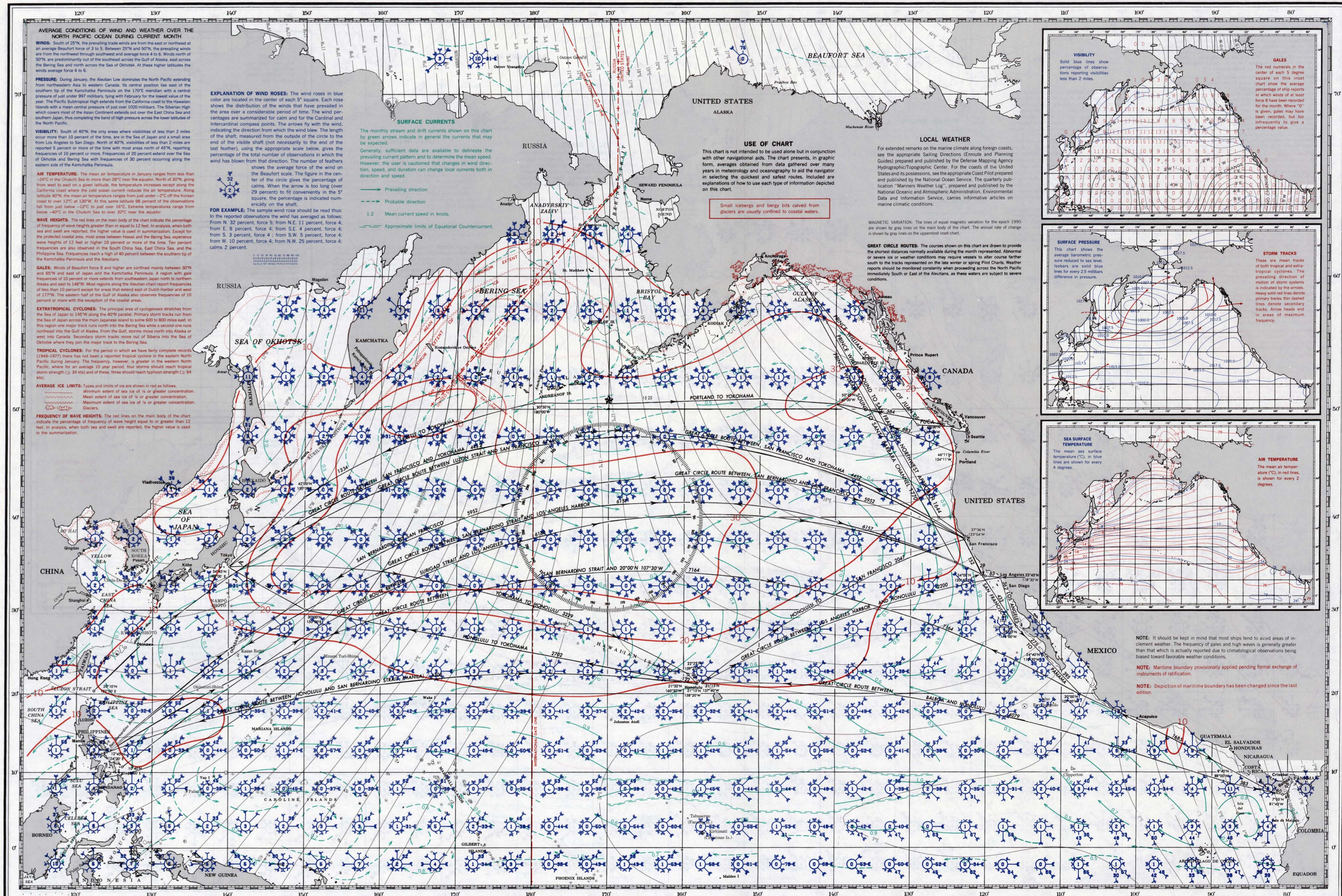


# PILOT CHART OF THE NORTH PACIFIC OCEAN

JANUARY



**AVERAGE CONDITIONS OF WIND AND WEATHER OVER THE NORTH PACIFIC OCEAN DURING CURRENT MONTH**

**WINDS:** South of 25°N, the prevailing trade winds are from the east or northeast at an average Beaufort force of 3 to 5. Between 25°N and 50°N, the prevailing winds are from the northwest through southwest and average force 4 to 6. Winds north of 50°N are predominantly out of the southeast across the Gulf of Alaska, east across the Bering Sea and north across the Sea of Okhotsk. At these higher latitudes the winds average force 4 to 6.

**PRESSURE:** During January, the Aleutian Low dominates the North Pacific extending from northeastern Asia to western Canada. Its central position lies east of the southern tip of the Kamchatka Peninsula on the 170°E meridian with a central pressure of just under 997 millibars, tying February for the lowest value of the year. The Pacific Subtropical High extends from the California coast to the Hawaiian Islands with a mean central pressure of just over 1020 millibars. The Siberian High which covers most of the Asian Continent extends over the East China Sea and southern Japan, thus completing the band of high pressure across the lower latitudes of the North Pacific.

**VISIBILITY:** South of 40°N, the only areas where visibilities of less than 2 miles occur more than 10 percent of the time are in the Sea of Japan and a small area near Los Angeles to San Diego. North of 40°N, visibilities of less than 2 miles are reported 5 percent or more of the time with most areas north of 45°N, reporting frequencies of 10 percent or more. Frequencies of 20 percent extend over the Sea of Okhotsk and Bering Sea with frequencies of 30 percent occurring along the eastern side of the Kamchatka Peninsula.

**AIR TEMPERATURE:** The mean air temperature in January ranges from less than -24°C in the Chukchi Sea to more than 28°C near the equator. North of 30°N, going from west to east on a given latitude, the temperature increases except along the California coast where the cold oceanic waters reduce the air temperature. Along latitude 40°N, the mean air temperature ranges from just under -2°C off the Korean coast to over 12°C at 130°W. At this same latitude 98 percent of the observations fall from just below -12°C to just over 16°C. Extreme temperatures range from below -40°C in the Chukchi Sea to over 32°C near the equator.

**WAVE HEIGHTS:** The red lines on the main body of the chart indicate the percentage of frequency of wave heights greater than or equal to 12 feet. In analysis, when both sea and swell are reported, the higher value is used in summarizing. Except for the protected coastal area, most areas between Hawaii and the Bering Sea, experience wave heights of 12 feet or higher 10 percent or more of the time. Ten percent frequencies are also observed in the South China Sea, East China Sea, and the Philippine Sea. Frequencies reach a high of 40 percent between the southern tip of the Kamchatka Peninsula and the Aleutians.

**GALES:** Winds of Beaufort force 8 and higher are confined mainly between 30°N and 65°N and east of Japan and the Kamchatka Peninsula. A region with gale frequencies of 10 percent or more extends from southeastern Japan north to northern Alaska and east to 145°W. Most regions along the Aleutian chain report frequencies of less than 10 percent except for areas that extend east of Dutch Harbor and west of 177°W. The eastern half of the Gulf of Alaska also observes frequencies of 10 percent or more with the exception of the coastal areas.

**EXTRATROPICAL CYCLONES:** The principal area of cyclogenesis stretches from the Sea of Japan to 145°W along the 40°N parallel. Primary storm tracks run from the Sea of Japan across the main Japanese island to some 600 to 800 miles east. In this region one major track runs north into the Bering Sea while a second one runs northeast into the Gulf of Alaska. From the Gulf, storms move north into Alaska or west into Canada. Secondary storm tracks move out of Siberia into the Sea of Okhotsk where they join the major track to the Bering Sea.

**TROPICAL CYCLONES:** For the period in which we have fairly complete records (1949-1977) there has not been a reported tropical cyclone in the eastern North Pacific during January. The frequency, however, is greater in the western North Pacific, where for an average 10 year period, four storms should reach tropical storm strength (≥ 34 kts) and of these, three should reach typhoon strength (≥ 64 kts).

**AVERAGE ICE LIMITS:** Types and limits of ice are shown in red as follows:  
 Minimum extent of sea ice of 1/4 or greater concentration.  
 Mean extent of sea ice of 1/4 or greater concentration.  
 Maximum extent of sea ice of 1/4 or greater concentration.  
 Glaciers.

**FREQUENCY OF WAVE HEIGHTS:** The red lines on the main body of the chart indicate the percentage of frequency of wave height equal to or greater than 12 feet. In analysis, when both sea and swell are reported, the higher value is used in the summarizing.

**EXPLANATION OF WIND ROSES:** The wind roses in blue color are located in the center of each 5° square. Each rose shows the distribution of the winds that have prevailed in the area over a considerable period of time. The wind percentages are summarized for calm and for the Cardinal and Inter-cardinal compass points. The arrows fly with the wind, indicating the direction from which the wind blew. The length of the shaft, measured from the outside of the circle to the end of the visible shaft (not necessarily to the end of the last feather), using the appropriate scale below, gives the percentage of the total number of observations in which the wind has blown from that direction. The number of feathers shows the average force of the wind on the Beaufort scale. The figure in the center of the circle gives the percentage of calms. When the arrow is too long (over 25 percent) to fit conveniently in the 5° square, the percentage is indicated numerically on the shaft.

**FOR EXAMPLE:** The sample wind rose should be read thus: In the reported observations the wind has averaged as follows: From N. 32 percent, force 5; from N.E. 11 percent, force 4; from E. 8 percent, force 4; from S.E. 4 percent, force 4; from S. 3 percent, force 4; from S.W. 5 percent, force 4; from W. 10 percent, force 4; from N.W. 25 percent, force 4; calms 2 percent.

**SURFACE CURRENTS**

The monthly stream and drift currents shown on this chart by green arrows indicate in general the currents that may be expected.

Generally, sufficient data are available to delineate the prevailing current pattern and to determine the mean speed. However, the user is cautioned that changes in wind direction, speed, and duration can change local currents both in direction and speed.

→ Prevailing direction  
 --- Probable direction  
 1.2 Mean current speed in knots.  
 --- Approximate limits of Equatorial Countercurrent.

**USE OF CHART**

This chart is not intended to be used alone but in conjunction with other navigational aids. The chart presents, in graphic form, averages obtained from data gathered over many years in meteorology and oceanography to aid the navigator in selecting the quickest and safest routes. Included are explanations of how to use each type of information depicted on this chart.

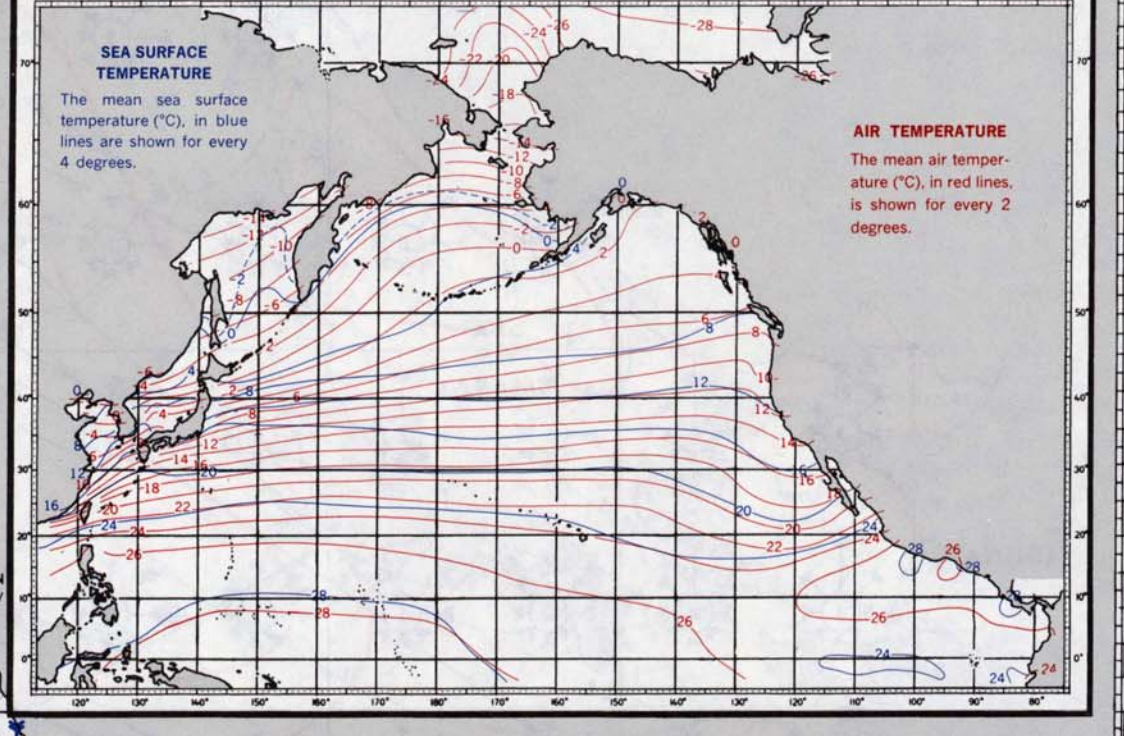
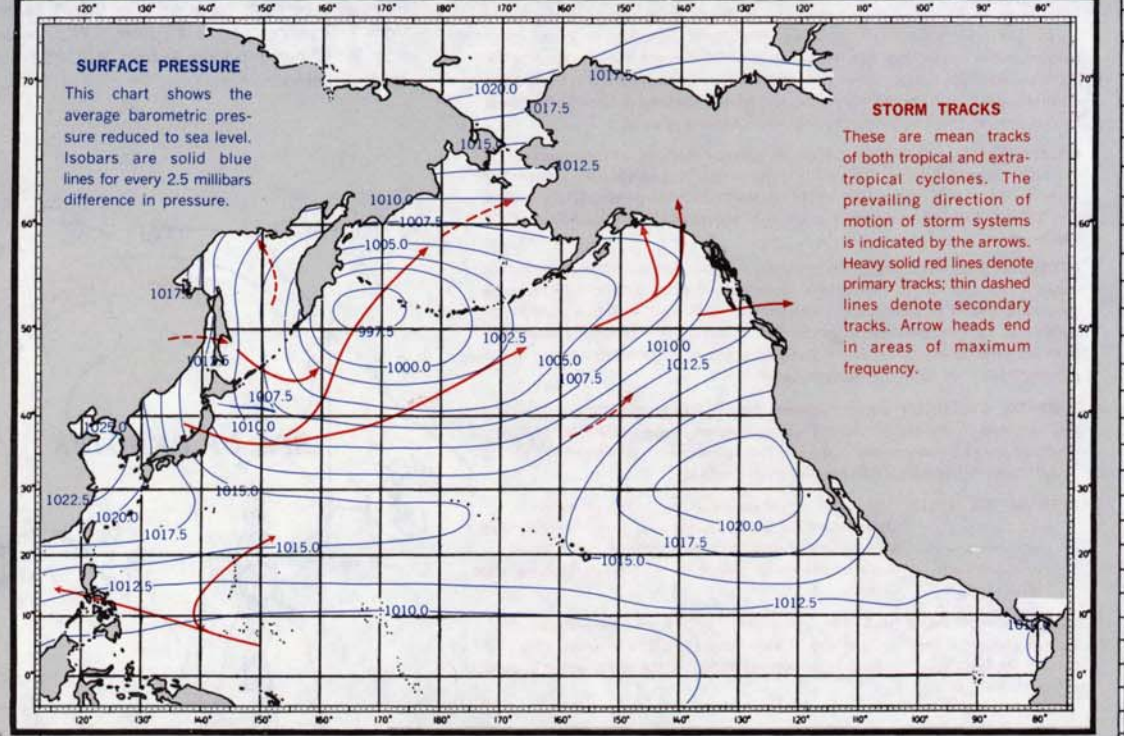
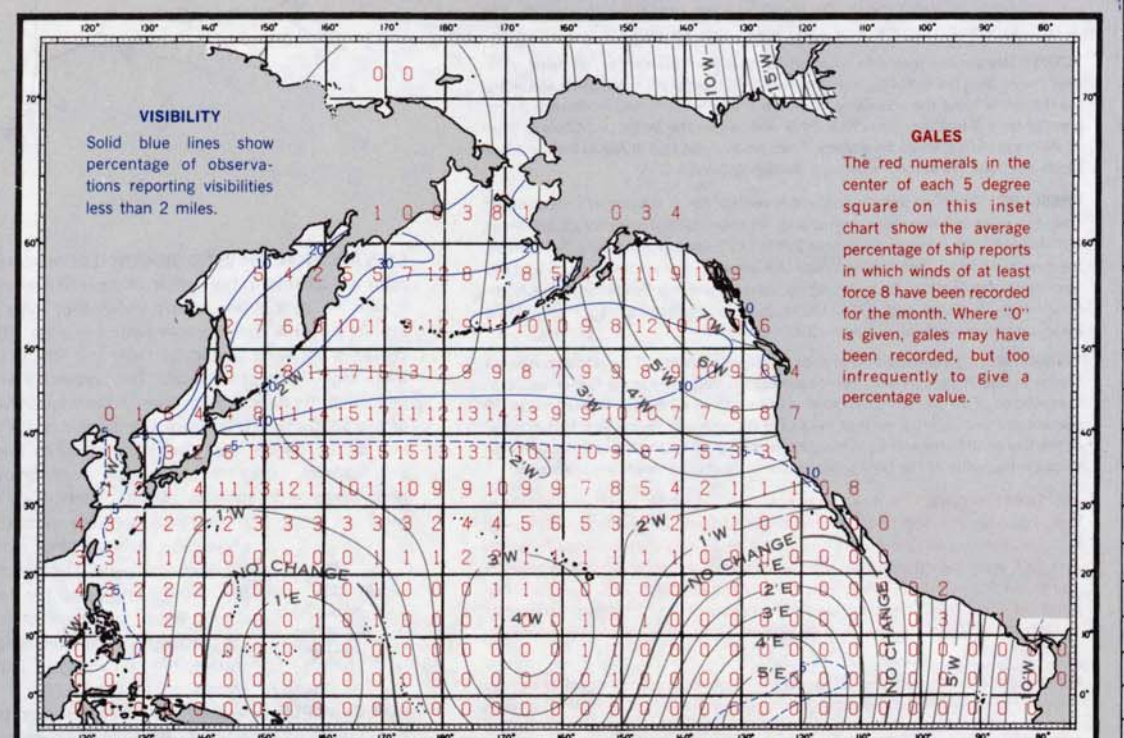
Small icebergs and berg bits calved from glaciers are usually confined to coastal waters.

**LOCAL WEATHER**

For extended remarks on the marine climate along foreign coasts, see the appropriate Sailing Directions (Enroute and Planning Guides) prepared and published by the Defense Mapping Agency Hydrographic/Topographic Center. For the coasts of the United States and its possessions, see the appropriate Coast Pilot prepared and published by the National Ocean Service. The quarterly publication "Mariners Weather Log", prepared and published by the National Oceanic and Atmospheric Administration, Environmental Data and Information Service, carries informative articles on marine climatic conditions.

**MAGNETIC VARIATION:** The lines of equal magnetic variation for the epoch 1990 are shown by gray lines in the main body of the chart. The annual rate of change is shown by gray lines on the uppermost inset chart.

**GREAT CIRCLE ROUTES:** The courses shown on this chart are drawn to provide the shortest distances normally available during the month represented. Abnormal or severe ice or weather conditions may require vessels to alter course farther south to the tracks represented on the late winter or spring Pilot Charts. Weather reports should be monitored constantly when proceeding across the North Pacific immediately South or East of the Aleutians, as these waters are subject to severe conditions.



**NOTE:** It should be kept in mind that most ships tend to avoid areas of inclement weather. The frequency of gales and high waves is generally greater than that which is actually reported due to climatological observations being based toward favorable weather conditions.

**NOTE:** Maritime boundary provisionally applied pending formal exchange of instruments of ratification.

**NOTE:** Depiction of maritime boundary has been changed since the last edition.