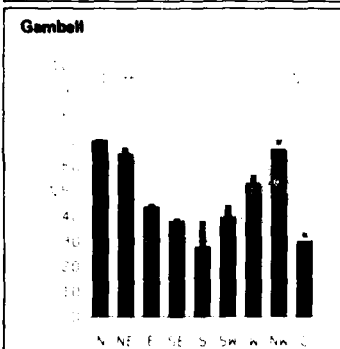
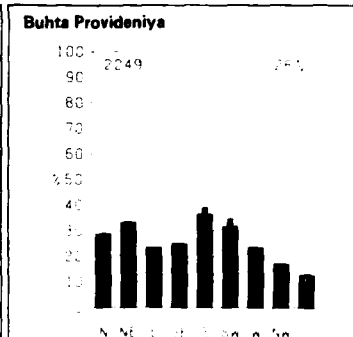
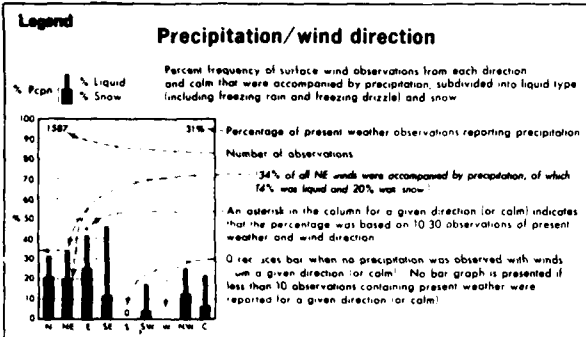
Durations and intervals for a particular month extend from the time they begin (or the first of the month if already in progress) and are terminated at the actual ending time, regardless of what month that may be

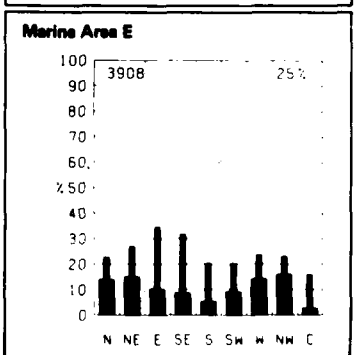
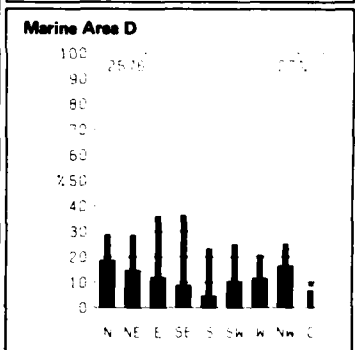
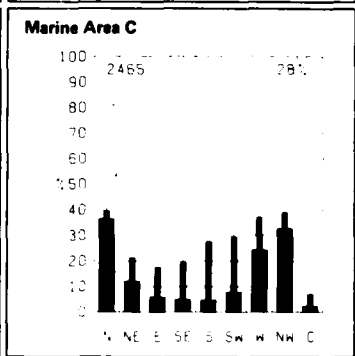
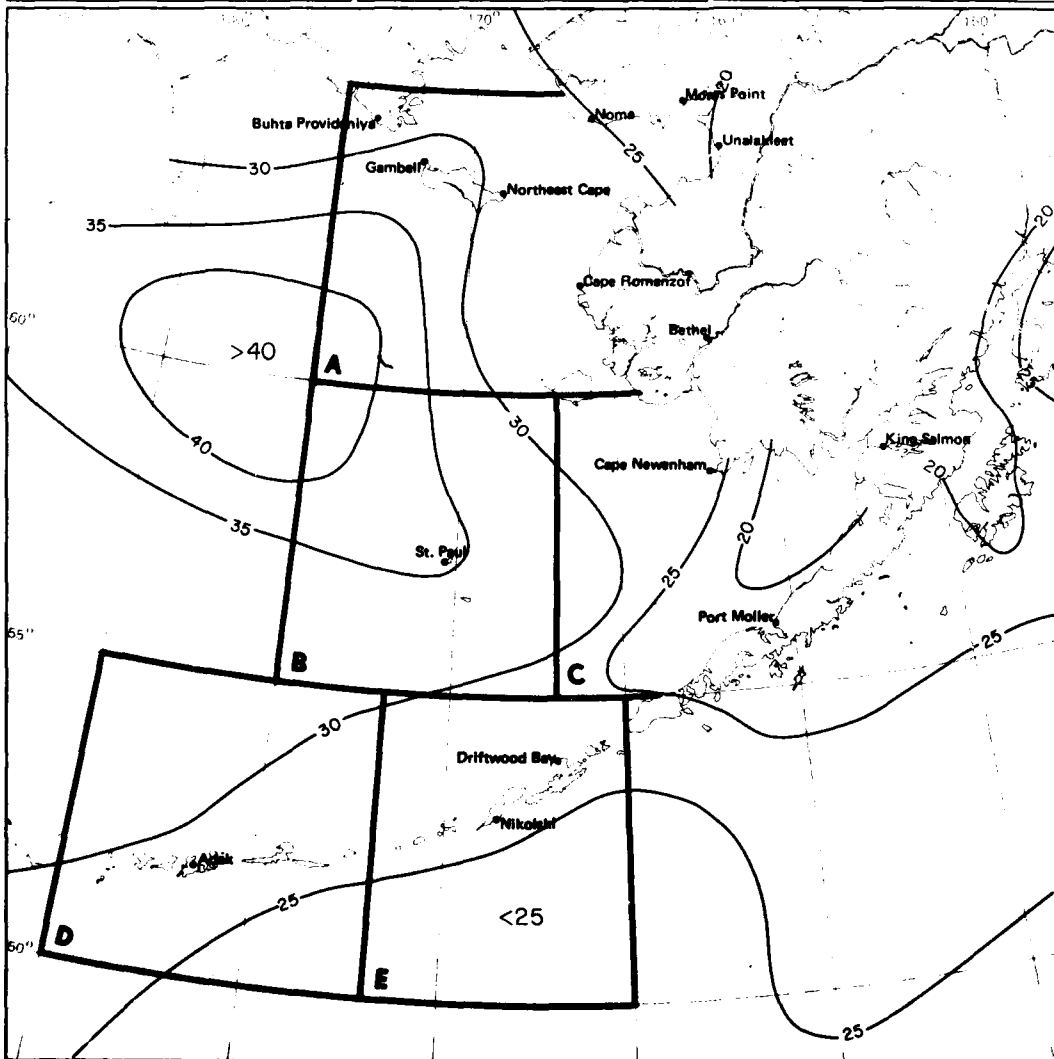
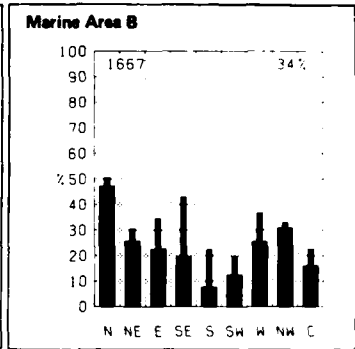
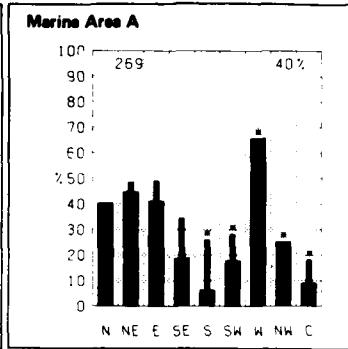
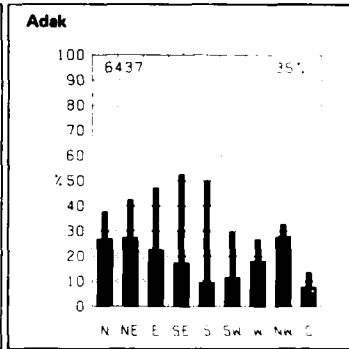
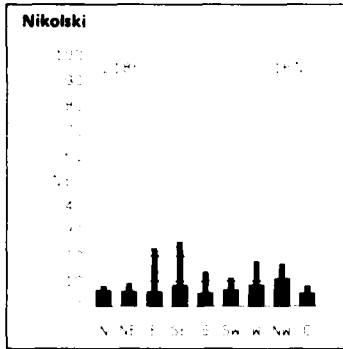
Number of observations  
 Top and bottom scales are variable to allow for variations in the data



**21 Persistence of wind  $\geq 20$  kts.**

**November**



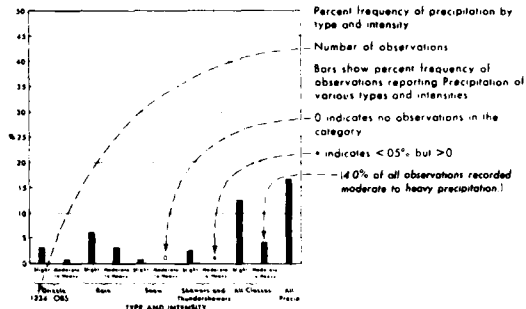


1 Precipitation

December

**Legend**

**Precipitation types**

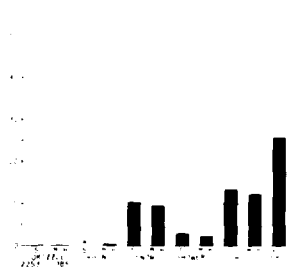


**Map - Snow**

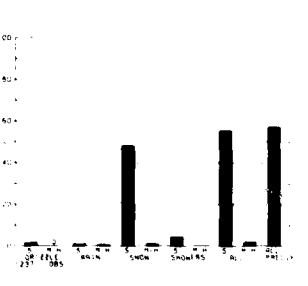
**BLACK LINE** Percent frequency of precipitation observations reporting snow

The percent frequency of observations reporting snow for a given point can be determined by multiplying the percent frequency of observations reporting precipitation (map 1) with that of precipitation observations reporting snow (map 2)

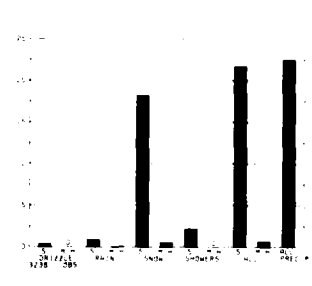
**Buhta Provideniya**



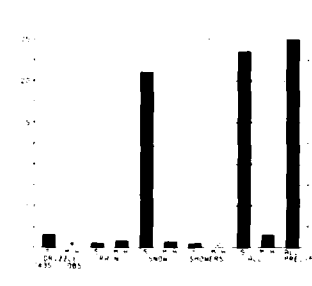
**Gambell**



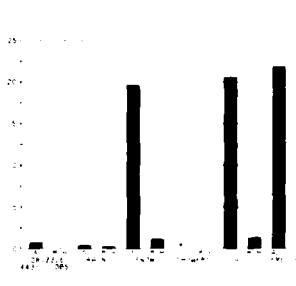
**Northeast Cape**



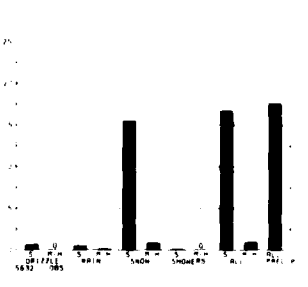
**Nome**



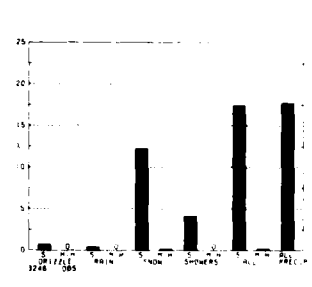
**Moses Point**



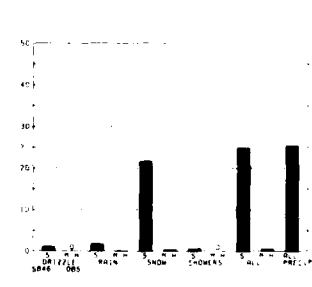
**Unalakleet**



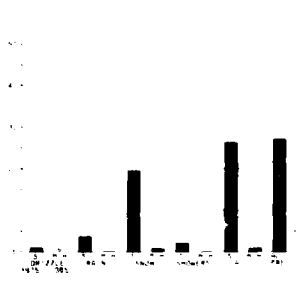
**Cape Romenzof**



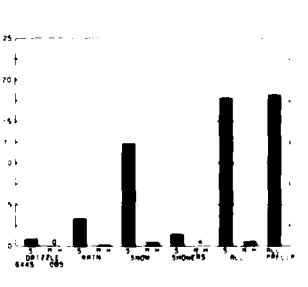
**Bethel**



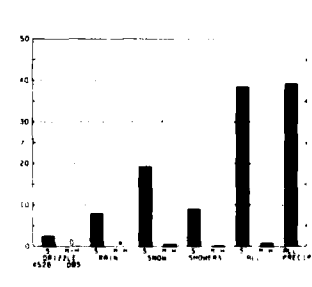
**Cape Newenham**



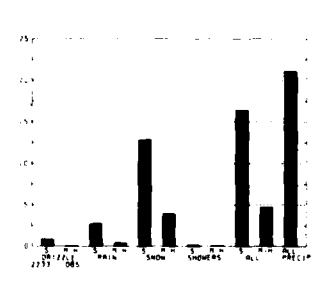
**King Salmon**



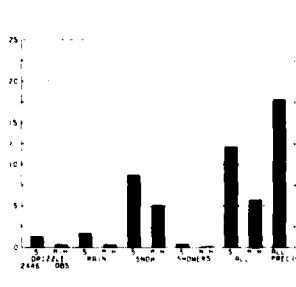
**St. Paul**

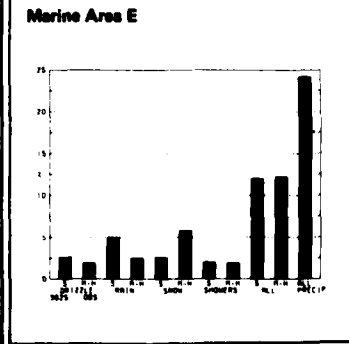
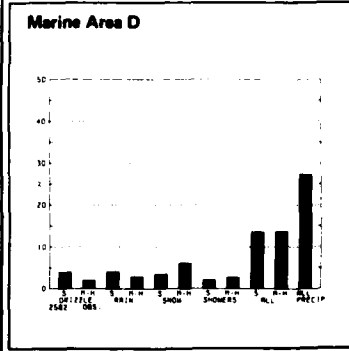
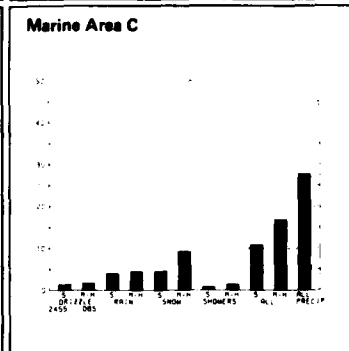
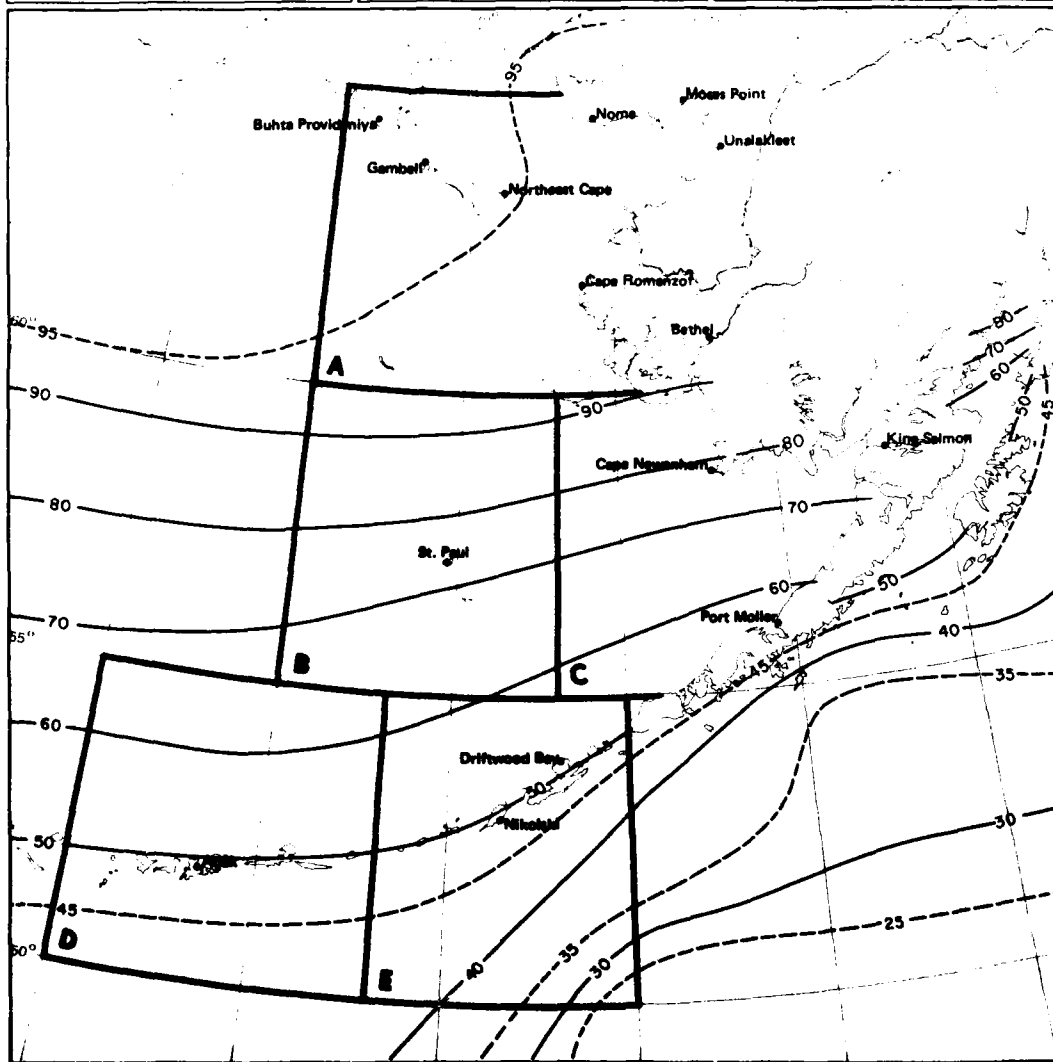
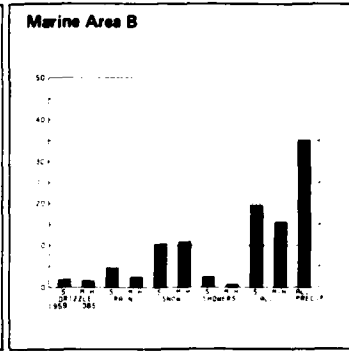
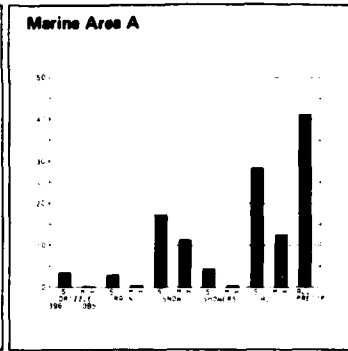
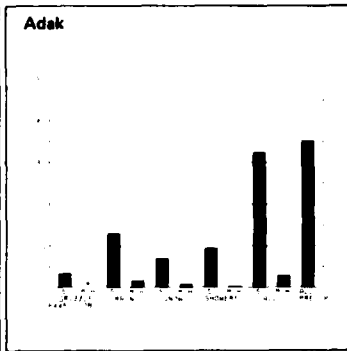
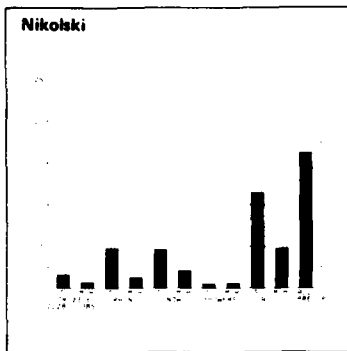


**Port Moller**



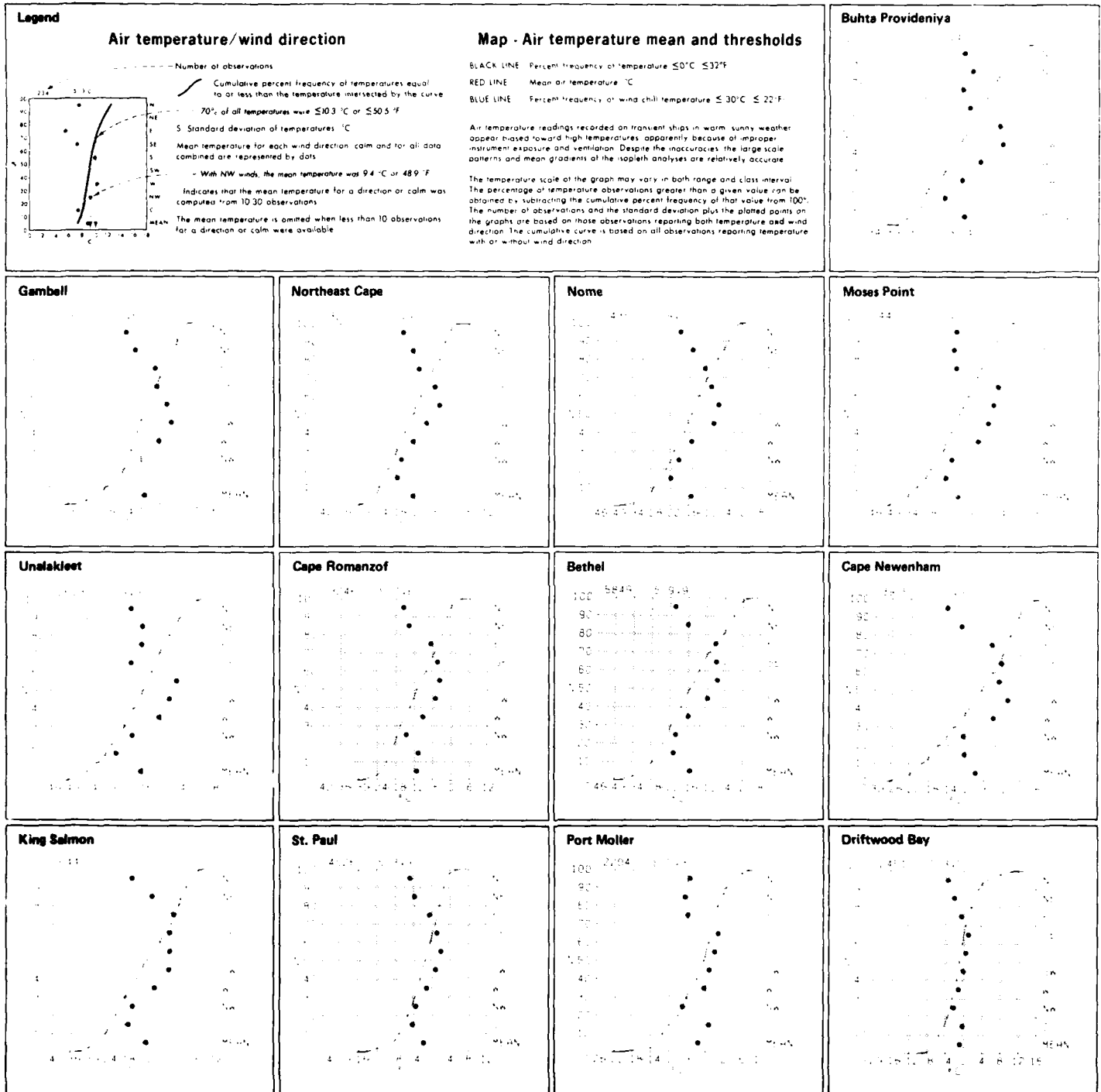
**Driftwood Bay**





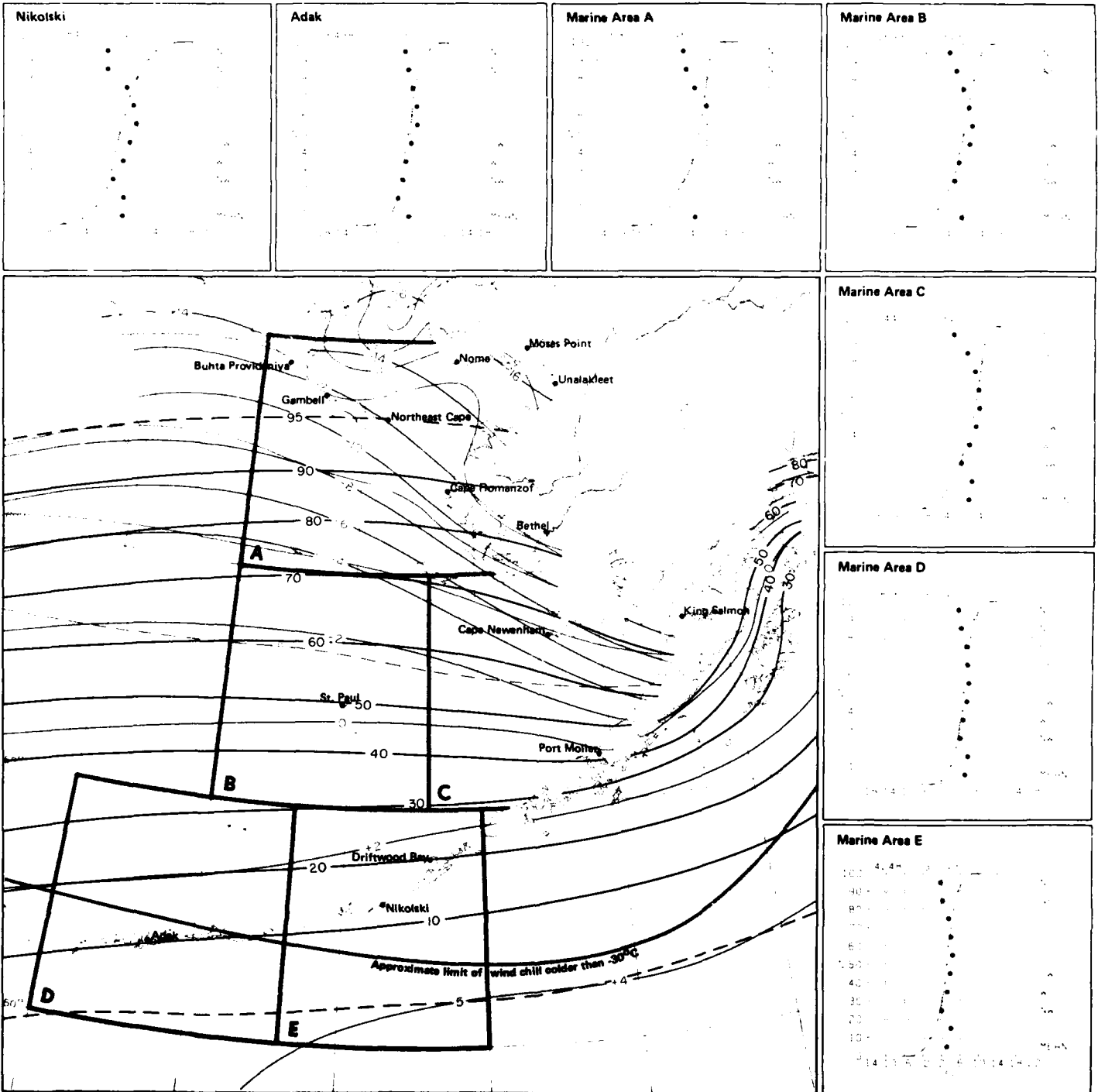
2 Snow

December



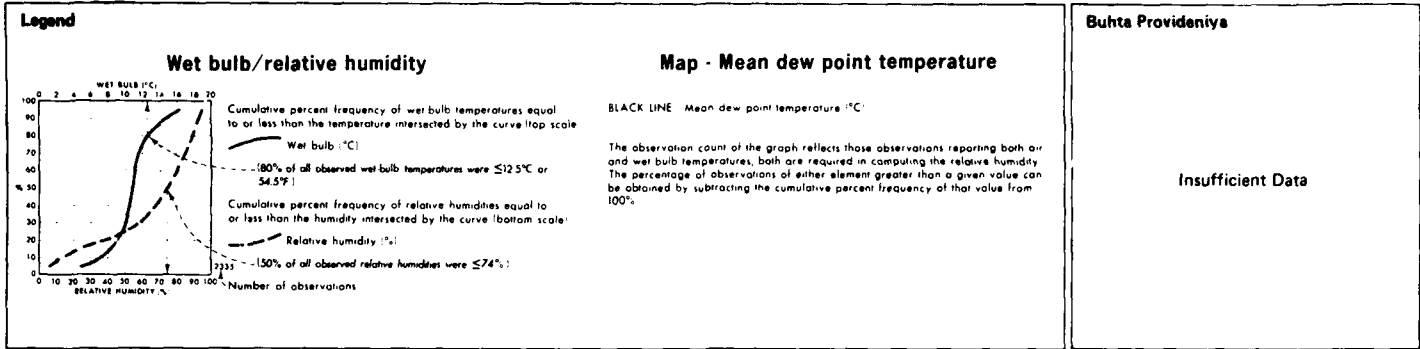
December

3 Air temperature/wind direction



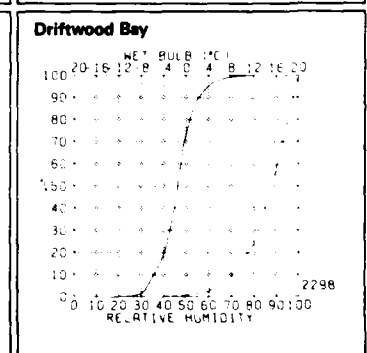
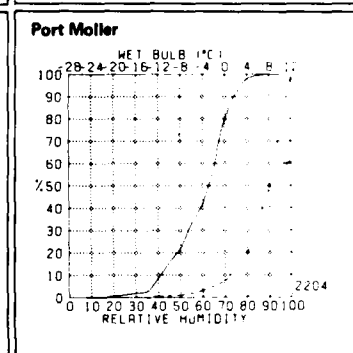
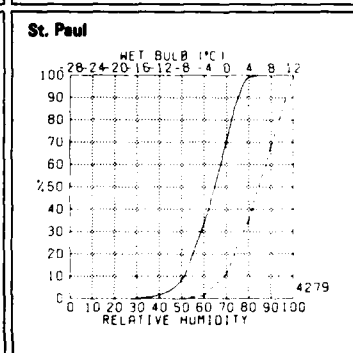
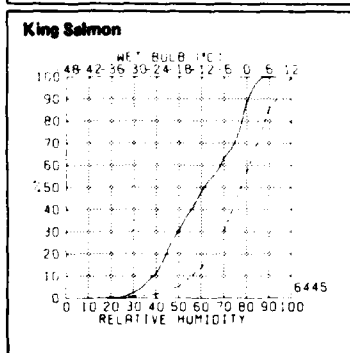
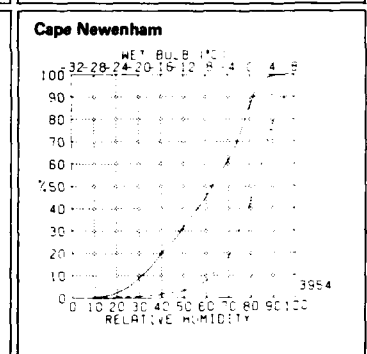
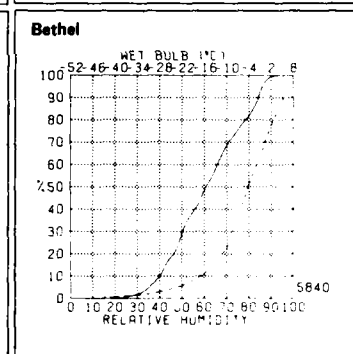
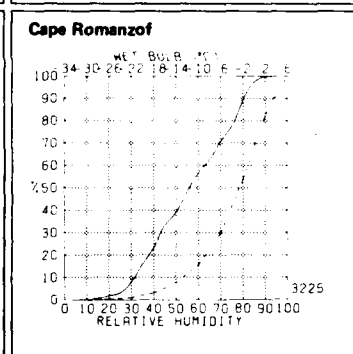
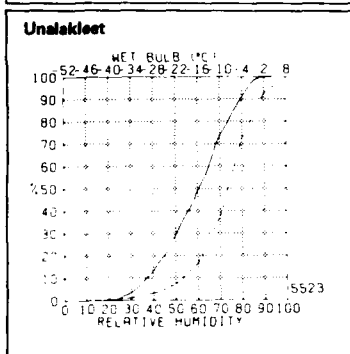
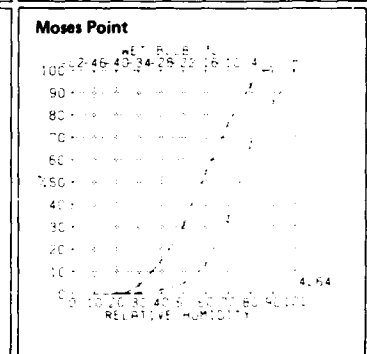
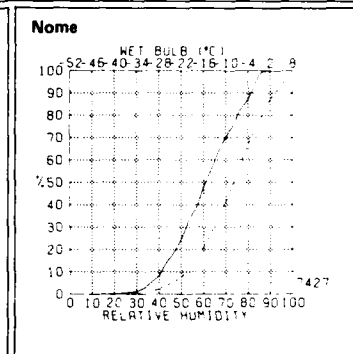
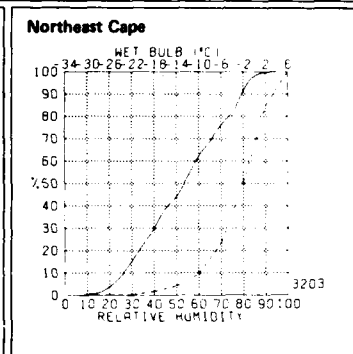
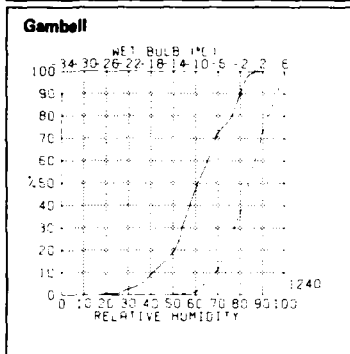
3 Air temperature mean and thresholds

December

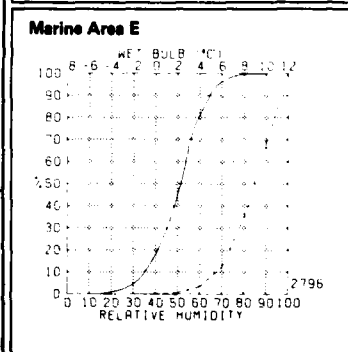
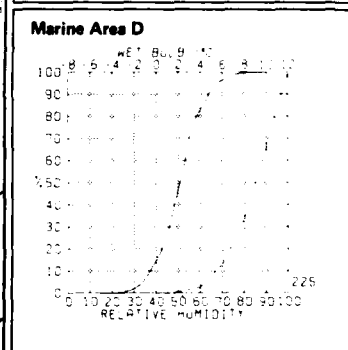
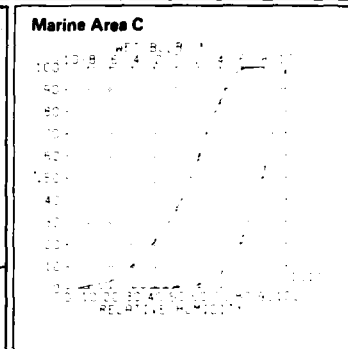
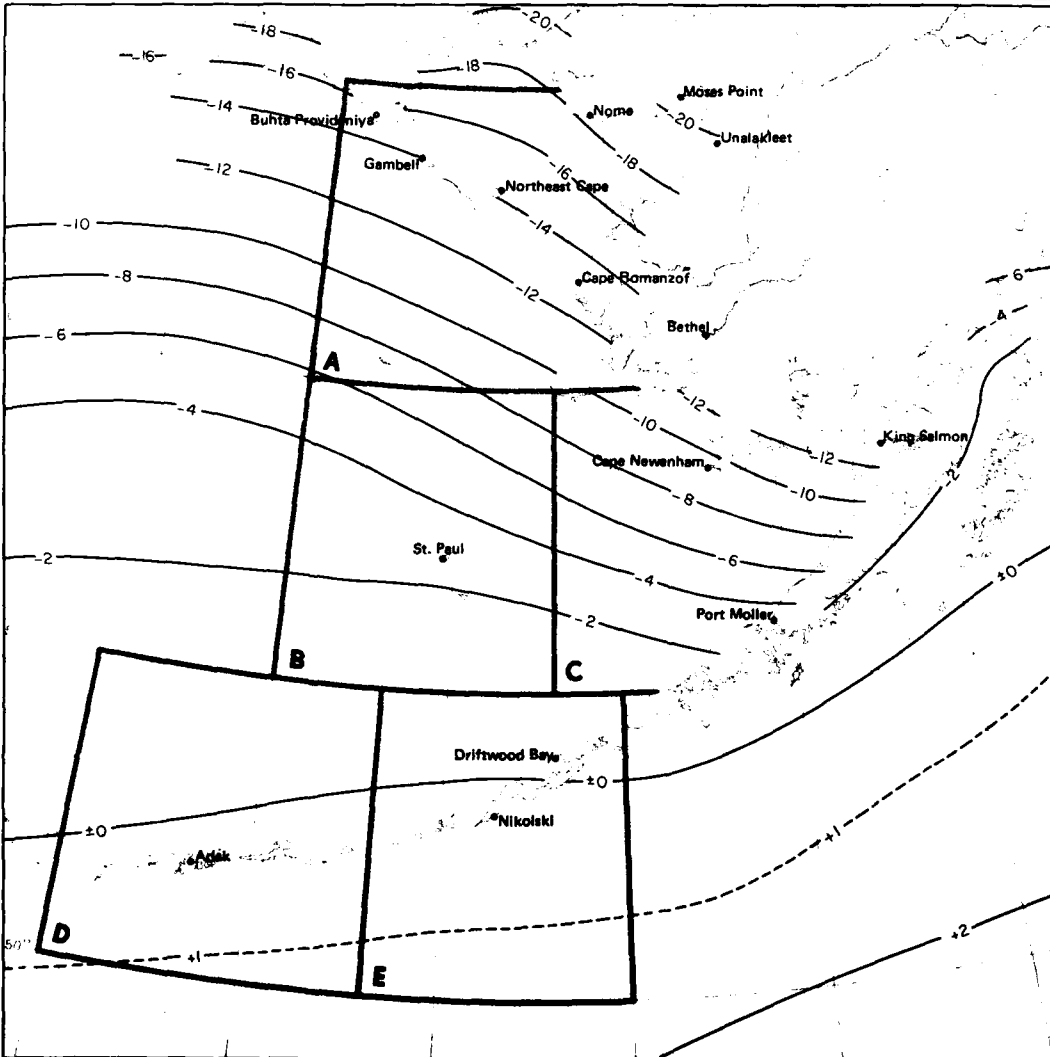
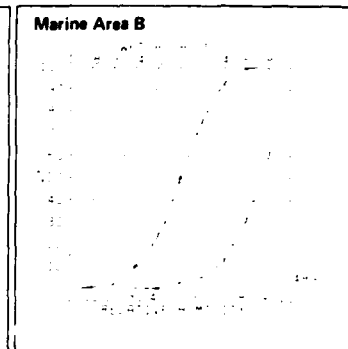
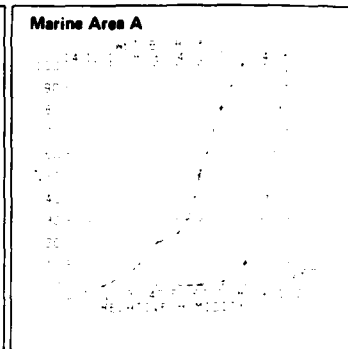
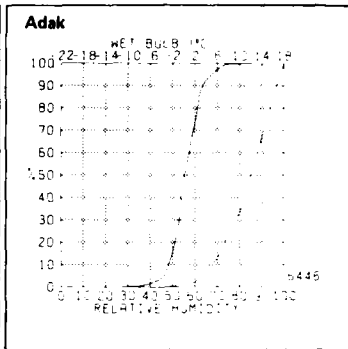
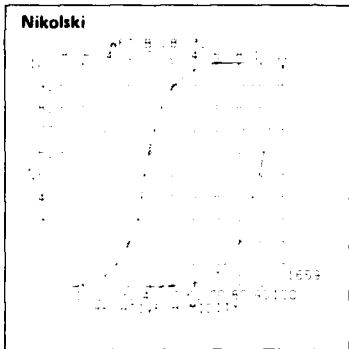


**Buhta Provideniya**

Insufficient Data

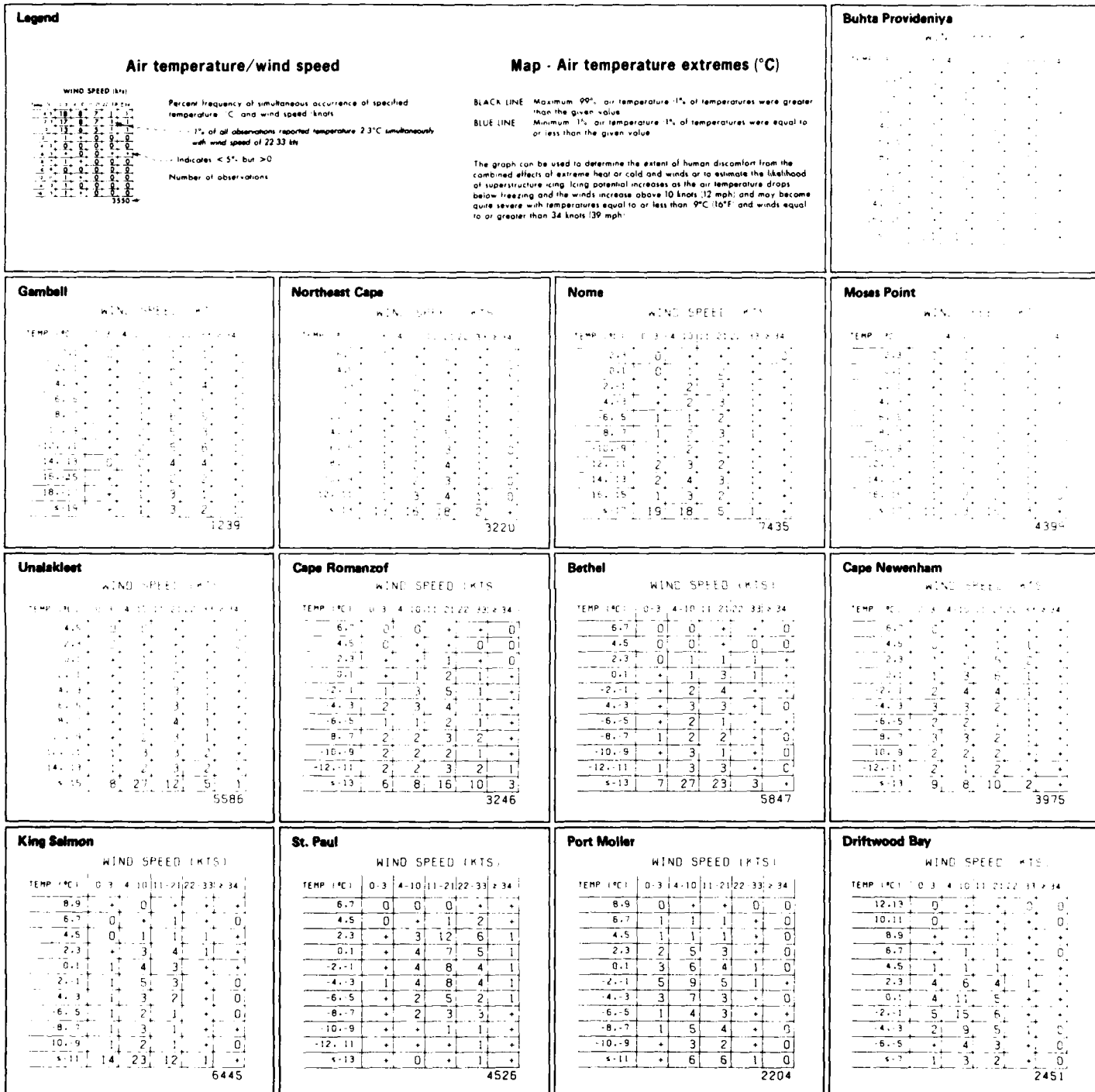






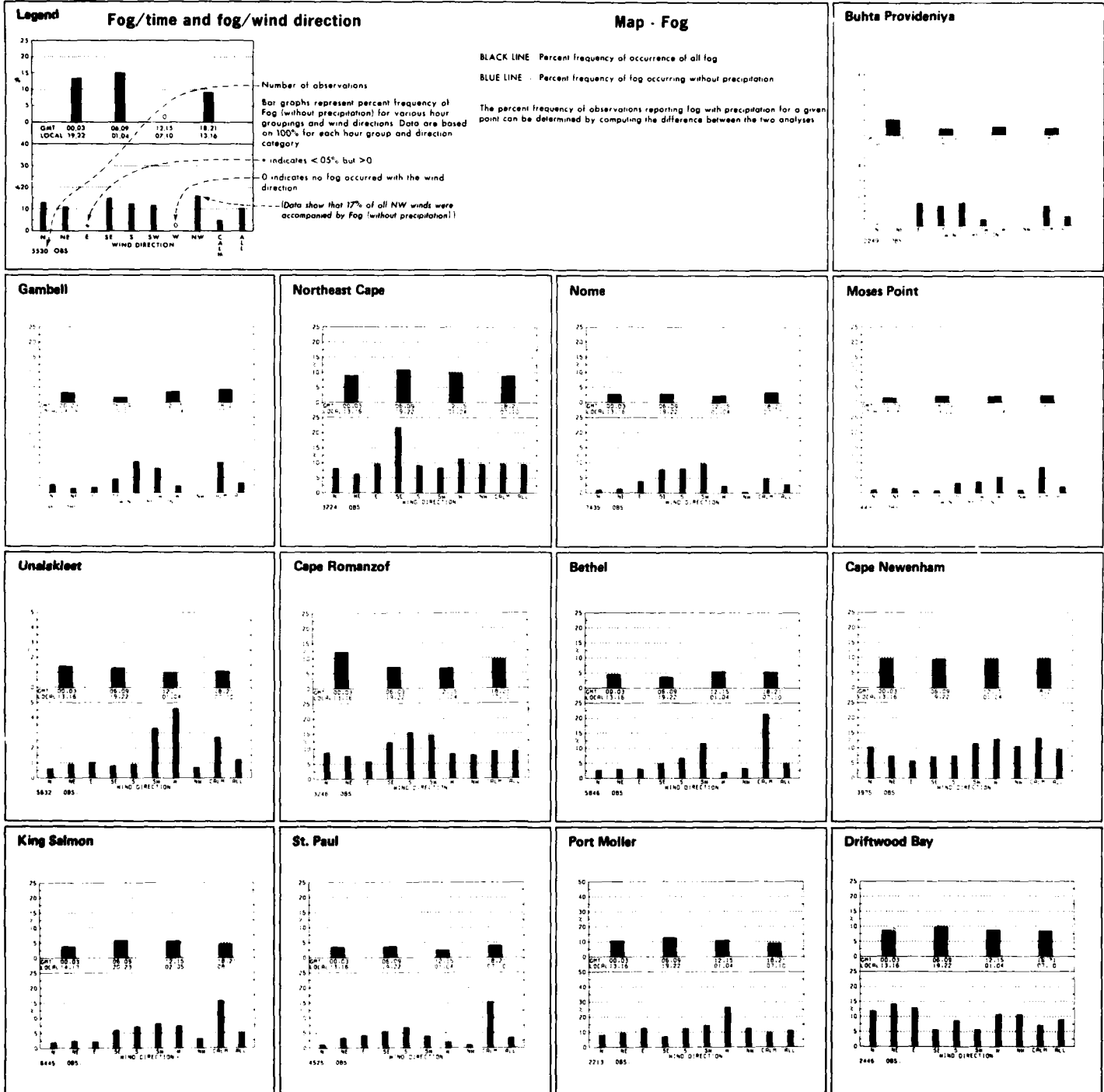
4 Mean dew point temperature

December



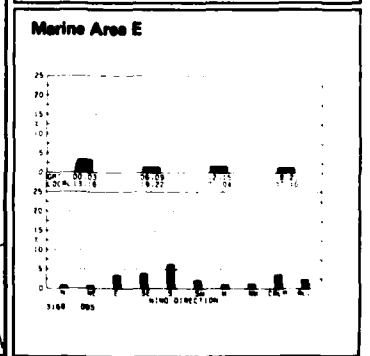
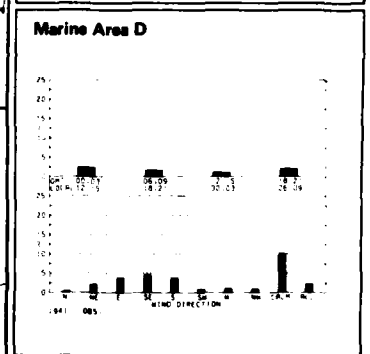
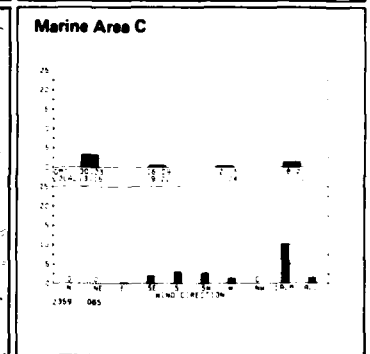
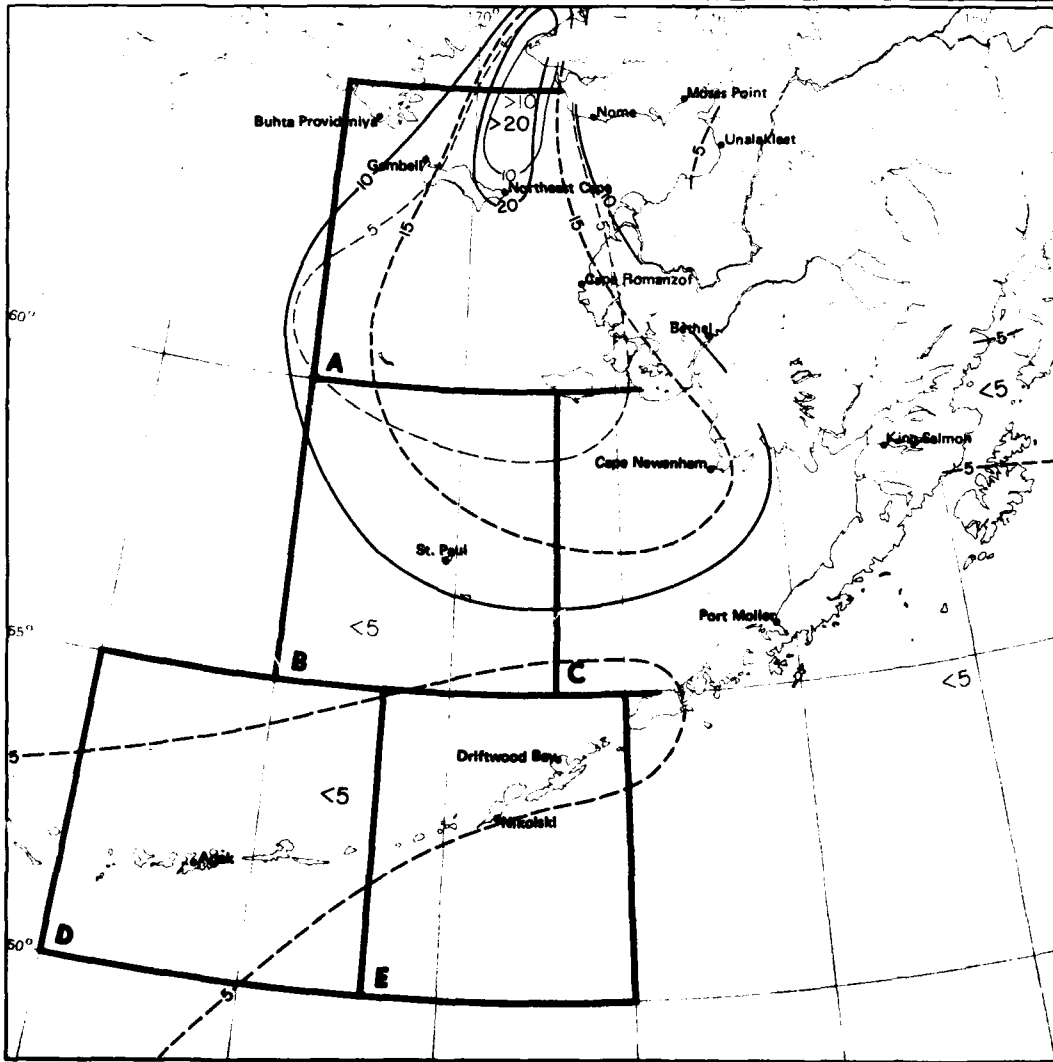
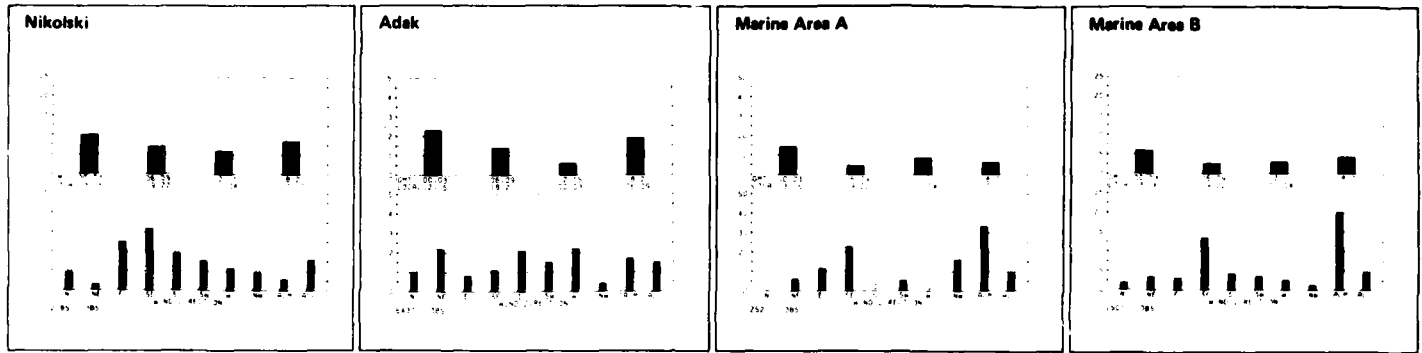
Buhta Provideniya	
TEMP (°C)	WIND SPEED (KTS)
6.7	0
4.5	0
2.3	0
0.1	0
-2.1	0
-4.3	0
-6.5	0
-8.7	0
-10.9	0
-12.11	0
-14.3	0
-16.5	0
-18.7	0
-20.9	0
-23.1	0
-25.3	0
-27.5	0
-29.7	0
-31.9	0
-34.1	0
-36.3	0
-38.5	0
-40.7	0
-42.9	0
-45.1	0
-47.3	0
-49.5	0
-51.7	0
-53.9	0
-56.1	0
-58.3	0
-60.5	0
-62.7	0
-64.9	0
-67.1	0
-69.3	0
-71.5	0
-73.7	0
-75.9	0
-78.1	0
-80.3	0
-82.5	0
-84.7	0
-86.9	0
-89.1	0
-91.3	0
-93.5	0
-95.7	0
-97.9	0
-100.1	0
-102.3	0
-104.5	0
-106.7	0
-108.9	0
-111.1	0
-113.3	0
-115.5	0
-117.7	0
-119.9	0
-122.1	0
-124.3	0
-126.5	0
-128.7	0
-130.9	0
-133.1	0
-135.3	0
-137.5	0
-139.7	0
-141.9	0
-144.1	0
-146.3	0
-148.5	0
-150.7	0
-152.9	0
-155.1	0
-157.3	0
-159.5	0
-161.7	0
-163.9	0
-166.1	0
-168.3	0
-170.5	0
-172.7	0
-174.9	0
-177.1	0
-179.3	0
-181.5	0
-183.7	0
-185.9	0
-188.1	0
-190.3	0
-192.5	0
-194.7	0
-196.9	0
-199.1	0
-201.3	0
-203.5	0
-205.7	0
-207.9	0
-210.1	0
-212.3	0
-214.5	0
-216.7	0
-218.9	0
-221.1	0
-223.3	0
-225.5	0
-227.7	0
-229.9	0
-232.1	0
-234.3	0
-236.5	0
-238.7	0
-240.9	0
-243.1	0
-245.3	0
-247.5	0
-249.7	0
-251.9	0
-254.1	0
-256.3	0
-258.5	0
-260.7	0
-262.9	0
-265.1	0
-267.3	0
-269.5	0
-271.7	0
-273.9	0
-276.1	0
-278.3	0
-280.5	0
-282.7	0
-284.9	0
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-291.5	0
-293.7	0
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-900.9	0
-903.1	0
-905.3	0
-907.5	0
-909.7	0
-911.9	0
-914.1	0
-9	





December

6 Fog/time and fog/wind direction

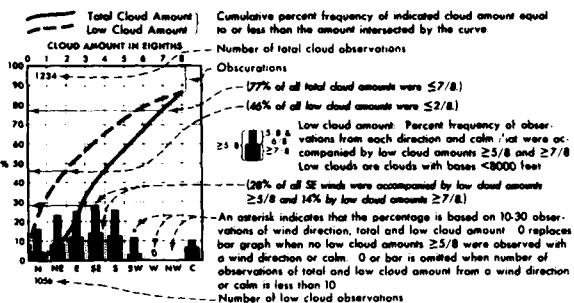


6 Fog

December

**Legend**

**Cloud cover/wind direction**

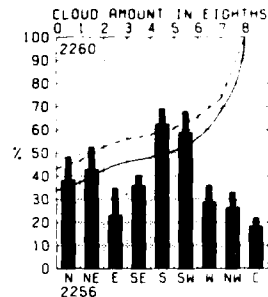


**Map - Cloud amount thresholds**

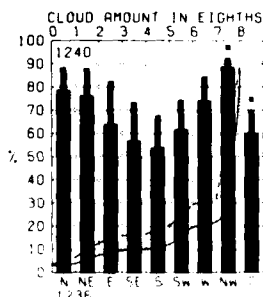
BLACK LINE Percent frequency of total cloud amount  $\leq 2/8$   
 BLUE LINE Percent frequency of low cloud amount  $\geq 5/8$

Since the number of observations reporting low cloud amount is usually less than that for total cloud amount, somewhat different samples may be used to compute the two curves on the graph. This may lead to inconsistencies where low cloud amount appears higher than the total cloud amount. Where this occurred the graph was adjusted in favor of the total cloud by making the curves coincide. The frequency of obscured conditions may be determined by subtracting the cumulative percent frequency corresponding to 8/8 coverage from 100%. In computing the bar graph, obscurations are considered as 8/8 coverage.

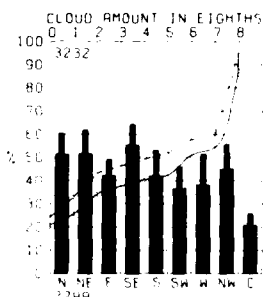
**Buhta Provideniya**



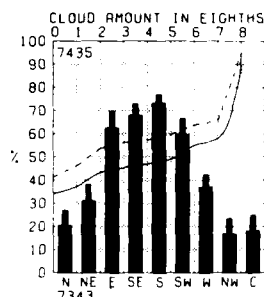
**Gambell**



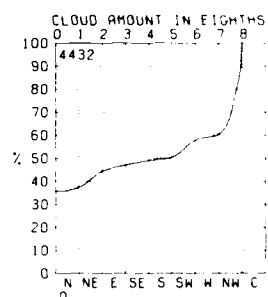
**Northeast Cape**



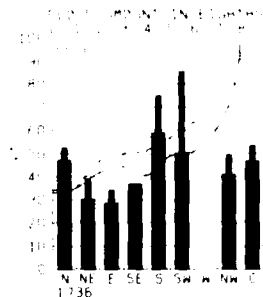
**Nome**



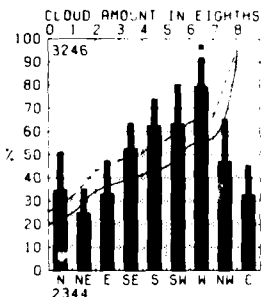
**Moses Point**



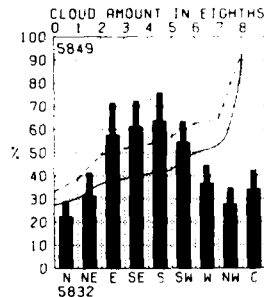
**Unalakleet**



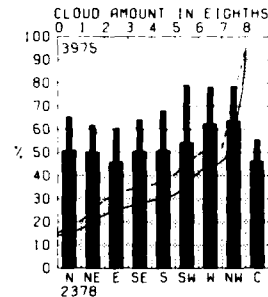
**Cape Romanzof**



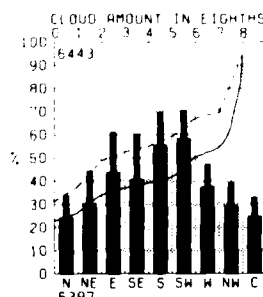
**Bethel**



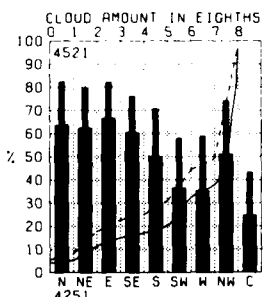
**Cape Newenham**



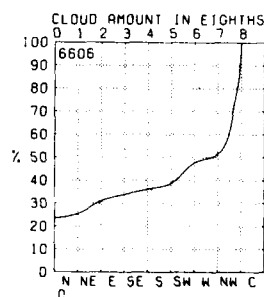
**King Salmon**



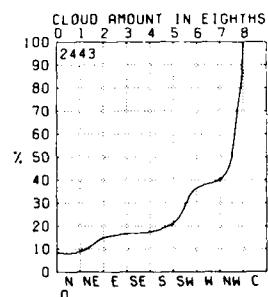
**St. Paul**

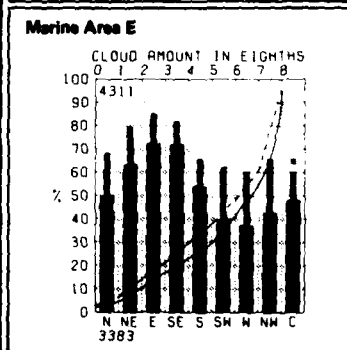
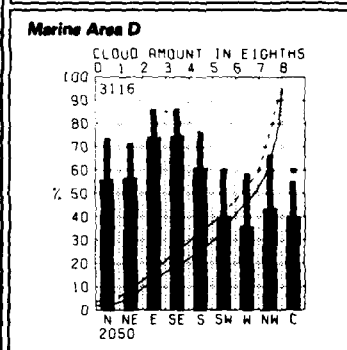
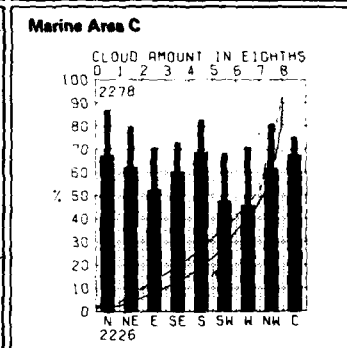
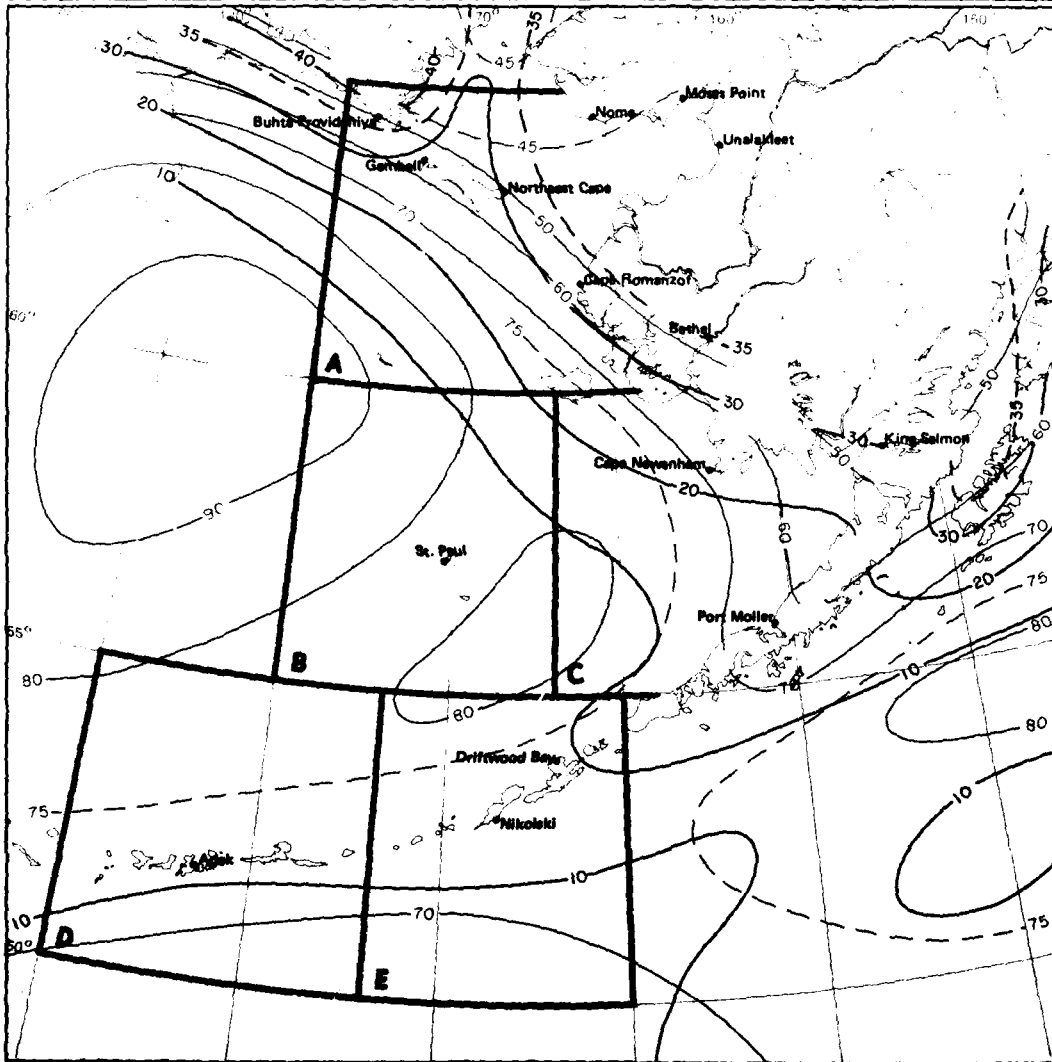
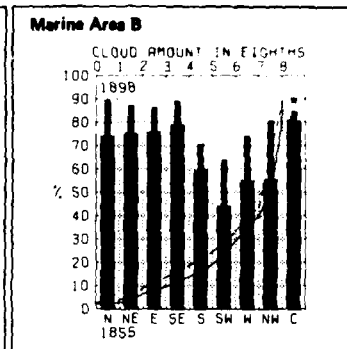
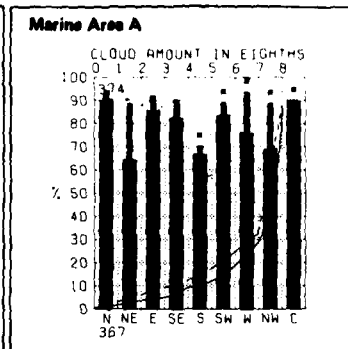
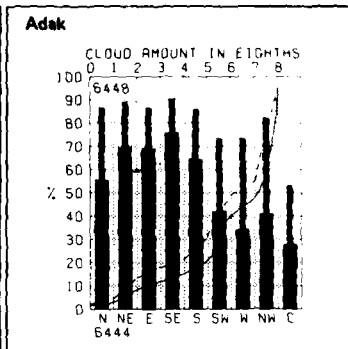
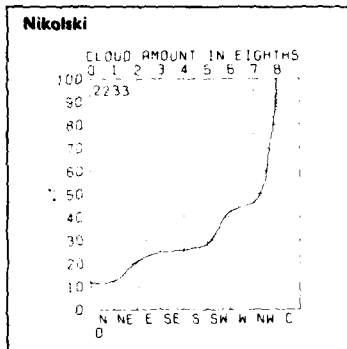


**Port Moller**



**Driftwood Bay**



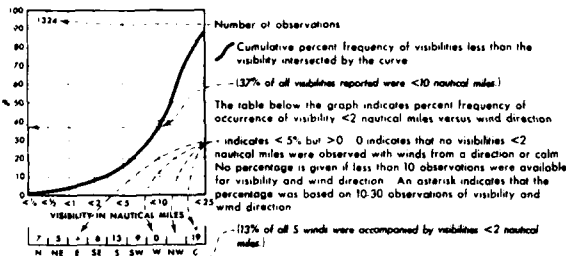


7 Cloud amount thresholds

December

**Legend**

**Visibility/wind direction**

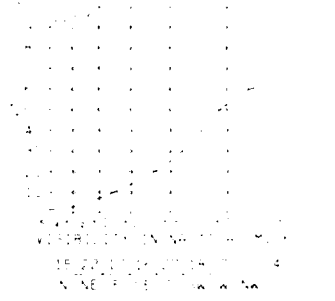


**Map - Visibility thresholds**

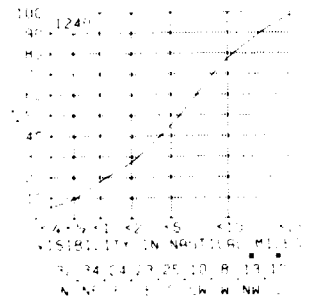
BLACK LINE Percent frequency of visibilities  $\geq 5$  nautical miles  
 BLUE LINE Percent frequency of visibilities  $< 2$  nautical miles

The percentage of visibility equal to or greater than a given value can be obtained from the graph by subtracting the cumulative percent frequency of that value from 100%. Visibility at sea is difficult to measure because of the lack of reference points. Also, some observers seem to report reduced visibilities at night because of darkness, though this tendency has abated in recent years. The coarseness of the coding intervals, however, tends to minimize serious biases in the summarized data. Visibilities greater than 25 nmi should be interpreted cautiously because the earth's curvature makes it impossible to see 25 nmi horizontally from the bridges of most ships.

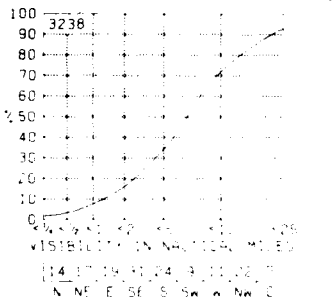
**Buhta Provideniya**



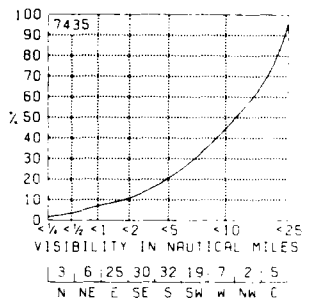
**Gambell**



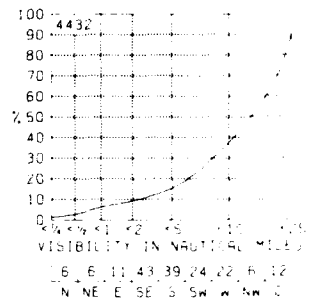
**Northeast Cape**



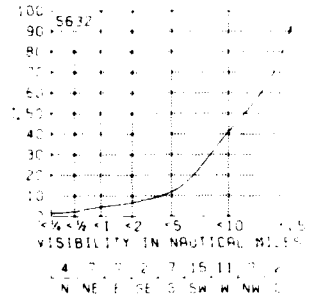
**Nome**



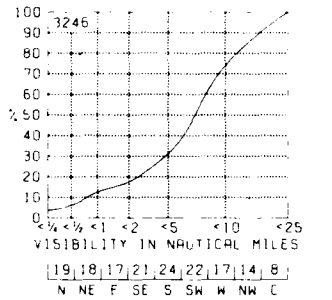
**Moses Point**



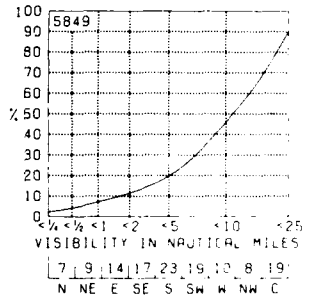
**Unalakleet**



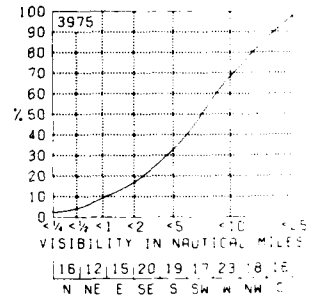
**Cape Romanzof**



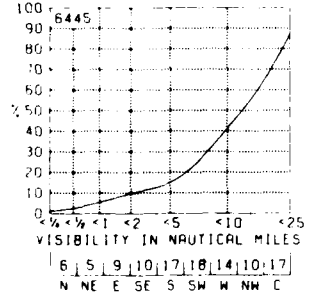
**Bethel**



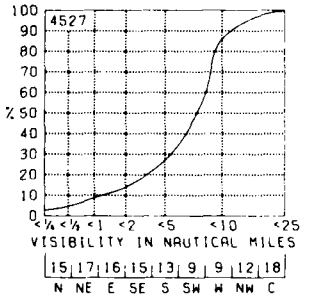
**Cape Newenham**



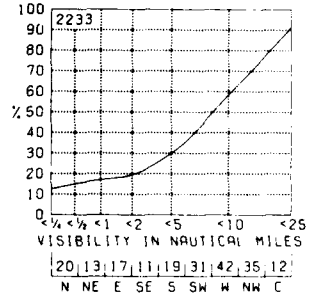
**King Salmon**



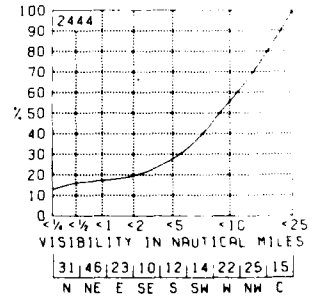
**St. Paul**



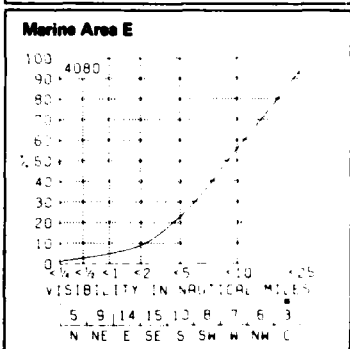
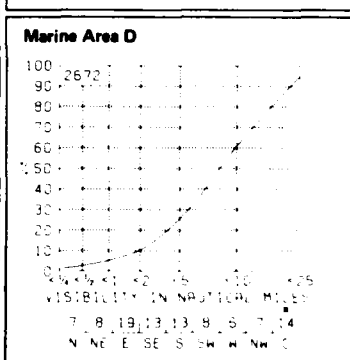
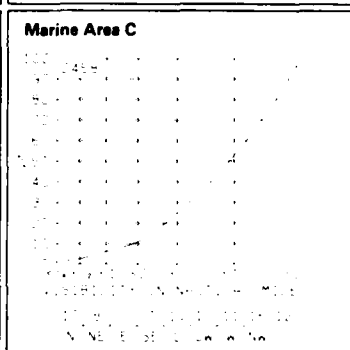
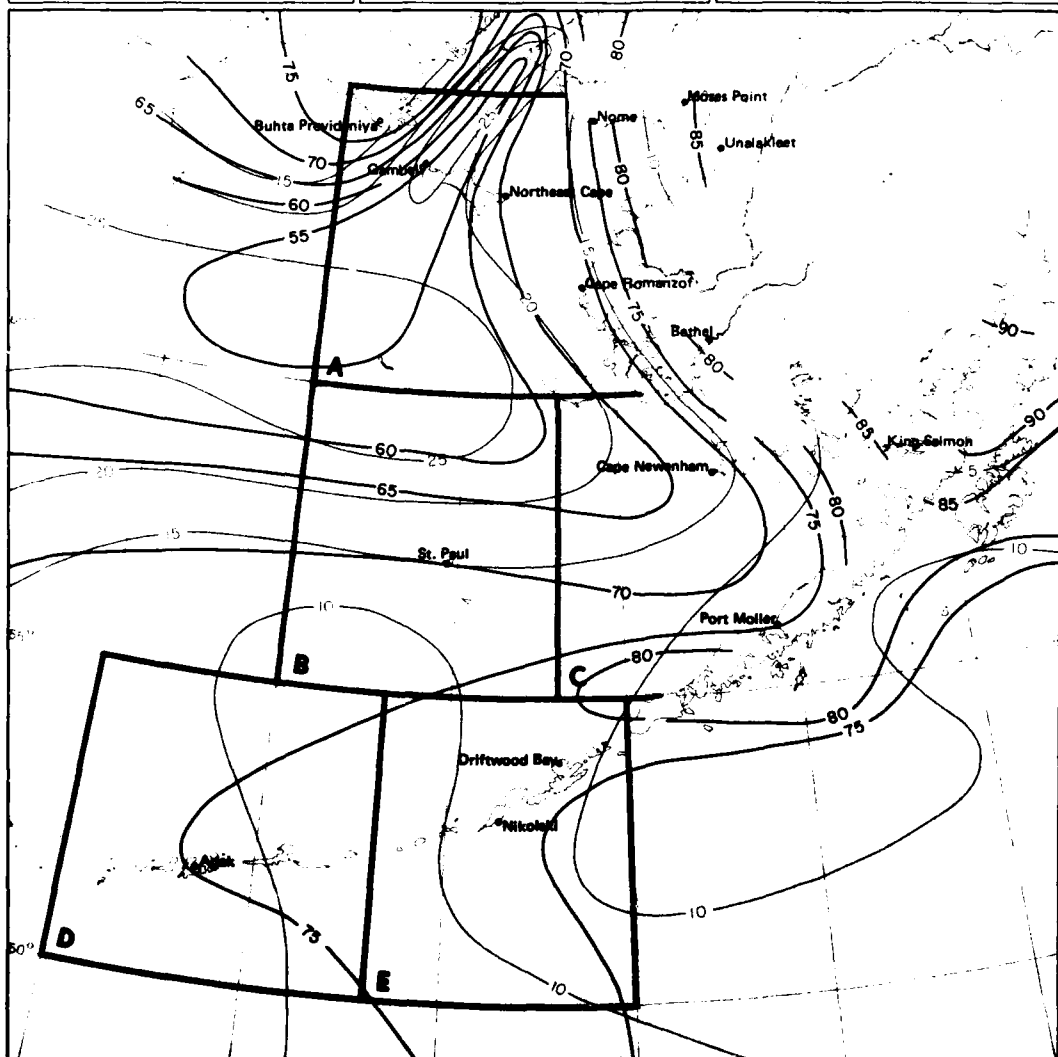
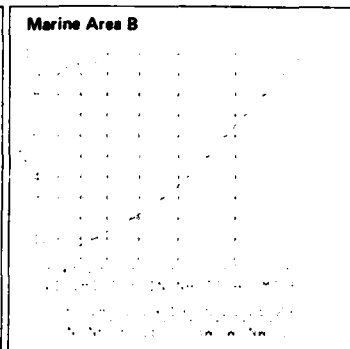
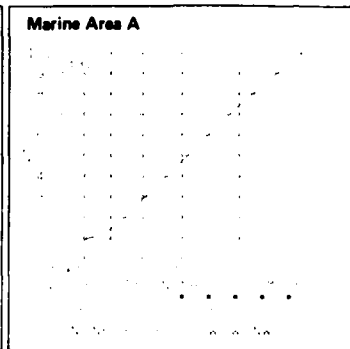
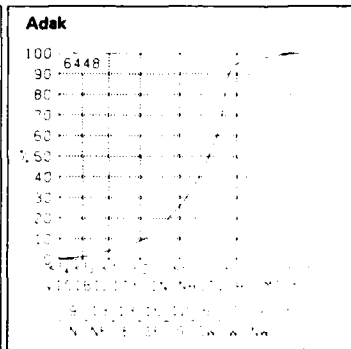
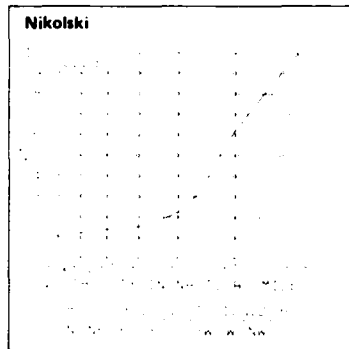
**Port Moller**



**Driftwood Bay**

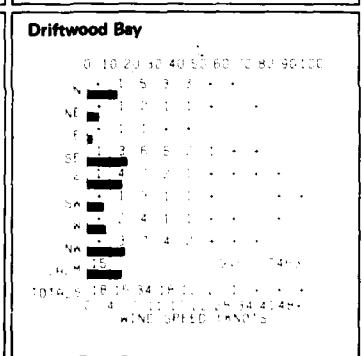
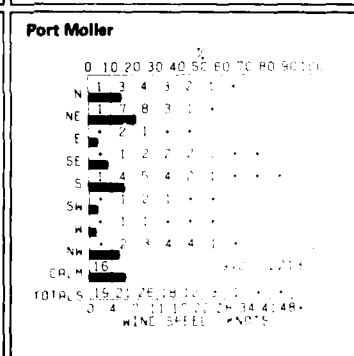
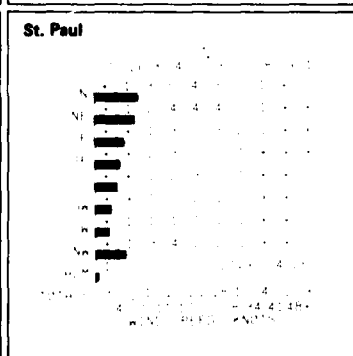
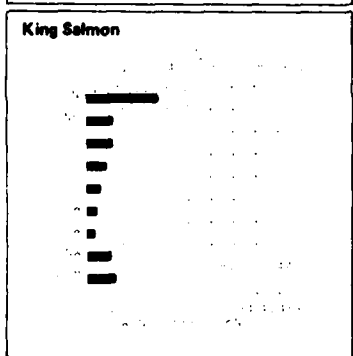
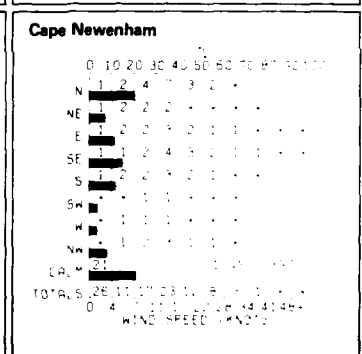
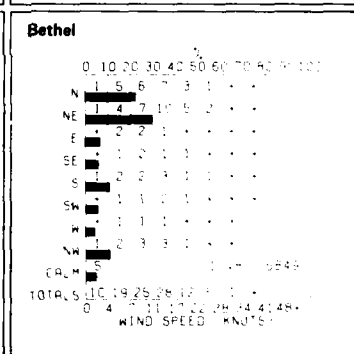
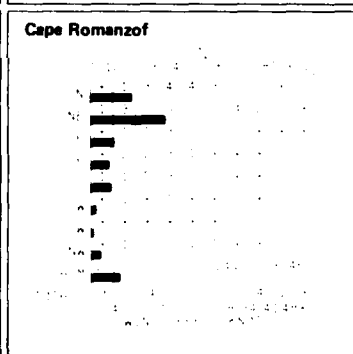
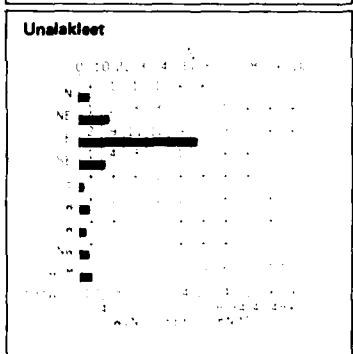
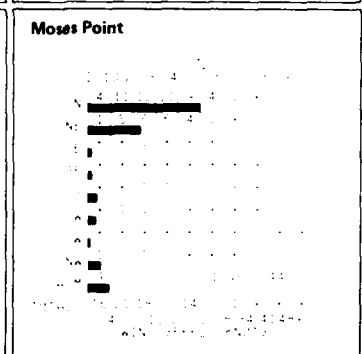
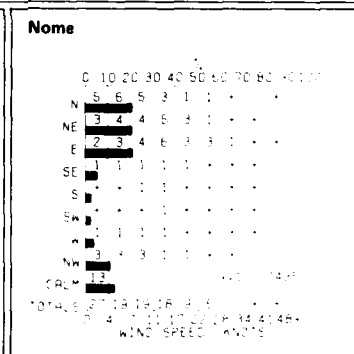
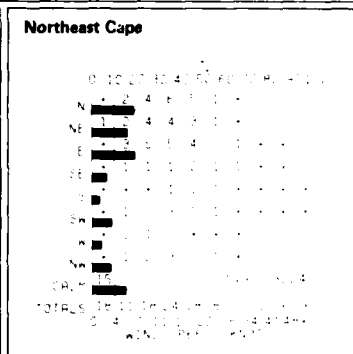
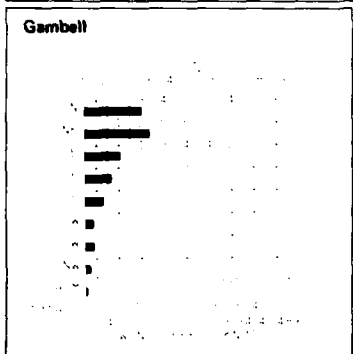
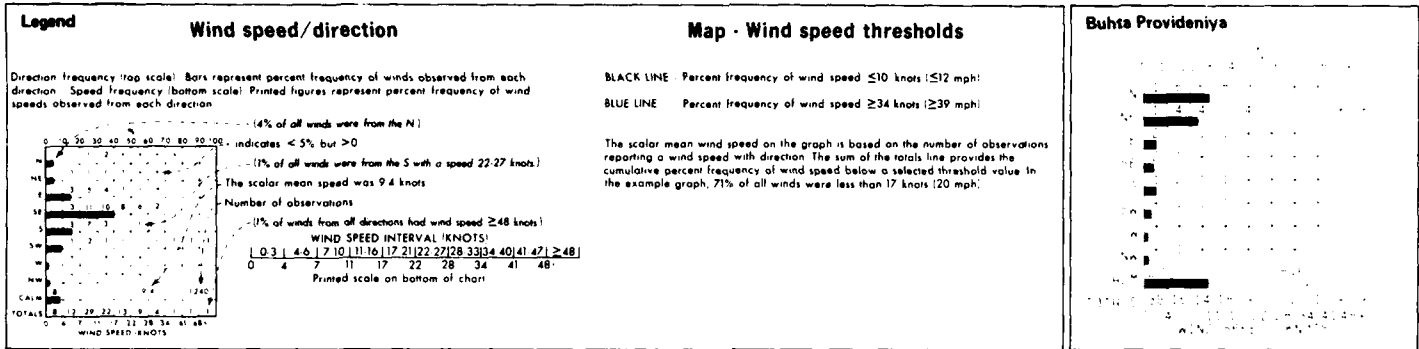


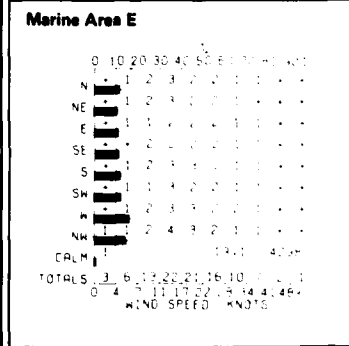
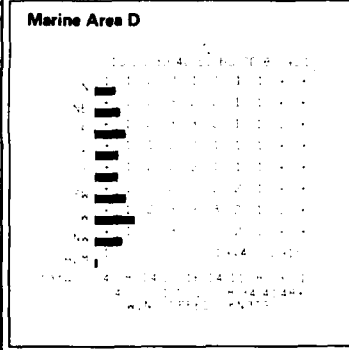
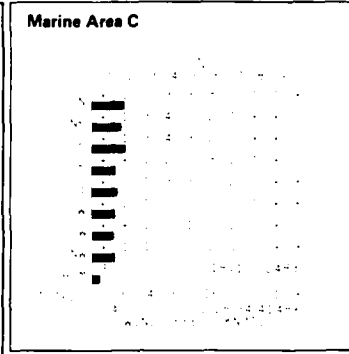
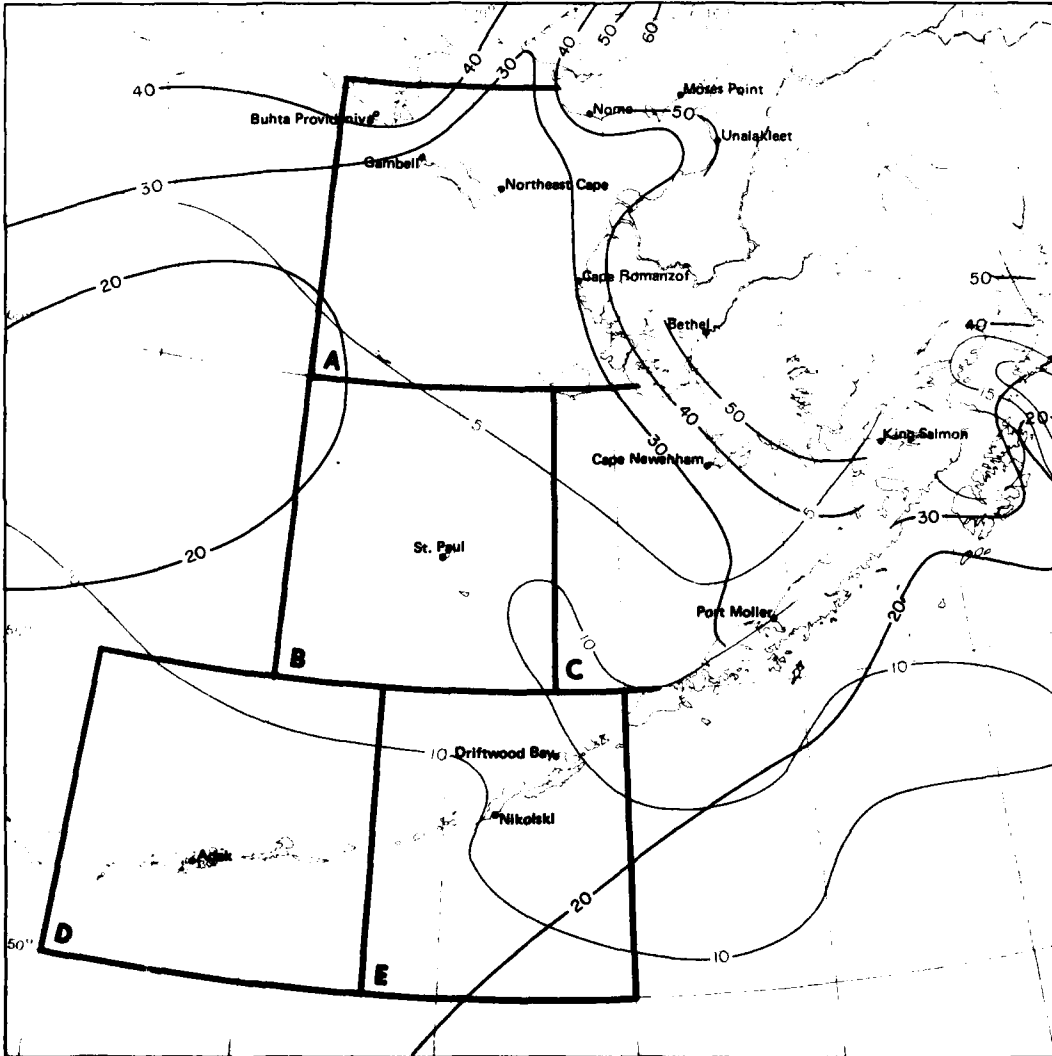
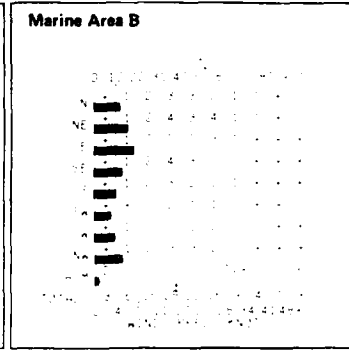
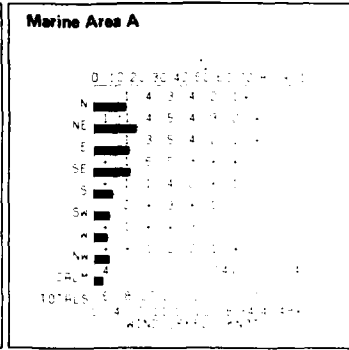
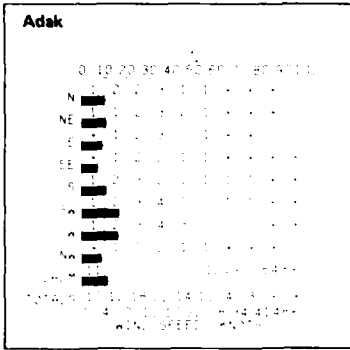
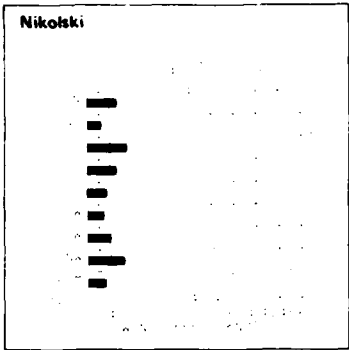




**8 Visibility thresholds**

**December**



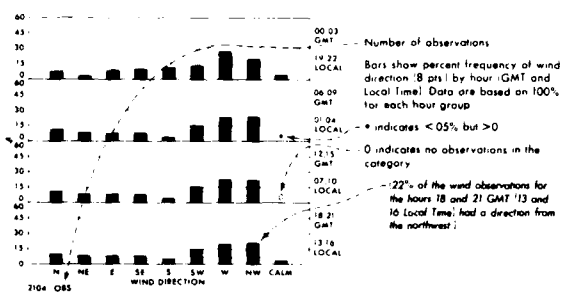


9 Wind speed thresholds

December

**Legend**

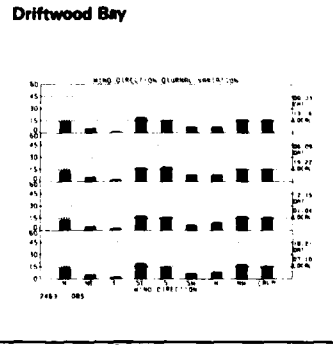
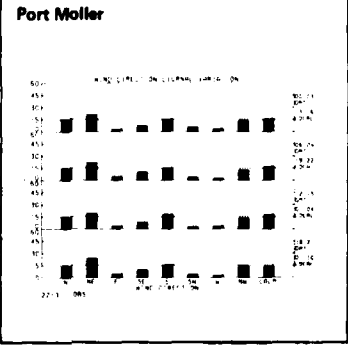
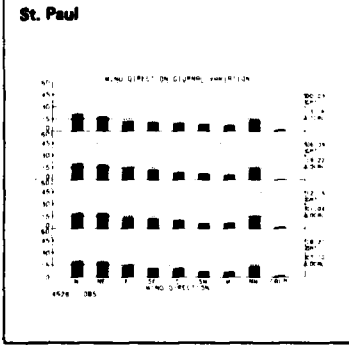
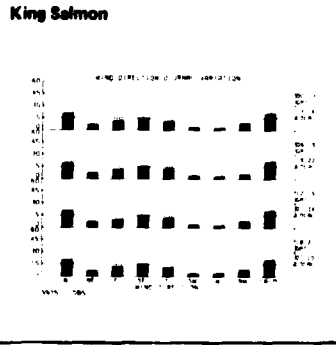
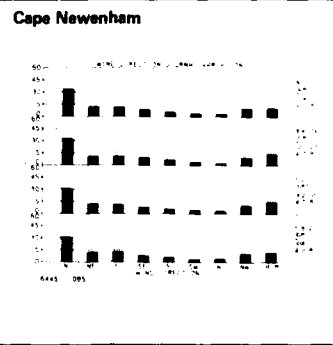
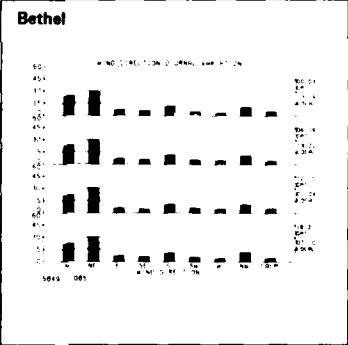
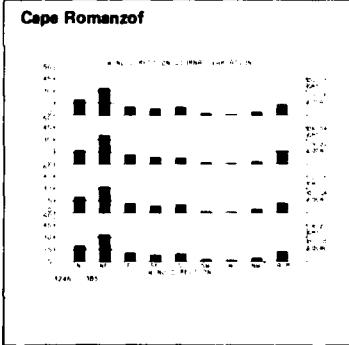
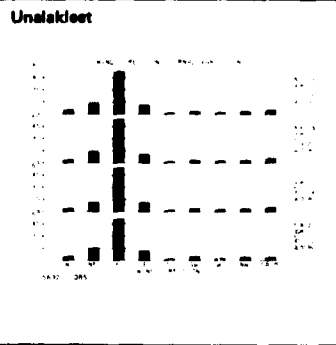
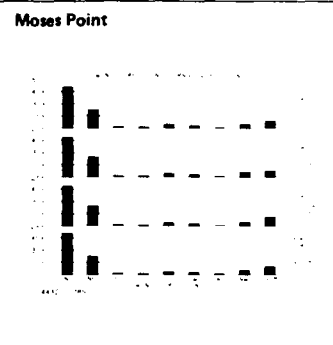
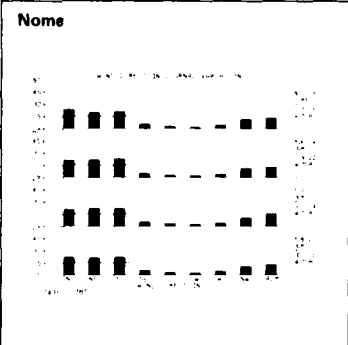
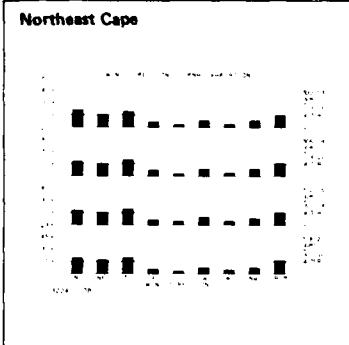
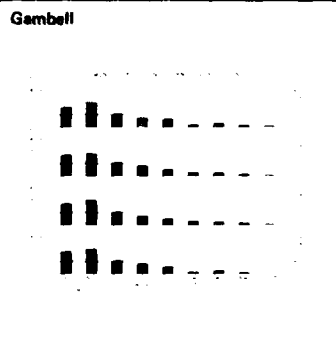
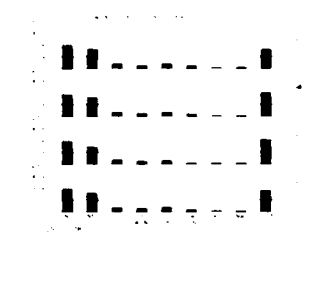
**Wind direction/diurnal variation**

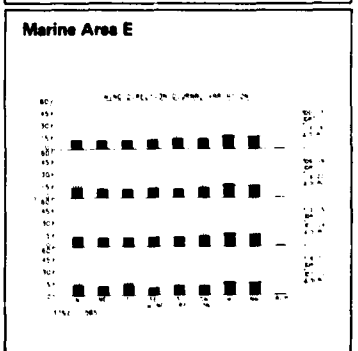
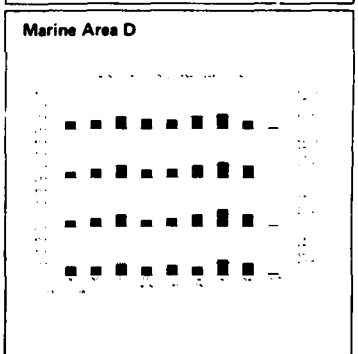
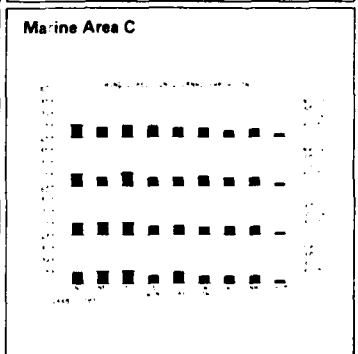
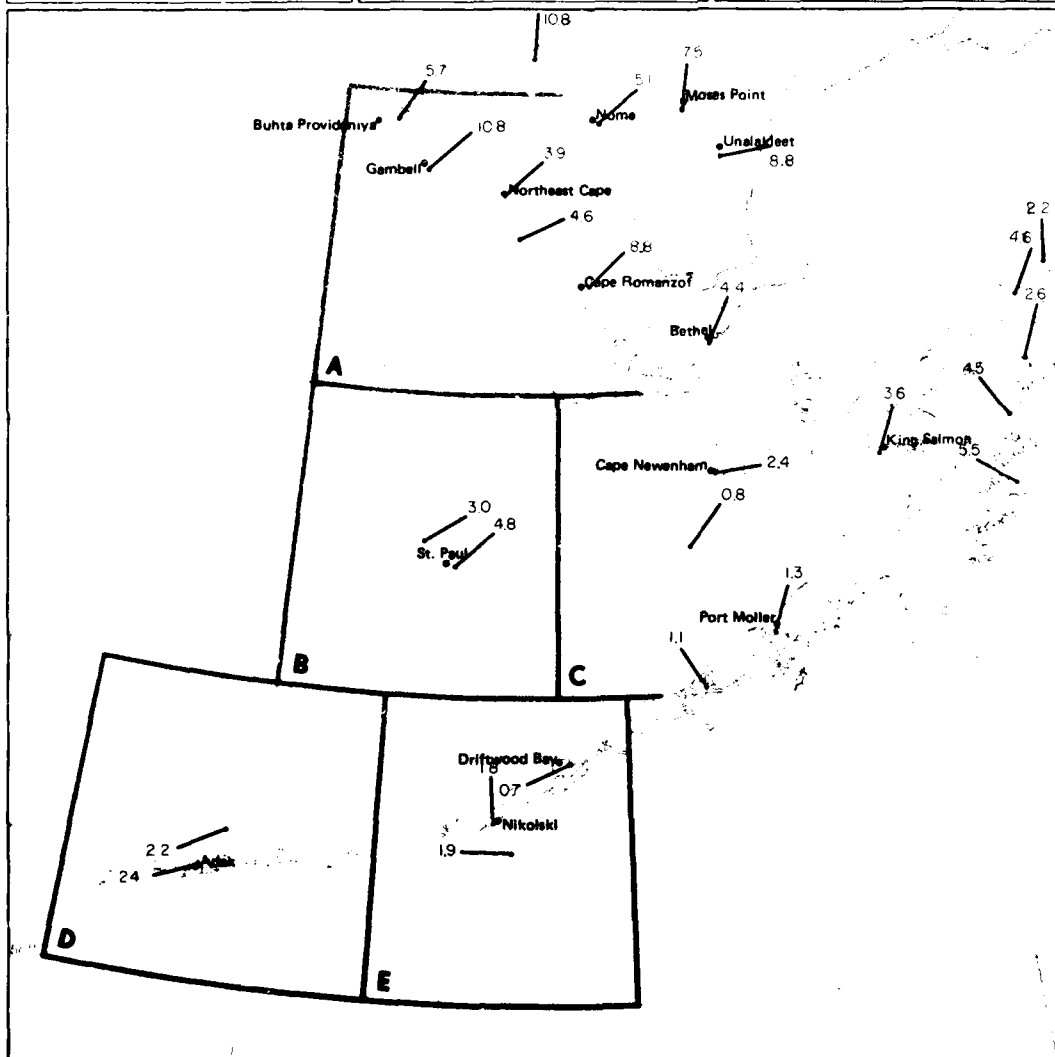
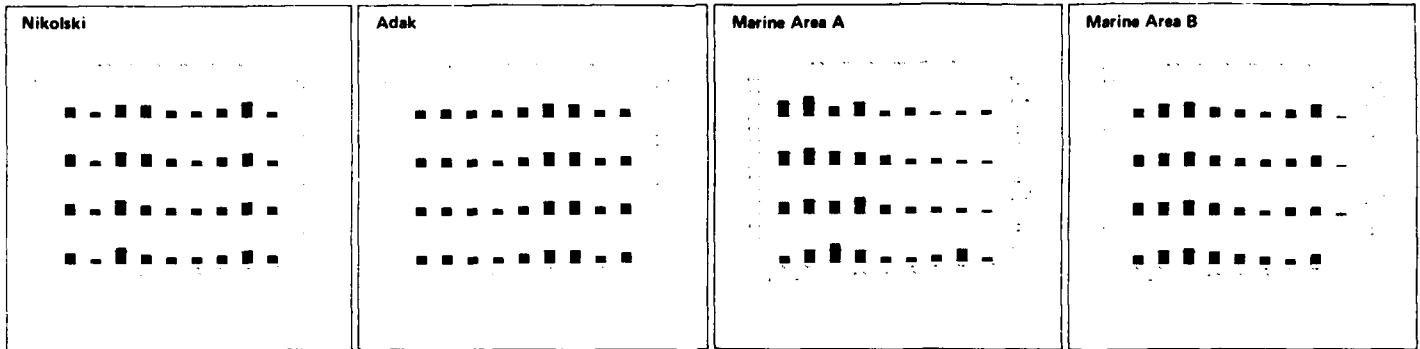


**Map - Vector mean wind**

102 Direction of flow toward station dot, vector magnitude in knots  
example: vector mean wind is from northeast at 10.2 knots or 11.7 mph

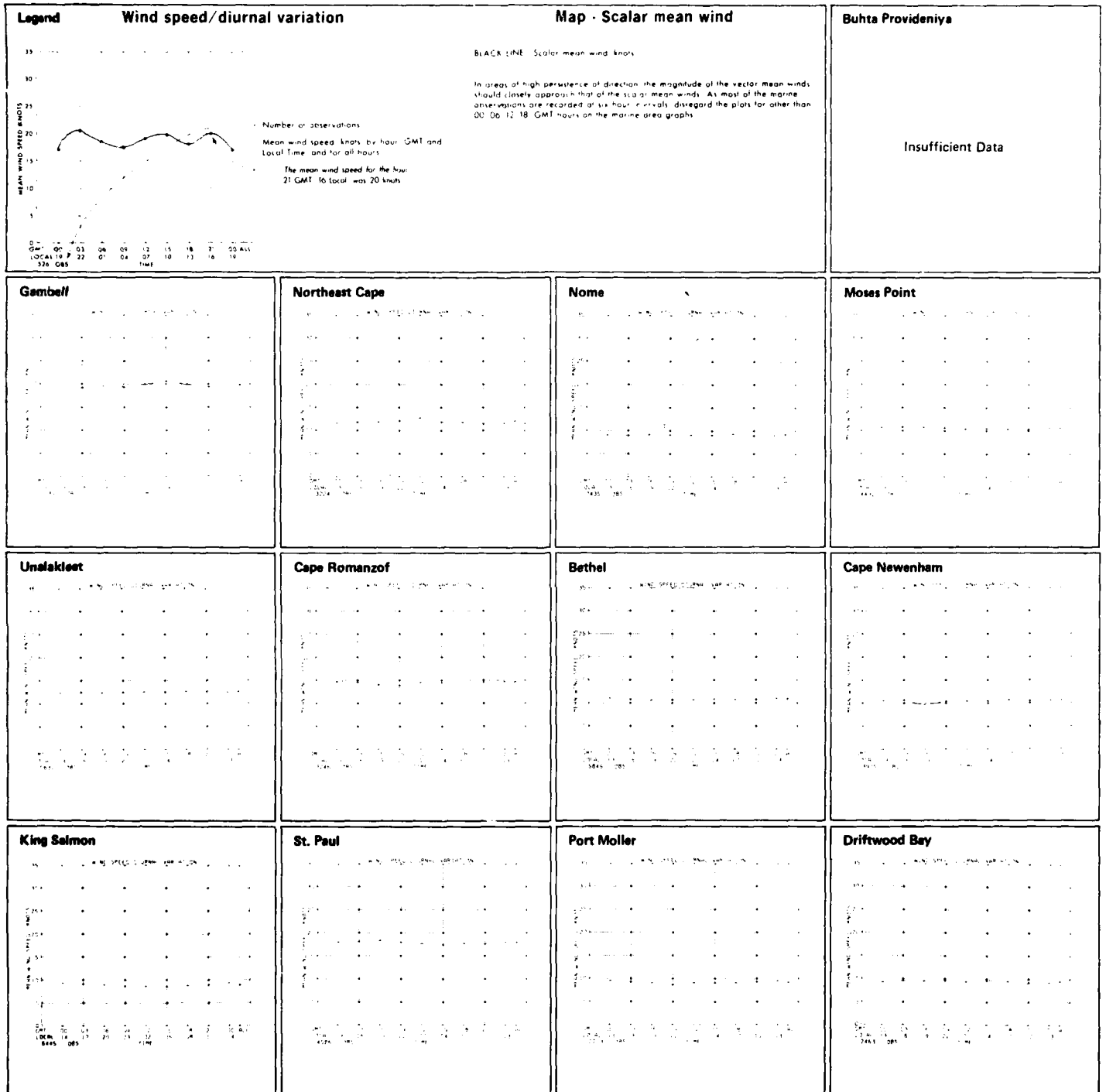
**Buhta Provideniya**

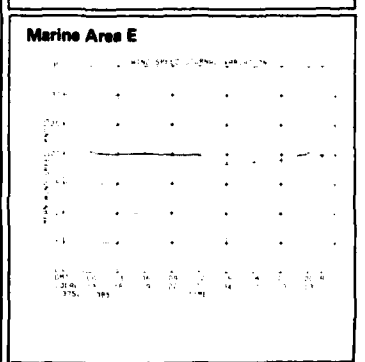
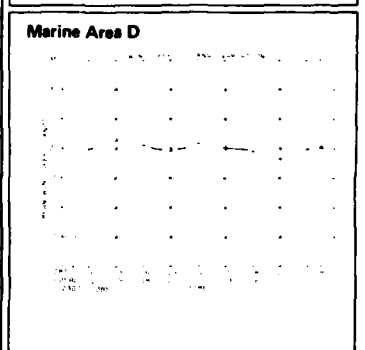
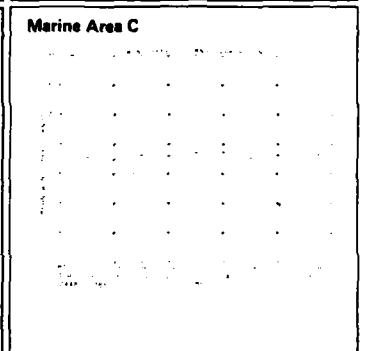
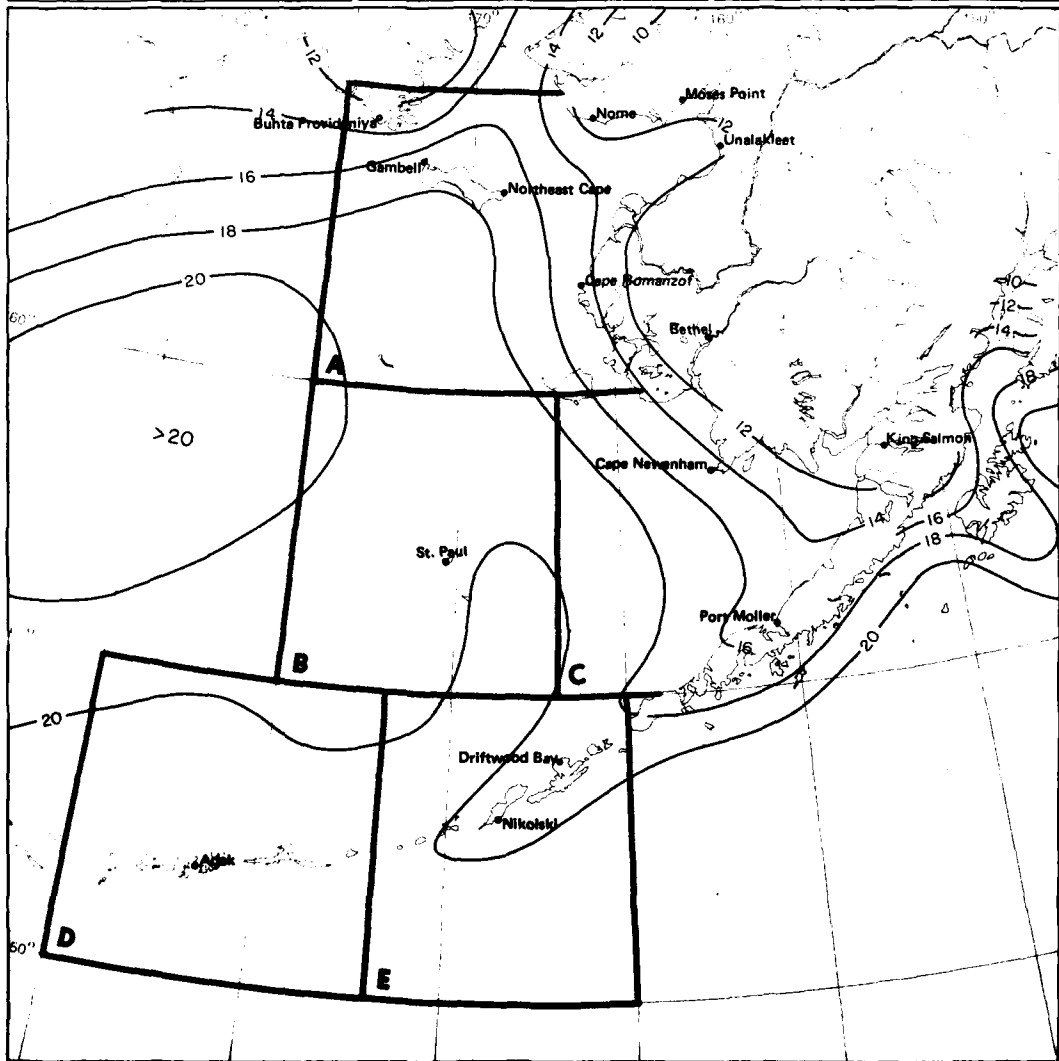
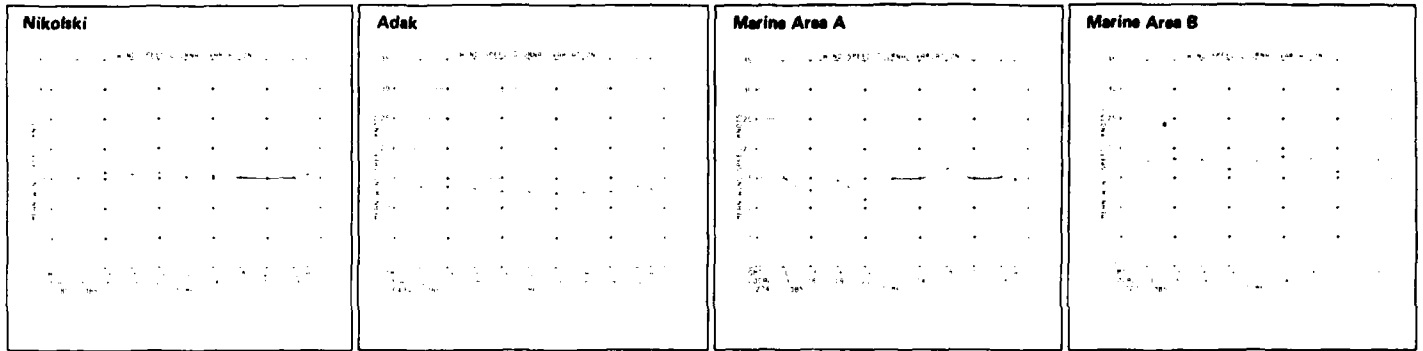




10 Vector mean wind

December





11 Scalar mean wind

December

**Legend**

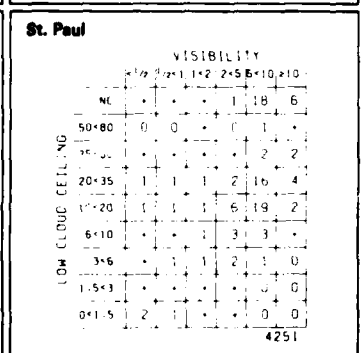
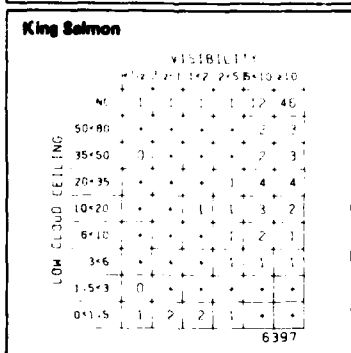
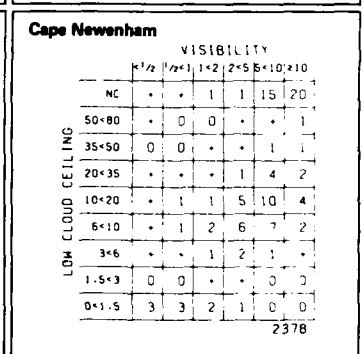
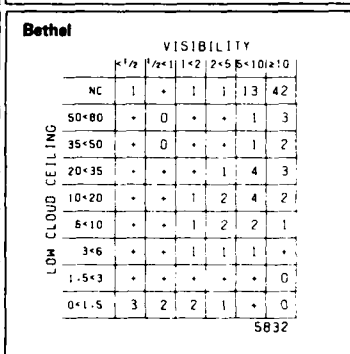
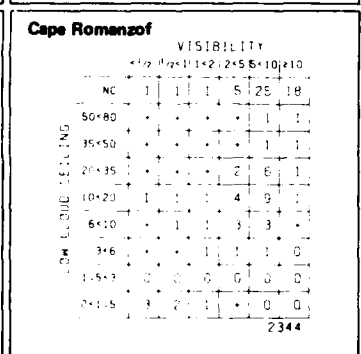
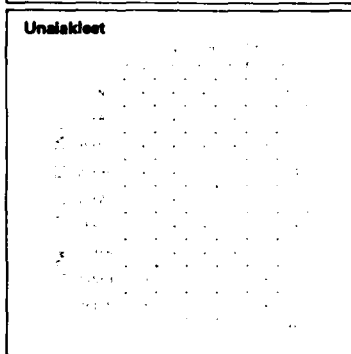
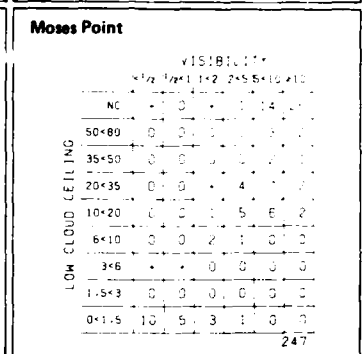
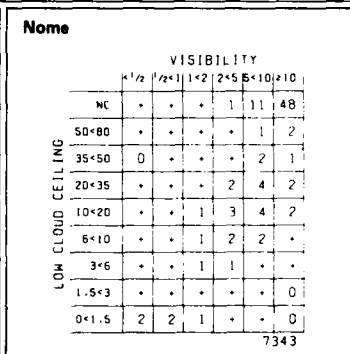
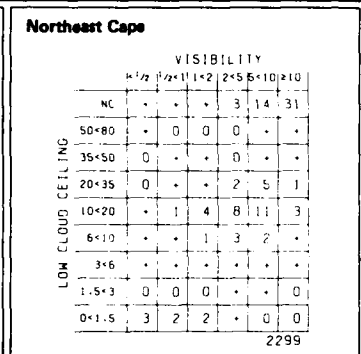
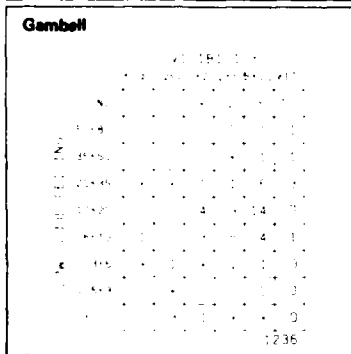
**Low cloud ceiling/visibility**

Percent frequency of simultaneous occurrence of specified low cloud ceilings (hundreds of feet) and visibilities (nautical miles). Low cloud ceiling heights are estimated from the height of low clouds (h) when low cloud amount (N<sub>h</sub>) is  $\geq 8$ . Observations are included under ceiling 0 < 15. N.C. (no ceiling) includes bases of clouds  $\geq 8000$  feet as well as occurrences of N<sub>h</sub>  $\leq 5$ . \* indicates < 5% but > 0. Number of observations.

**Map - Low cloud ceiling and visibility thresholds**

BLACK LINE Percent frequency of low cloud ceiling  $\geq 1000$  feet (or no low cloud ceiling) and visibility  $\geq 5$  nautical miles.  
 BLUE LINE Percent frequency of low cloud ceiling < 600 feet and/or visibility < 2 nautical miles.

**Buhta Provideniya**



**Port Moller**

Insufficient Data

**Driftwood Bay**

Insufficient Data



**Nikolski**

Insufficient Data

**Adak**

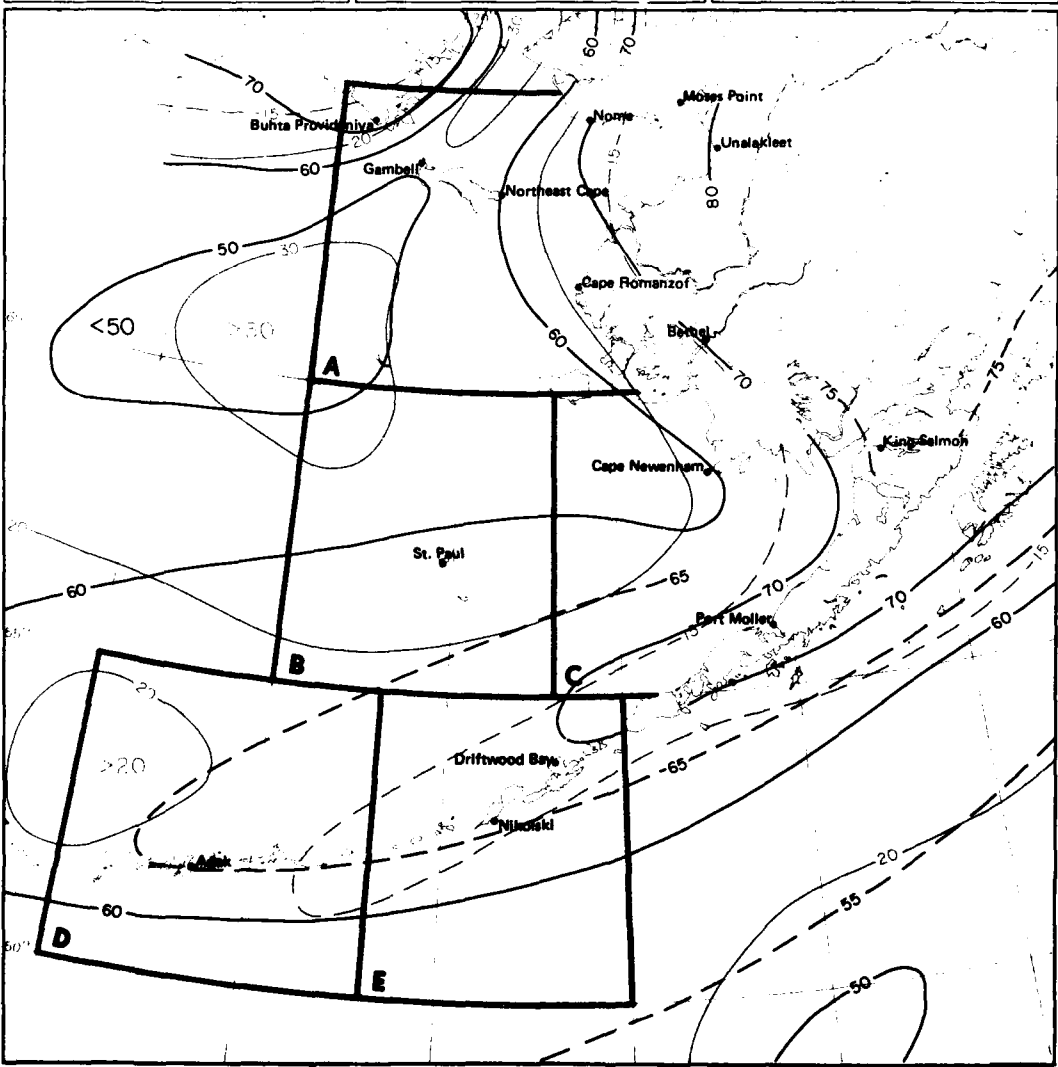
VISIBILITY

	<1/2	1/2	1	2	5	10	>10
NC	0	0	0	1	19	3	
50<80	0	0	0	0	1	1	
35<50	0	0	0	0	3	2	
20<35	0	0	0	2	1	1	
10<20	0	0	0	2	1	1	
6<10	0	0	0	4	2	2	
3<6	0	0	0	0	0	0	
1.5<3	0	0	0	0	0	0	
0<1.5	1	2	1	1	1	0	

6444

**Marine Area A**

**Marine Area B**



**Marine Area C**

**Marine Area D**

**Marine Area E**

VISIBILITY

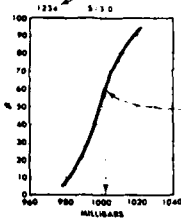
	<1/2	1/2	1	2	5	10	>10
NC	0	0	0	0	0	0	
50<80	0	0	0	0	0	0	
35<50	0	0	0	0	0	0	
20<35	0	0	0	0	0	0	
10<20	0	0	0	0	0	0	
6<10	0	0	0	0	0	0	
3<6	0	0	0	0	0	0	
1.5<3	0	0	0	0	0	0	
0<1.5	1	1	1	1	1	1	

9102

12 Low cloud ceiling and visibility thresholds

**Legend**

**Sea level pressure**



Number of observations  
 Cumulative percent frequency of sea level pressures equal to or less than the pressure intersected by the curve  
 S Standard deviation of pressure (mbs)  
 60% of all observed sea level pressures were ≤ 1002 millibars!

**Map - Mean sea level pressure**

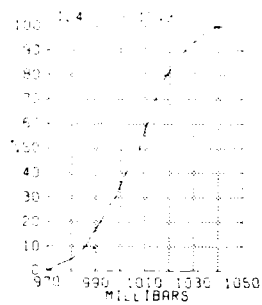
BLACK LINE Mean sea level pressure (millibars)

Sea level pressure is one of the most frequently recorded elements but one of the least accurate because of instrument and coding errors. Despite the inaccuracies of the individual readings, however, the large scale patterns and mean gradients of the isopleth analyses are relatively accurate.

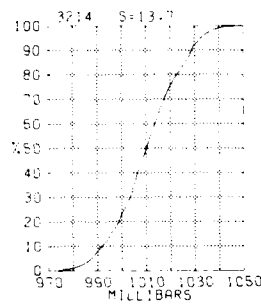
**Buhta Provideniya**



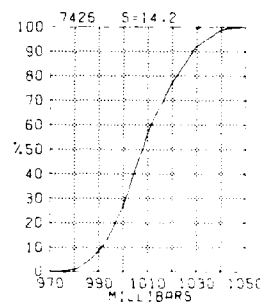
**Gambell**



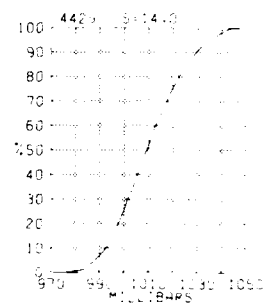
**Northeast Cape**



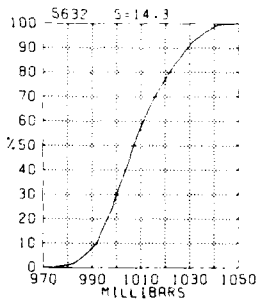
**Nome**



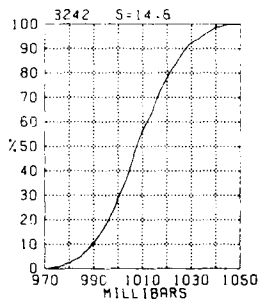
**Moses Point**



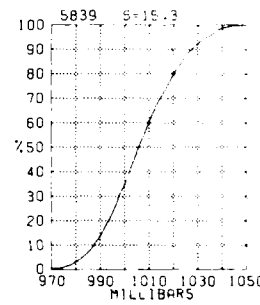
**Unalakleet**



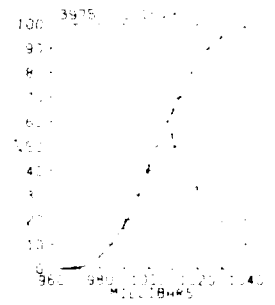
**Cape Romanzof**



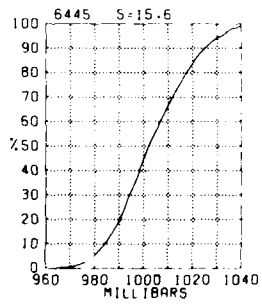
**Bethel**



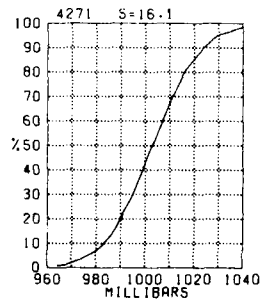
**Cape Newenham**



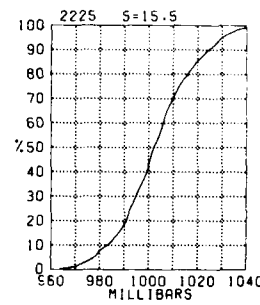
**King Salmon**



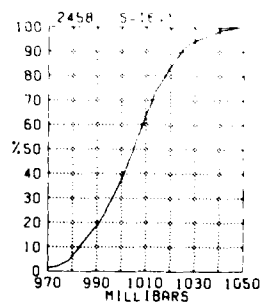
**St. Paul**



**Port Moller**

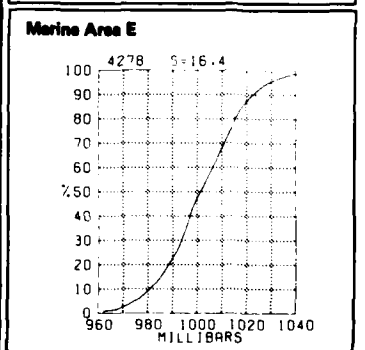
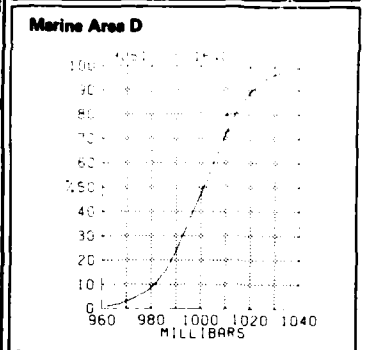
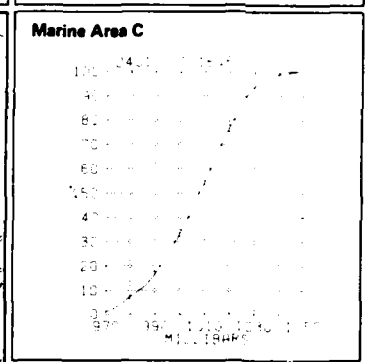
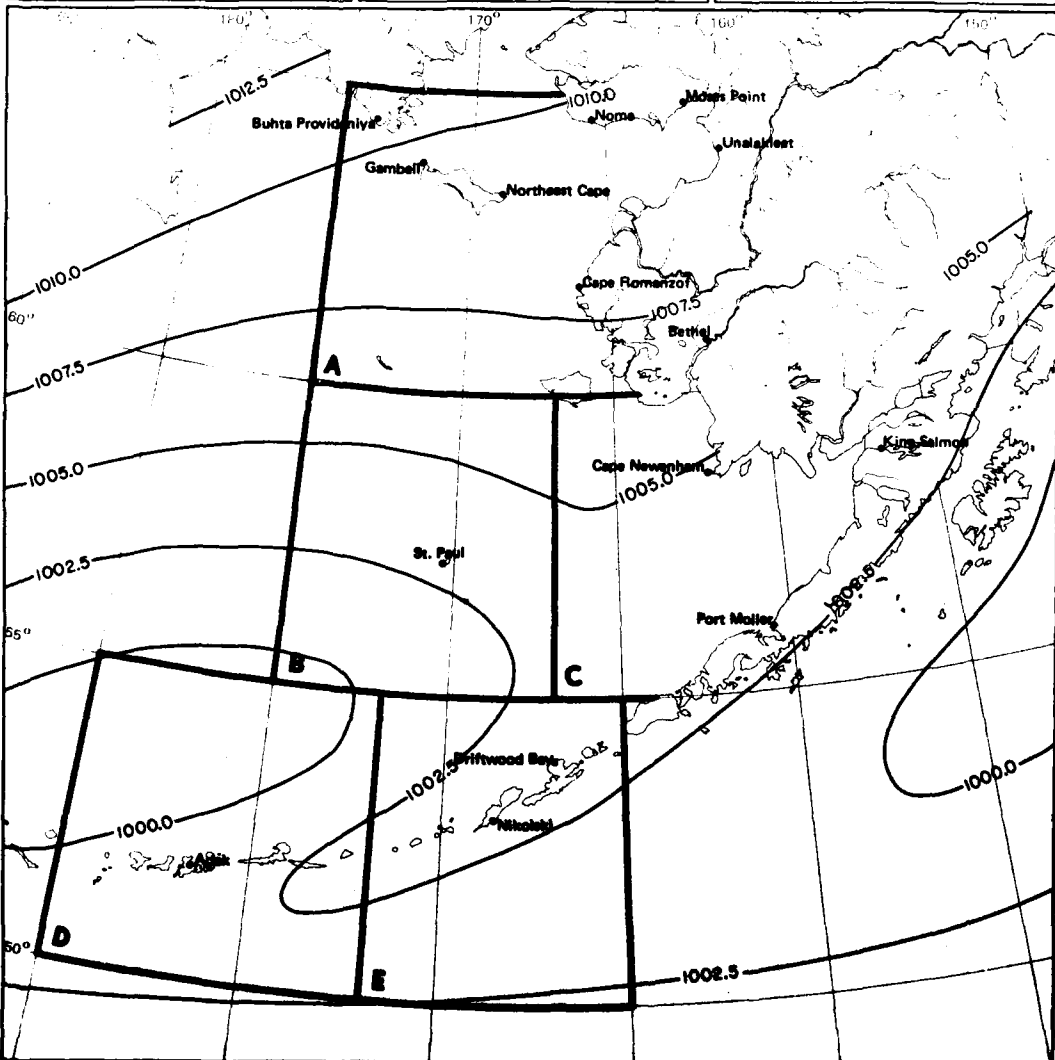
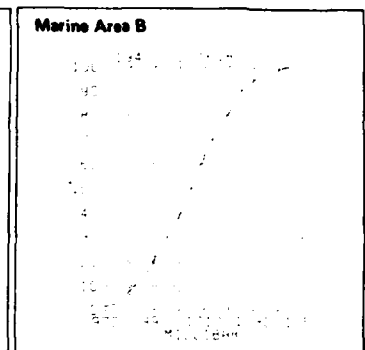
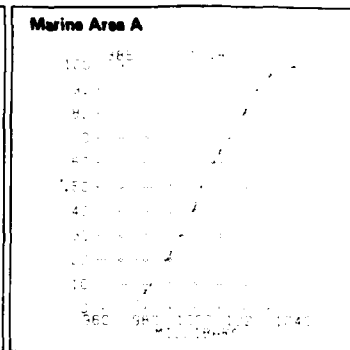
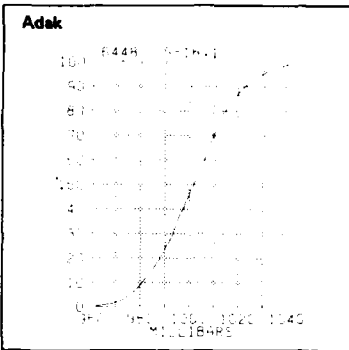
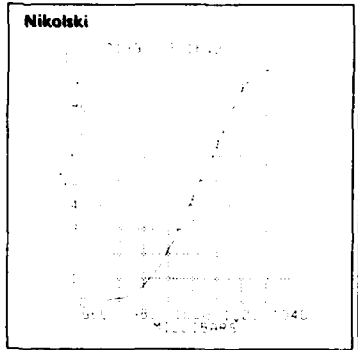


**Driftwood Bay**



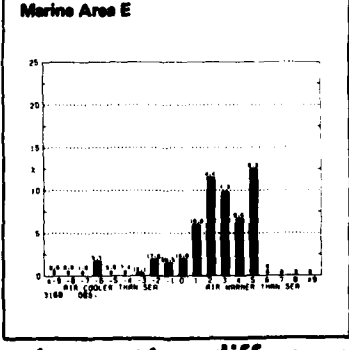
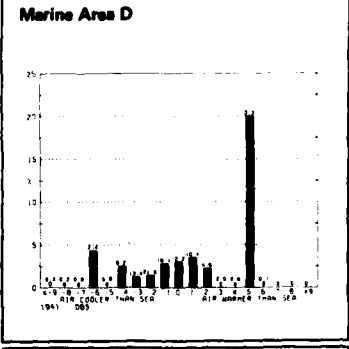
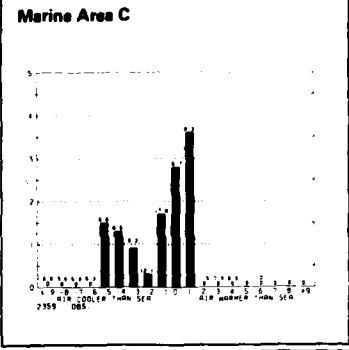
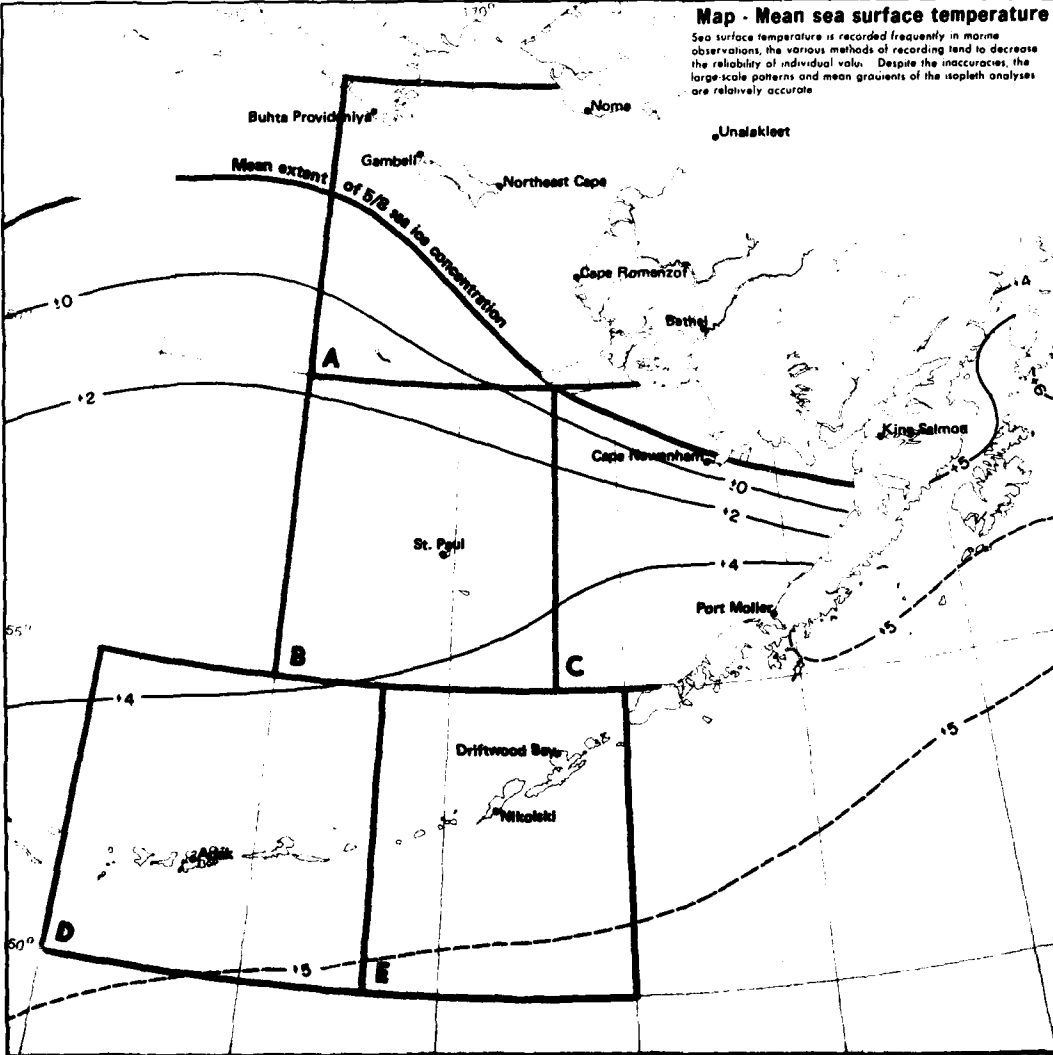
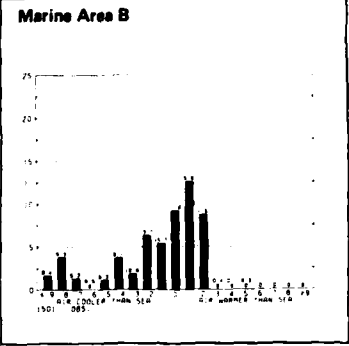
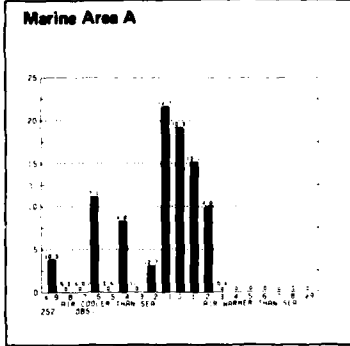
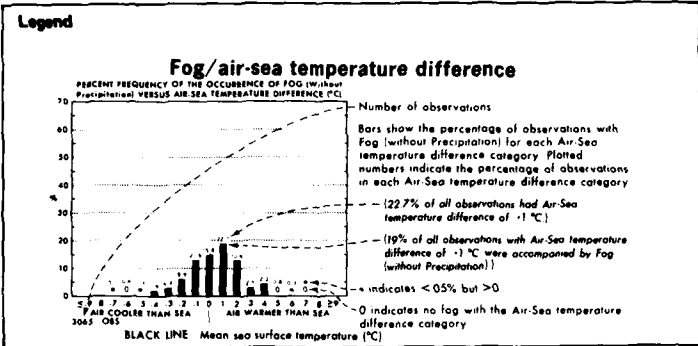
**December**

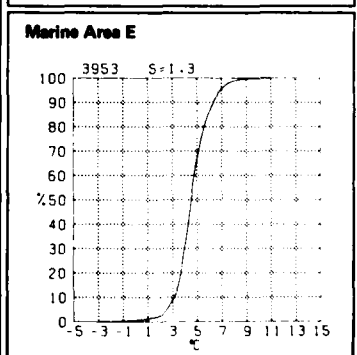
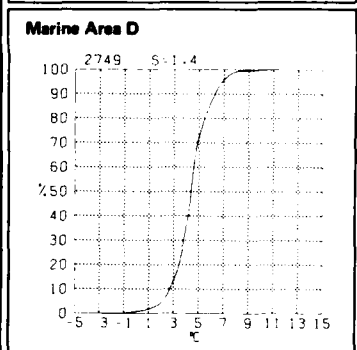
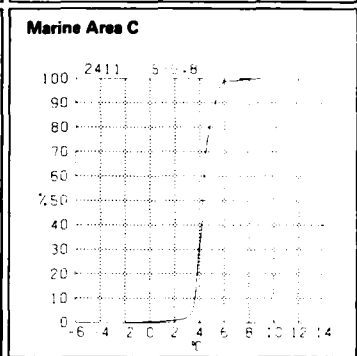
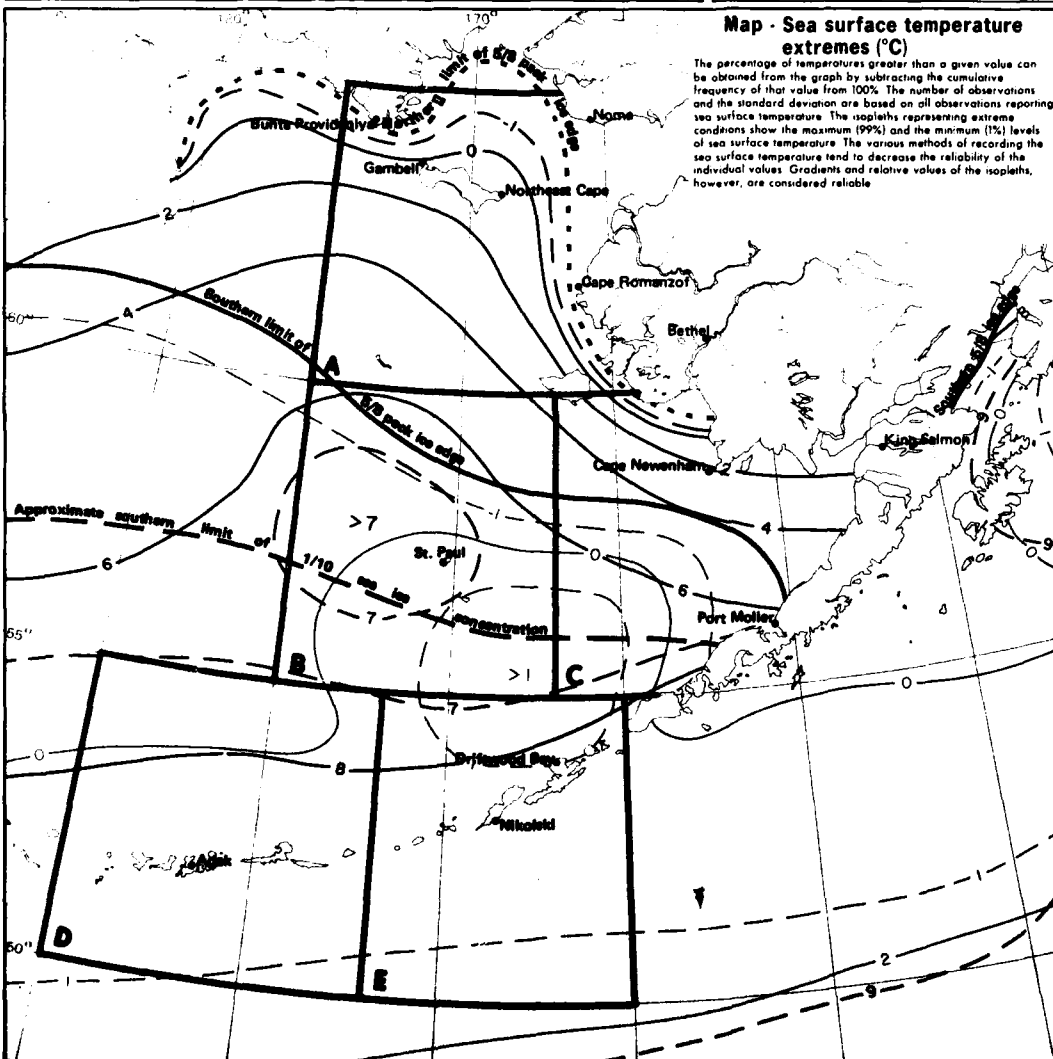
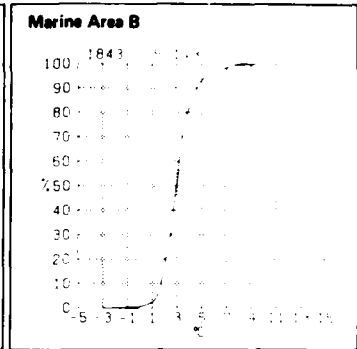
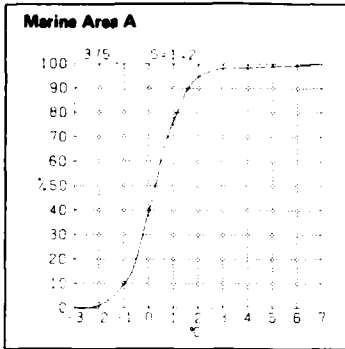
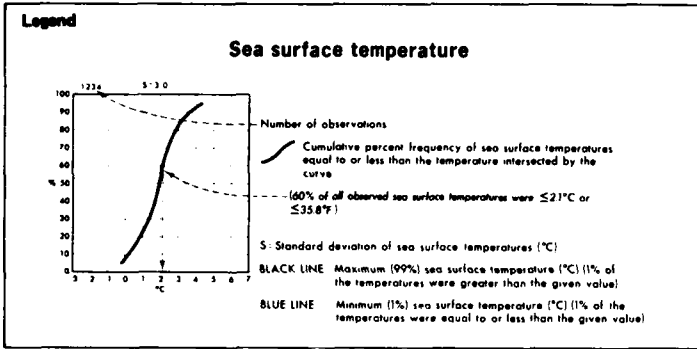
**13 Sea level pressure**



13 Mean sea level pressure

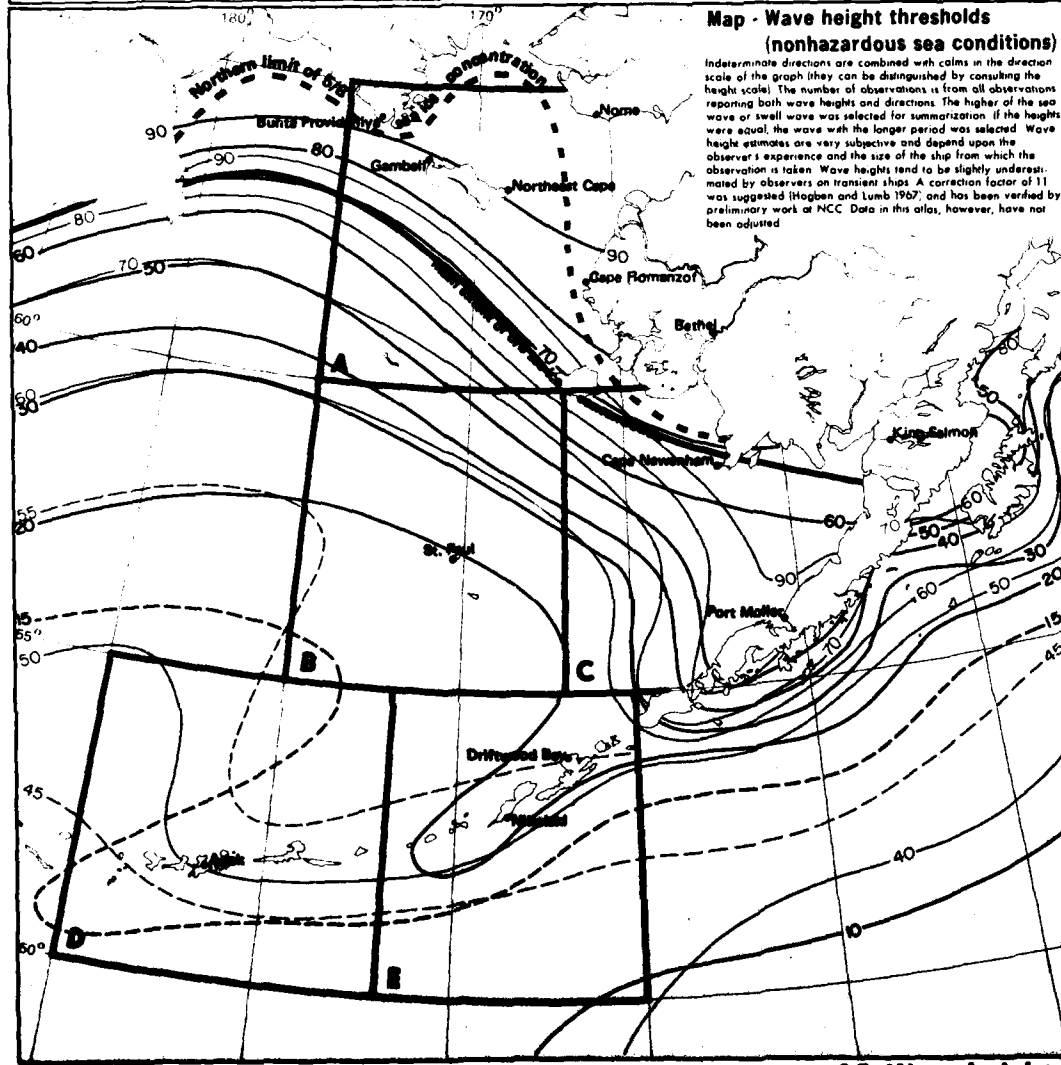
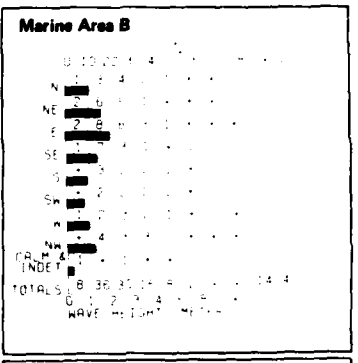
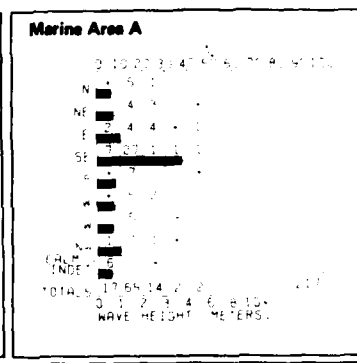
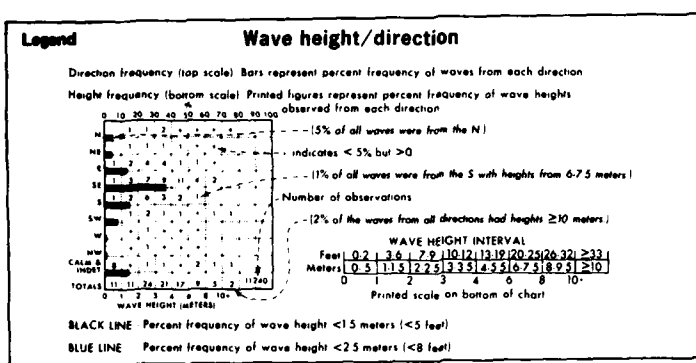
December



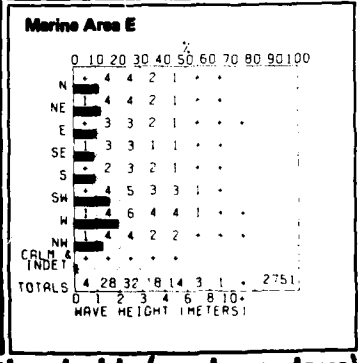
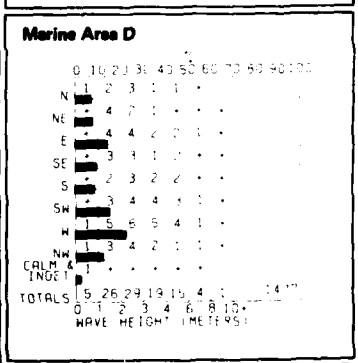
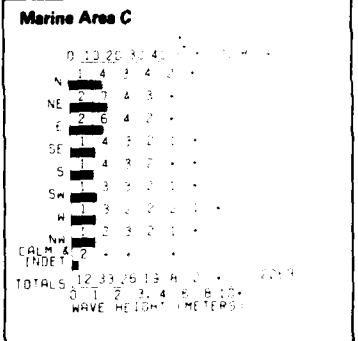


**15 Sea surface temperature extremes**

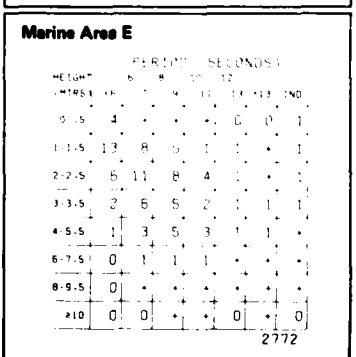
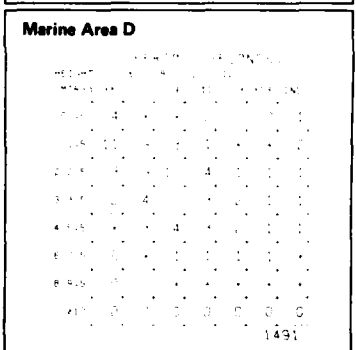
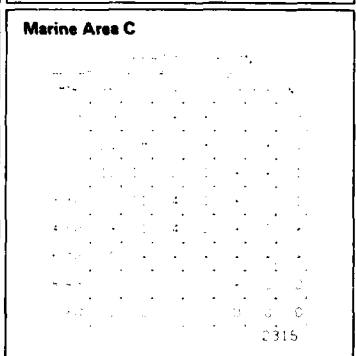
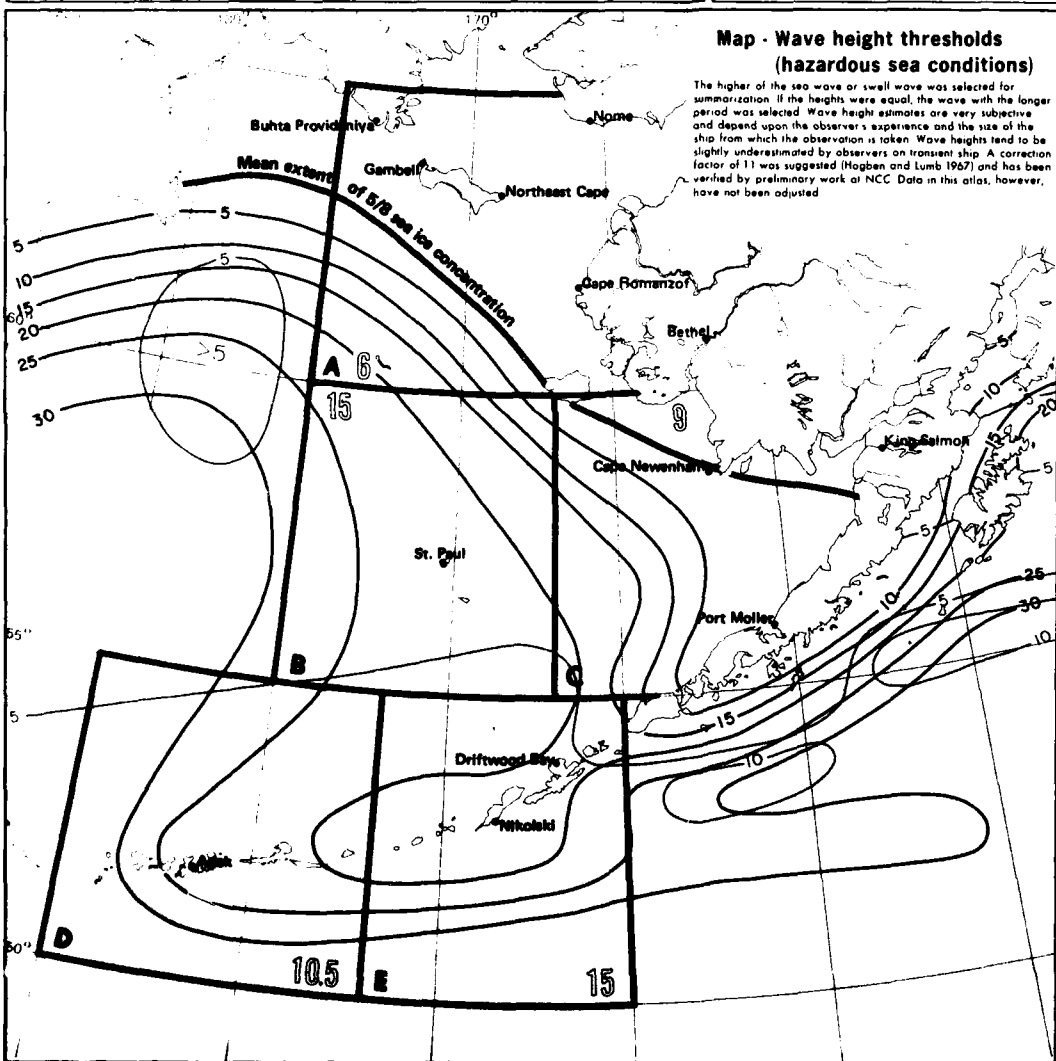
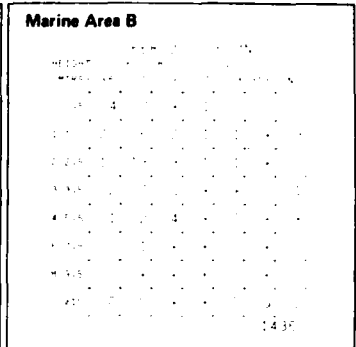
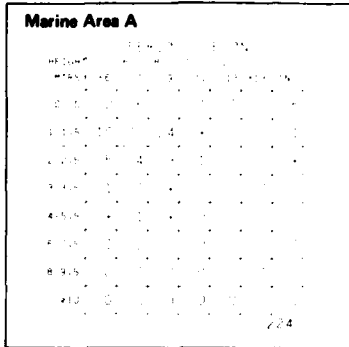
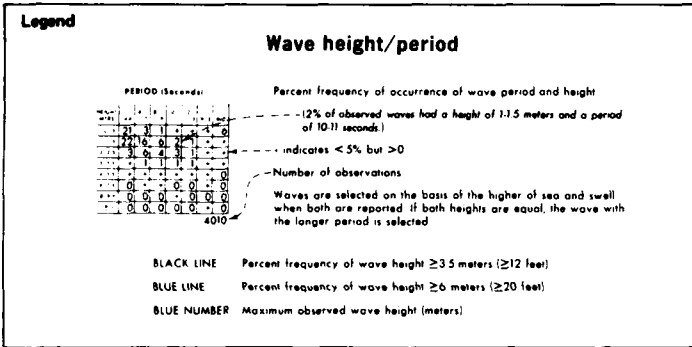
**December**



Indeterminate directions are combined with calms in the direction scale of the graph (they can be distinguished by consulting the height scale). The number of observations is from all observations reporting both wave heights and directions. The higher of the sea wave or swell wave was selected for summarization if the heights were equal, the wave with the longer period was selected. Wave height estimates are very subjective and depend upon the observer's experience and the size of the ship from which the observation is taken. Wave heights tend to be slightly underestimated by observers on transient ships. A correction factor of 11 was suggested (Hogben and Lumb 1967) and has been verified by preliminary work at NCC. Data in this atlas, however, have not been adjusted.



16 Wave height thresholds (nonhazardous)



17 Wave height thresholds (hazardous)

**Legend**

**Low pressure center movement**

12 hour movements of low pressure centers considering only closed circulations

Mean speed Printed figure at the end of each bar represents the mean speed of movement in knots toward the indicated direction

Low pressure centers moving toward the N had a mean speed of 11 knots

Direction frequency Bars represent percent frequency of 12 hour movements toward each direction. Each circle represents 20%

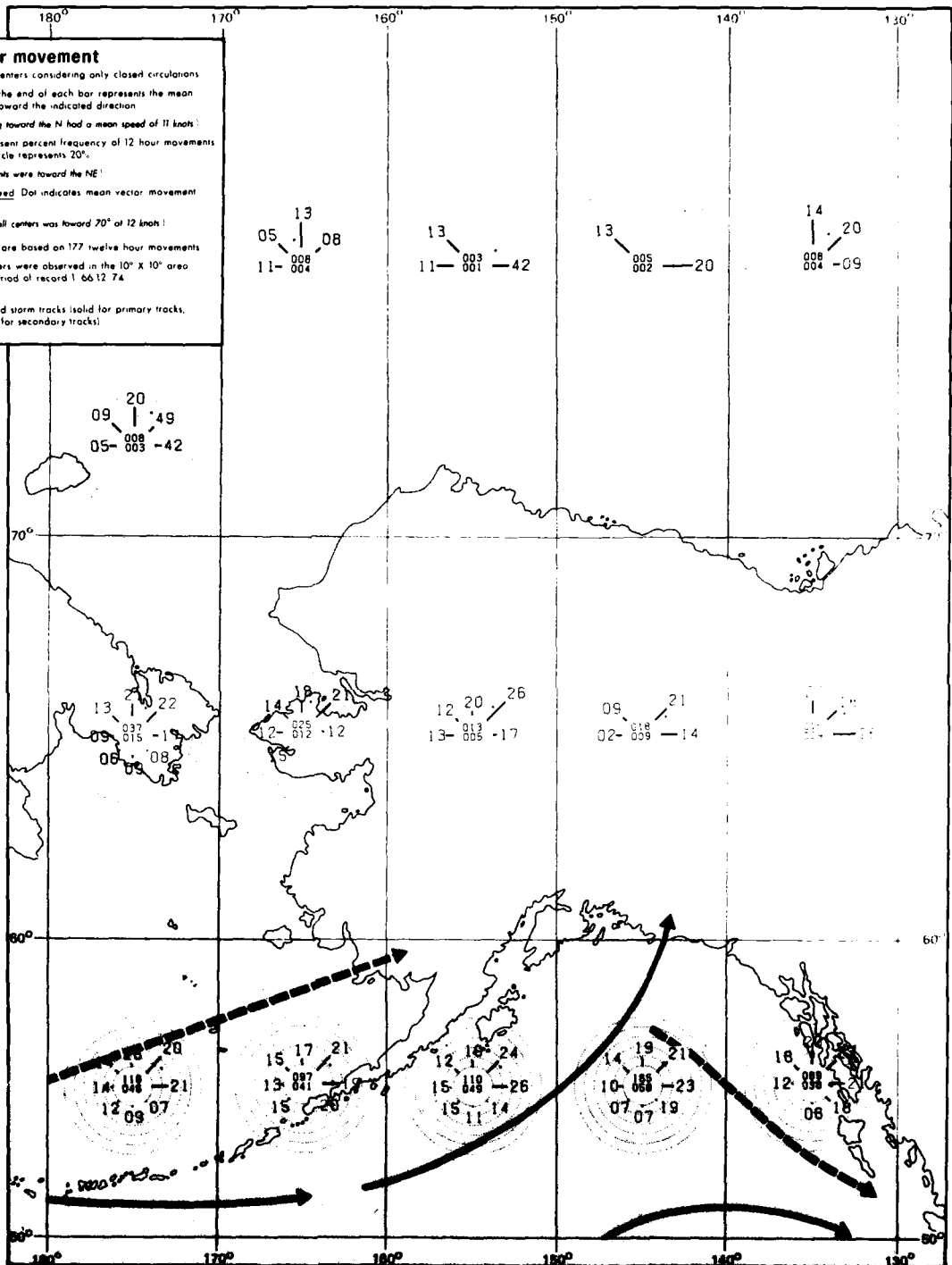
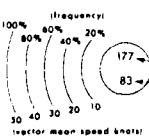
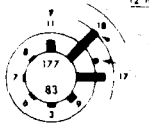
41% of all 12 hour movements were toward the NE

Vector mean direction and speed Dot indicates mean vector movement. Each circle equals 10 knots

Mean vector movement of all centers was toward 70° at 12 knots

Statistics for this rose are based on 177 twelve hour movements. 83 low pressure centers were observed in the 10° X 10° area during the 9 year period of record 1.66.12.74

BLACK ARROWS Preferred storm tracks (solid for primary tracks, dashed for secondary tracks)



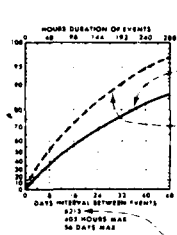
December

**18 Low pressure center movement**



**Legend**

**Persistence of visibility <2 n. mi.**



Hours duration of events - Days interval between events.

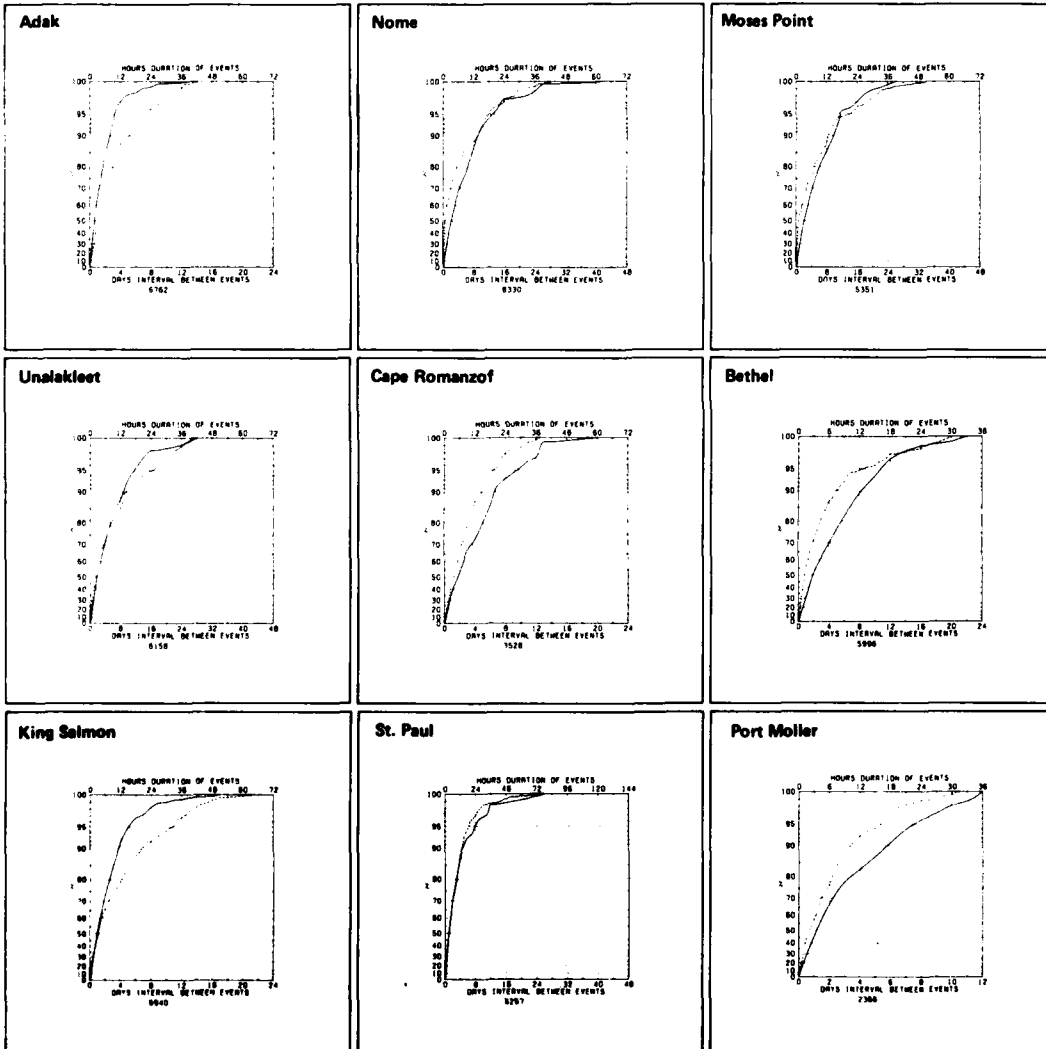
Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve  
 (80% of the events had a duration ≤ 216 hours.)

Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve  
 (88% of the events were followed by another event in 28 days or less.)

The maximum value(s) of hours duration and/or the days interval will be displayed when the graph limits are exceeded.

Durations and intervals for a particular month extend from the time they begin (or the first of the month if already in progress) and are terminated at the actual ending time, regardless of what month that may be.

Number of observations  
 Top and bottom scales are variable to allow for variations in the data.

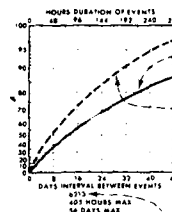


**19 Persistence of visibility <2 n. mi.**

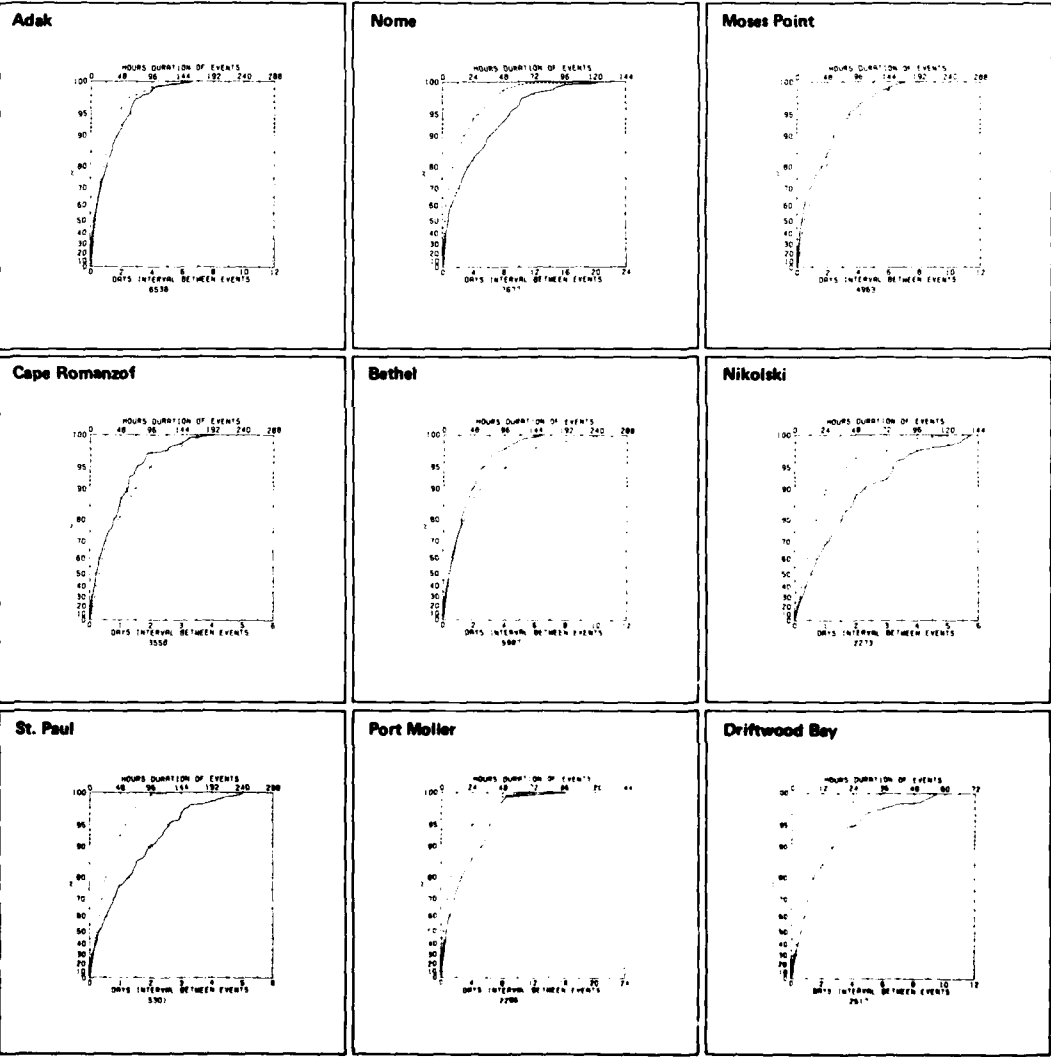
**December**

**Legend**

**Persistence of wind  $\geq 10$  kts.**

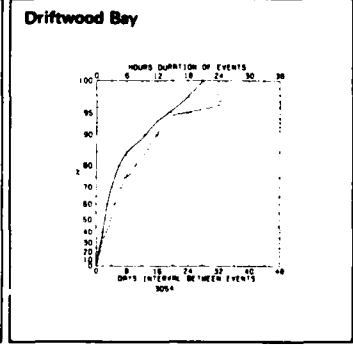
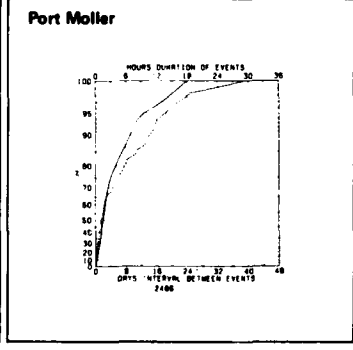
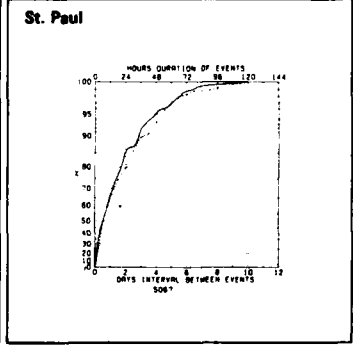
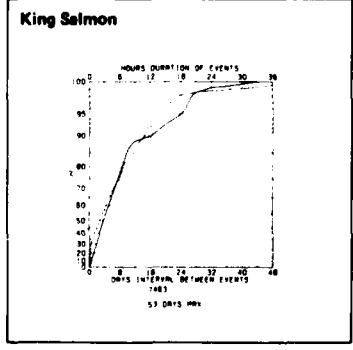
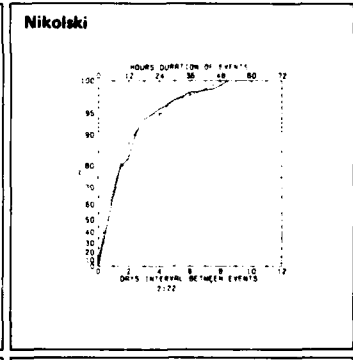
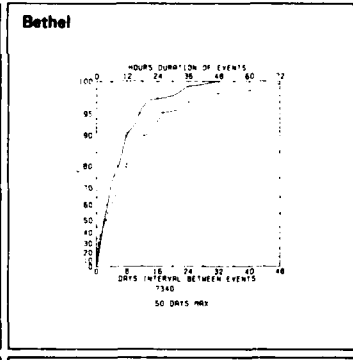
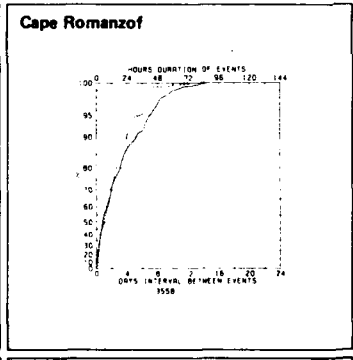
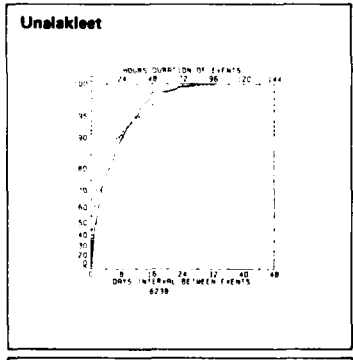
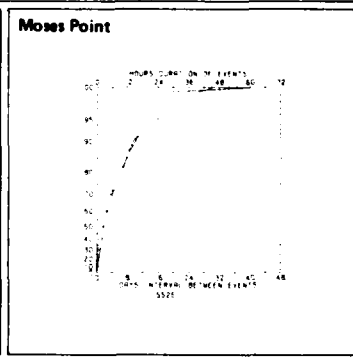
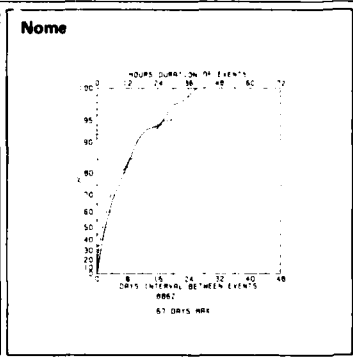
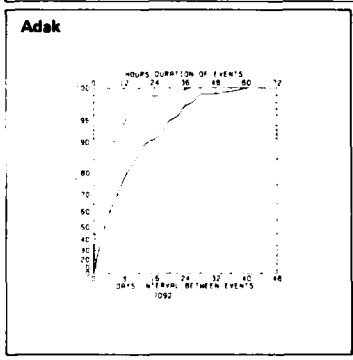
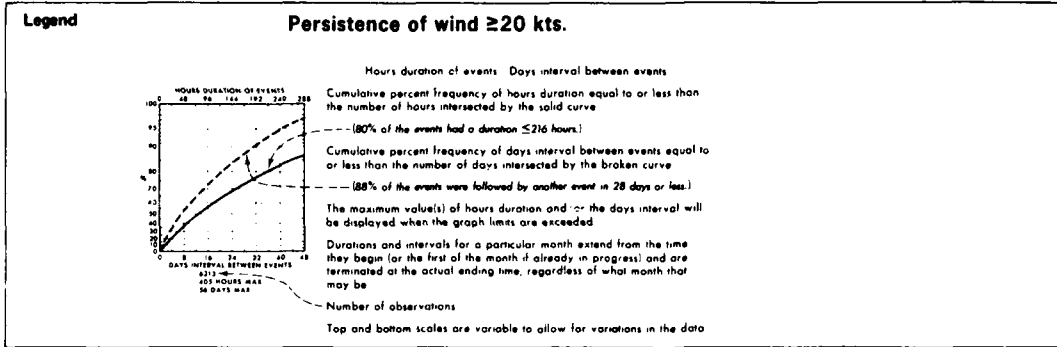


Hours duration of events Days interval between events  
 Cumulative percent frequency of hours duration equal to or less than the number of hours intersected by the solid curve  
 --- (80% of the events had a duration  $\leq 216$  hours)  
 Cumulative percent frequency of days interval between events equal to or less than the number of days intersected by the broken curve  
 --- (88% of the events were followed by another event in 28 days or less)  
 The maximum value(s) of hours duration and/or the days interval will be displayed when the graph limits are exceeded  
 Durations and intervals for a particular month extend from the time they begin (or the first of the month if already in progress) and are terminated at the actual ending time, regardless of what month that may be  
 Number of observations  
 Top and bottom scales are variable to allow for variations in the data



**December**

**20 Persistence of wind  $\geq 10$  kts.**



21 Persistence of wind  $\geq 20$  kts.

December

**Legend****Annual maximum winds and waves for selected return periods—Marine areas**

Return periods for maximum sustained winds and for maximum significant and extreme wave heights are presented in tabular form for selected marine areas. Sustained winds are winds averaged over a period of one minute, the significant wave height is the average height of the highest one third of all waves (sea and swell) in view, and the extreme wave height is an empirical estimate of 1.8 times the significant wave height. Estimates presented in the tables were based primarily on methods described by Thom (see References). For example, on the average the Marine Area A can expect annual maximum sustained wind speed to exceed 110 knots once in 100 years.

**Area B**

Return period years	Maximum sustained wind-knots	Maximum significant wave-meters (feet)	Extreme wave-meters (feet)
5	75	13.5 (44)	24.0 ( 78)
10	81	15.0 (49)	27.0 ( 89)
25	91	17.5 (58)	31.5 (104)
50	98	20.0 (65)	35.5 (117)
100	107	22.5 (73)	40.0 (131)

**Area C**

Return period years	Maximum sustained wind-knots	Maximum significant wave-meters (feet)	Extreme wave-meters (feet)
5	75	13.0 (43)	24.0 ( 78)
10	81	15.0 (49)	27.0 ( 89)
25	90	17.5 (58)	31.5 (104)
50	98	20.0 (65)	35.5 (117)
100	106	22.5 (73)	40.0 (131)

**Area D**

Return period years	Maximum sustained wind-knots	Maximum significant wave-meters (feet)	Extreme wave-meters (feet)
5	74	13.0 (43)	24.0 ( 78)
10	81	15.0 (49)	27.0 ( 88)
25	90	17.5 (57)	31.5 (103)
50	98	20.0 (65)	35.5 (116)
100	106	22.5 (73)	40.0 (131)

**Area A**

Return period years	Maximum sustained wind-knots	Maximum significant wave-meters (feet)	Extreme wave-meters (feet)
5	78	13.5 (45)	24.5 ( 81)
10	84	15.5 (51)	28.0 ( 92)
25	94	18.5 (60)	33.0 (108)
50	102	20.5 (67)	36.0 (121)
100	110	23.0 (76)	42.5 (138)

**Area E**

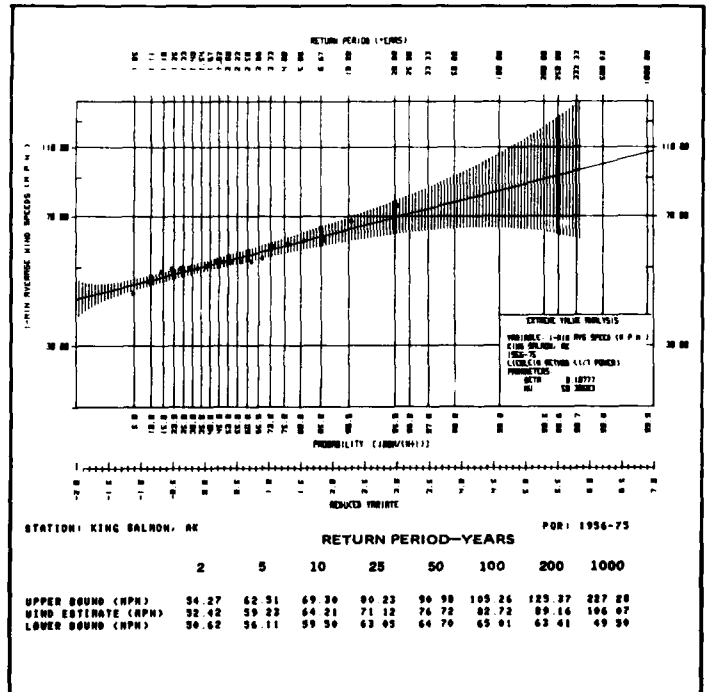
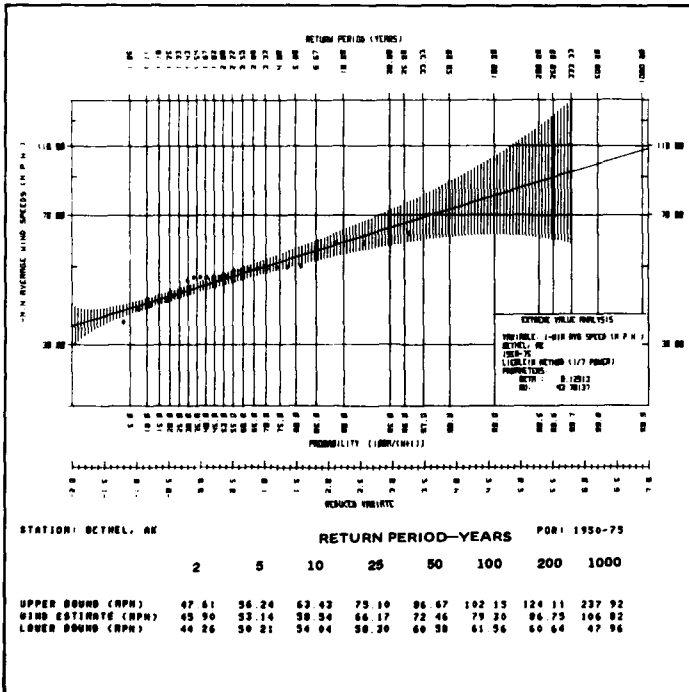
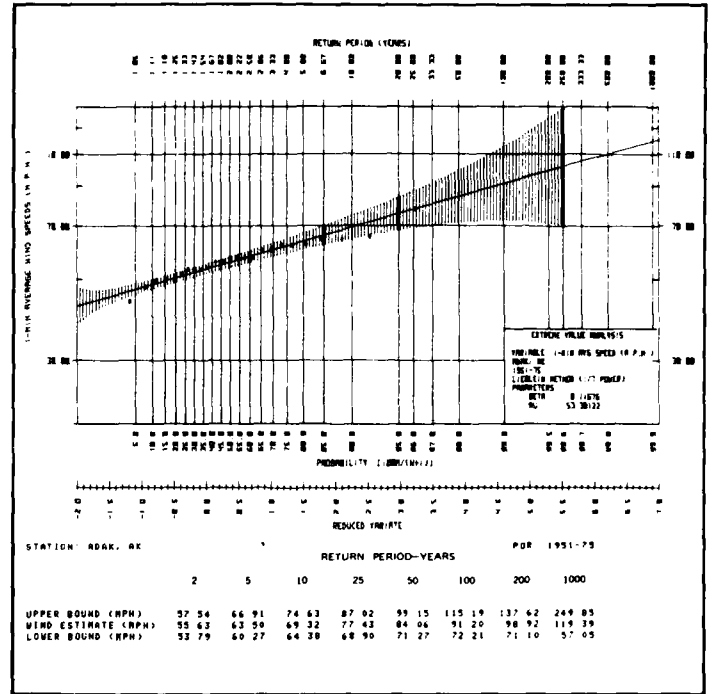
Return period years	Maximum sustained wind-knots	Maximum significant wave-meters (feet)	Extreme wave-meters (feet)
5	74	13.0 (43)	23.5 ( 77)
10	80	14.5 (48)	26.5 ( 87)
25	89	17.5 (57)	31.0 (102)
50	97	19.5 (64)	35.0 (115)
100	106	22.0 (72)	39.5 (129)

**22 Annual maximum winds and waves for selected return periods—Marine areas**

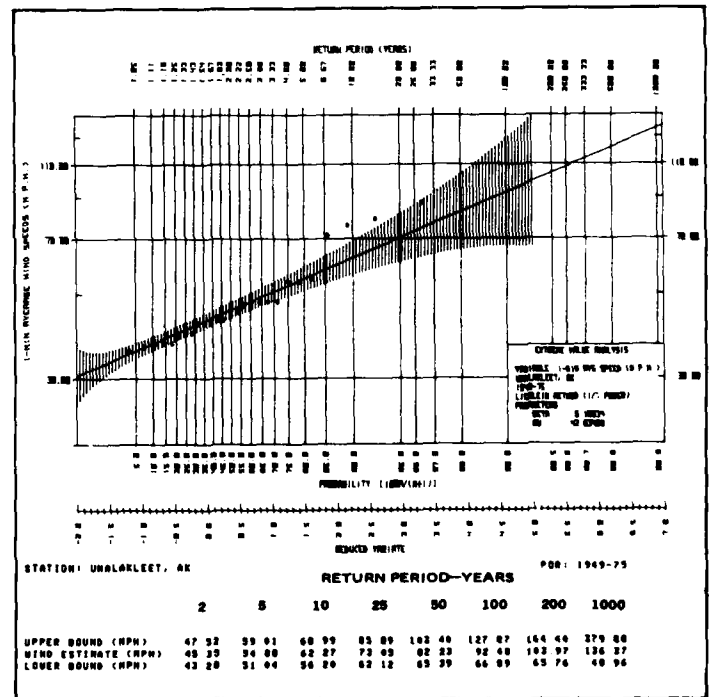
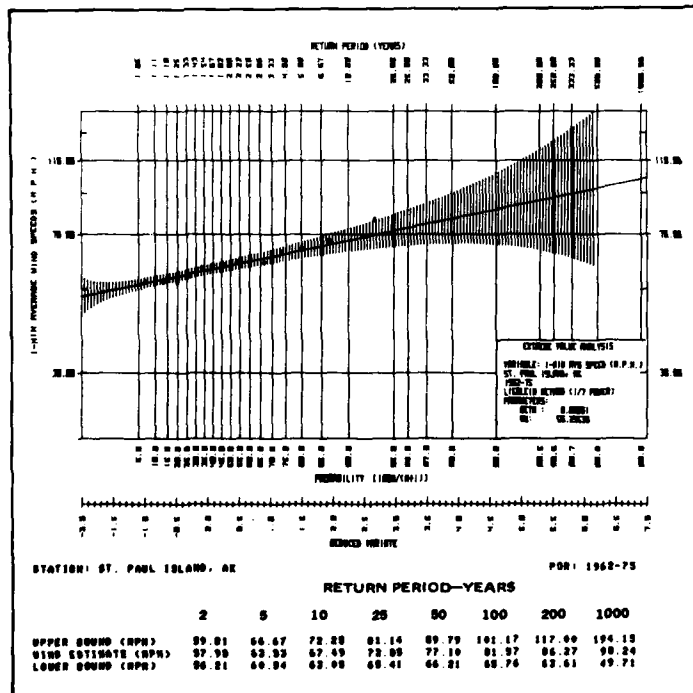
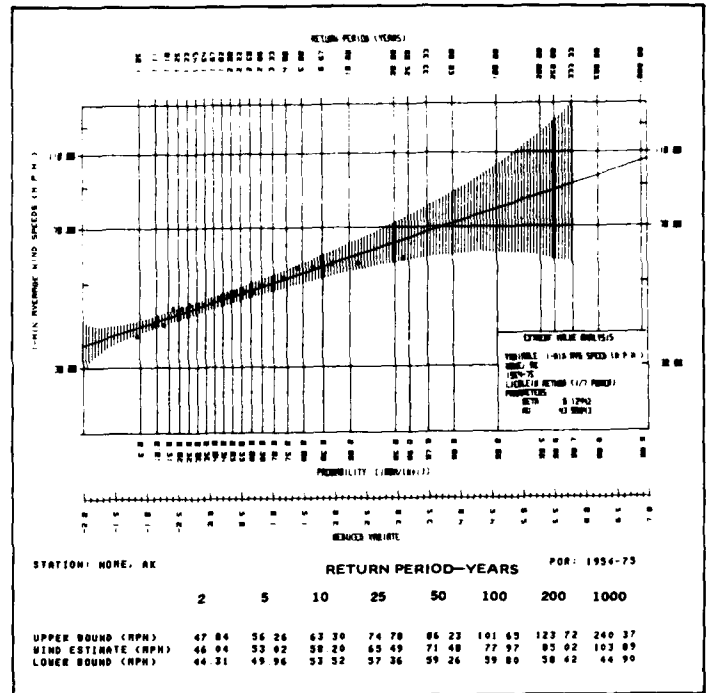
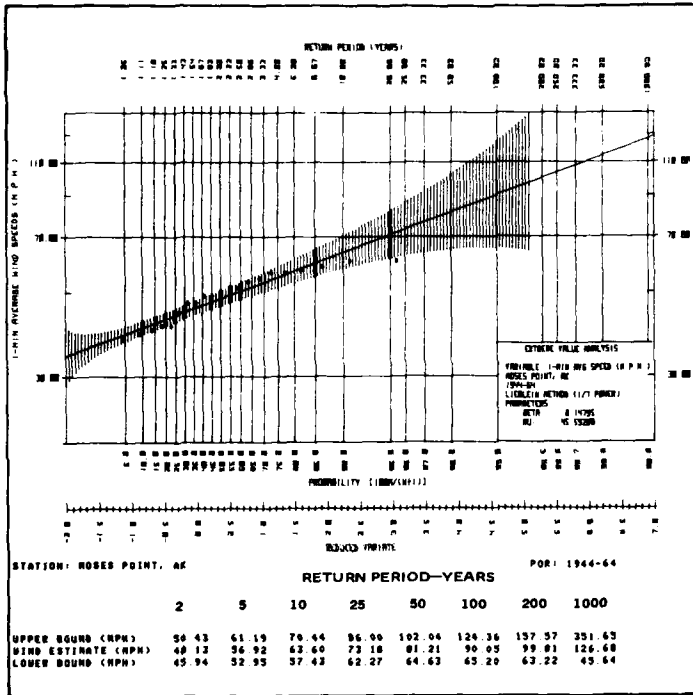
**Legend**

**Annual maximum sustained winds for selected return periods**

Values of annual maximum sustained wind speeds for selected return periods in years are presented in graphic and tabular form for selected coastal stations. For example, on the average Adak can expect annual maximum sustained wind speed to exceed 82 mph once in 100 years. Stated another way, the probability is 0.99 that the maximum sustained wind will be equal to or less than 82 mph; the probability of exceeding 82 mph in any year is 0.01 (the return period is the reciprocal of the latter probability). This is an estimate of the true 100-year return period value; the probability is 0.68 that the true 100-year value lies in the interval bounded by 68 and 99 mph.



**23 Annual maximum sustained winds for selected return periods**



23 Annual maximum sustained winds for selected return periods (cont.)

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