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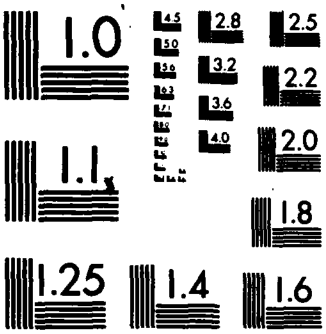
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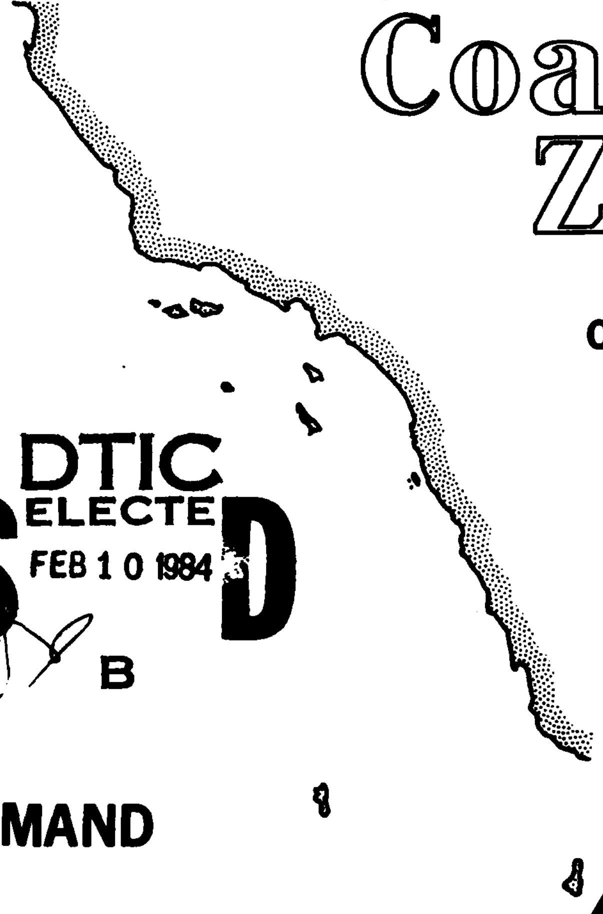
Climatic Study of the Southern California Operating Area

Near Coastal Zone



OCTOBER 1983

PREPARED BY
NAVAL OCEANOGRAPHY
COMMAND DETACHMENT,
ASHEVILLE, N.C.

PREPARED UNDER
COMMANDER
NAVAL OCEANOGRAPHY COMMAND
NSTL, MS 39529

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This climate study consists of monthly charts and tables of (1) clouds, (2) visibility-tables, (3) ceiling-visibility (mid range), (4) wind-visibility-cloudiness, (5) scalar mean wind speed, (6) wind speed <11 and ≥ 34 knots, (7) wind speed 11-21 and 22-33 knots, (8) air and sea temperature (9) surface wind roses, (10) wave height-isopleths, (11) wave height-tables, (12) surface currents (seasonal), and station climatic summaries.

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Climatic Study of the Southern California Operating Area

Near Coastal Zone

OCTOBER 1983

PREPARED BY
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NSTL, MS 39529

DEPARTMENT OF THE NAVY OCEANOGRAPHIC OFFICE

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The Southern California Operating Area near-coastal zone study was prepared by direction of the Commander, Naval Oceanography Command and the Official in Charge, Naval Oceanography Command Detachment, Asheville, North Carolina. Work was performed by the National Climatic Data Center (NCDC).

Geographical and Data Coverage

This study covers the southern California area (24°N to 37°N; 115°W to 125°W) with the greatest emphasis being placed on the marine areas (see Fig. 1). Surface marine statistics are presented on monthly charts in the form of graphs, tables and isopleth maps. Land station data appear graphically and in Station Climatic Summary tables in the last section of the publication. The marine data were machine plotted by one-degree quadrangle and then hand analyzed. The graphs and tables for the marine areas are also presented by one-degree quadrangles (visibility, wave heights, and wind roses). These graphs and tables represent the objective compilation of available data; the data were not adjusted for suspected biases (low observation count, heavy weighting of observations during a short time interval, biases in coding of observations from various source decks, etc.), and differences may be found when comparing the graphic data with isopleth analyses. The total number of observations for a given one-degree square should always be considered when interpreting the data, as there may be an insufficient number to permit representative statistics.

Just over one million surface marine observations were used in computing the statistics. These data, taken from NCDC's Tape Data Family 11 (TDF-11), were collected by ships of various registry traveling in the study area. Some observations were collected as early as 1854. Data for this study were obtained from the earliest available period through 1979. The bulk of the observations are from the last 30 years, which is significant because more recent observations contain more elements than pre-1948 reports. The density of observations is greatest along the major shipping routes; in this area major traffic moves north-south just off the coast, and along the Asian routes to and from Los Angeles and San Francisco.

The mean sea current charts were extracted from the Department of Transportation, Coast Guard Oceanographic Unit Technical Report 82-2, Pacific Area Current Charts.

Physical Features

In California, north of the Los Angeles Basin, basically two mountain ranges parallel the coast. The Coast Ranges on the west generally run no more than 50 miles from the sea to the crest of the mountains, while farther inland to the east run the Sierra Nevada. In between the southern extent of these two mountain ranges lies the San Joaquin Valley, the drainage basin that empties into San Francisco Bay. The melt water from the High Sierras has provided the necessary irrigation water to make the San Joaquin Valley a highly productive farm area.

In southern California there are a number of smaller mountain ranges. The San Gabriel and San Bernardino ranges are the most extensive and are basically located to the east and southeast of Los Angeles. South of the San Bernardino range lie the San Jacinto mountains and farther south, the Santa Rosa range. The Santa Ana range parallels the coast to the west of the San Bernardino and San Jacinto mountains.

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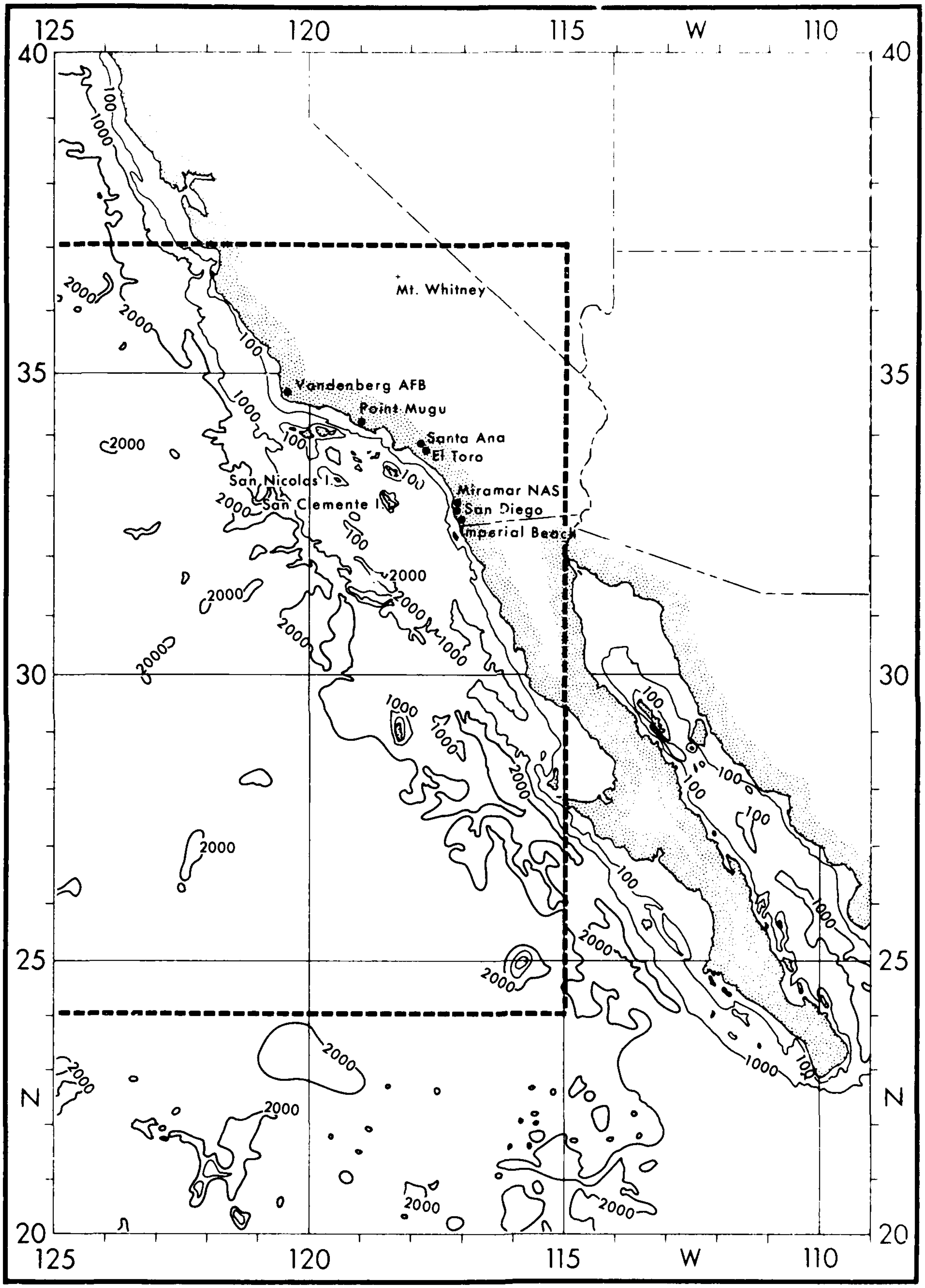


Fig. 1 Area map

To the east of the mountains in southern California lies the desert region which includes Death Valley (just east of the southern end of the Sierra Nevada). The lowest point in the U. S. is found at 282 feet below sea level in Death Valley, which is just 85 miles from the highest peak within the contiguous U. S., Mt. Whitney (southern end of the Sierra Nevada) at 14,494 feet above sea level.

The southern portion of this California Desert region is generally referred to as the Salton Sea - Sonoran Desert, with its northern portion designated as the Mohave Desert. East of the Santa Rosa mountains lies the Salton Sea Basin with the surface level of the lake below sea level. This region is a cut-off remnant of the Gulf of California. South of the lake lies the area which has become known as the Imperial Valley because irrigation has made it one of the most productive agricultural regions in the western United States. This region is sparsely settled with El Centro being the major population center.

The California coastline, unlike the Atlantic coast, does not have any extensive coastal plains but rather is characterized by miles of steep sea cliffs or rock terraces. Yet with this type of shoreline topography, none of the California bays, except for San Francisco Bay, provide a safe harbor for shipping. San Francisco Bay, however, happens to be one of the best harbors in the world.

The continental shelf off southern California extends westward for approximately 150 miles before reaching the escarpment (continental slope) that drops down to the deep ocean basin. This shelf differs from the gentle slope off Florida; instead of the smooth under-surface there are a number of islands protruding above the surface and a number of banks just below the surface (Shepard, 1963). Reference Fig. 1 for the depth contours.

A cold ocean current runs from north to south along the California coast. The associated upwelling is important to commercial fishing as it produces enough organic nutrients to support large stocks of commercially important fish. Changes in the large-scale atmospheric circulation offshore, in response to both thermal and wind forcing processes, may cause the near-shore current to alter its normal pattern and thus affect the fishing as well as the California climate (Nelson and Husby, 1983).

Climate

The southern California climate is best described as a Mediterranean-type climate where the summers are cool and the winters are warm, especially when compared to other locales of the same general latitude. Rainfall is seasonal with most of it falling during the winter. Both San Diego and Long Beach average near 10 inches of annual precipitation, most of it occurring between November and April. The remaining 6-month totals average less than one inch. See Fig. 5 for the monthly means of precipitation and temperature for selected locations. Thunderstorms occur but are rather rare; San Diego averages about 3 per year. The mountains to the east occasionally get a few more thunderstorms, but as indicated in Fig. 2 (mean number of annual thunderstorms), most of the western half of California get less than 5 per year. A large number of the summer monthly precipitation totals at San Diego show a trace but a rare tropical storm will sometimes move into the region and produce monthly values in excess of 2 inches. Heavy thunderstorms can also produce record rainfalls. On August 12, 1981, at Campo in San Diego County, a

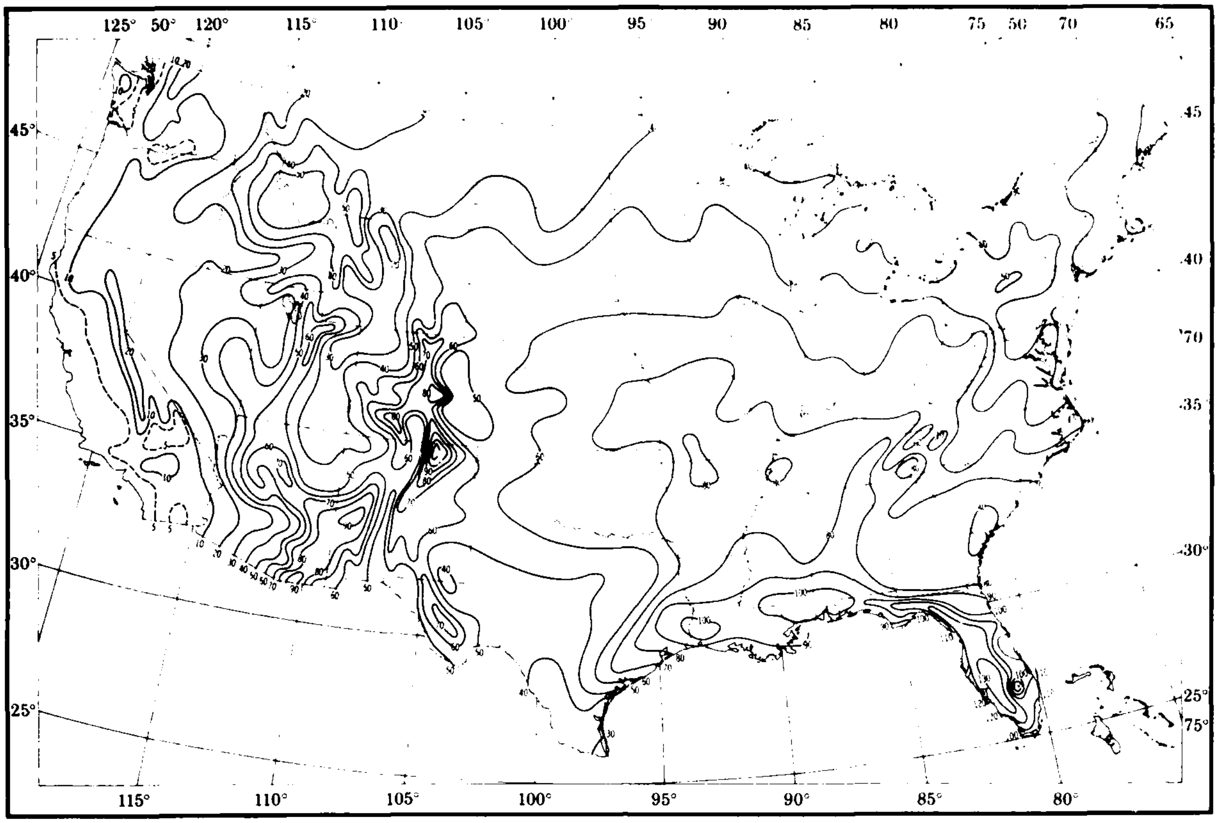
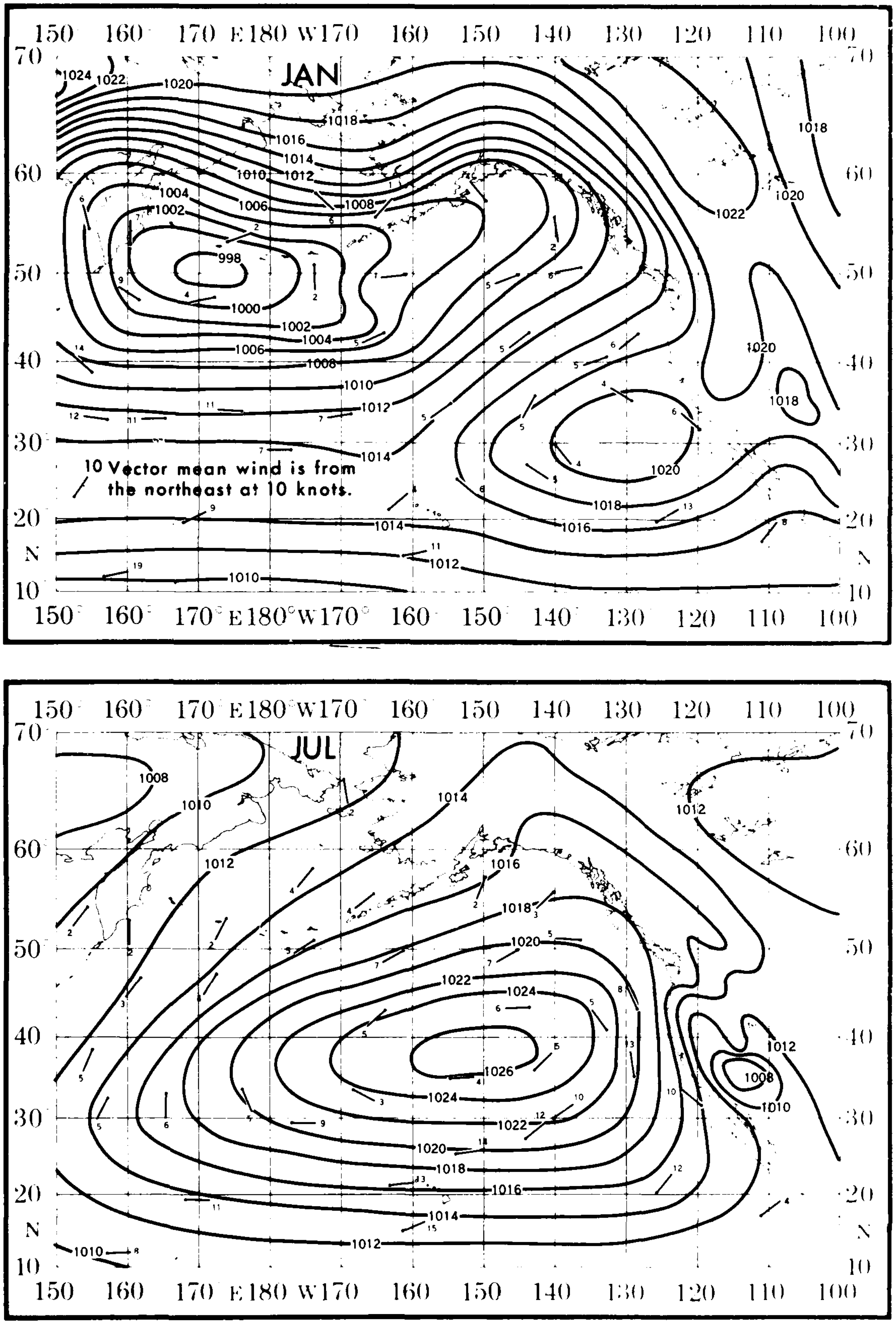


Fig. 2 Mean number of annual thunderstorms

thunderstorm rained 16.10 inches of which 11.50 inches fell in 80 minutes. In general the mountains of southern California receive between 30 and 40 inches per year, the coastal plains 10 to 15, and the desert regions 2 to 5 inches.

The dominant feature which controls the southern California weather is the semi-permanent North Pacific subtropical high. During summer, the high becomes more intense and moves farther north thereby restricting the few storms that develop during this season to storm tracks far to the north. With winter, the subtropical high is less intense and retreats somewhat southward and, thus, allows more storm tracks to penetrate into southern California. See Fig. 3 for the January and July mean pressure pattern.

Southern California coastal areas are occasionally affected, primarily during the fall and winter, by a foehn-type wind known as a Santa Ana. The dry northeasterly winds typically have speeds of 15 to 25 mph and relative humidities of 30 percent or less, and the accompanying temperatures are generally at least 5°F warmer than the monthly average (de Violini, 1974). The effects of these winds have been felt between Santa Barbara and San Diego and as far east as the mountains and as far west as 50 miles seaward. In areas downwind of canyons and mountain passes these Santa Ana winds can be especially severe. For example, on Dec. 20, 1977, Santa Ana winds of up to 90 mph roared through San Diego County downing power lines, causing serious crop damage, and fanning brush fires. The strong winds snapped a power pole on Vandenberg AFB and started a fire that swept through more than 10,000 acres. The tragic fire claimed the lives of the Base Commander and two other base officials. In another example, the San Diego WSO reported easterly winds of 60-70 mph in the pass east of Alpine on Jan. 9, 1982.



10 Vector mean wind is from the northeast at 10 knots.

Fig. 3 Mean sea-level pressure (mbs) and vector mean winds (kts)

In a majority of instances the Santa Ana winds will follow the passage of a cold front. They may start within a few minutes of passage or up to 48 hours afterwards. Behind the front a large mass of cold air will push in over the Great Basin. As the high continues to build over this region, nighttime cooling helps to intensify the surface pressure until this cold dense air begins to push through the mountain valleys and continues on its journey to the sea. As the air descends it is heated by compression to generally between 20 and 25°F by the time it reaches sea level. The intensity and duration of the Santa Ana winds depends upon the pressure gradient between the Great Basin and southern California, the strength of the northerly winds aloft, and the temperature of the cold high pressure air mass. As the air descends and is warmed through compression, it is capable of taking on much more water vapor; for this reason the relative humidity is low during a Santa Ana.

Dangers to aircraft caused by Santa Ana winds are low level turbulence as well as occasional moderate to severe turbulence aloft. For vehicular traffic the hazards are greatest for those with large surface areas, but any vehicle can be blown into oncoming traffic or off the side of the road. Large signs, billboards, and trees are occasionally blown over and large windows blown out. But the greatest hazard is the drying effect on the grass and bushes of southern California which increases the likelihood of fires. The worst fires of this type in the state have all occurred under conditions of Santa Ana winds.

For example, in September 1970, from the 25th through the 29th, Santa Ana winds brought high temperatures, low humidities, and strong winds thereby creating an explosive fire potential. More than 500,000 acres were burned-over in Los Angeles, Ventura, Kern, Orange, San Diego, and San Bernardino counties. Some 500 homes were destroyed, along with more than 500 other structures, including at least four churches. Also, 20 firemen were injured.

The combination of the cold ocean current and the semi-permanent subtropical high produces stratus on nearly a daily basis during the summer along the southern California coast. An inversion is created as long as the cold layer of marine air is maintained beneath the warm dry air of the subtropical high. The stratus clouds generally form during the night and early morning and frequently push into the coastal valleys and foothills. It is less likely that the clouds will penetrate farther inland. If so, they will arrive later, and will burn off earlier. Most of the coastal areas clear up during the morning giving generally comfortable sunny afternoons. Fog does form occasionally during the summer but is much more frequent during the winter season. Early morning fog forms mostly because of radiational cooling and cool air drainage from the nearby hills.

Rarely a tropical storm will move into southern California bringing mostly heavy rains. Fig. 4 shows the annual 12-hourly movements of tropical cyclone centers with tropical storm intensity or greater (wind speed estimated $\geq$ 34 knots). For example, during Sept. 10-11, 1976, the worst tropical storm in 37 years moved into southern California causing record rains and tremendous crop damage. The hardest hit area was the small desert community of Ocatillo in Imperial County. Flood waters tore homes from their foundations and left nearly 70 percent of the town buried in sand which measured up to 10 feet in depth.

In just under a year the unlikely event of a second tropical storm occurred in the same general region of southern California. On Aug. 17, 1977, tropical storm Doreen dumped 4.5 inches of rain within several hours in the

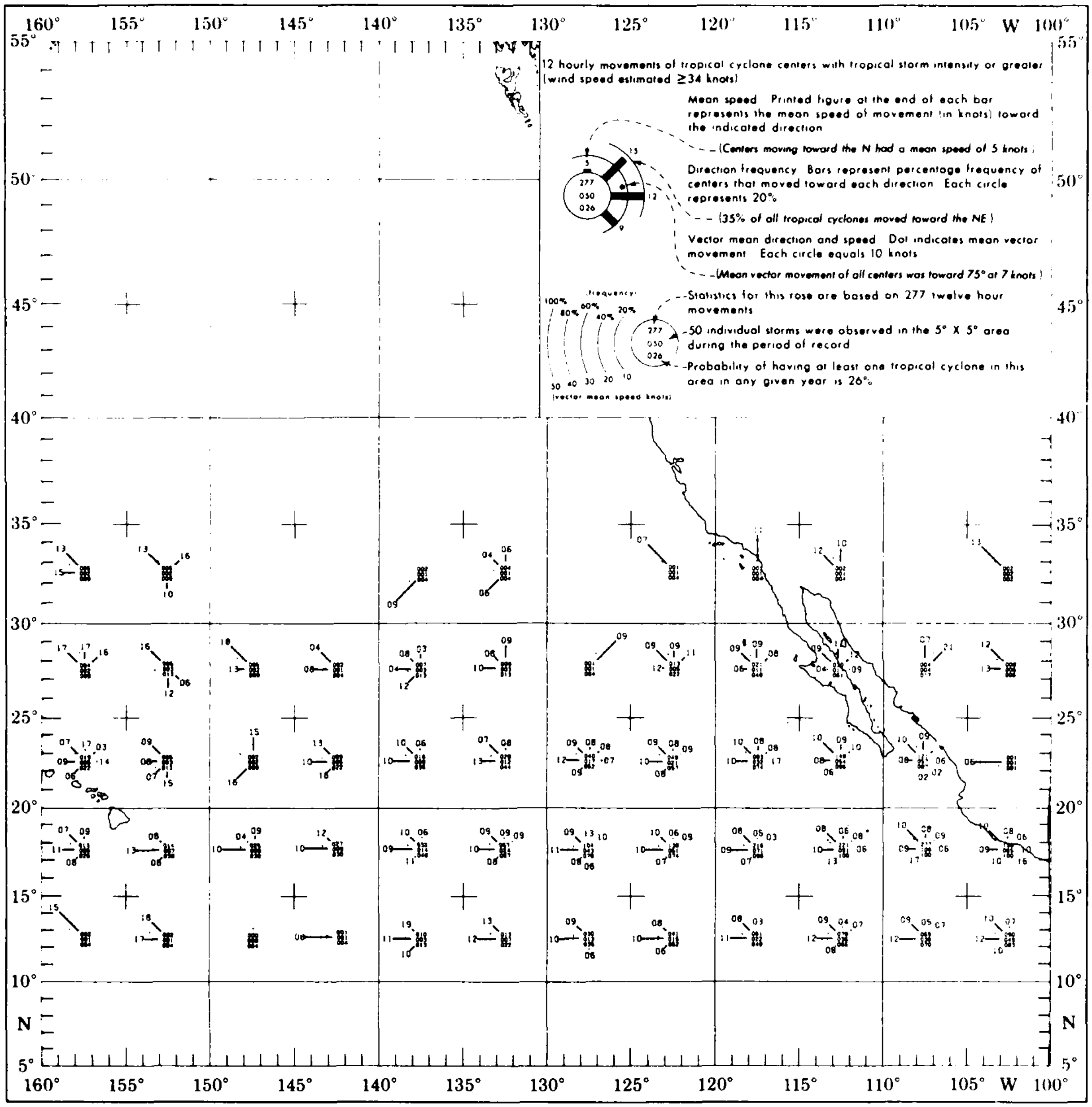


Fig. 4 Annual 12 hourly movements of tropical cyclone centers with tropical storm intensity or greater

Salton Sea area of Imperial County, California. The heavy rainfall flooded 300 homes, causing 4 million dollars in property damage and 9 million dollars in crop damage.

Tornado sightings are not unusual for southern California, however, they are not of the destructive intensity as those reported in the Midwest. When conditions are unstable enough to produce the tornado, development is rarely sufficient to permit them to live very long. In reviewing the Storm Data publication from 1959 through 1982 for the southern California area, one notices numerous reports of funnel cloud and waterspout sightings and some reports of tornadoes touching down. In most cases only minor damage was reported. For example, on Dec. 18, 1978, a waterspout developed a mile off Oceanside, CA before moving about 3/4 mile inland through the business district. It tore off parts of one roof, downed several trees, broke glass, and generally scattered debris along its path. A month later in San Diego, on Jan. 18, 1979, a tornado touched down, traveled 100 yards before lifting off, and touched down again 1/2 mile farther east where it again traveled 100 yards before lifting off and dissipating. In both examples it generally only broke glass and scattered debris.

In southern California the temperatures are very hospitable, especially along the coastal regions. A small daily temperature range, in conjunction with a comparatively small annual temperature range, has helped to make the southern California coastal region a major population center. For example, at San Diego the highest monthly mean daily maximum, 77°F, occurs in August. For the same month the mean daily minimum runs a very comfortable 64°F. Monthly mean temperatures at San Diego range from 55°F in January to 71°F in August. Mean daily maximum and minimum temperatures for January run 65°F and 46°F, respectively. Between 1941 and 1981 the record highest temperature was 111°F (Sep. 1963) and the lowest 29°F (Jan. 1949). As one moves inland away from the marine influence the temperature variations increase. For example, El Centro in the Imperial Valley the normal maximum and minimum temperature for January are 69°F and 38°F, and for July 108°F and 74°F, respectively. However, these temperatures are conducive to a very equable climatic regime. Fig. 5 presents the monthly means of air temperature and precipitation for selected stations. More detail can be obtained from the Station Climatic Summaries in the last section of this publication.

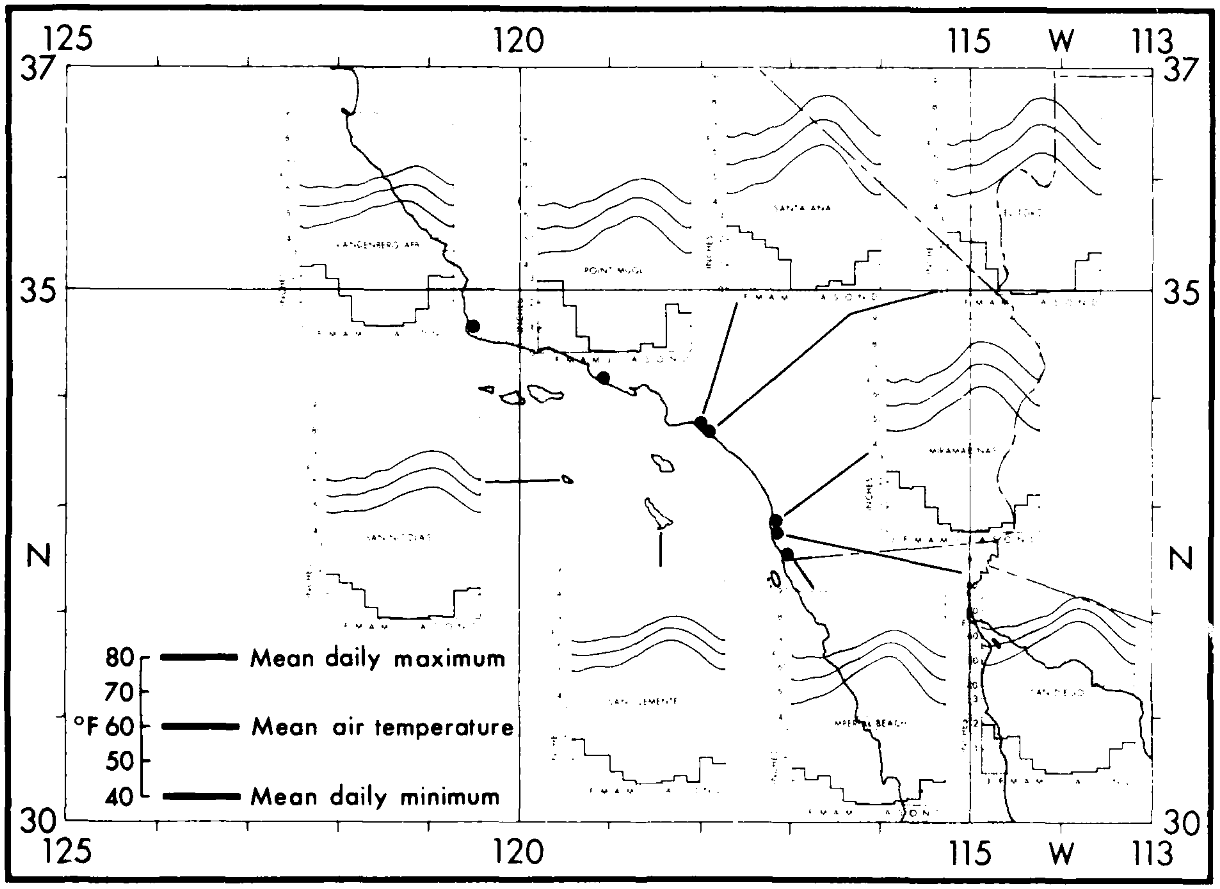


Fig 5 Monthly means of air temperature and precipitation

Marine Climatological Elements

Precipitation

Of the elements recorded in the marine data base, precipitation is one of those most subject to error in both the way it is observed and the way it is interpreted. In many areas of the world, especially in more recent years, ships try to avoid foul weather and thus bias the data towards fair weather.

The percent frequency of present weather observations reporting precipitation reaches a maximum during the winter months and minimum during the summer as previously discussed pertaining to land station data. During January the percent frequency of precipitation over the southern California operating marine area ranges from less than 3 percent off Baja, California, to 10 percent at Monterey Bay. For the summer season frequencies run from less than 1 to 3 percent. The pattern shows slightly higher occurrences seaward. Thunderstorms occur so infrequently that these charts were not included in this publication. Fig. 2 shows fewer than 5 thunderstorms a year being reported at most land stations throughout the coastal regions of southern California, and based on the marine observations even fewer occur at sea.

Tropical Cyclones

Tropical cyclones are not much of a menace to the Southern California Operating Area as indicated by the tropical cyclone rose (Fig. 4). However, south of Baja lies the world's most concentrated Tropical Cyclone area; the average annual number of tropical cyclones is about six per five-degree square (Fig. 6).

Air Temperature

Air temperature is one of the elements most frequently observed by mariners. Due to instrument exposure on many ships, the heating effects of a ship's structure tend to produce readings that are higher than the actual ambient air temperature. This doesn't appear to be as much of a problem in the Southern California Operating Area as it is in the tropical regions of the world.

Isotherm patterns for air temperature are relatively zonal during the winter season averaging between the mid-fifties at the northern end of the study area to the mid-sixties at the southern end. The winter pattern shows little influence of the cold California coastal current. By spring, however, the isotherms begin to follow along the path of the current showing its cooling effects relative to the areas on either side. By September, the warmest month, mean temperatures range from 60°F near Monterey Bay to the low seventies off Baja and across the southern end of the study area. At 33°N, between San Diego and Oceanside, mean temperatures in September run from 68°F just off the coast to under 65°F just west of San Clemente Island, showing the effects of the upwelling.

Sea Surface Temperature

Sea surface temperatures are recorded with a fairly high frequency in marine observations. Two principal methods for sampling are used: intake

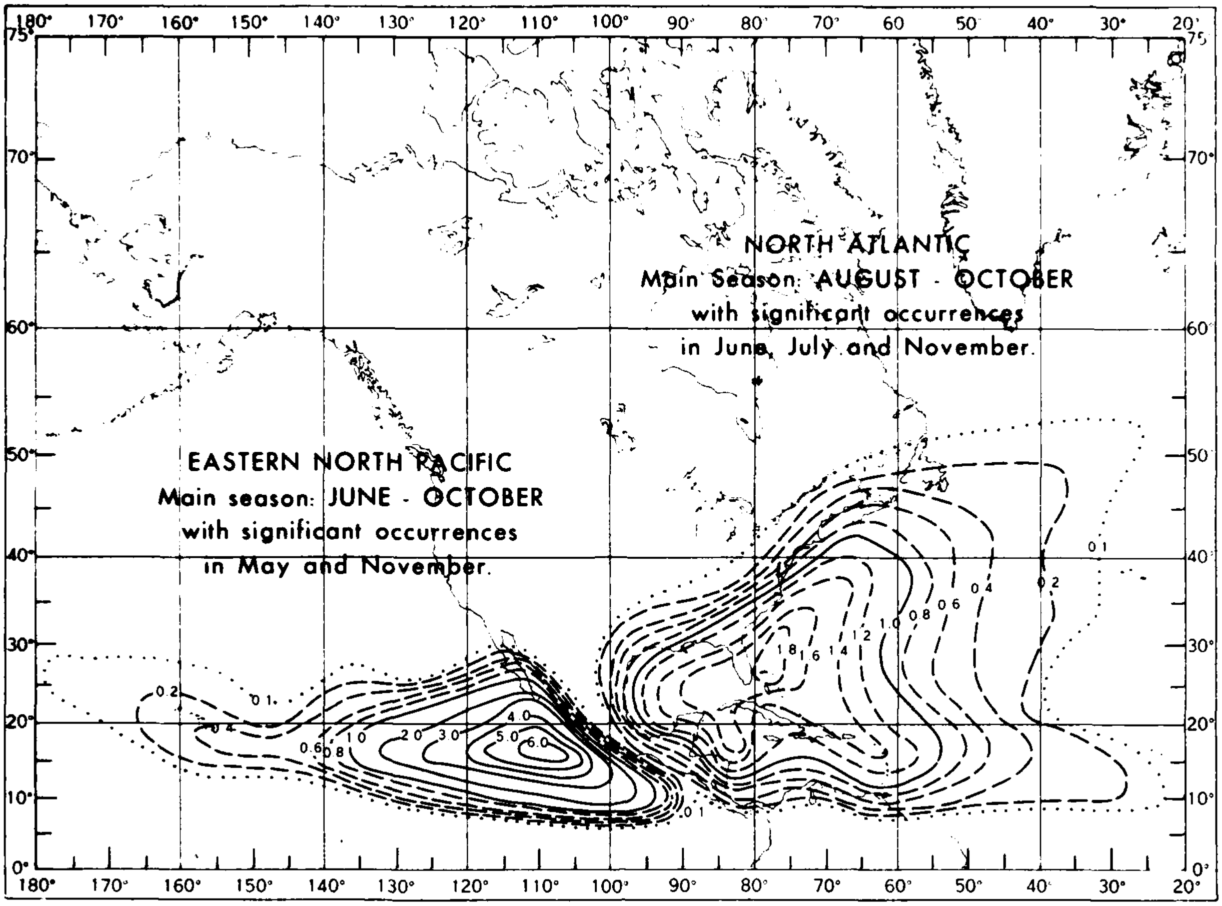


Fig. 6 The average number of tropical cyclones per 5° square per year

thermometers and buckets. Even though the two systems can produce slightly different results, the data may be used with considerable confidence.

Mean sea temperature isotherm patterns are very similar to those of air temperature. The sea temperature isotherms illustrate the cold California current a little more than those of air temperature during the winter but the isotherms are generally still fairly zonal. Summertime patterns, however, clearly depict the cold current. Mean sea temperatures during February, the coldest month, range from 54°F near Monterey Bay to 66°F at the southern extent of the study area. August brings the warmest sea temperatures with means ranging from just under 59°F in Monterey Bay to over 75°F in the southeastern-most portion of the study area. A warm region lies off the coast of San Diego, averaging 69°F, while farther west at the same latitude temperatures drop off to near 63°F.

Surface Winds

The surface wind is one of the most commonly observed elements. Many of the observations from the NCDC data base are visual observations based on the roughness of the sea. In recent years more ships acquired anemometers and reported measured winds. Prior to 1963 many of the wind speeds were recorded in the Beaufort scale; however, such estimates have proven to be quite reliable and can be used with a high degree of confidence. Five sets of wind speed isopleths are presented: mean scalar speed, the percent frequency of winds less than 11 knots, 11 to 21 knots, 22 to 33 knots, and greater than or equal to 34 knots. Also included are wind roses by one-degree square.

Gale force winds (≥ 34 knots) occur less than 5 percent of the time, based on the marine observations taken within the Southern California Operating Area. Strong winds occasionally occur with a cold frontal passage or during a Santa Ana. With cold fronts not being that frequent and the Santa Ana winds only rarely reaching as far as 50 miles out to sea, the mariner rarely observes strong winds within this area. The sea breeze effect can be rather strong on land during the day because of the strong differential heating between the desert regions and the sea. The opposite effect, the land breeze, is not as strong over the sea at night since the differential heating is not nearly as strong. Both Santa Ana winds and the land breeze are near-coastal phenomena; therefore, neither significantly effect the wind statistics for a large portion of the Southern California Operating Area.

The wind regime across this region varies little from month-to-month or season-to-season. Mean scalar winds from Los Angeles to San Diego average 7 to 10 knots throughout the year. Slightly stronger winds (10-15 knots) are encountered along the coast north of Point Arguello. West of the Channel Islands, monthly scalar mean wind speeds are from 10 to 16 knots.

Wind speeds from 11 to 21 knots generally occur 40 to 50 percent of the time over the open water. They are less frequent east of the Channel Islands where frequencies run 15 to 30 percent.

Higher threshold winds (22-33 kts) are most frequent during March and April, occurring more than 5 percent of the time, except in the Gulf of Santa Catalina. Frequencies as high as 15 to 25 percent are generally found in the regions to the west and northwest of the Channel Islands.

Visibility

Visibilities are difficult to measure at sea because of the lack of reference points. Climatically, many low visibility observations are probably missed because the mate is too busy with other duties (fair weather bias). However, the coarseness of the visibility code intervals tends to minimize the problem, permitting the summarized data to be relatively consistent. The visibility tables that are presented by one-degree square show that the open ocean areas have a high frequency of good visibilities. In all months, frequencies for 5 miles or better run 90 percent or greater for the open sea. For the near coastal-zone frequencies for 5 miles or better generally run near 70 percent tc 80 percent during the summer and near 90 percent during the winter, just slightly less than the open sea winter visibilities. These visibility table figures are somewhat contradictory to the observations taken at Los Angeles and San Diego. Although fog is observed every month it is least observed during the summer with the fall and winter being the foggiest. This is not the pattern one sees when checking the visibility tables. This is most probably due to two reasons: (1) ship personnel are generally very busy with other tasks when entering and leaving port; therefore, weather observations are generally not taken in close to shore, and (2) if the weather is poor, for instance in fog, the ship will delay its departure or entrance into a congested port (fair weather bias).

Clouds

A survey of the cloud data (total and low cloud amounts) within the marine data base shows a number of total clouds reports significantly greater than low cloud amounts. This is because many of the early marine observations contain only total cloud amounts. For the two presentations (total cloud amount $\leq$ 2/8 and low cloud amounts $\geq$ 5/8) only those observations reporting both total and low cloud amounts were summarized. This helps eliminate problems introduced as a result of different size data bases (N-count). The use of satellite data helps bolster confidence in the total cloud analyses because they show fairly close agreement with those summaries (U. S. Department of Commerce and United States Air Force, 1971).

During the winter months, the percent frequency of low clouds greater than or equal to 5 oktas is just under 30 percent along the coast and 50 to 60 percent out over the open water. In the summer, they increase to near 60 percent along the coast and 70 to 80 percent over the open water.

Total clouds less than or equal to 2 oktas generally run 40 to 50 percent along the coast during the winter and 20 to 30 percent in the summer. Offshore, over open water, frequencies are usually found in the 15 to 30 percent range during the winter and in the 10 to 20 percent range during summer. For more detail one should make use of the isopleth charts.

Ceiling and Visibility

Aircraft-type ceilings are not available from marine observations. The ceilings are estimated from the height of the lowest cloud when low clouds cover more than half the sky. When the sky is totally obscured by rain, fog, dust, or other phenomena, the total obscuration is considered a ceiling with a height of zero. Mid-range ceiling and visibility charts (ceiling less than 1000 feet and/or visibility less than 5 nautical miles; ceiling less than 8000 feet and/or visibility less than 10 nautical miles) and low range ceiling and visibility charts (ceilings less than 300 feet and/or visibility less than 1 nautical mile; ceiling less than 600 feet and/or visibility less than 2 nautical miles) are presented. Ceilings less than 8000 feet and/or visibilities less than 10 nautical miles are observed approximately 50 percent of the time during the winter and near 80 percent during the summer. In comparing the next threshold (<1000 feet and/or 5 nautical miles), frequencies average 15 to 20 percent during the winter and 20 to 30 percent during the summer. In the low range, there are only slight differences between the two low range threshold categories. When conditions deteriorate enough to fall into the higher of the low categories (< 600 feet and/or 2 nautical miles) they often continue their deterioration until they reach the lower category (< 300 feet and/or 1 nautical mile). During the winter, observations fall into the low range 5 to 7 percent of the time and in the summer 15 to 20 percent of the time. Usually only a few percentage points separate the two low range categories.

Wave Heights

Wave heights have been recorded in a consistent quantitative code only since the late 1940's. The reluctance of many observers to take wave observations in the earlier years and the difficulty in estimating waves, especially in confused seas, make wave observations one of the least commonly observed elements. They are also subject to biases. (Quayle, 1980) Generally the heights are too low, the periods too short, and the sea-swell discrimination poor. The data in this study have not been adjusted for the suspected biases other than being processed through a quality control procedure where an internal check was made between wind speed and sea height. The data were also arrayed and apparent erroneous outliers were deleted in both the sea and swell data. Wave height presentations include isopleth maps showing percent frequencies of wave heights ≥ 3 feet and ≥ 8 feet. In addition, wave height tables by one- degree quadrangle show frequencies by six wave height categories. In these presentations, the higher of the sea or swell was selected for summarization. If heights are equal, the wave with the longer period is selected.

As with the wind regime, the mean monthly wave regime has little annual variation. Frequencies of wave heights of 3 feet or greater are observed 80 to 90 percent of the time in the open water and 40 to 50 percent of the time in the Gulf of Santa Catalina. For wave heights of 8 feet or greater there is a small decrease in the number reported during the summer in comparison to winter. Percent frequencies of wave heights ≥ 8 feet in general run from under 5 percent in the Gulf of Santa Catalina to 10 to 20 percent west and south of the Channel Islands and 25 to 35 percent northwest of Point Arguello.

Ocean Currents

The mean sea current charts, extracted from the Coast Guard Oceanographic Unit Technical Report 82-2, give mean geostropic currents computed from dynamic height anomalies and contain none of the wind current components that are inherent in the set and drift method of deriving sea current data. If one wishes to make drift forecasts the sea currents must be combined vectorially with a wind current calculation for the time and area of interest. Local wind current data can be calculated based on a method found in the Oceanographic Unit Technical Report 78-2 (U. S. Coast Guard Oceanographic Unit, Building 159-E Navy Yard Annex, Washington, D.C. 20593).

Summary

In general, the weather across the Southern California Operating Area is relatively equable. The unpleasant variations are generally the coastal fog and rains during fall and winter and the low clouds and air pollution during spring and summer. However, rare anomalies, such as the Santa Ana winds, thunderstorms, tornadoes, or tropical storms do occur. An anomalous winter, such as the 82-83 season where a succession of Pacific storms continually battered the west coast with strong winds, heavy rains and high seas (which produced some of the worst weather-related damage in history) is always a possibility. This anomalous west coast winter might possibly be related to the El Nino which began in 1982 and was at its peak during the 82-83 Northern Hemisphere winter. Correlations between indices of the El Nino and certain North American meteorological variables are statistically significant for the Northern Hemisphere winter (Philander, 1983).

An area such as southern California, which is renowned for its pleasant and congenial climate, can have weather events that are within the normal range of activity but which have a high potential for devastation. Climatological summaries, such as this, help delineate those possibilities.

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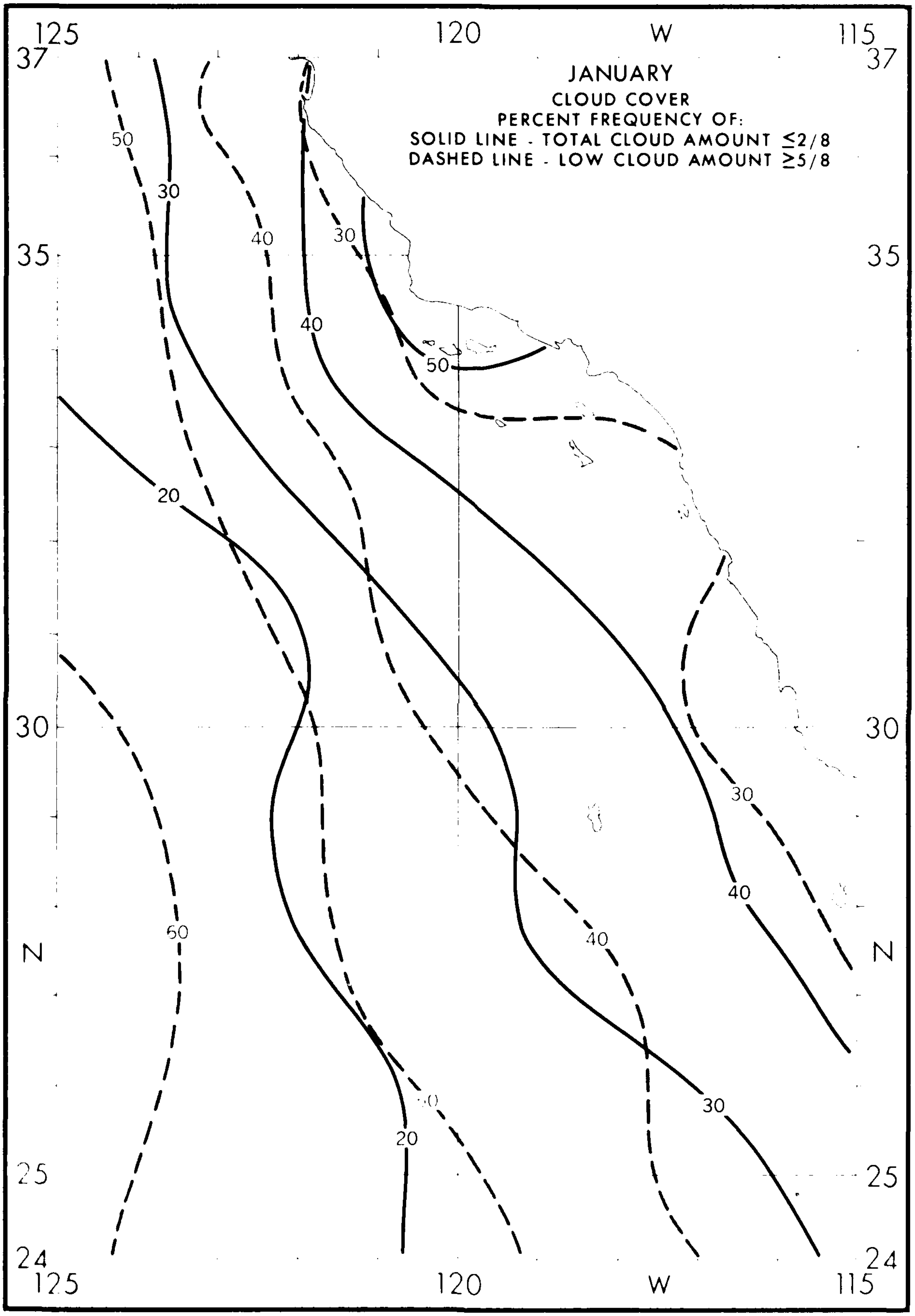
INDEX



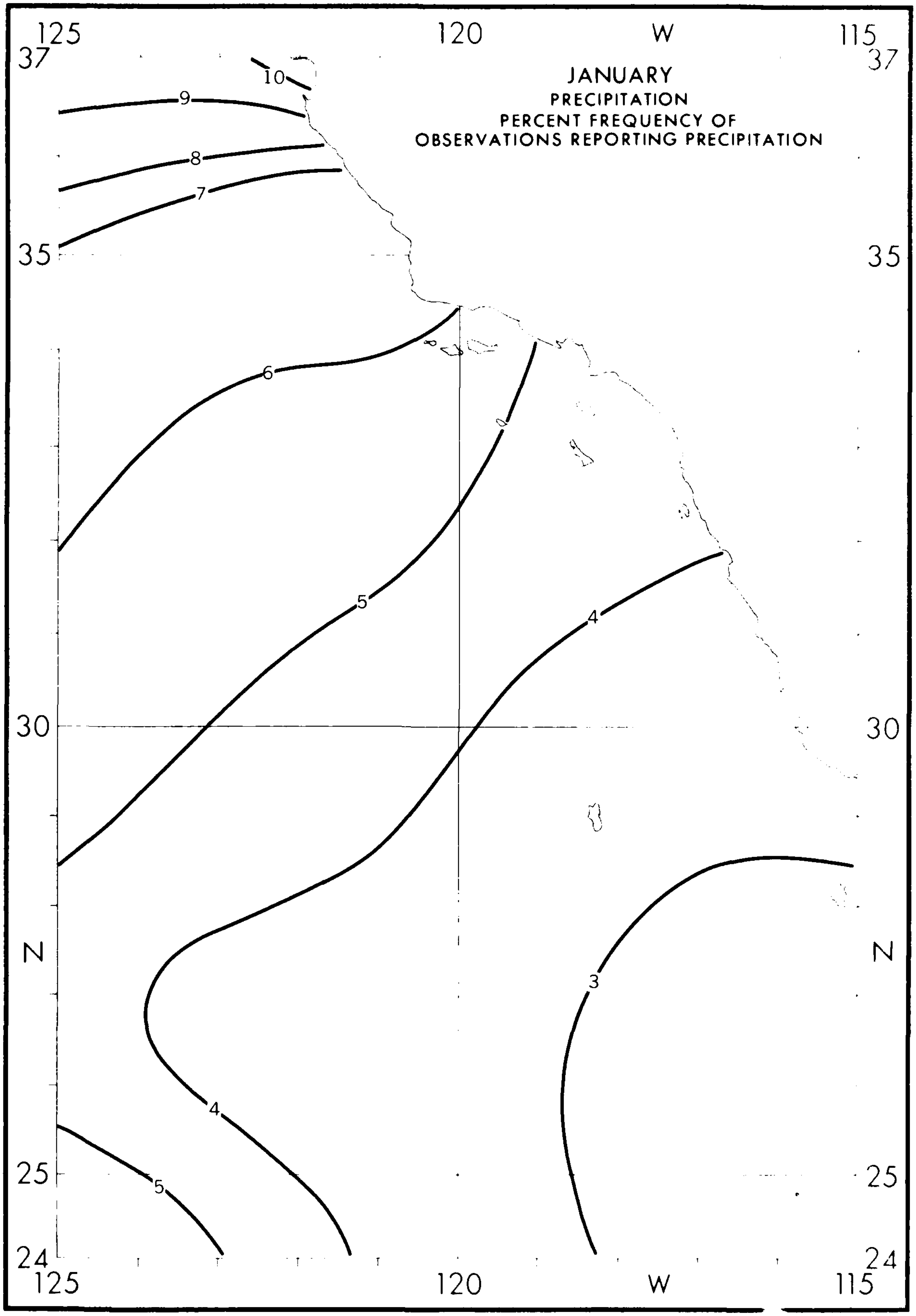
JANUARY

CLOUD COVER

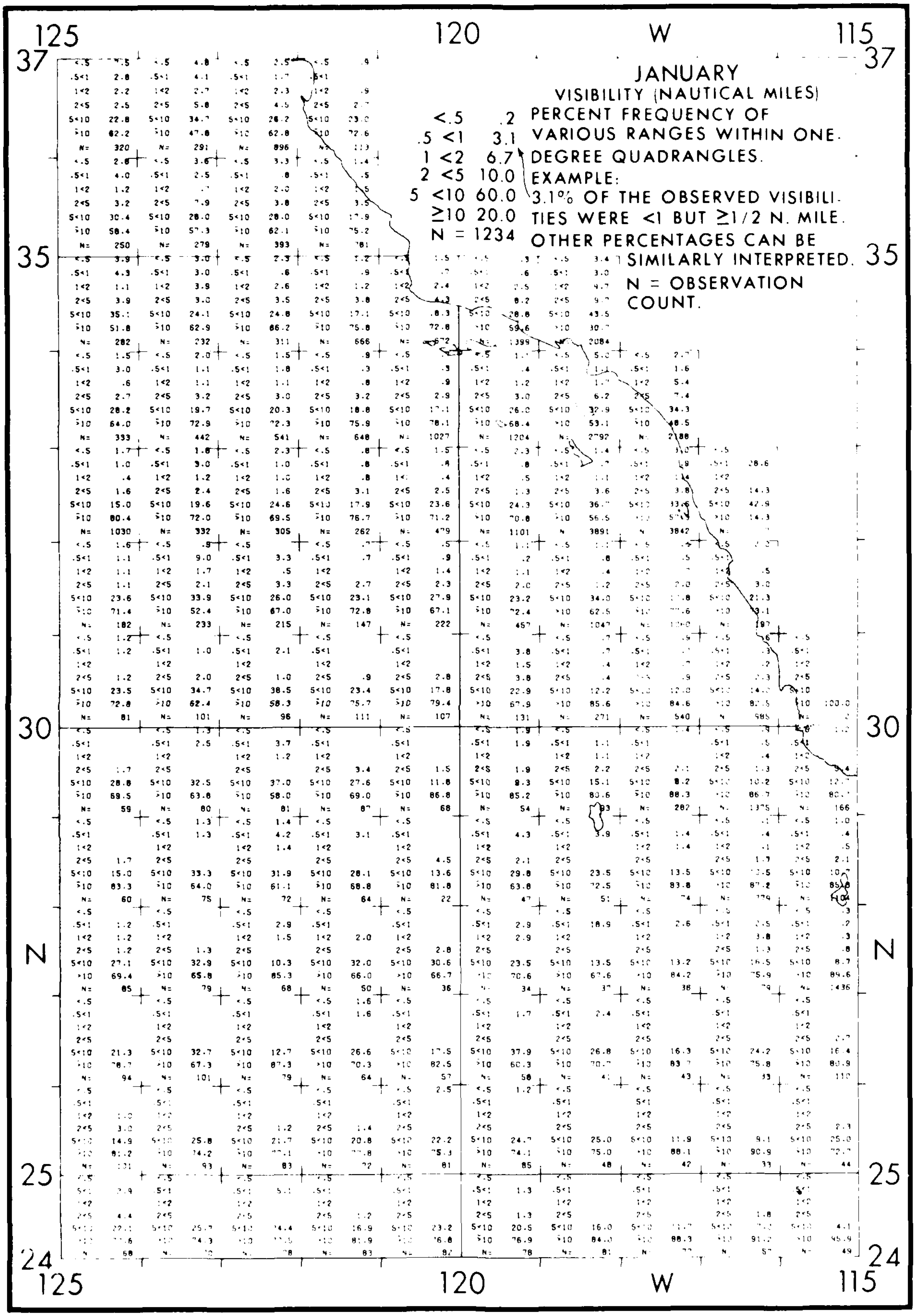
PERCENT FREQUENCY OF:

SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8

DASHED LINE - LOW CLOUD AMOUNT ≥5/8



JANUARY
PRECIPITATION
PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION



JANUARY

VISIBILITY (NAUTICAL MILES)

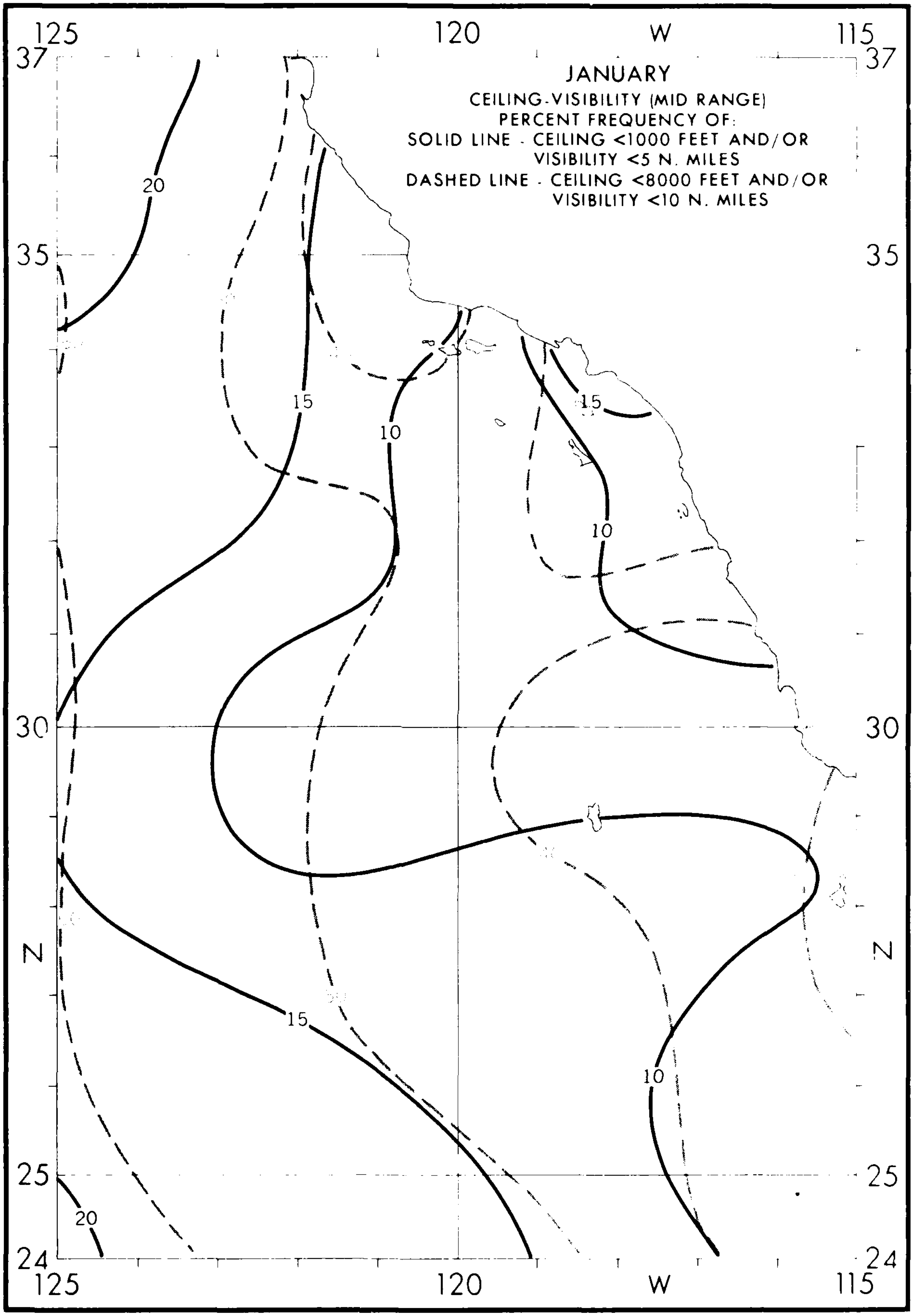
PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE DEGREE QUADRANGLES.

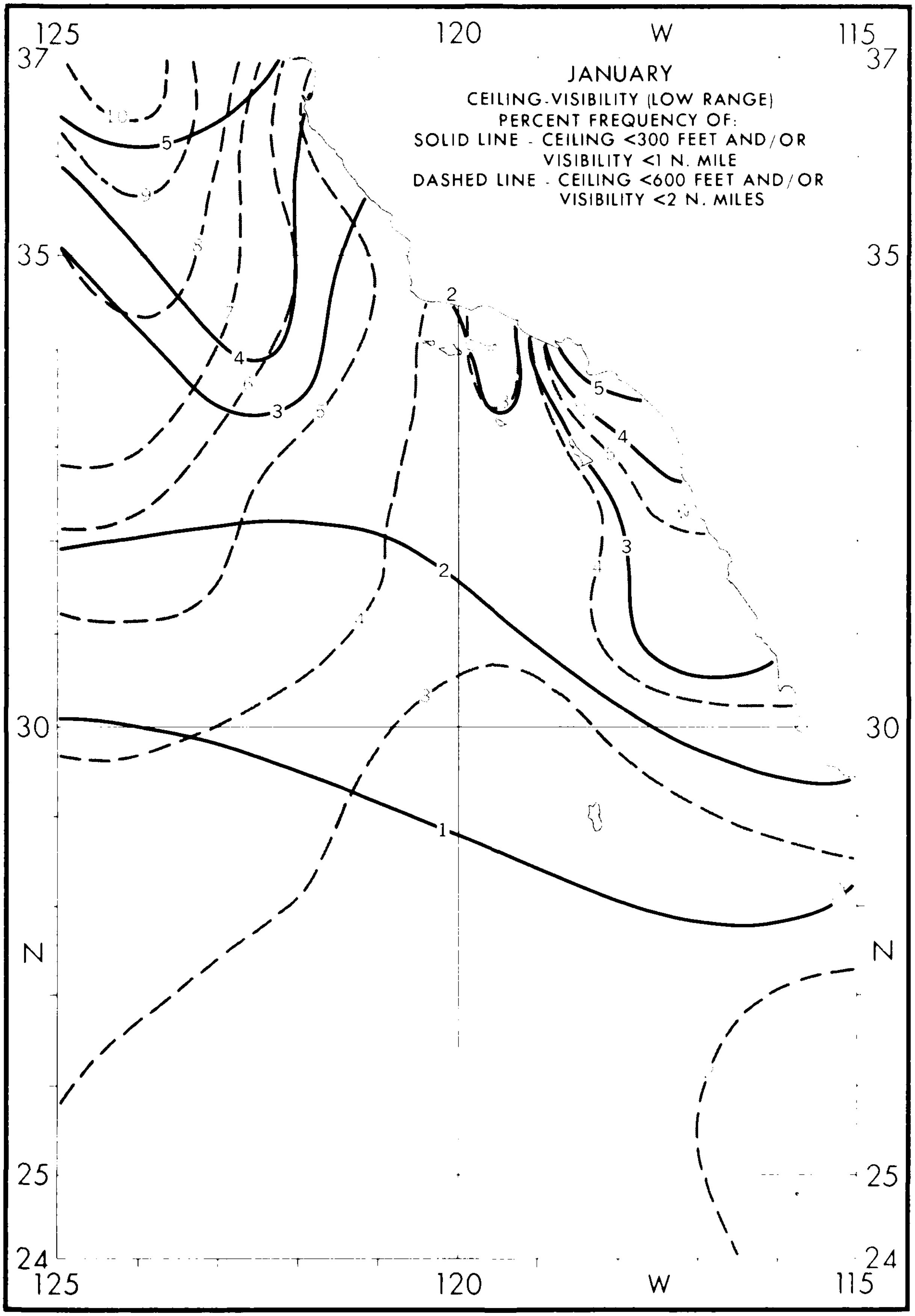
EXAMPLE:

<.5	.2
.5 <1	3.1
1 <2	6.7
2 <5	10.0
5 <10	60.0
≥10	20.0
N =	1234

3.1% OF THE OBSERVED VISIBILITIES WERE <1 BUT ≥1/2 N. MILE. OTHER PERCENTAGES CAN BE SIMILARLY INTERPRETED.

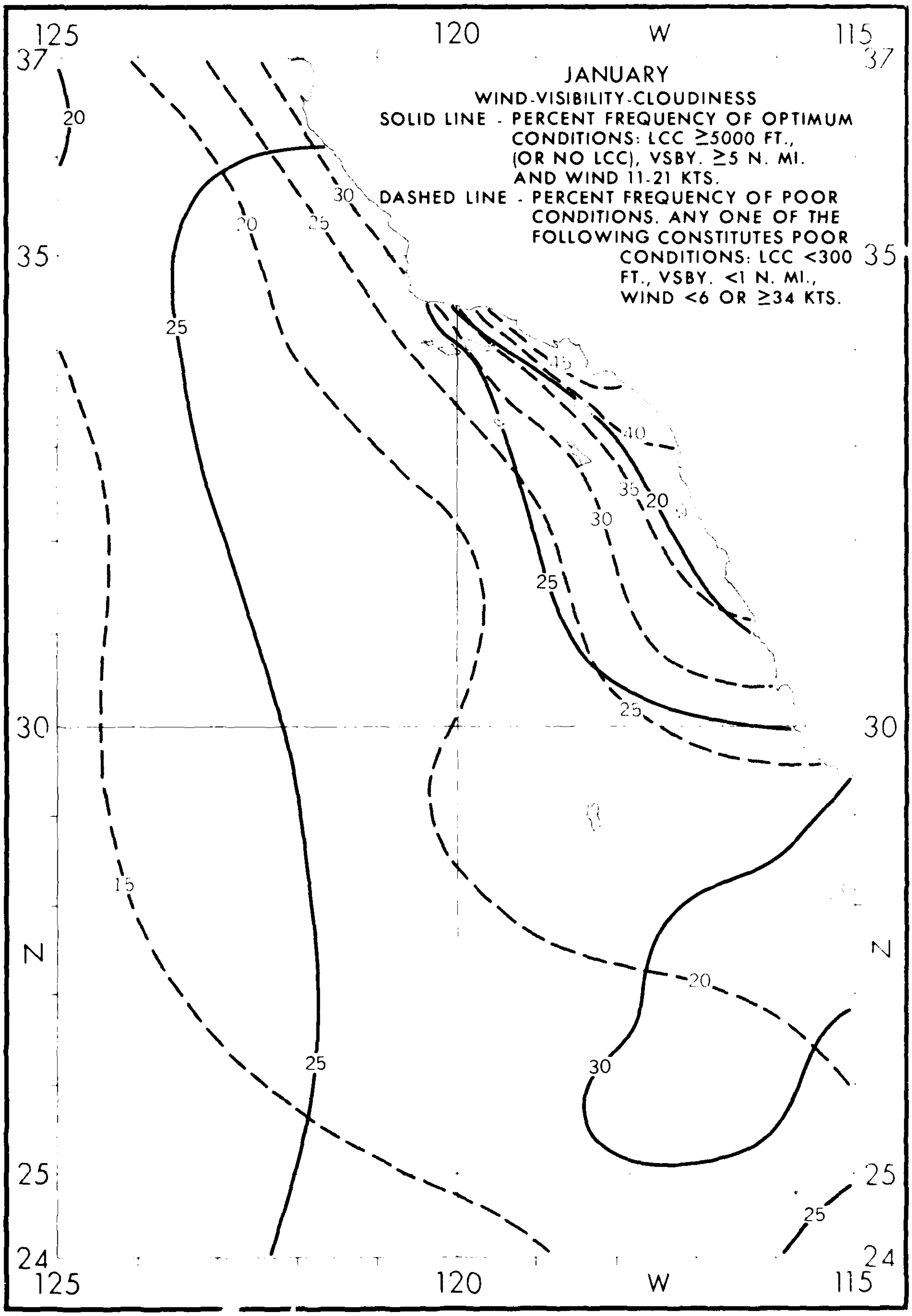
N = OBSERVATION COUNT.


125
120
W
115
37
35
30
25
24
N
JANUARY
CEILING-VISIBILITY (MID RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <1000 FEET AND/OR VISIBILITY <5 N. MILES
DASHED LINE - CEILING <8000 FEET AND/OR VISIBILITY <10 N. MILES
20
15
10
15
10
15
10
20



JANUARY

CEILING-VISIBILITY (LOW RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <300 FEET AND/OR
VISIBILITY <1 N. MILE
DASHED LINE - CEILING <600 FEET AND/OR
VISIBILITY <2 N. MILES

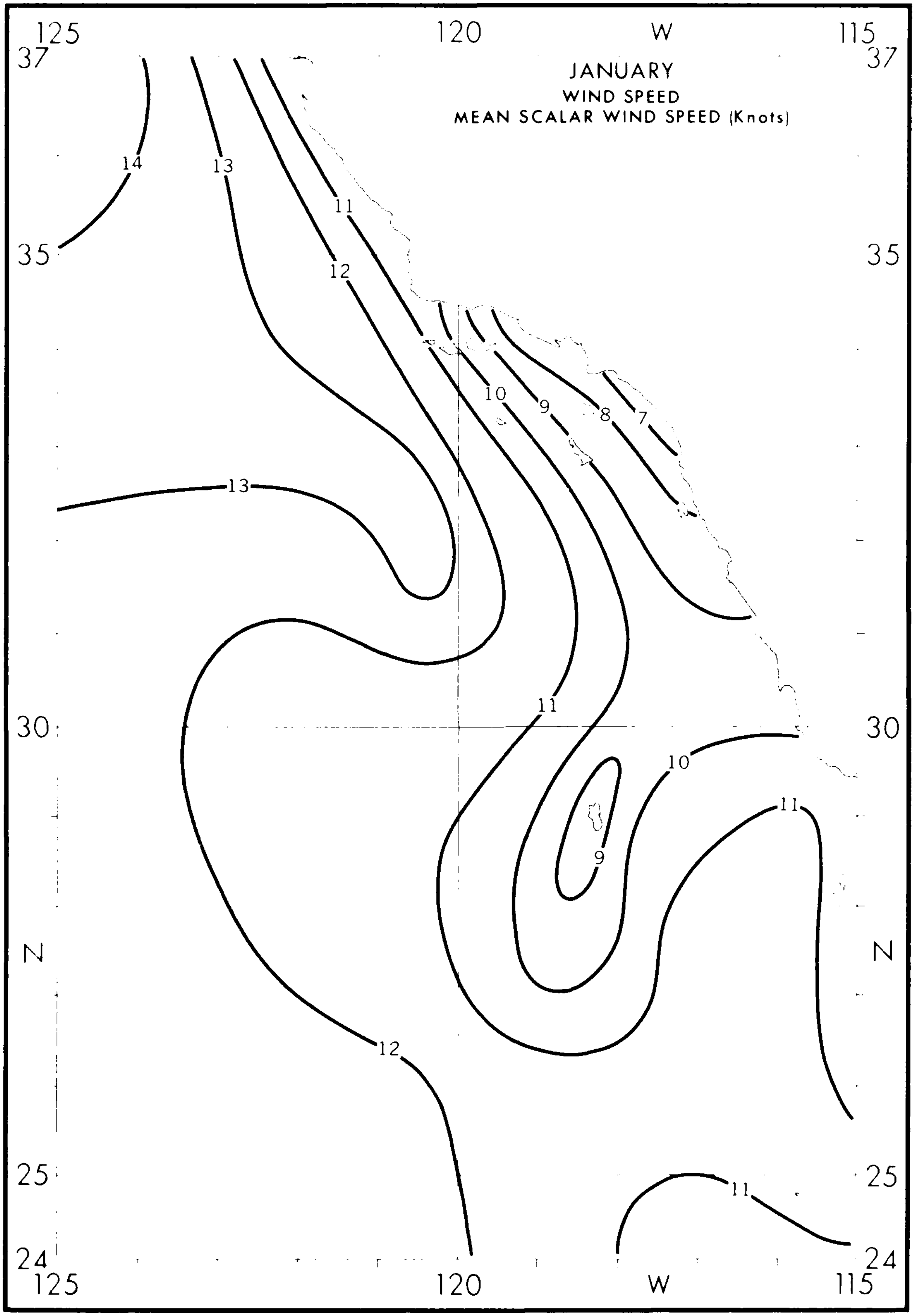


JANUARY

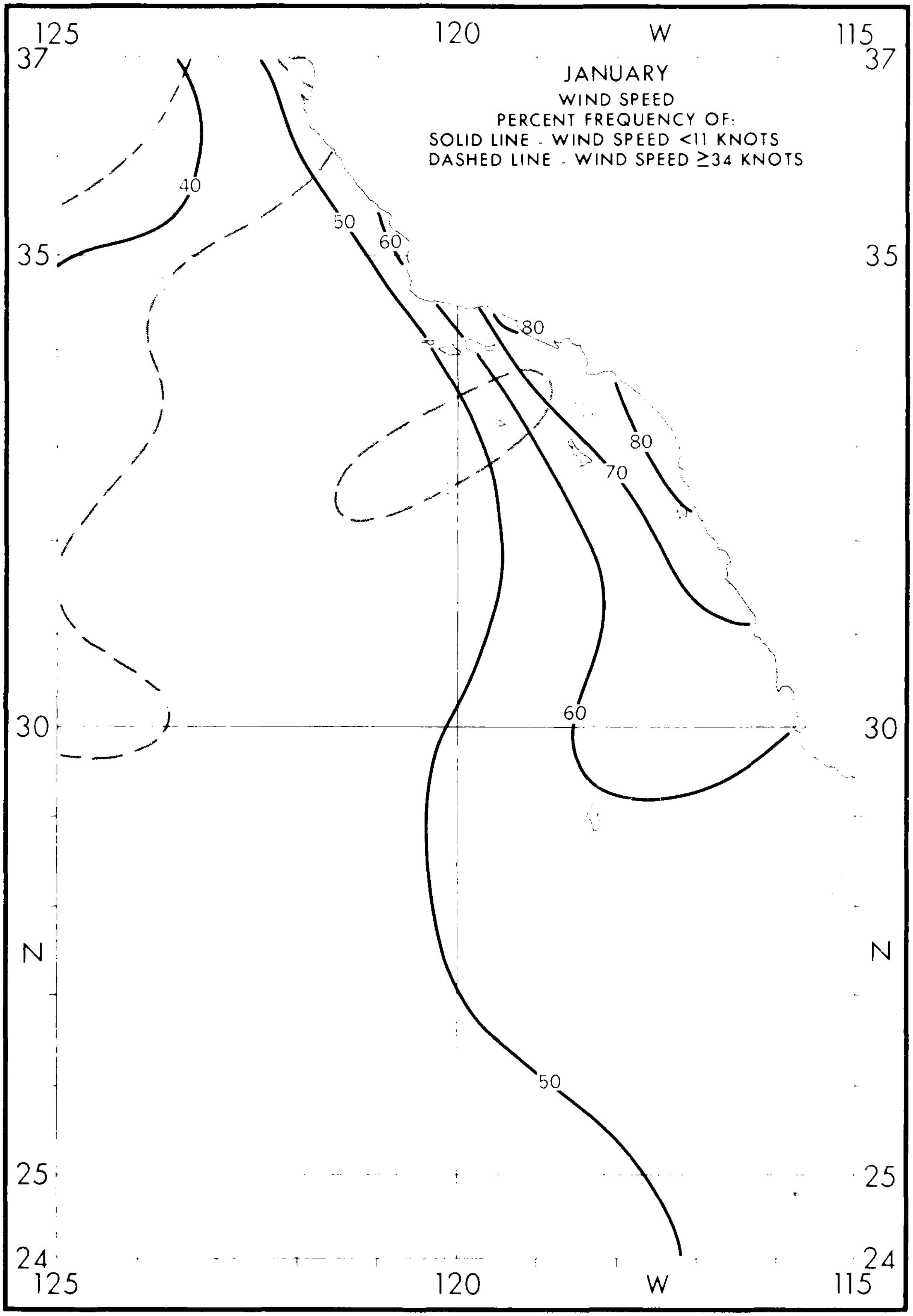
WIND-VISIBILITY-CLOUDINESS

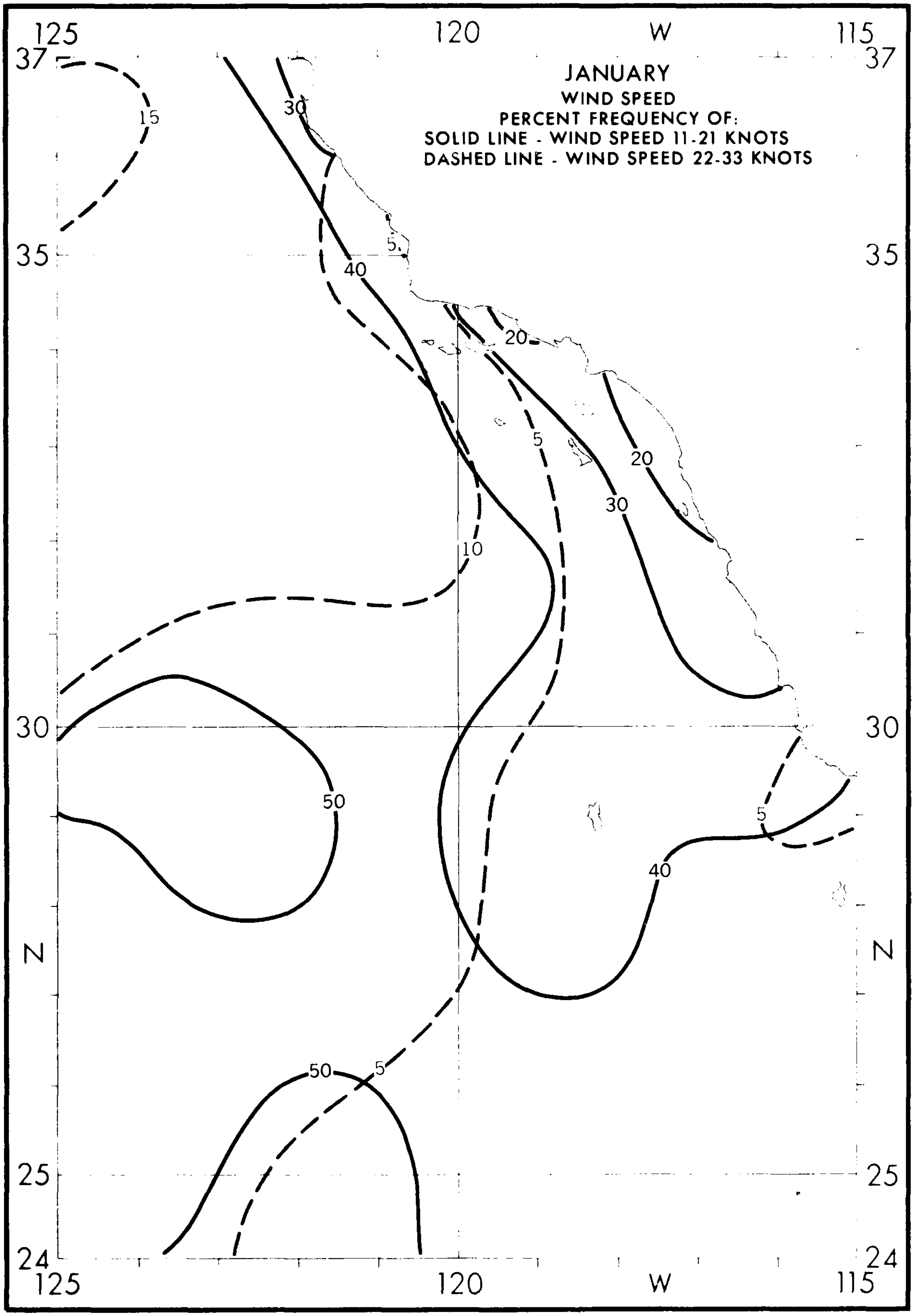
SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.

DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.

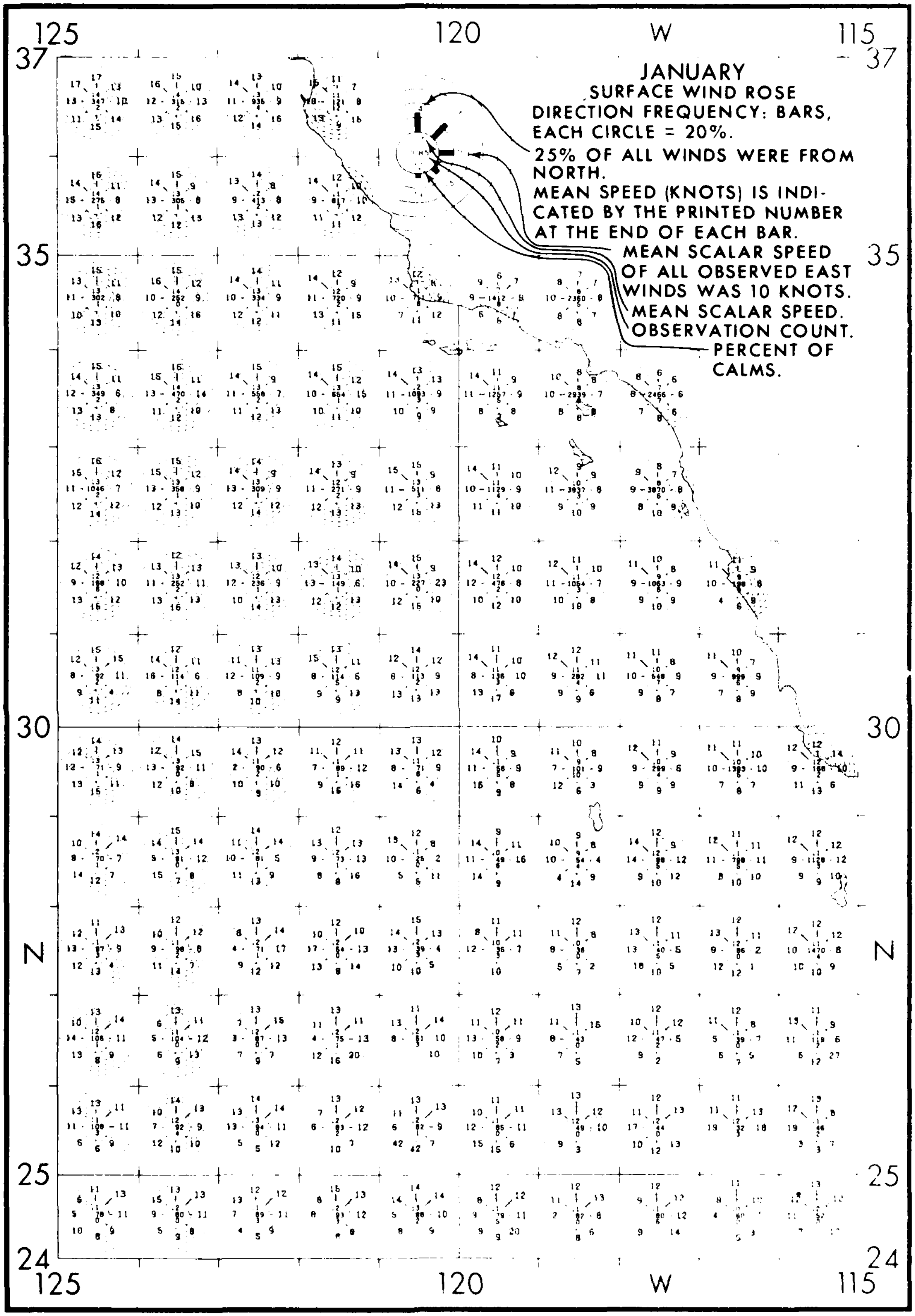


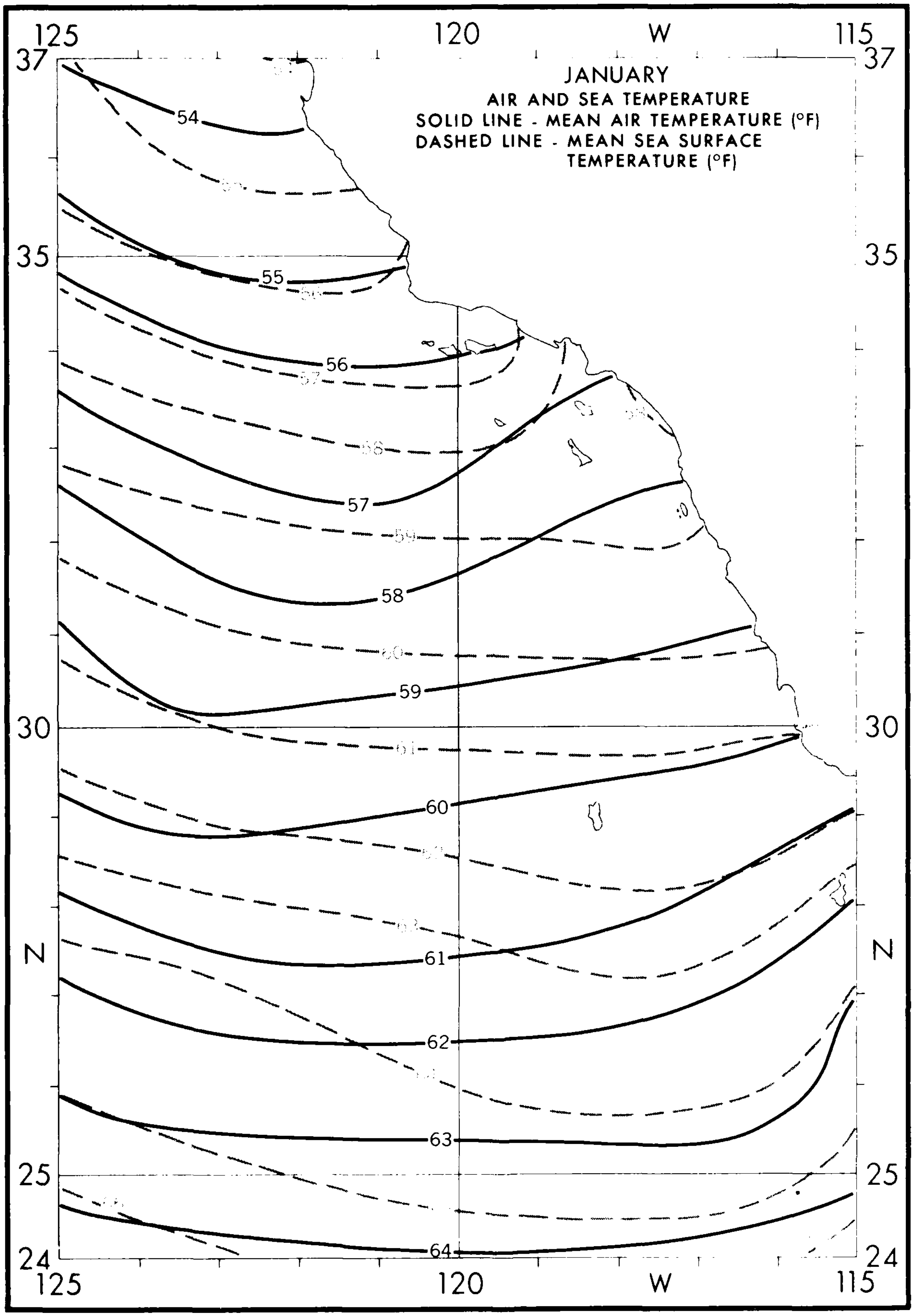
JANUARY
WIND SPEED
MEAN SCALAR WIND SPEED (Knots)


125
120
W
115
37
37
JANUARY
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED <11 KNOTS
DASHED LINE - WIND SPEED ≥34 KNOTS
40
50
60
35
35
80
80
70
60
30
30
N
N
50
25
25
24
24
125
120
W
115



JANUARY
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED 11-21 KNOTS
DASHED LINE - WIND SPEED 22-33 KNOTS


JANUARY
SURFACE WIND ROSE
DIRECTION FREQUENCY: BARS, EACH CIRCLE = 20%.
25% OF ALL WINDS WERE FROM NORTH.
MEAN SPEED (KNOTS) IS INDICATED BY THE PRINTED NUMBER AT THE END OF EACH BAR.
MEAN SCALAR SPEED OF ALL OBSERVED EAST WINDS WAS 10 KNOTS.
MEAN SCALAR SPEED.
OBSERVATION COUNT.
PERCENT OF CALMS.
125
120
W
115
37
35
30
25
24
N

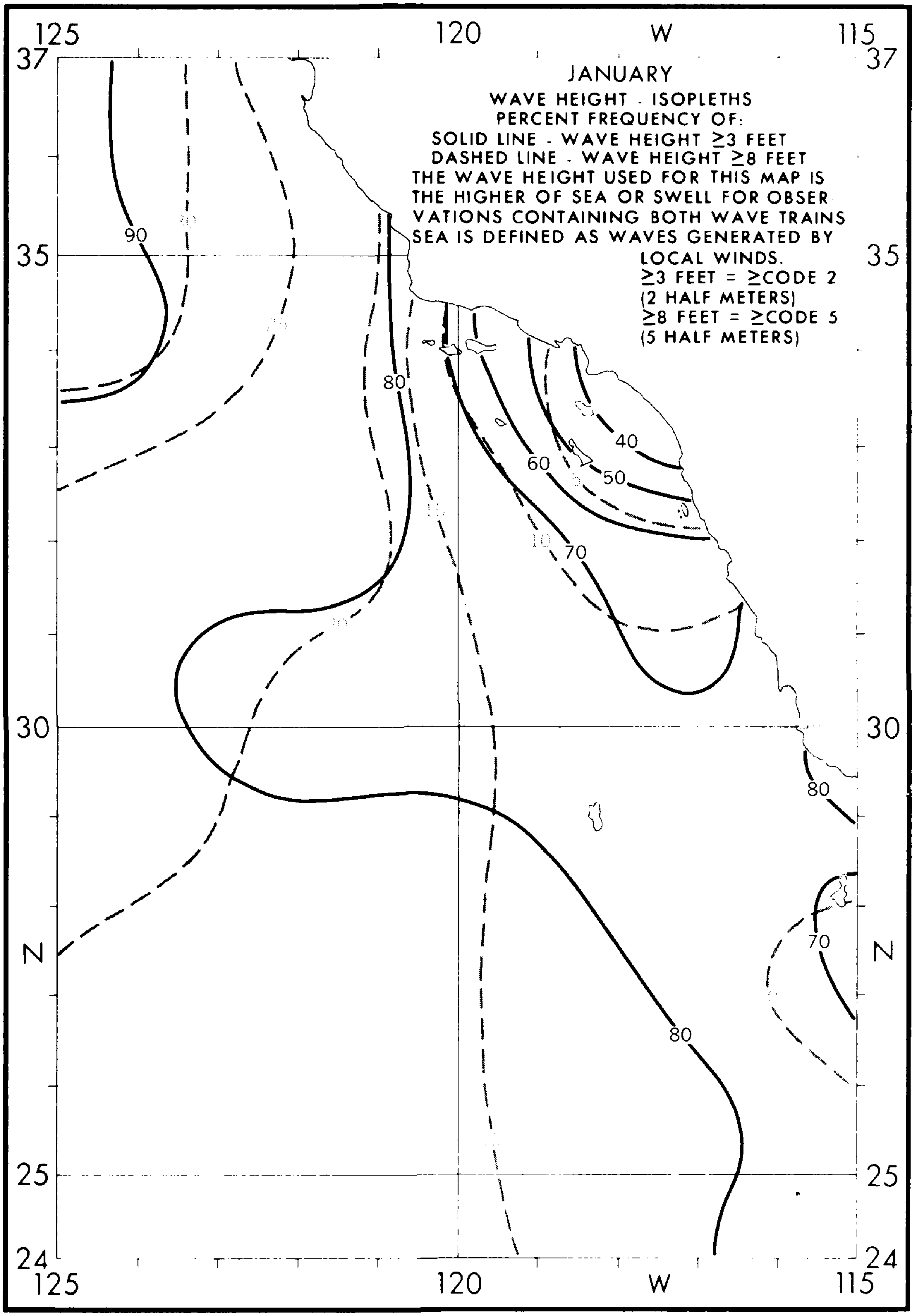


JANUARY

AIR AND SEA TEMPERATURE

SOLID LINE - MEAN AIR TEMPERATURE (°F)

DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)


JANUARY
WAVE HEIGHT - ISOPLETHS
PERCENT FREQUENCY OF:
SOLID LINE - WAVE HEIGHT ≥3 FEET
DASHED LINE - WAVE HEIGHT ≥8 FEET
THE WAVE HEIGHT USED FOR THIS MAP IS THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS
SEA IS DEFINED AS WAVES GENERATED BY LOCAL WINDS.
≥3 FEET = ≥CODE 2
(2 HALF METERS)
≥8 FEET = ≥CODE 5
(5 HALF METERS)
125
120
W
115
37
35
30
N
25
24
90
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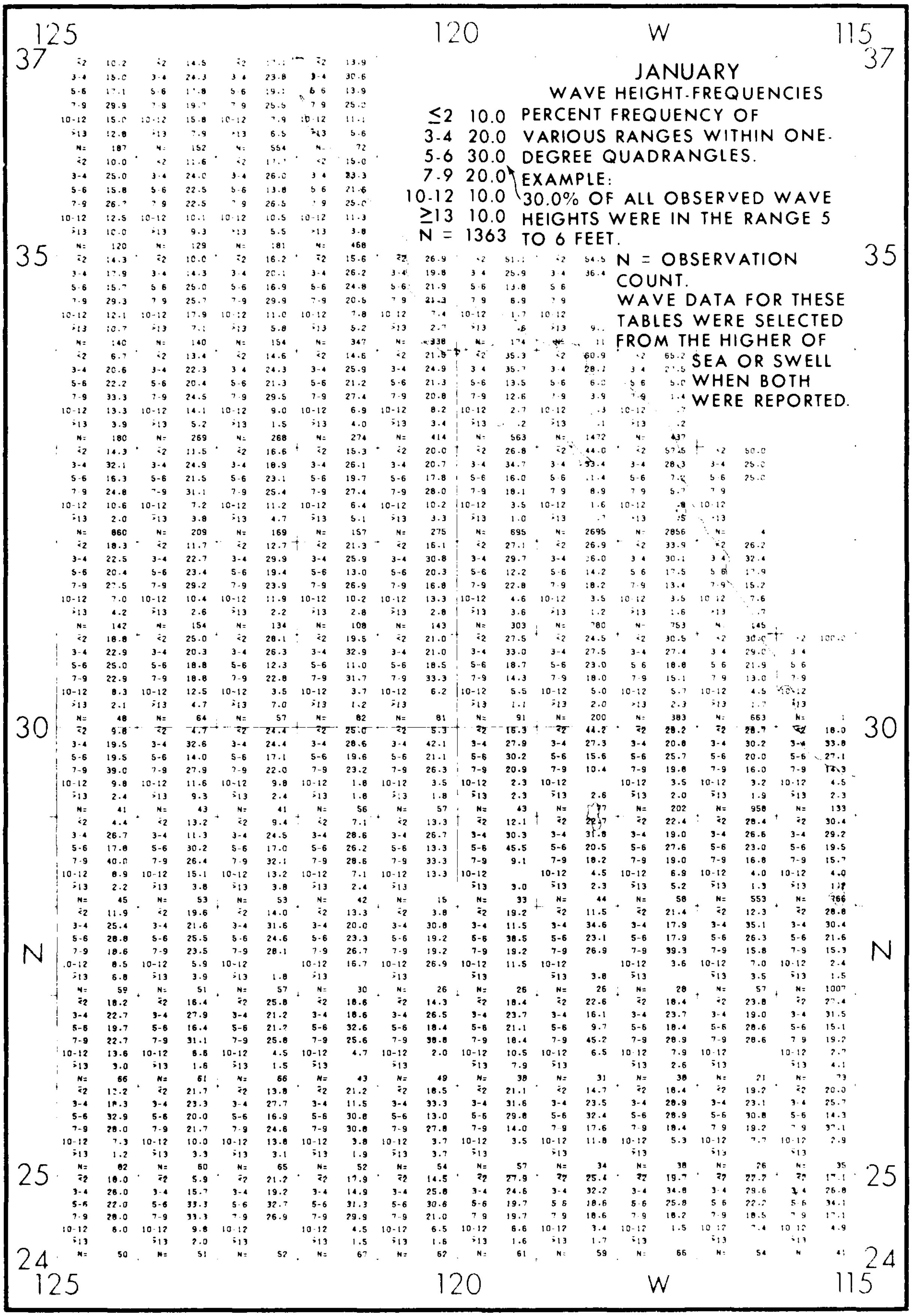
20
80
15
10
40
50
60
70
80
70
80



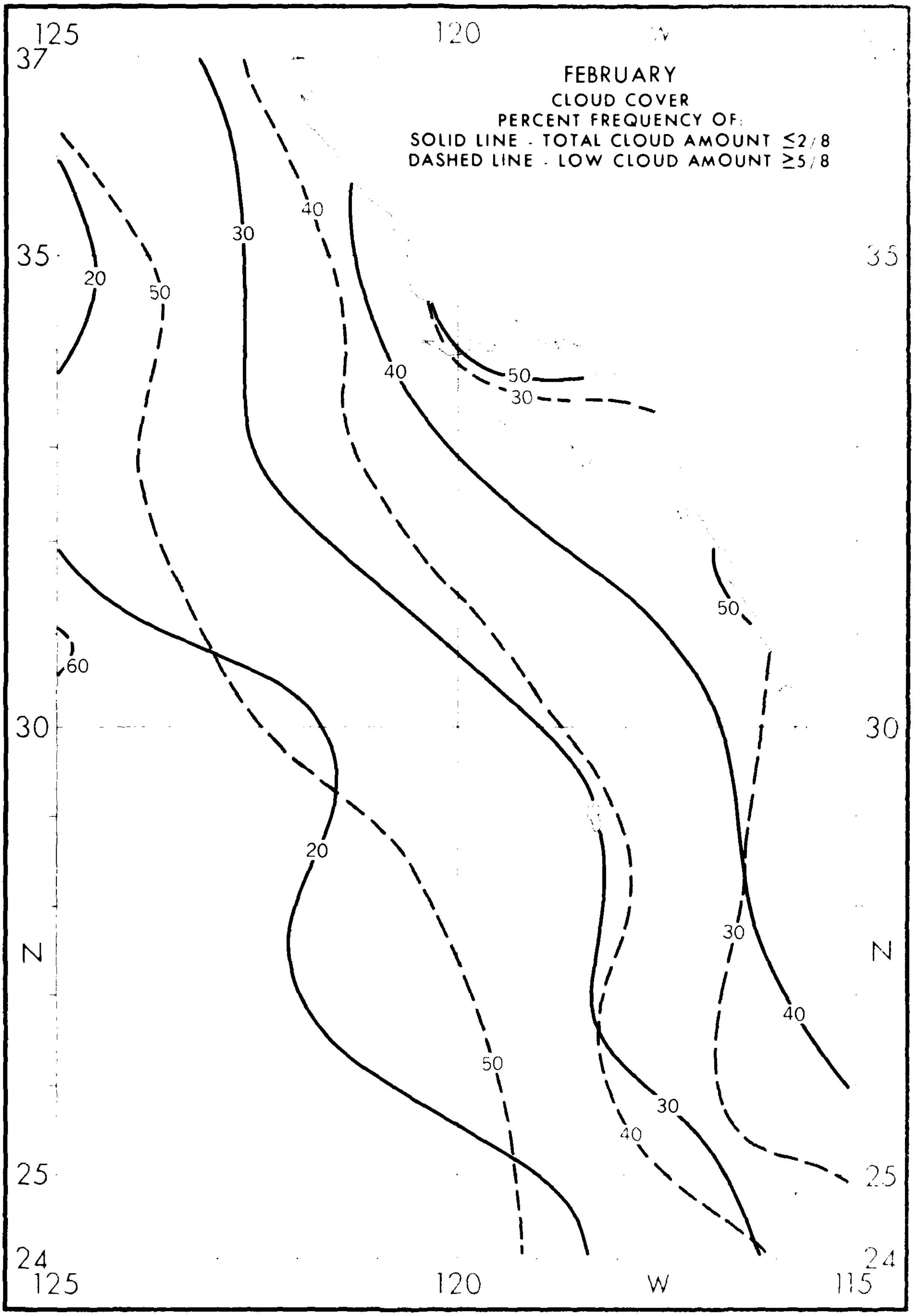
JANUARY

WAVE HEIGHT-FREQUENCIES

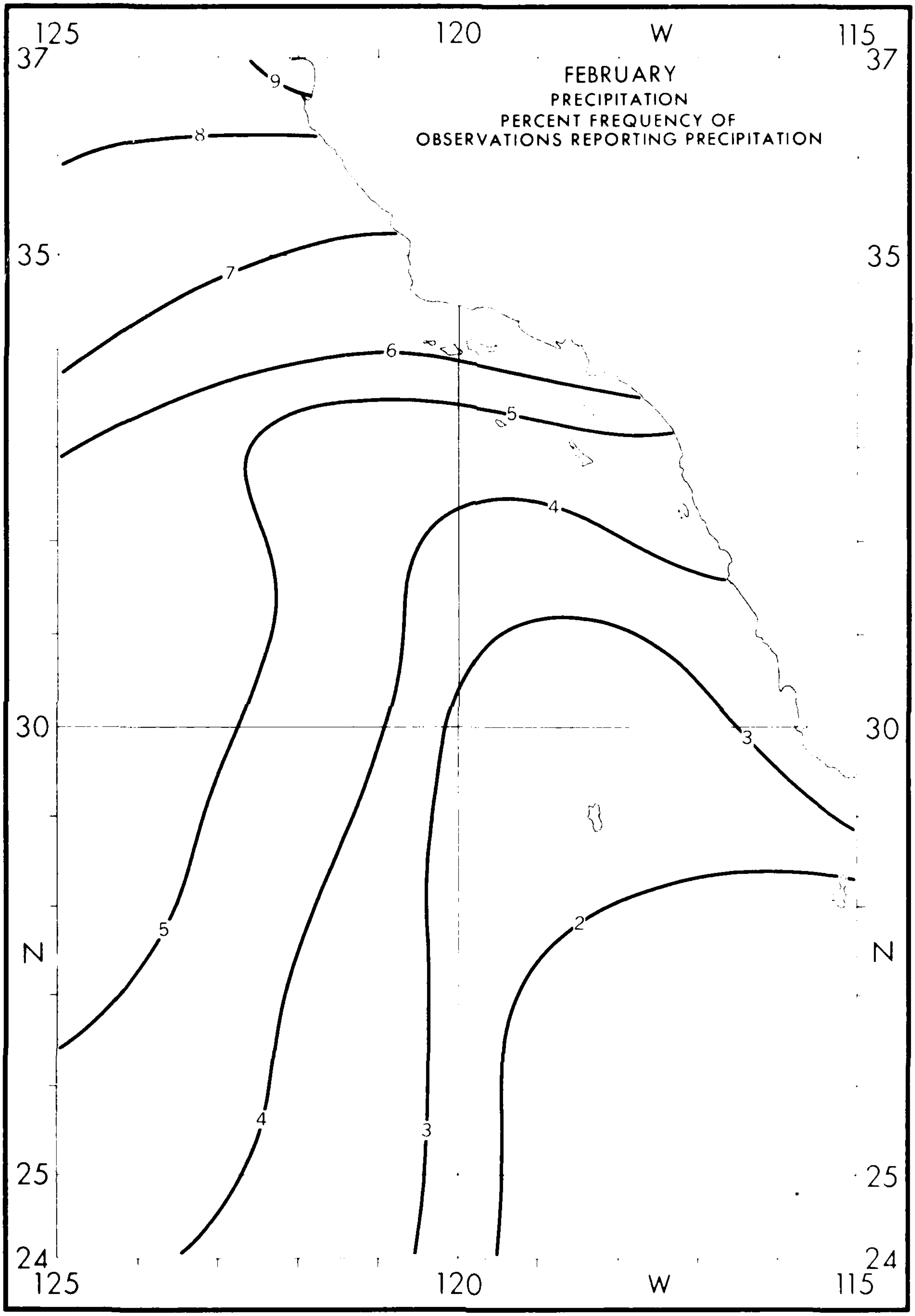
≤2	10.0	PERCENT FREQUENCY OF
3-4	20.0	VARIOUS RANGES WITHIN ONE-
5-6	30.0	DEGREE QUADRANGLES.
7-9	20.0	EXAMPLE:
10-12	10.0	30.0% OF ALL OBSERVED WAVE
≥13	10.0	HEIGHTS WERE IN THE RANGE 5
N =	1363	TO 6 FEET.

N = OBSERVATION COUNT.

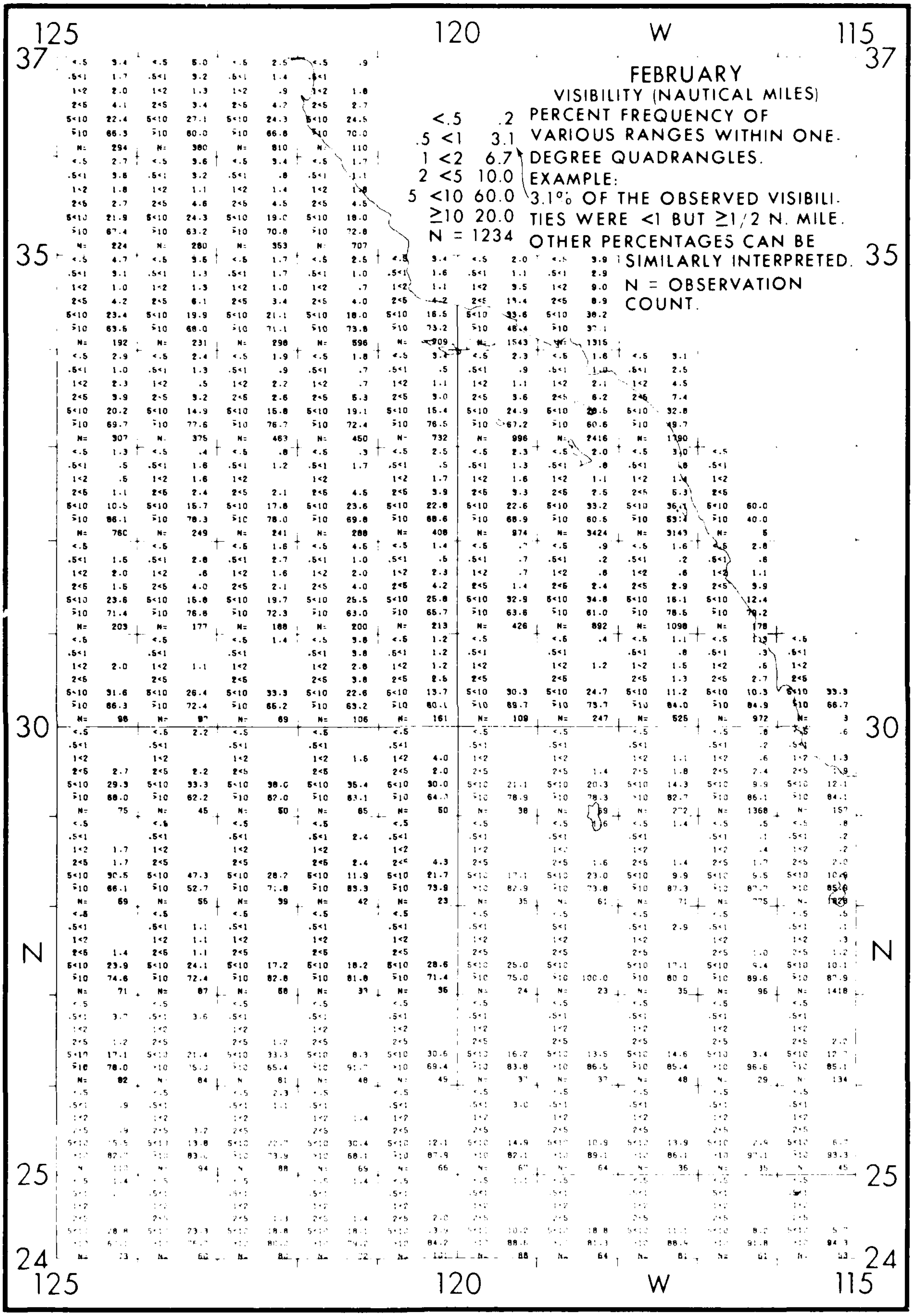
WAVE DATA FOR THESE TABLES WERE SELECTED FROM THE HIGHER OF SEA OR SWELL WHEN BOTH WERE REPORTED.



125
120
W
37
FEBRUARY
CLOUD COVER
PERCENT FREQUENCY OF:
SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8
DASHED LINE - LOW CLOUD AMOUNT ≥5/8
35
35
20
50
30
40
40
50
30
50
60
30
30
20
30
N
N
40
50
30
40
25
25
24
24
125
120
W
115



125
120
W
115
37
37
35
35
30
30
N
N
25
25
24
24
125
120
W
115
FEBRUARY
PRECIPITATION
PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION
9
8
7
6
5
4
3
5
4
3
2



FEBRUARY

VISIBILITY (NAUTICAL MILES)

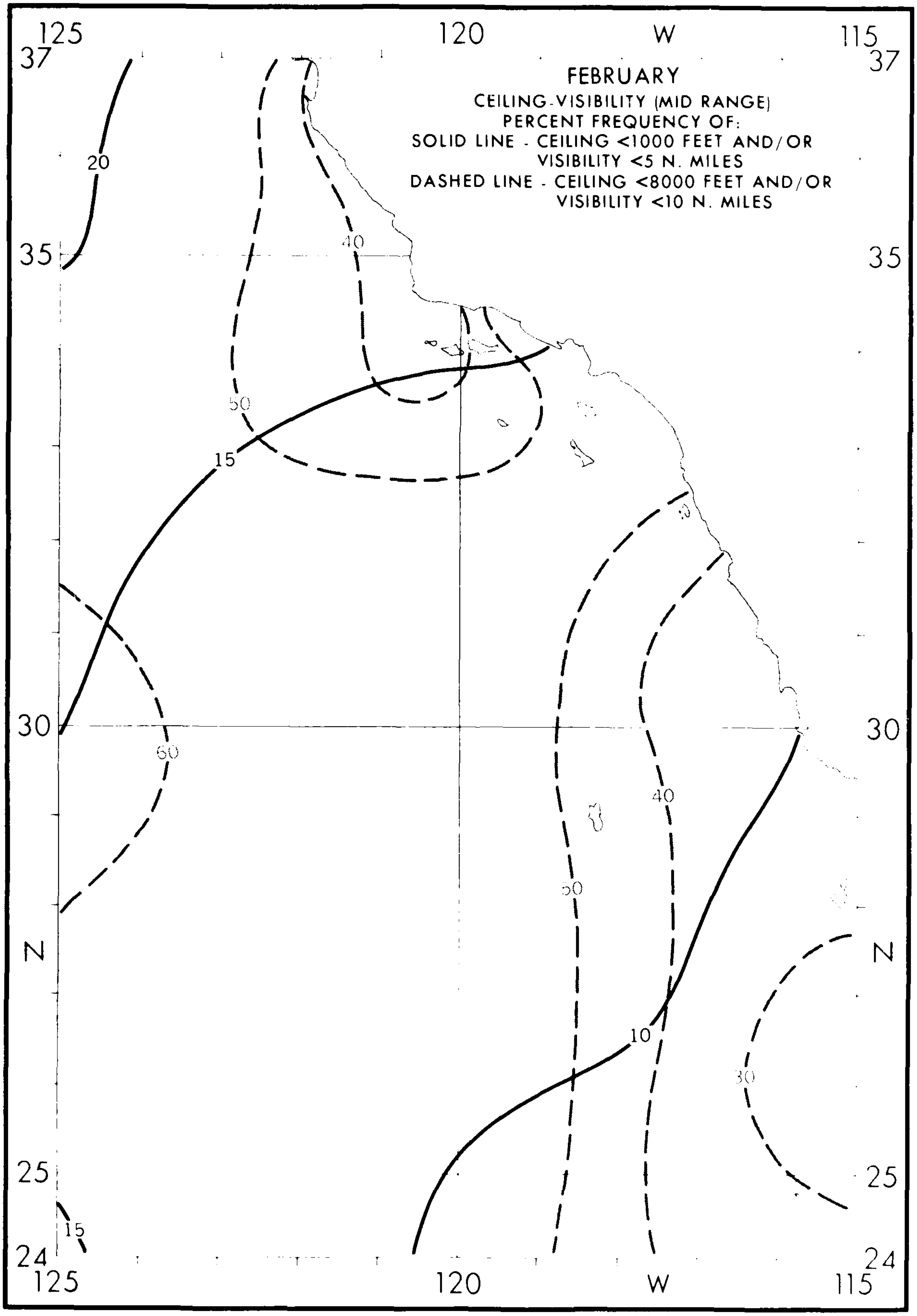
<.5	.2
.5 <1	3.1
1 <2	6.7
2 <5	10.0
5 <10	60.0
≥10	20.0
N =	1234

PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.

EXAMPLE:

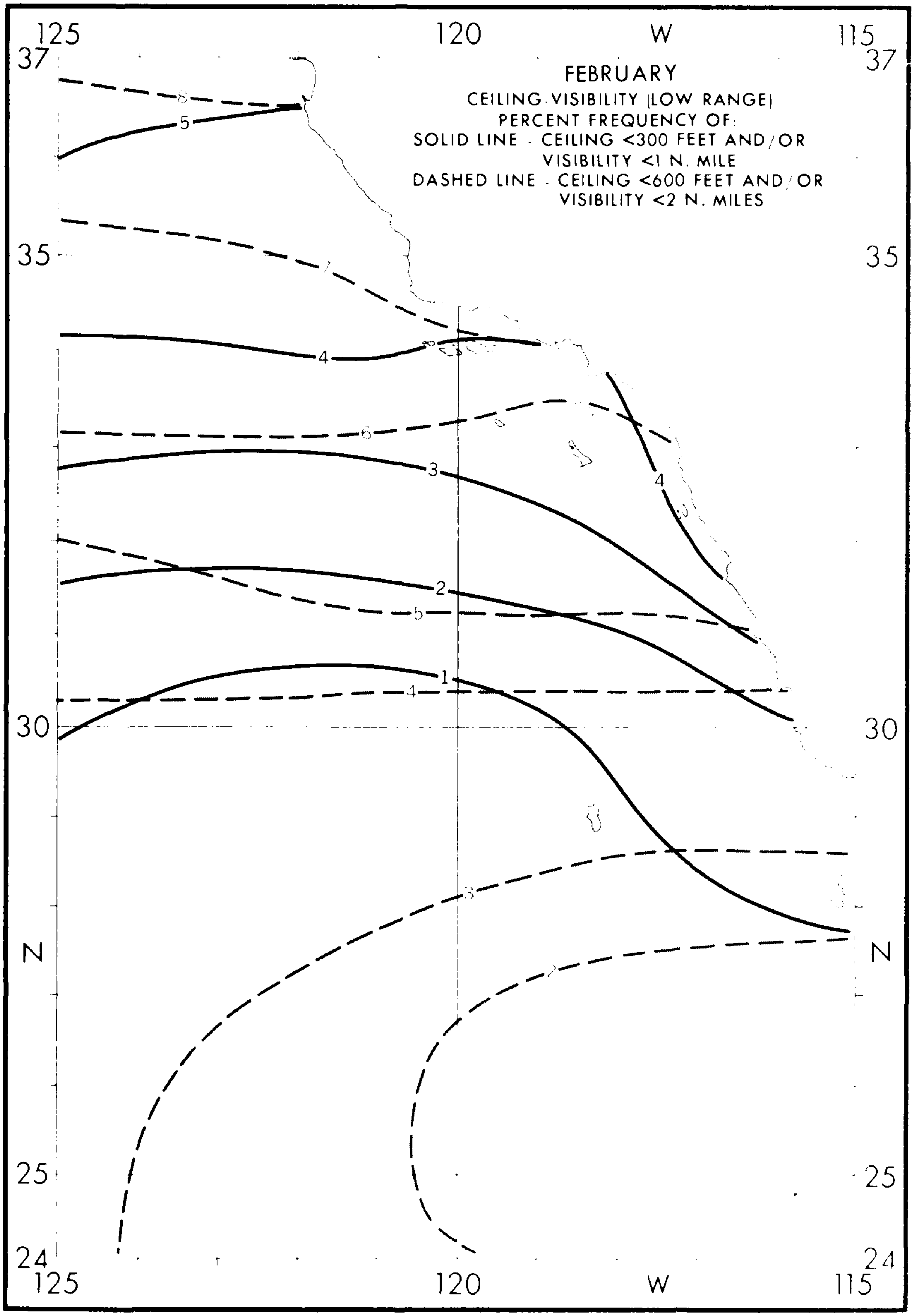
3.1% OF THE OBSERVED VISIBILITIES WERE <1 BUT ≥1/2 N. MILE. OTHER PERCENTAGES CAN BE SIMILARLY INTERPRETED.

N = OBSERVATION COUNT.



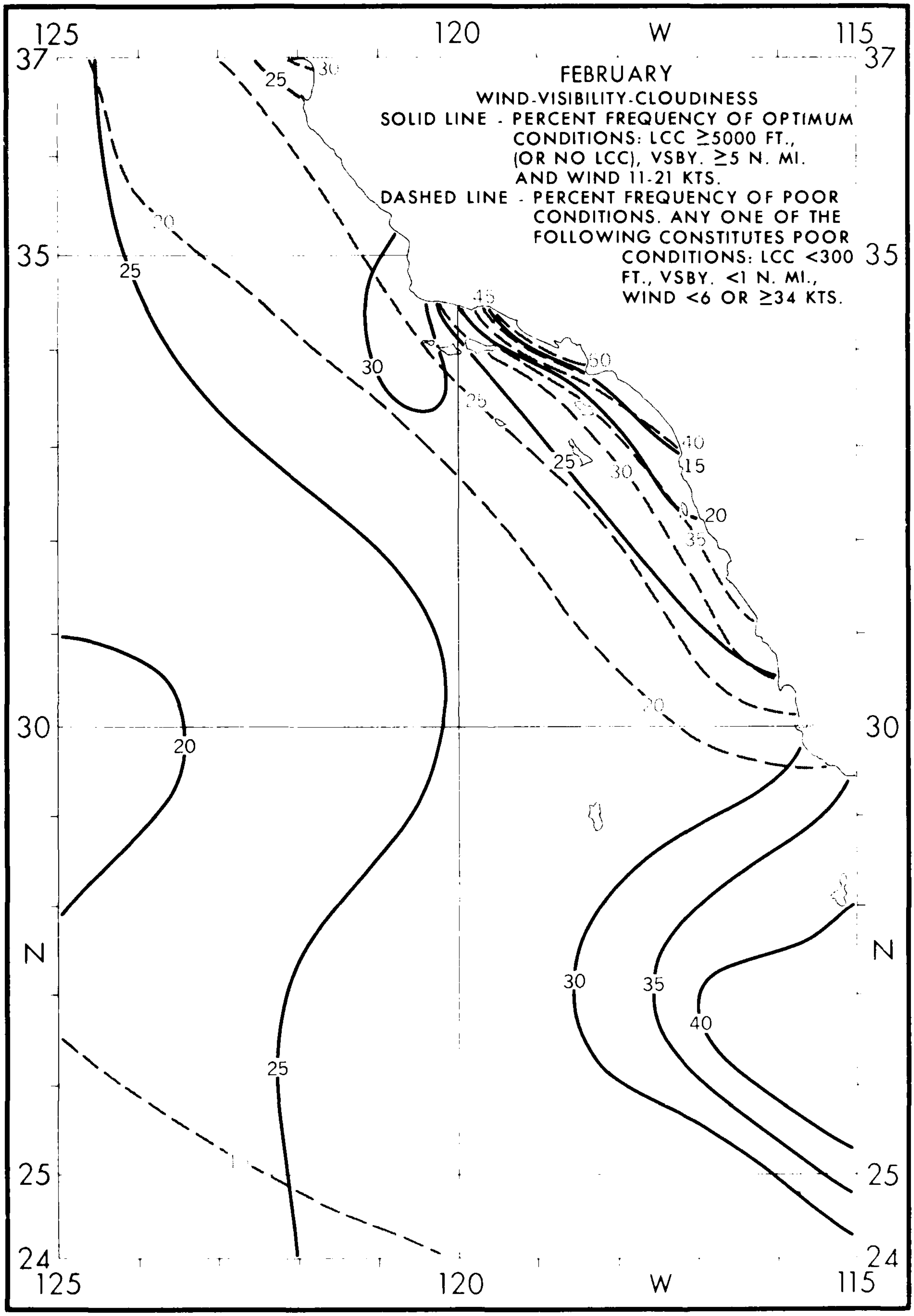
FEBRUARY

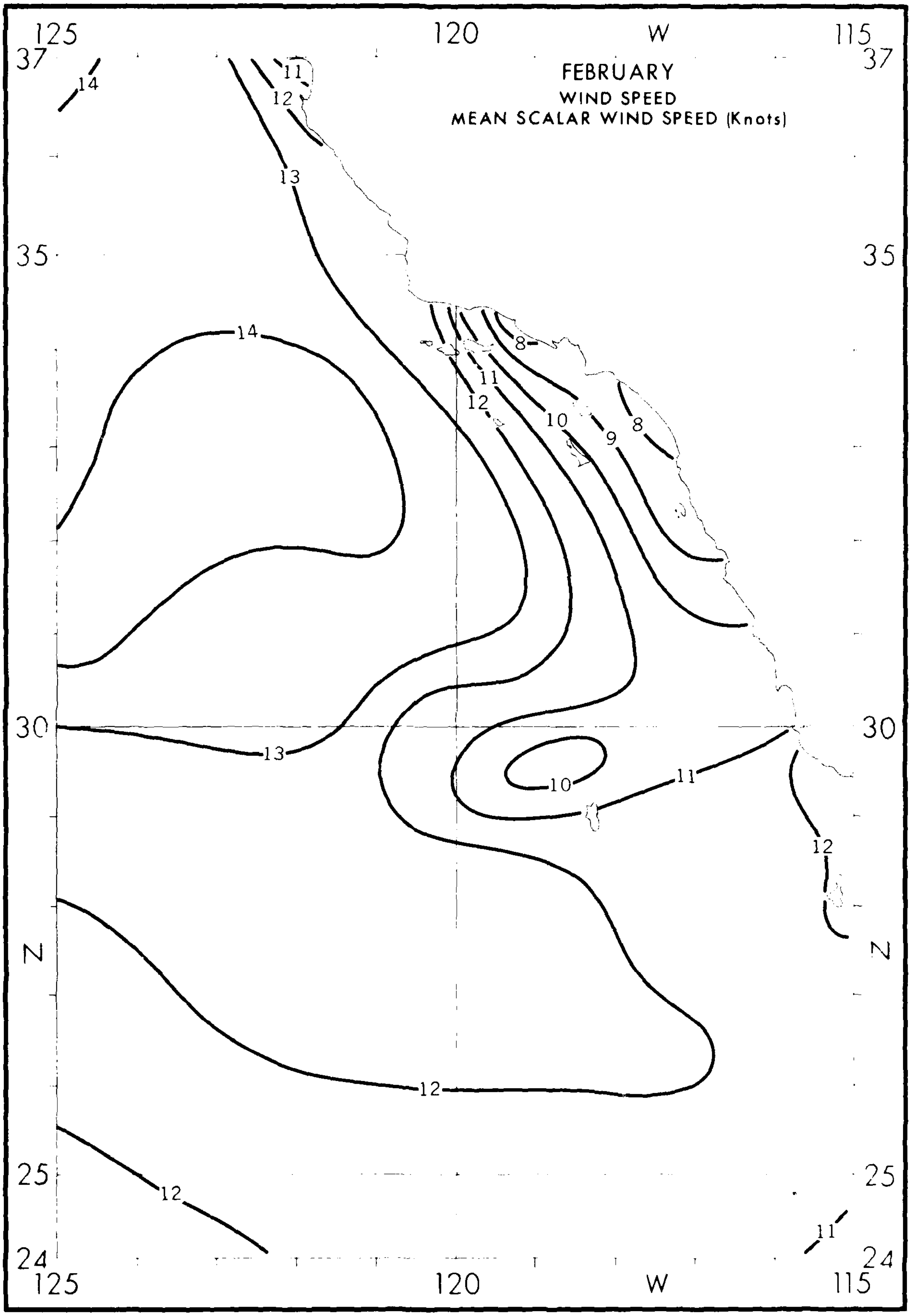
CEILING-VISIBILITY (MID RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <1000 FEET AND/OR
VISIBILITY <5 N. MILES
DASHED LINE - CEILING <8000 FEET AND/OR
VISIBILITY <10 N. MILES



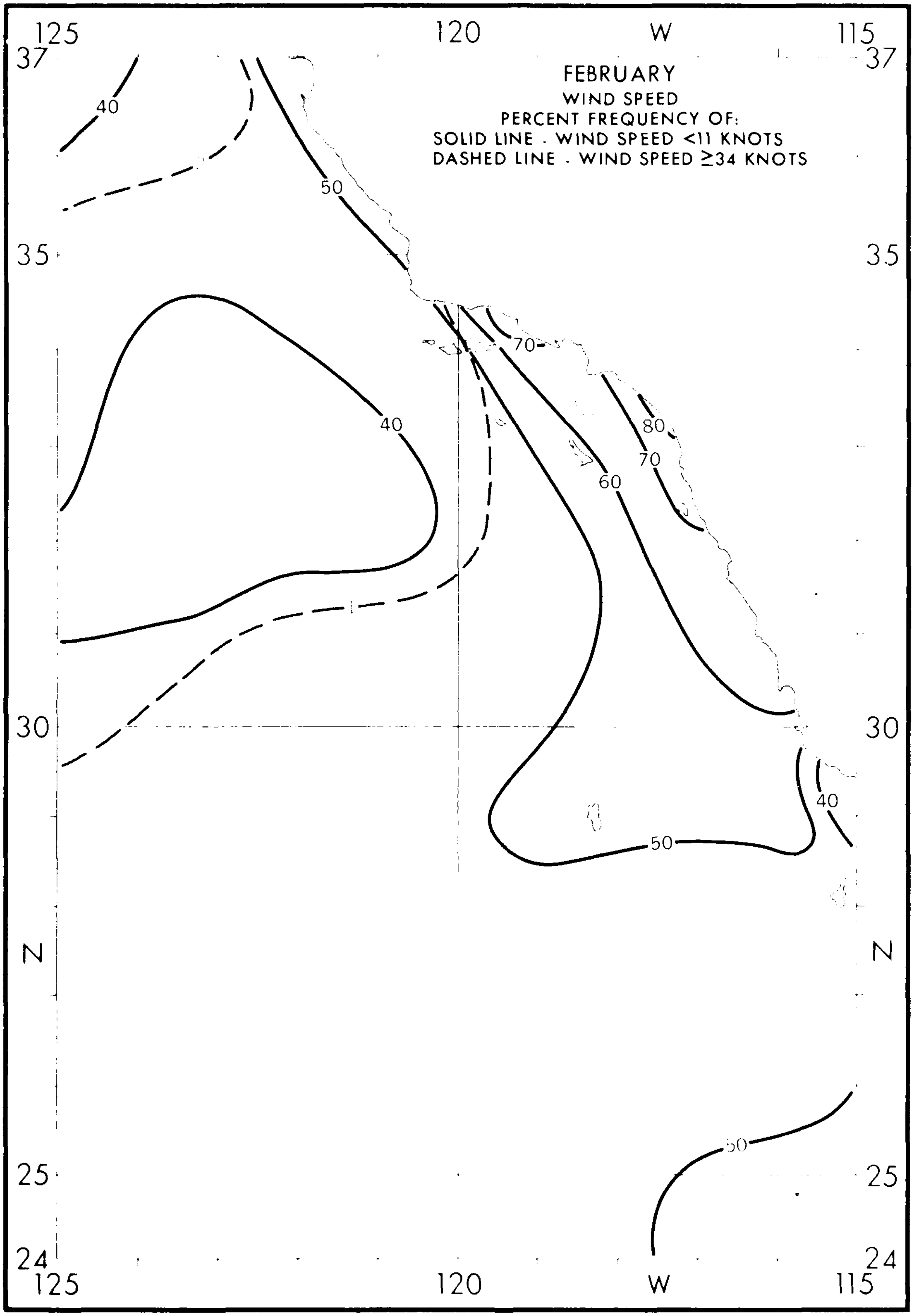
FEBRUARY

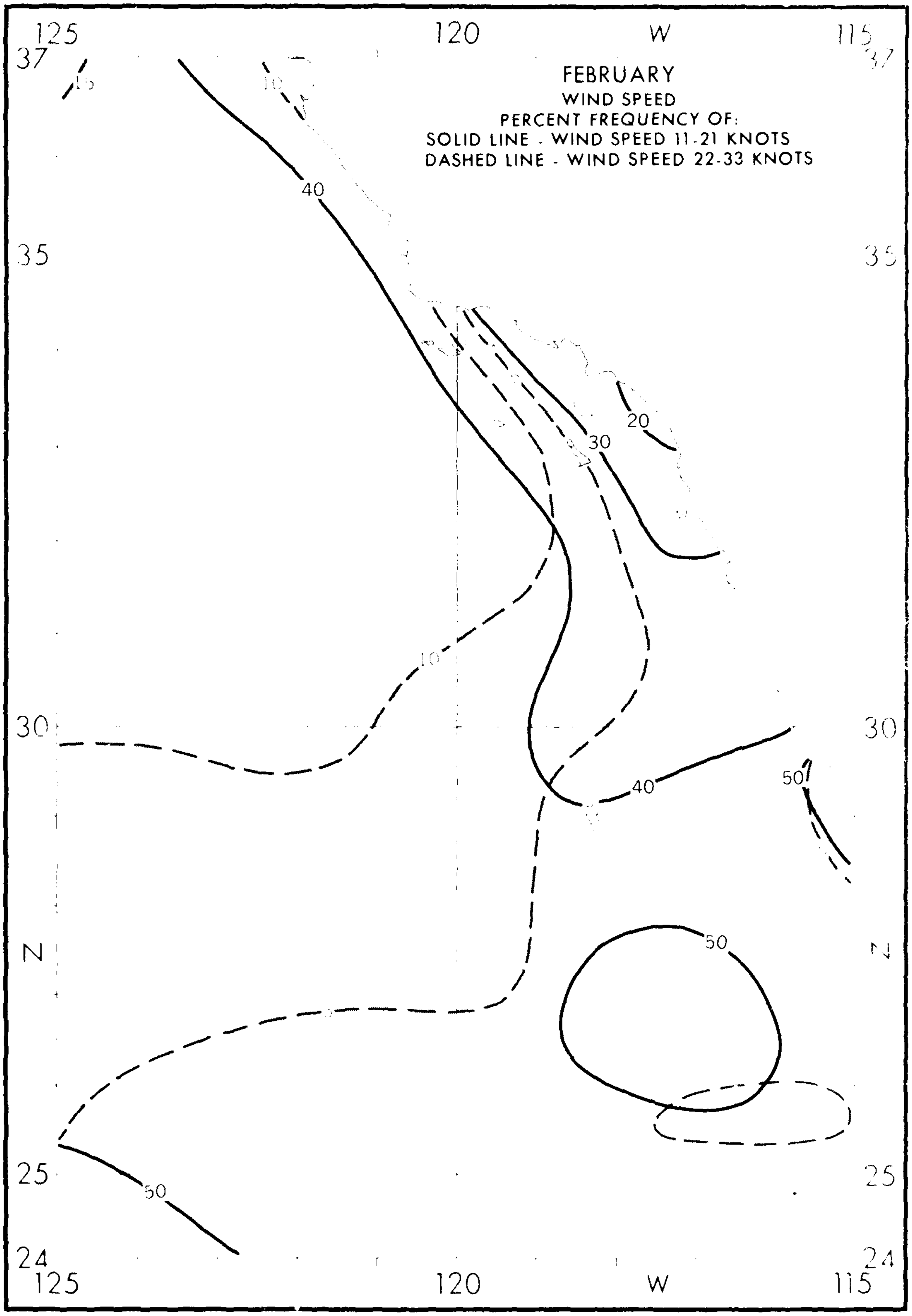
CEILING-VISIBILITY (LOW RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <300 FEET AND/OR VISIBILITY <1 N. MILE
DASHED LINE - CEILING <600 FEET AND/OR VISIBILITY <2 N. MILES

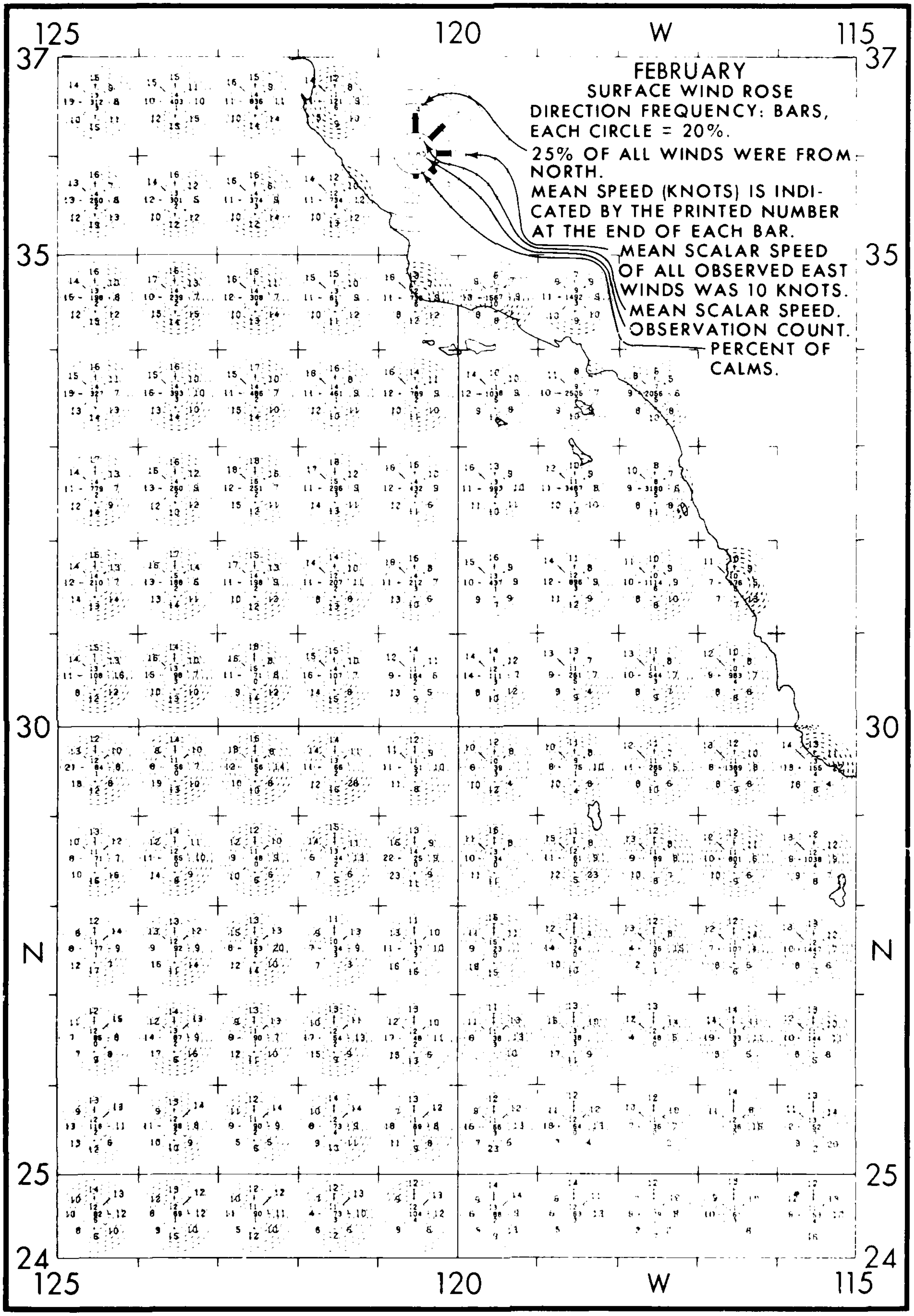

125
120
W
115
37
35
30
N
25
24
FEBRUARY
WIND-VISIBILITY-CLOUDINESS
SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.
DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.
25
30
20
25
30
45
50
25
40
15
25
30
20
35
20
20
30
35
40
25

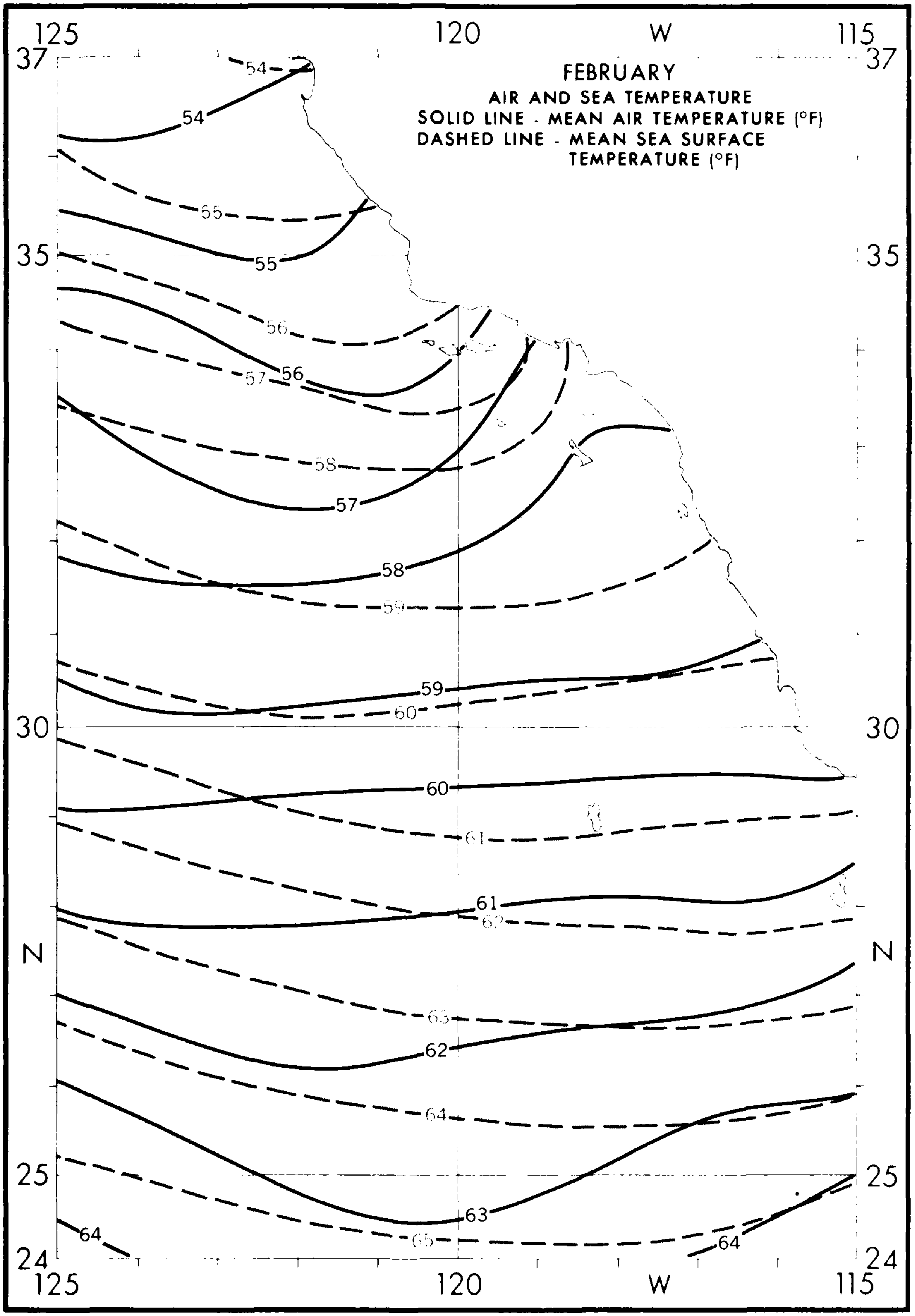


FEBRUARY
WIND SPEED
MEAN SCALAR WIND SPEED (Knots)


FEBRUARY
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED <11 KNOTS
DASHED LINE - WIND SPEED ≥34 KNOTS
125
120
W
115
37
35
30
N
25
24
40
50
70
80
60
40
70
50
40
50


125
120
W
115
37
FEBRUARY
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED 11-21 KNOTS
DASHED LINE - WIND SPEED 22-33 KNOTS
15
10
40
35
30
20
10
30
40
50
N
50
25
50
24
125
120
W
115


FEBRUARY
SURFACE WIND ROSE
DIRECTION FREQUENCY: BARS, EACH CIRCLE = 20%.
25% OF ALL WINDS WERE FROM NORTH.
MEAN SPEED (KNOTS) IS INDICATED BY THE PRINTED NUMBER AT THE END OF EACH BAR.
MEAN SCALAR SPEED OF ALL OBSERVED EAST WINDS WAS 10 KNOTS.
MEAN SCALAR SPEED.
OBSERVATION COUNT.
PERCENT OF CALMS.
125
120
W
115
37
35
30
N
25
24

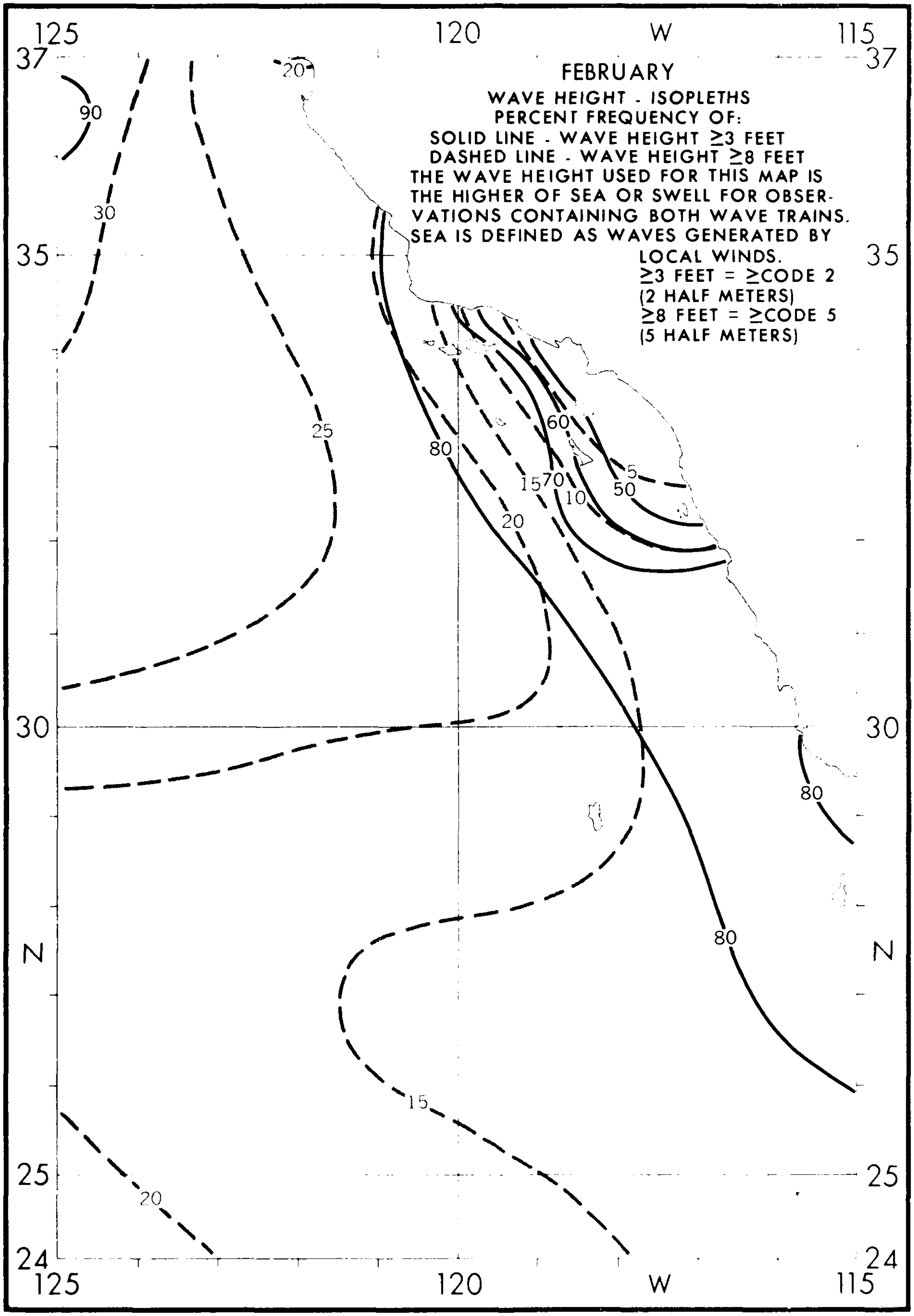


FEBRUARY

AIR AND SEA TEMPERATURE

SOLID LINE - MEAN AIR TEMPERATURE (°F)

DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)


FEBRUARY
WAVE HEIGHT - ISOPLETHS
PERCENT FREQUENCY OF:
SOLID LINE - WAVE HEIGHT ≥3 FEET
DASHED LINE - WAVE HEIGHT ≥8 FEET
THE WAVE HEIGHT USED FOR THIS MAP IS THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS. SEA IS DEFINED AS WAVES GENERATED BY LOCAL WINDS.
≥3 FEET = ≥CODE 2
(2 HALF METERS)
≥8 FEET = ≥CODE 5
(5 HALF METERS)
125
120
W
115
37
35
30
N
25
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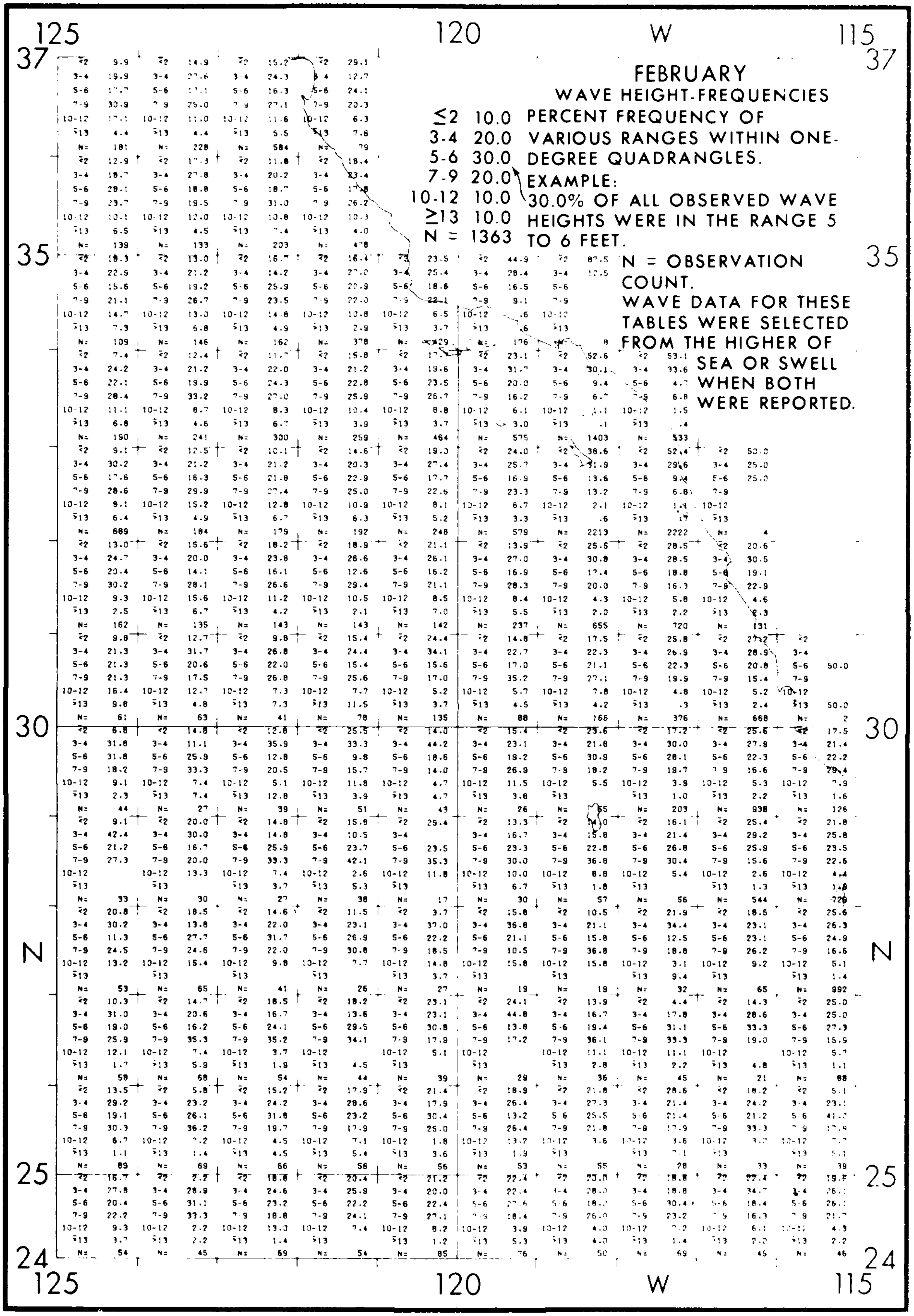
50
20
80
80
15
20



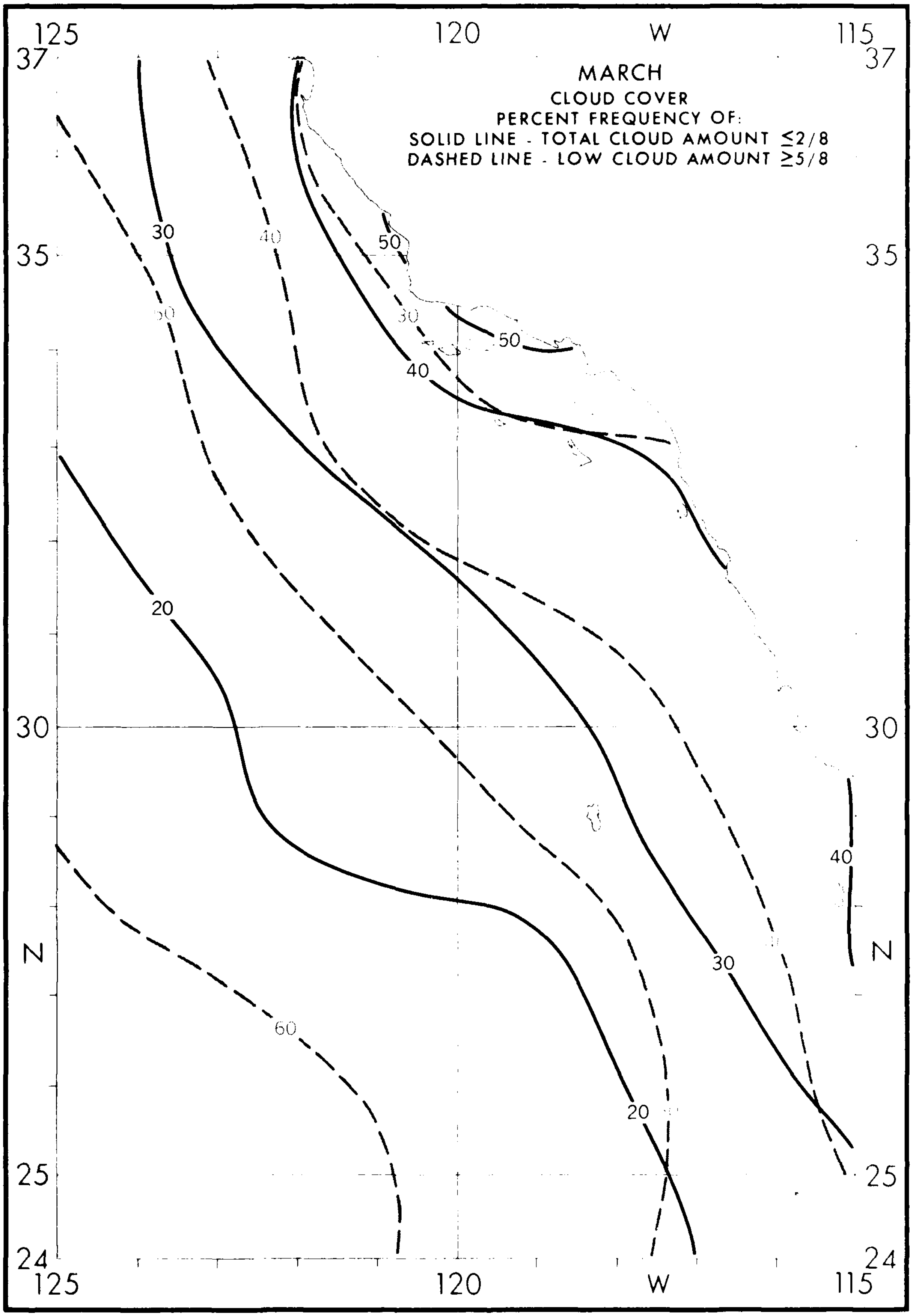
FEBRUARY

WAVE HEIGHT-FREQUENCIES

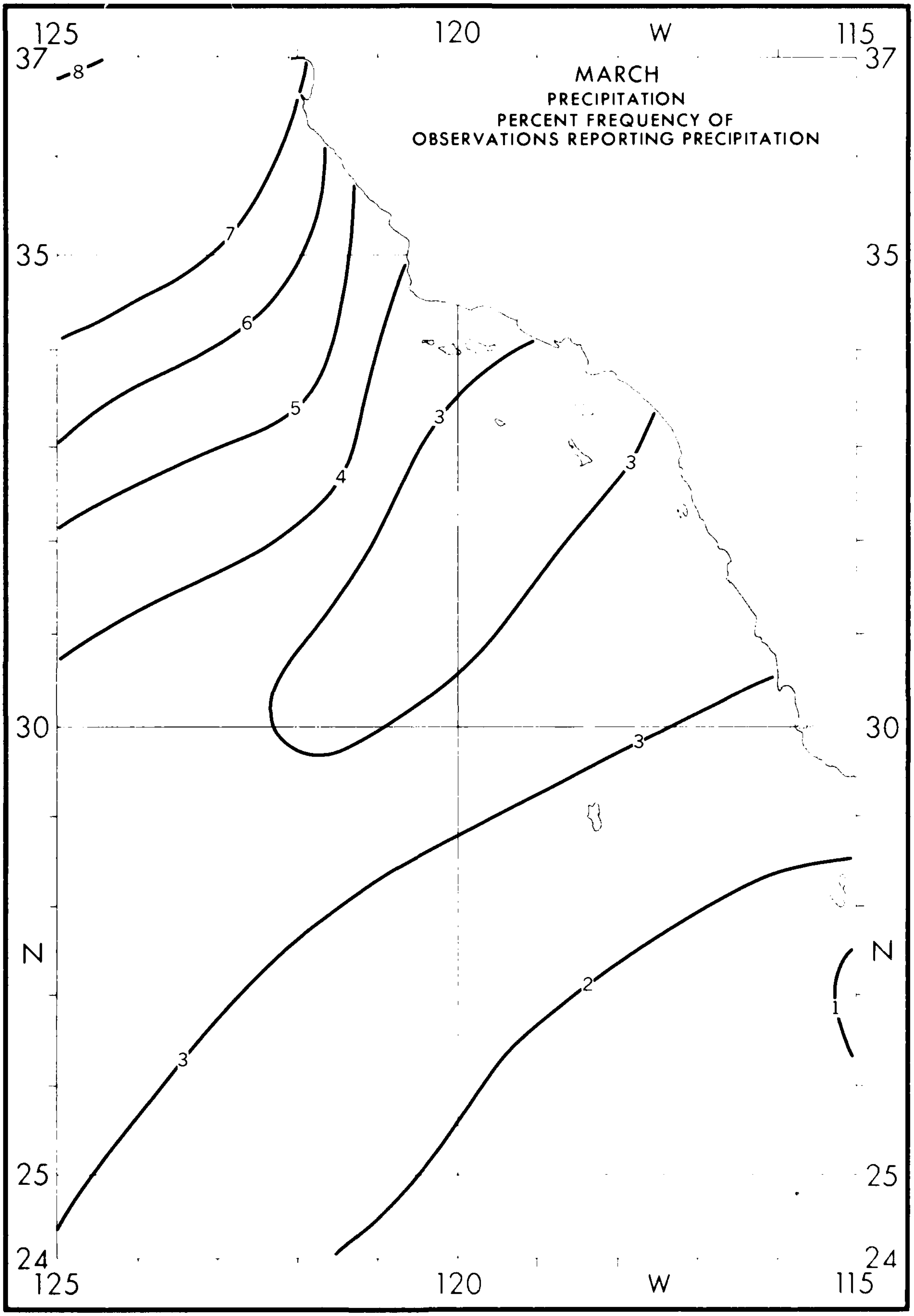
≤2	10.0	PERCENT FREQUENCY OF
3-4	20.0	VARIOUS RANGES WITHIN ONE-
5-6	30.0	DEGREE QUADRANGLES.
7-9	20.0	EXAMPLE:
10-12	10.0	30.0% OF ALL OBSERVED WAVE
≥13	10.0	HEIGHTS WERE IN THE RANGE 5
N =	1363	TO 6 FEET.

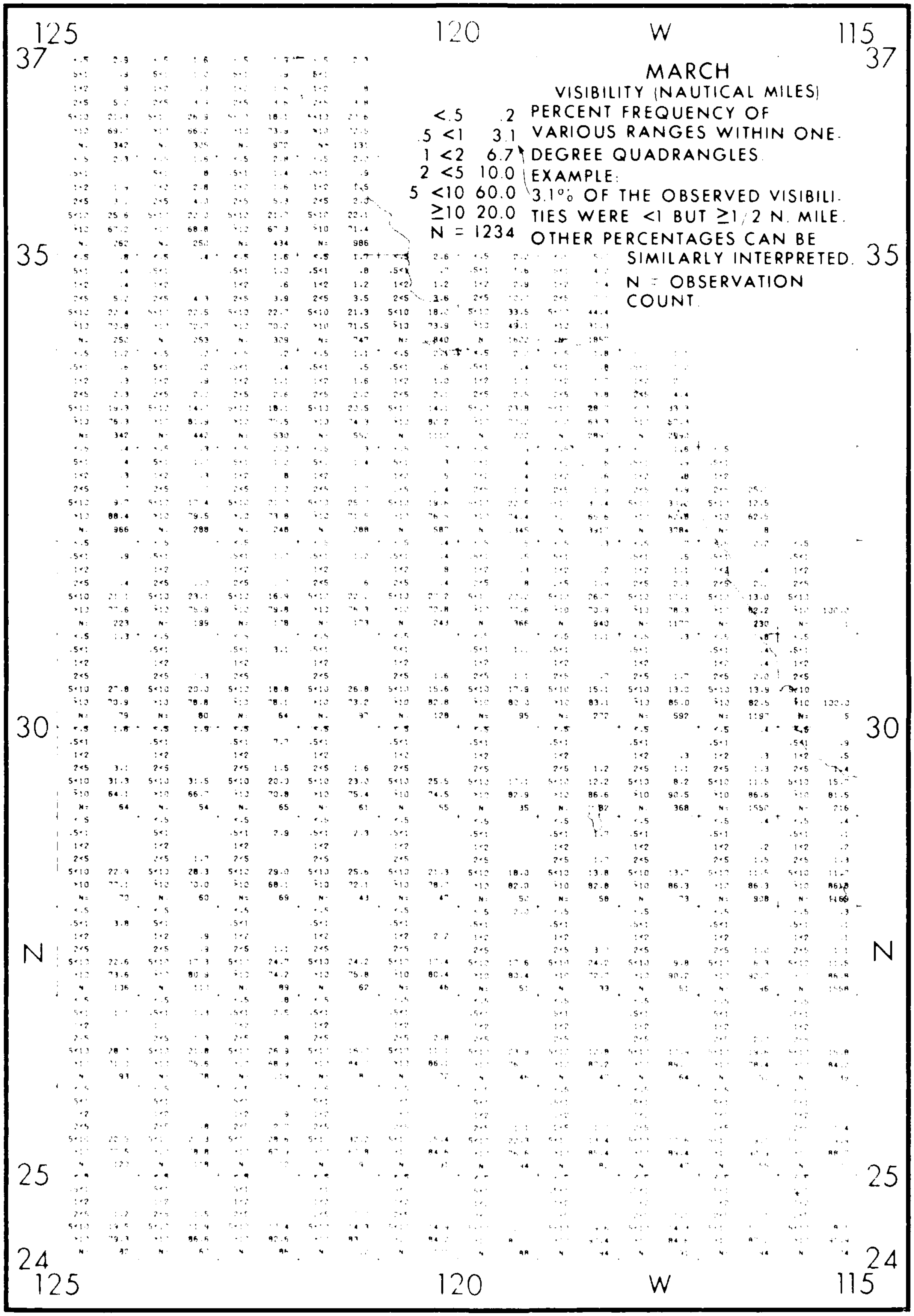
N = OBSERVATION COUNT.

WAVE DATA FOR THESE TABLES WERE SELECTED FROM THE HIGHER OF SEA OR SWELL WHEN BOTH WERE REPORTED.

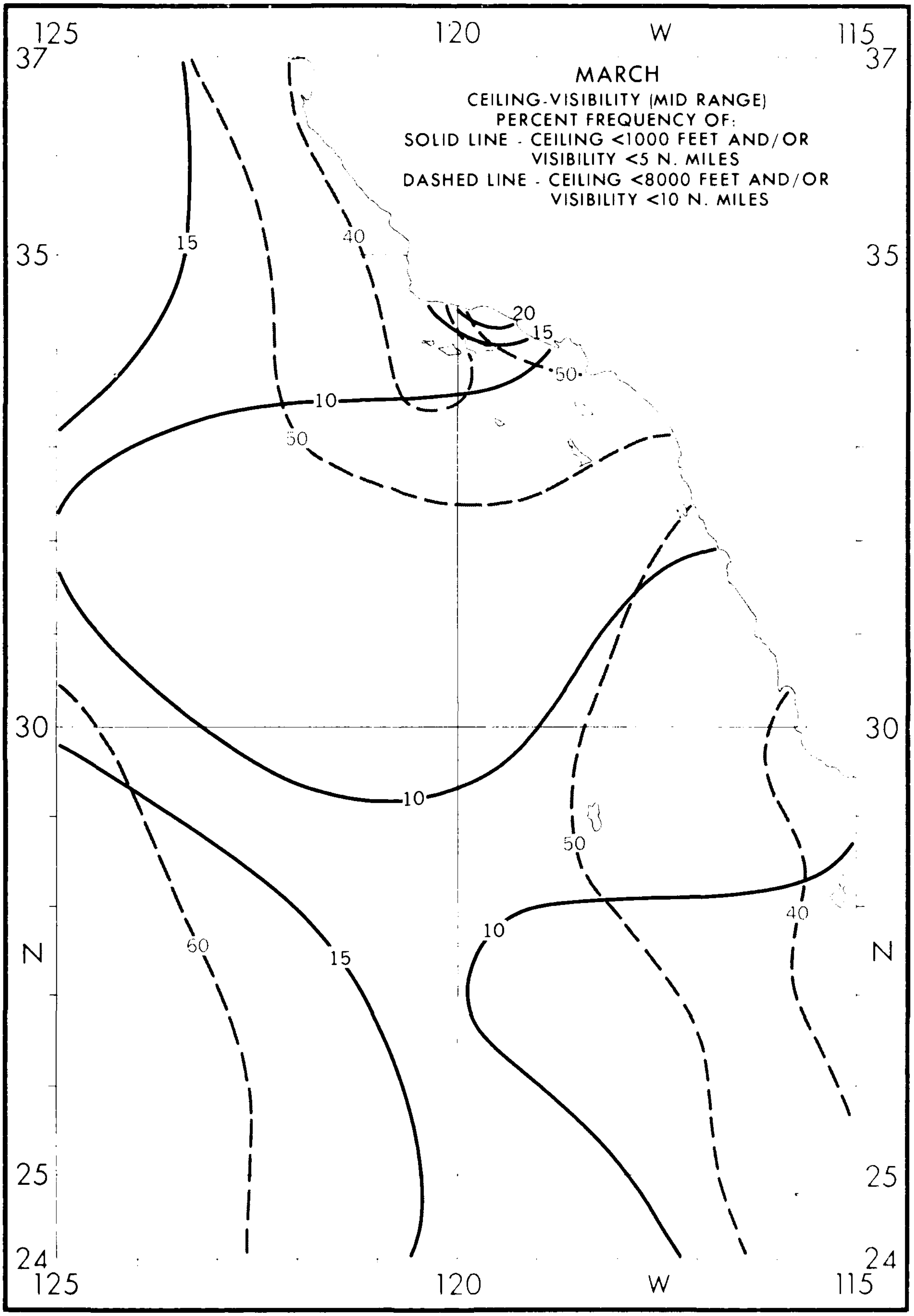


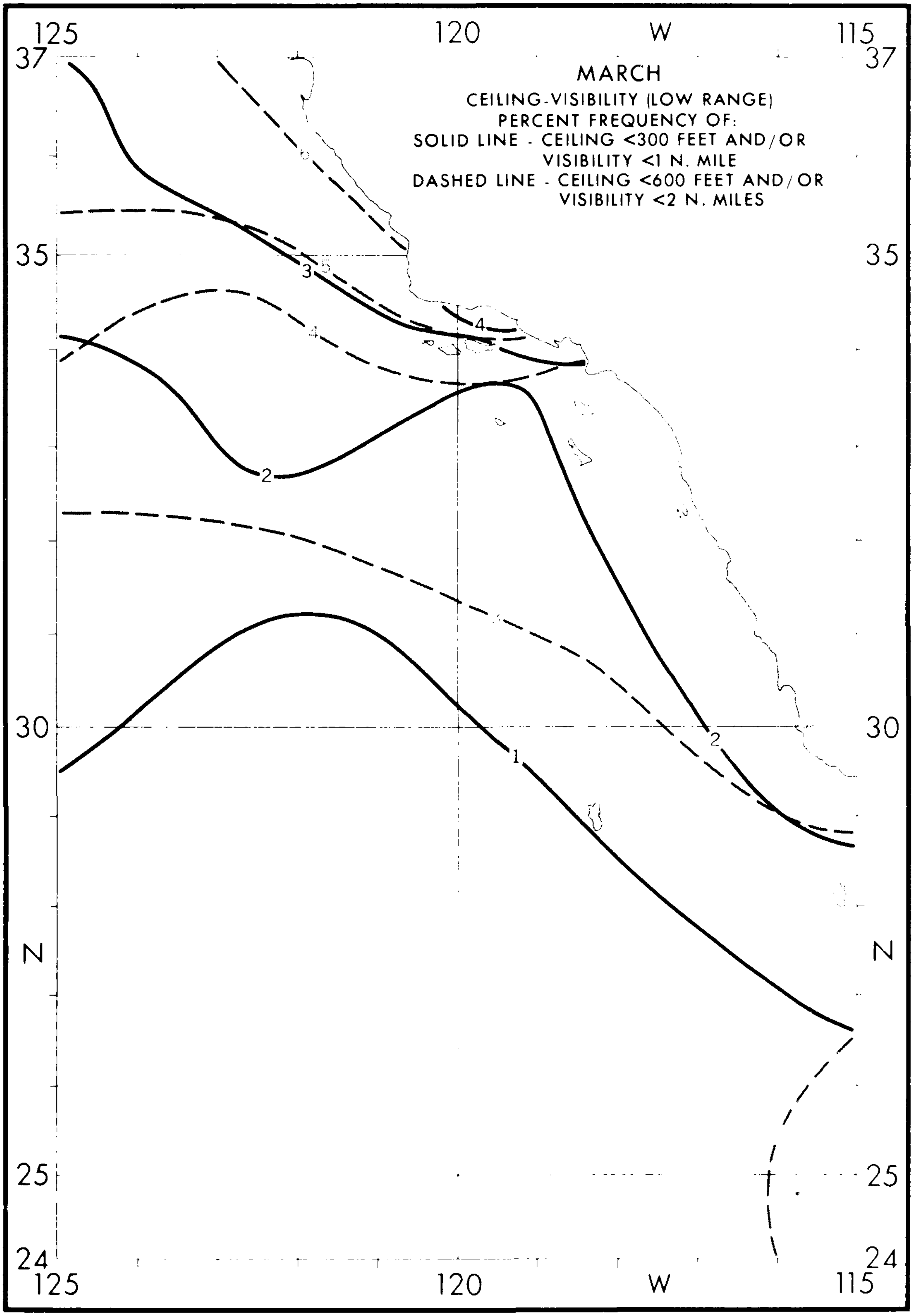
MARCH
CLOUD COVER
PERCENT FREQUENCY OF:
SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8
DASHED LINE - LOW CLOUD AMOUNT ≥5/8

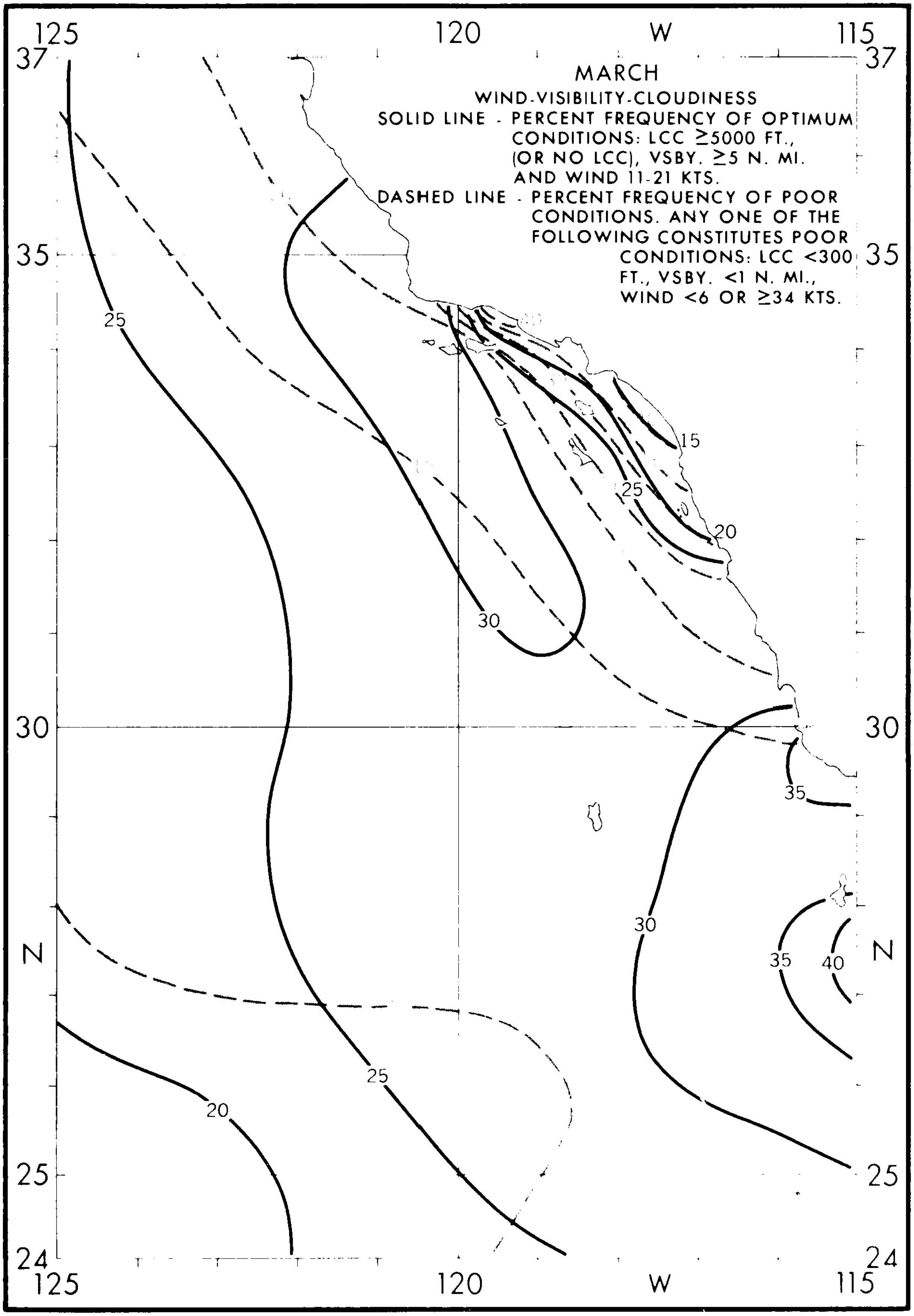

MARCH
PRECIPITATION
PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION
125
120
W
115
37
35
30
25
24
N
8
7
6
5
4
3
3
3
3
2
1

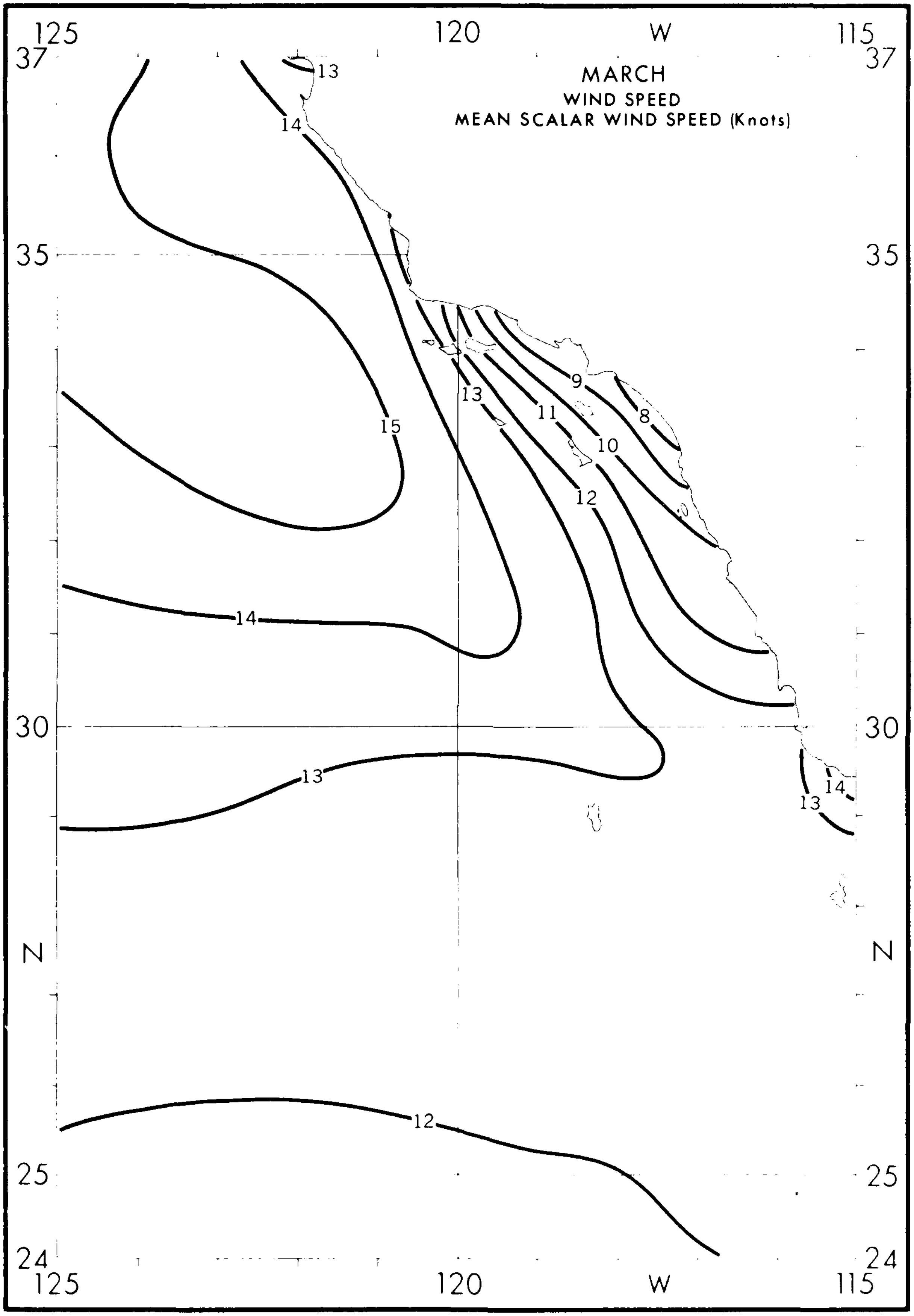


125
120
W
115
37
35
30
N
25
24
MARCH
VISIBILITY (NAUTICAL MILES)
<.5 .2
.5 <1 3.1
1 <2 6.7
2 <5 10.0
5 <10 60.0
≥10 20.0
N = 1234
PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE DEGREE QUADRANGLES.
EXAMPLE:
3.1% OF THE OBSERVED VISIBILITIES WERE <1 BUT ≥1/2 N. MILE.
OTHER PERCENTAGES CAN BE SIMILARLY INTERPRETED.
N = OBSERVATION COUNT.


MARCH
CEILING-VISIBILITY (MID RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <1000 FEET AND/OR VISIBILITY <5 N. MILES
DASHED LINE - CEILING <8000 FEET AND/OR VISIBILITY <10 N. MILES
125
120
W
115
37
35
30
25
24
N
15
40
20
15
50
10
50
10
50
40
10
60
15


MARCH
CEILING-VISIBILITY (LOW RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <300 FEET AND/OR VISIBILITY <1 N. MILE
DASHED LINE - CEILING <600 FEET AND/OR VISIBILITY <2 N. MILES
125
120
W
115
37
35
30
25
24
N
1
2
3
4
5
6

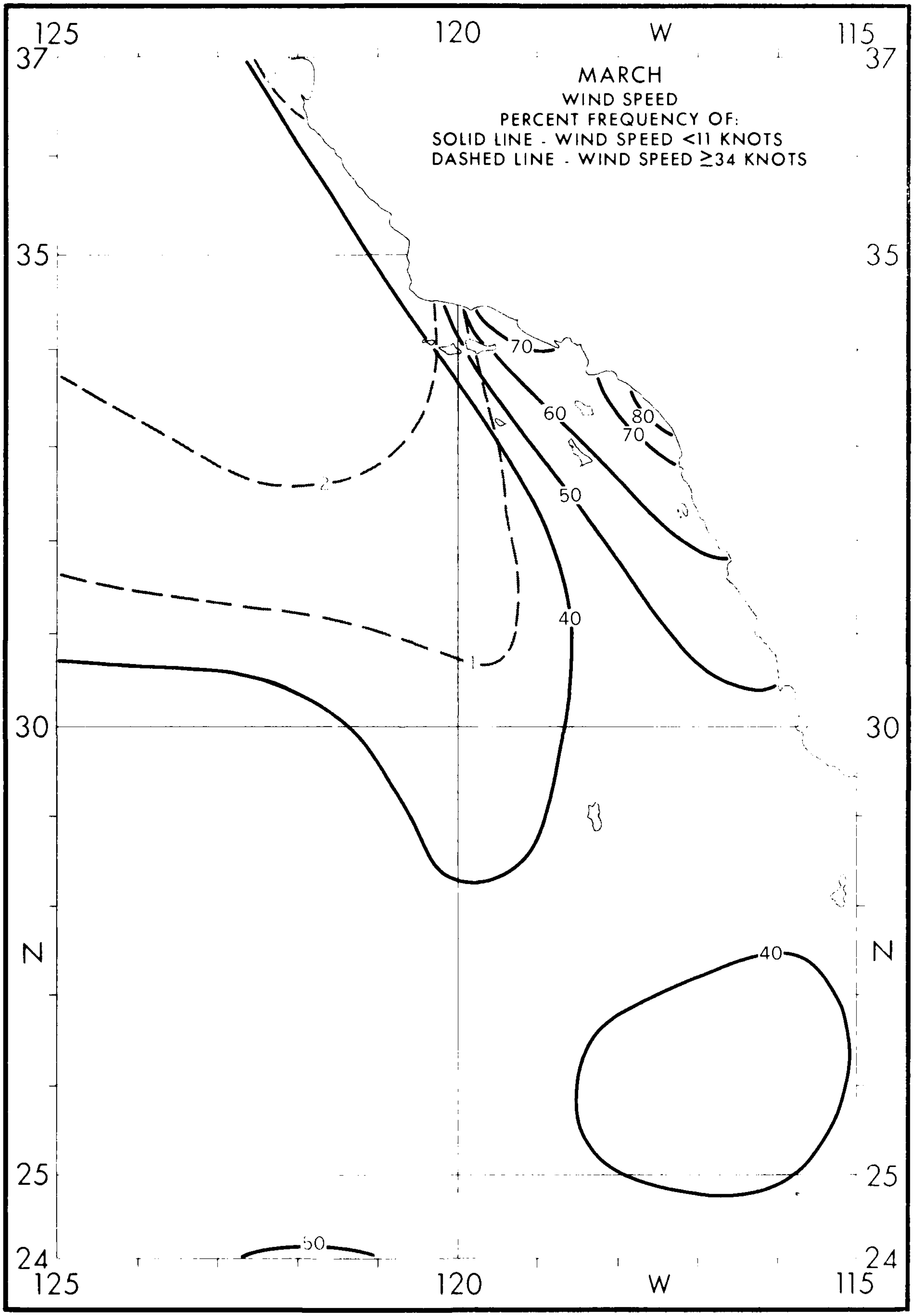

125
120
W
115
37
37
MARCH
WIND-VISIBILITY-CLOUDINESS
SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.
DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.
35
35
25
15
25
20
30
30
30
35
30
N
35
40
N
25
20
25
25
24
24
125
120
W
115

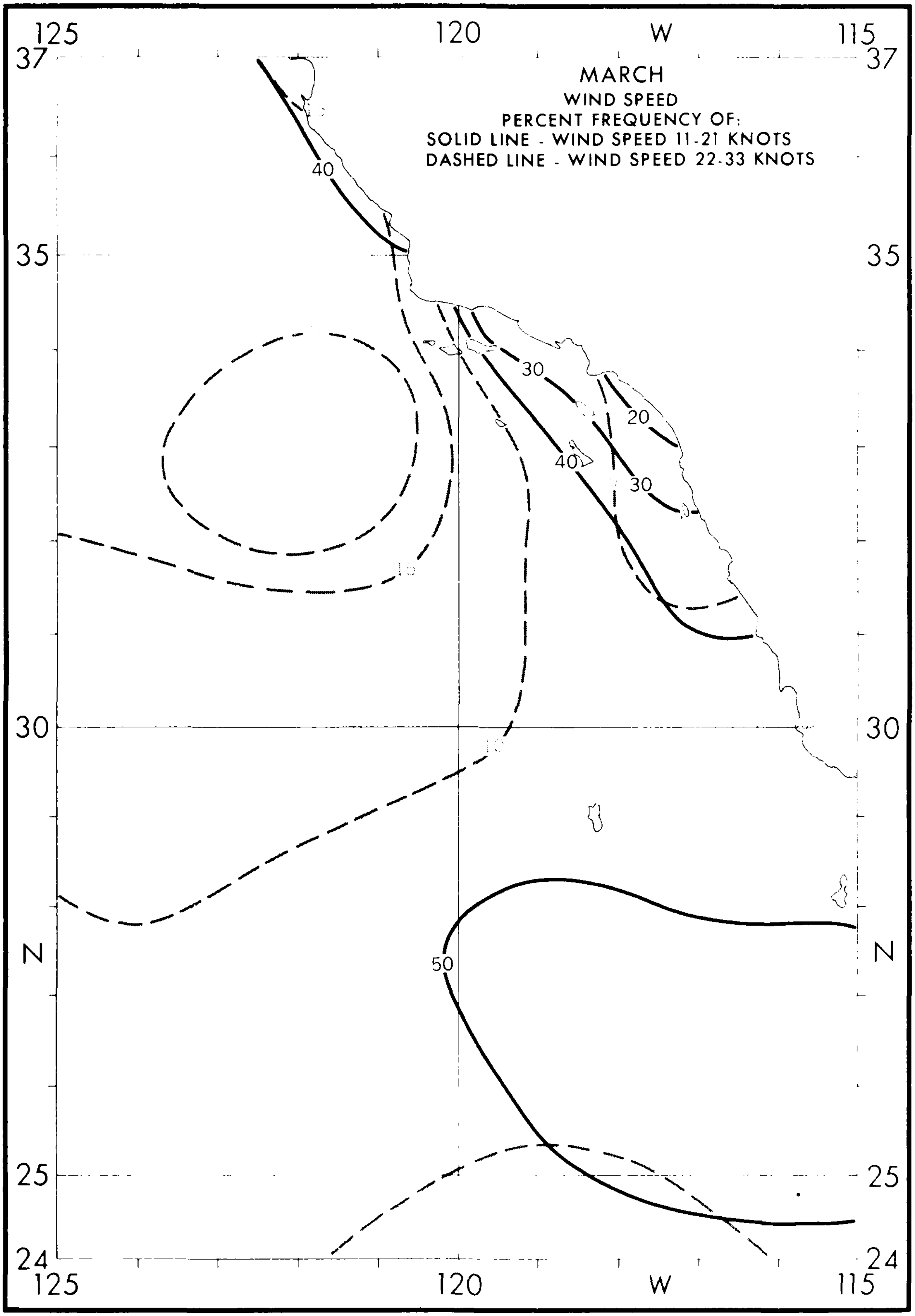


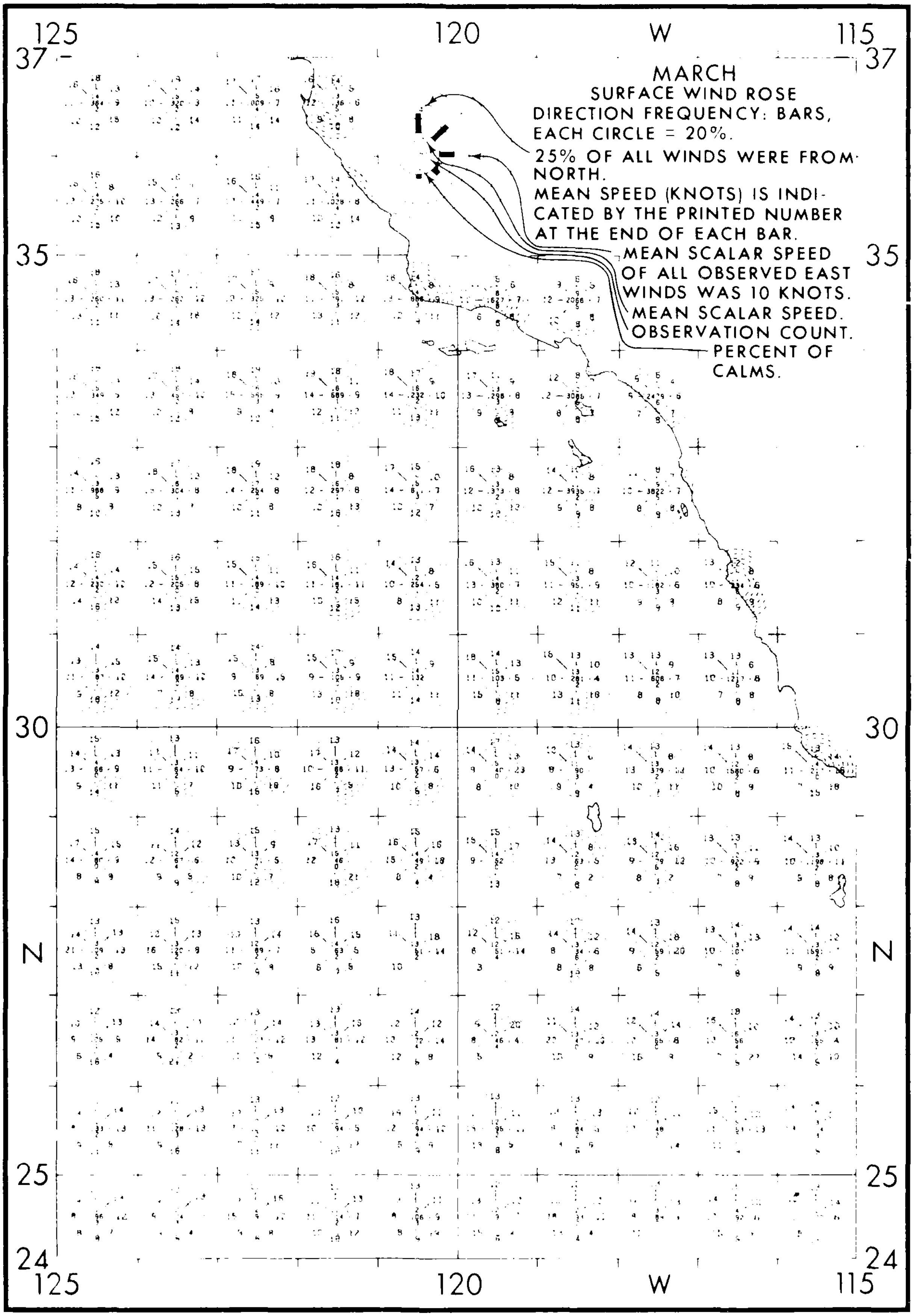
MARCH

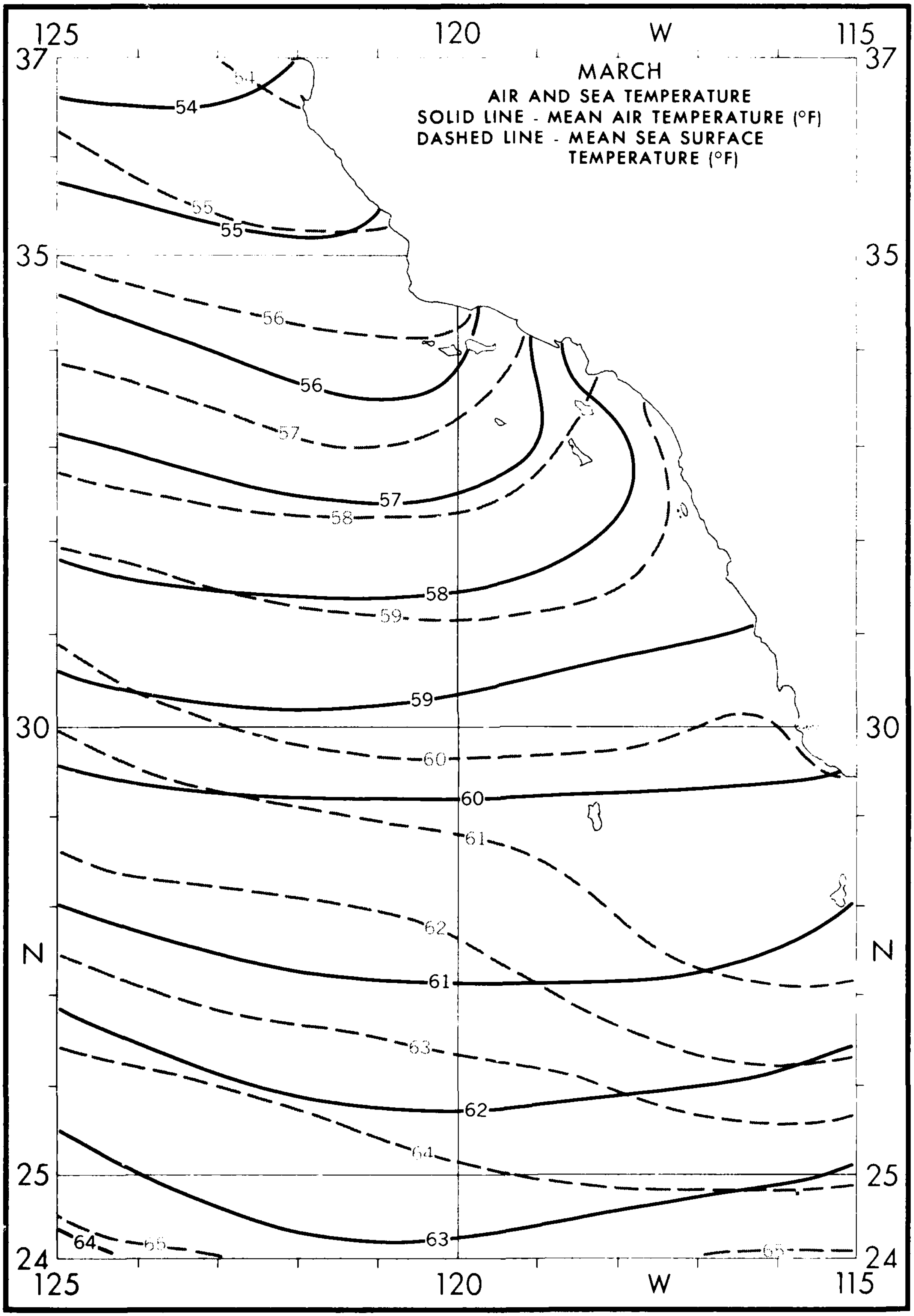
WIND SPEED

MEAN SCALAR WIND SPEED (Knots)


MARCH
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED <11 KNOTS
DASHED LINE - WIND SPEED ≥34 KNOTS
125
120
W
115
37
35
30
N
25
24
70
60
80
70
50
40
2
1
40
50


MARCH
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED 11-21 KNOTS
DASHED LINE - WIND SPEED 22-33 KNOTS
125
120
W
115
37
35
30
N
25
24
40
30
20
40
30
15
10
50


125
120
W
115
37
35
30
25
24
N
MARCH
SURFACE WIND ROSE
DIRECTION FREQUENCY: BARS,
EACH CIRCLE = 20%.
25% OF ALL WINDS WERE FROM NORTH.
MEAN SPEED (KNOTS) IS INDICATED BY THE PRINTED NUMBER AT THE END OF EACH BAR.
MEAN SCALAR SPEED OF ALL OBSERVED EAST WINDS WAS 10 KNOTS.
MEAN SCALAR SPEED.
OBSERVATION COUNT.
PERCENT OF CALMS.

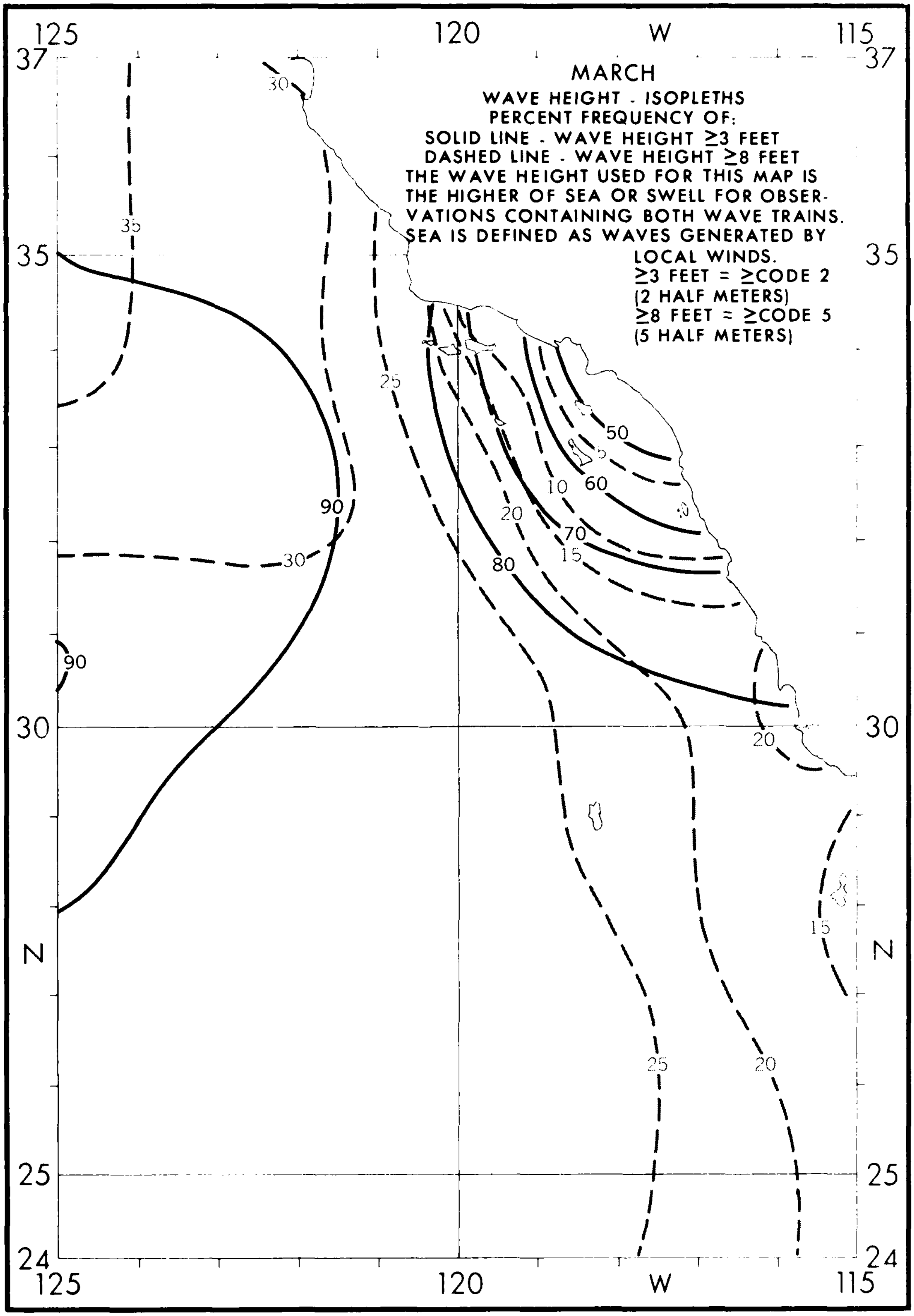


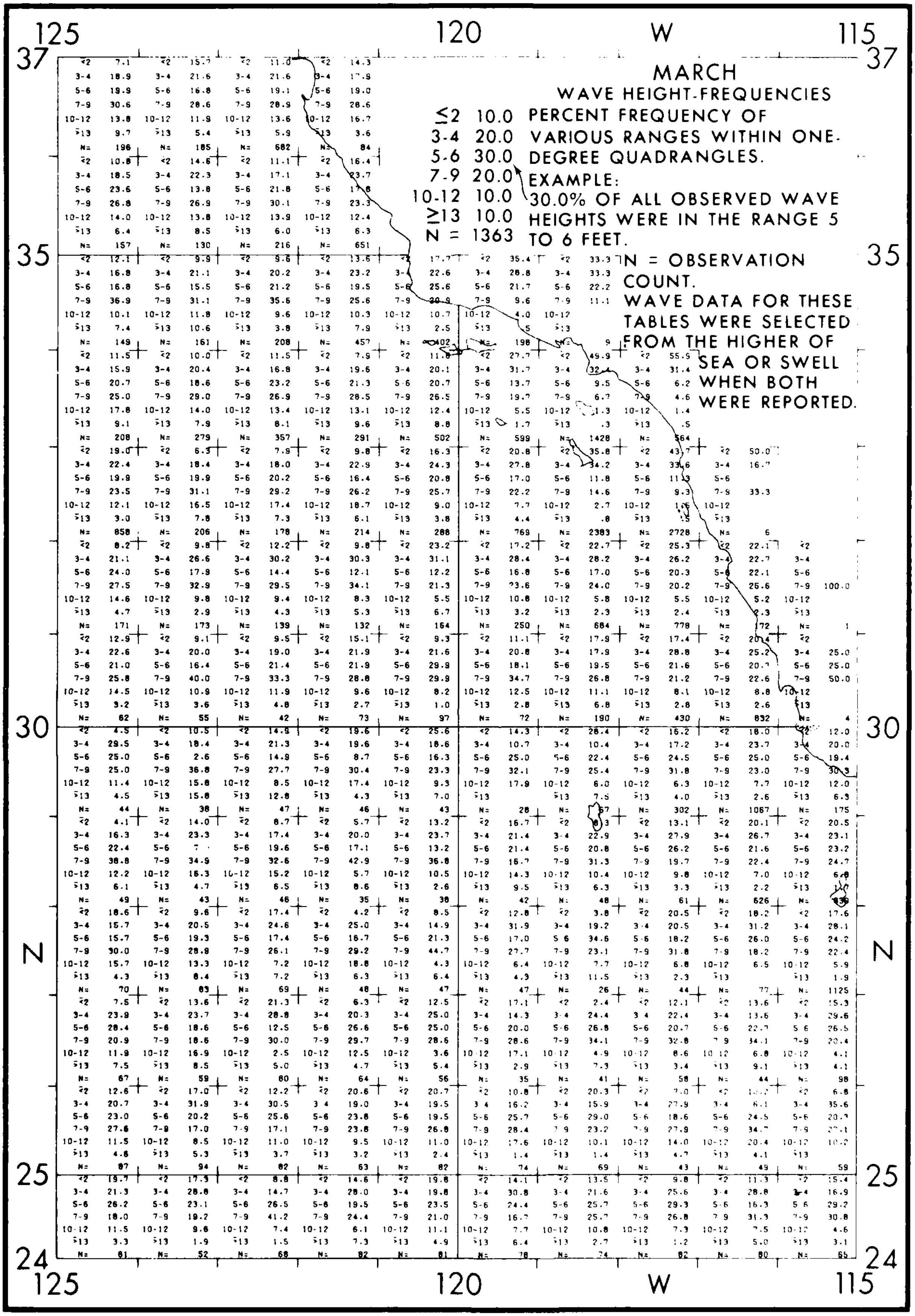
MARCH

AIR AND SEA TEMPERATURE

SOLID LINE - MEAN AIR TEMPERATURE (°F)

DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)


MARCH
WAVE HEIGHT - ISOPLETHS
PERCENT FREQUENCY OF:
SOLID LINE - WAVE HEIGHT ≥3 FEET
DASHED LINE - WAVE HEIGHT ≥8 FEET
THE WAVE HEIGHT USED FOR THIS MAP IS THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS.
SEA IS DEFINED AS WAVES GENERATED BY LOCAL WINDS.
≥3 FEET = ≥CODE 2
(2 HALF METERS)
≥8 FEET = ≥CODE 5
(5 HALF METERS)
125
120
W
115
37
35
30
25
24
N
30
35
25
90
30
90
80
20
10
60
50
70
15
20
25
20
15



MARCH

WAVE HEIGHT-FREQUENCIES

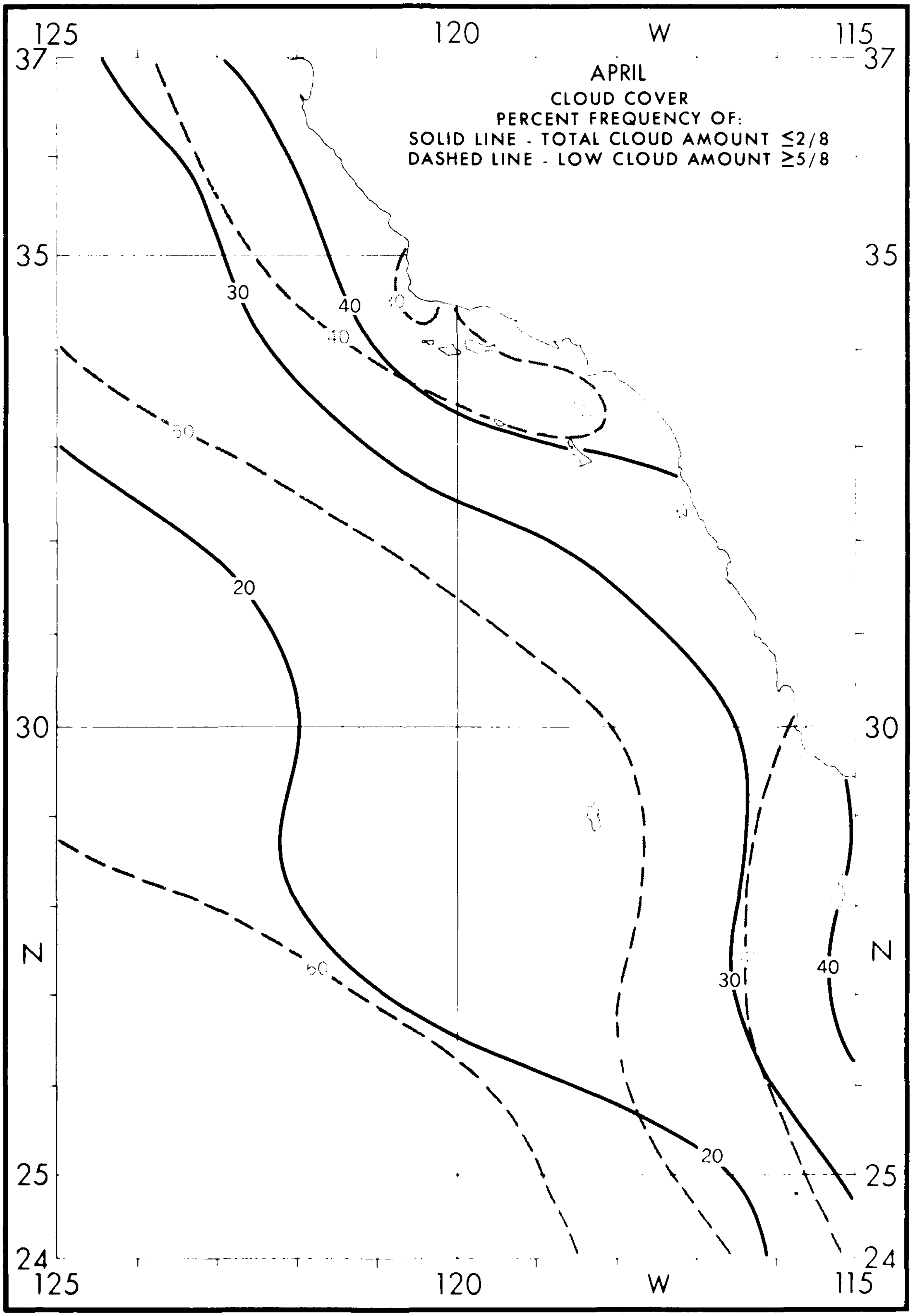
≤2	10.0
3-4	20.0
5-6	30.0
7-9	20.0
10-12	10.0
≥13	10.0
N =	1363

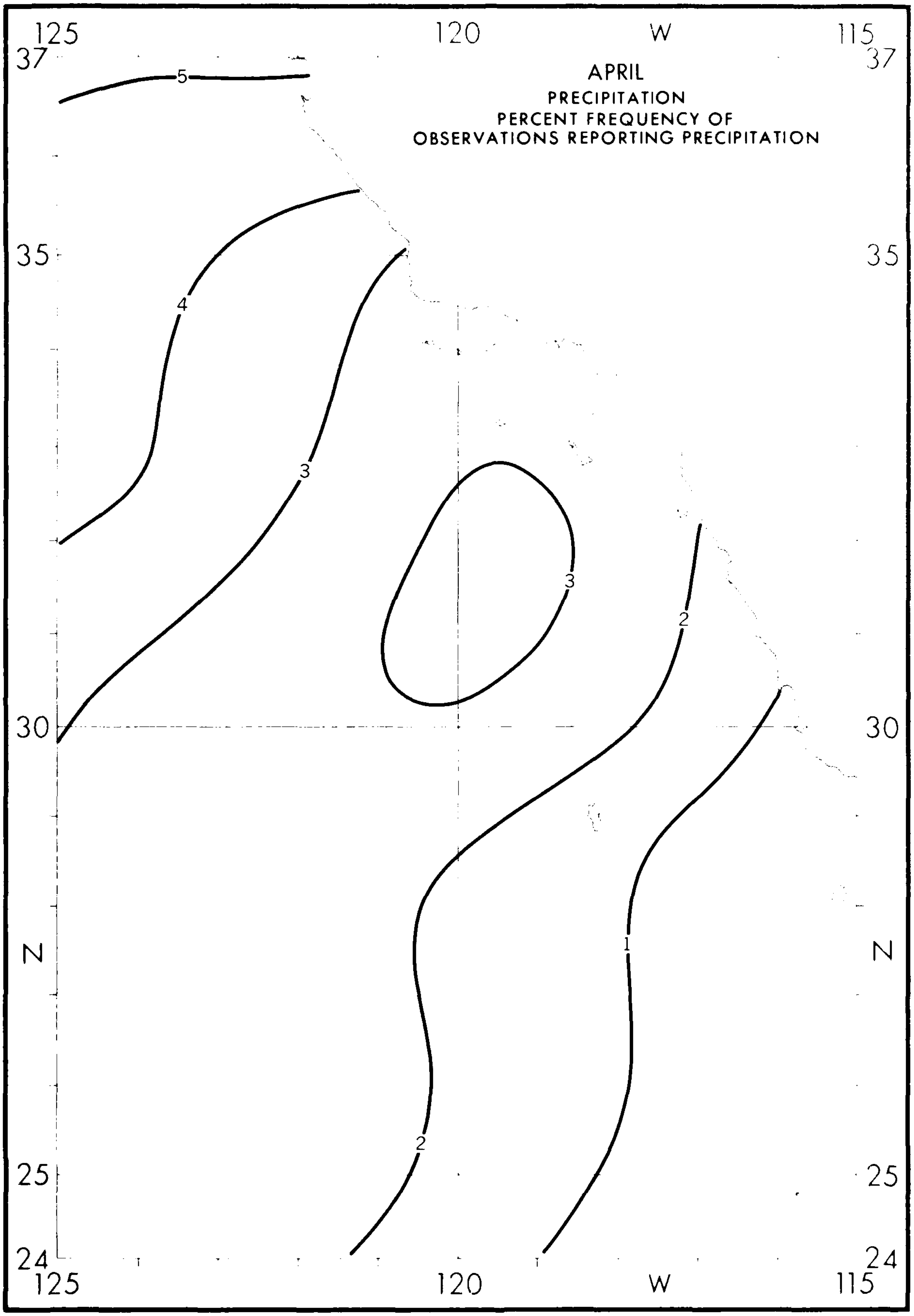
PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.

EXAMPLE: 30.0% OF ALL OBSERVED WAVE HEIGHTS WERE IN THE RANGE 5 TO 6 FEET.

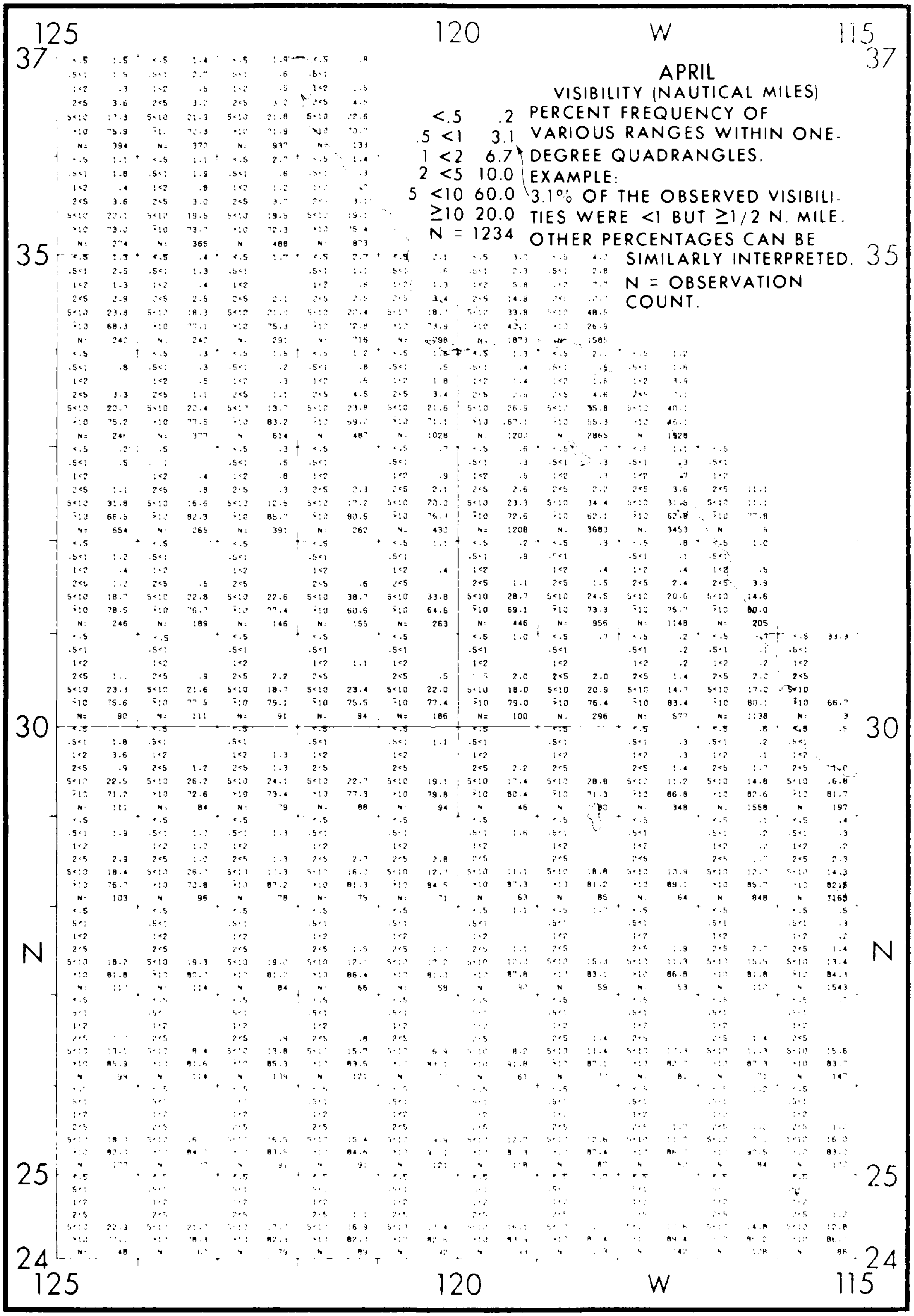
N = OBSERVATION COUNT.

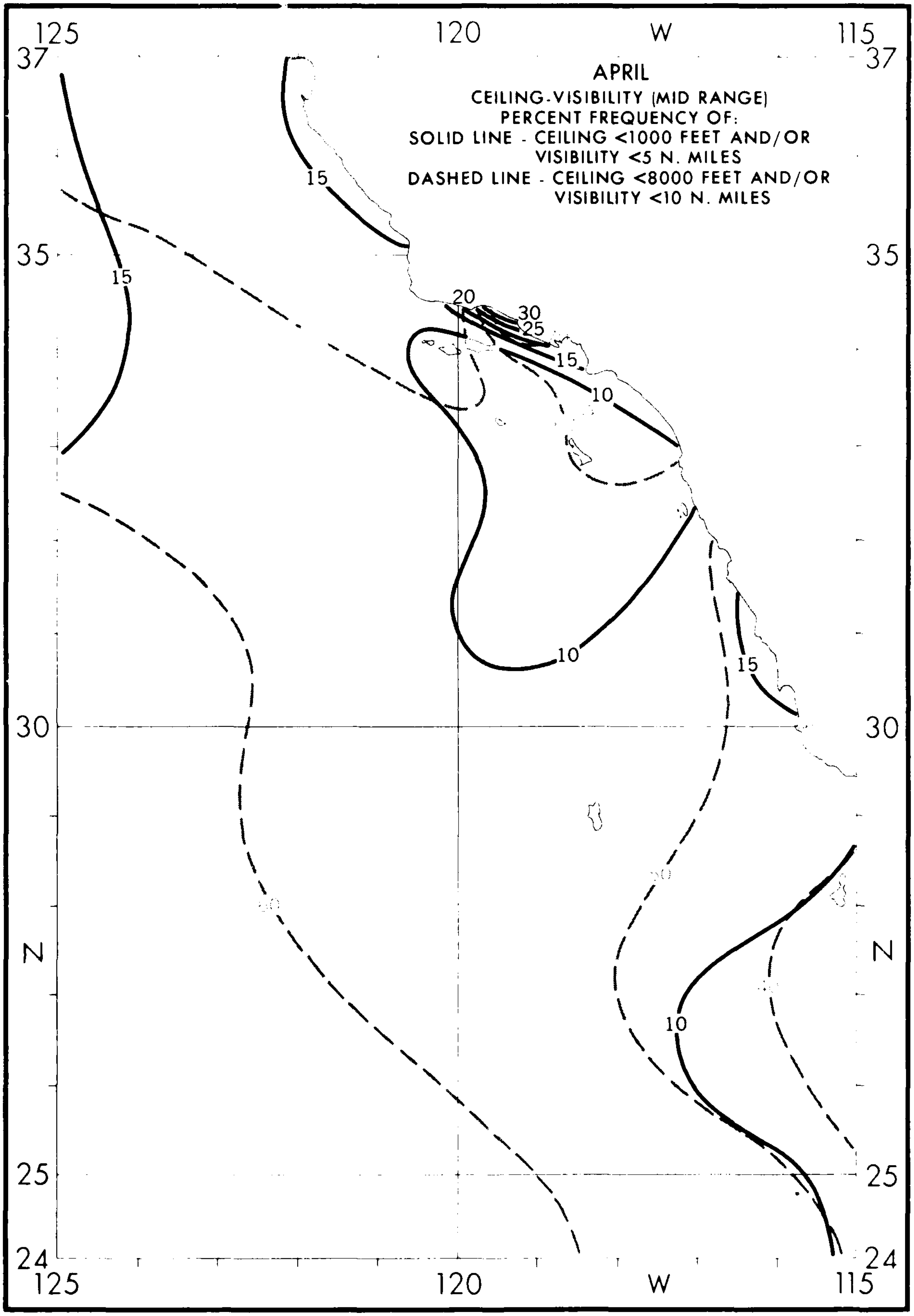
WAVE DATA FOR THESE TABLES WERE SELECTED FROM THE HIGHER OF SEA OR SWELL WHEN BOTH WERE REPORTED.


APRIL
CLOUD COVER
PERCENT FREQUENCY OF:
SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8
DASHED LINE - LOW CLOUD AMOUNT ≥5/8
125
120
W
115
37
35
30
N
25
24
30
40
40
40
50
20
60
20
30
40



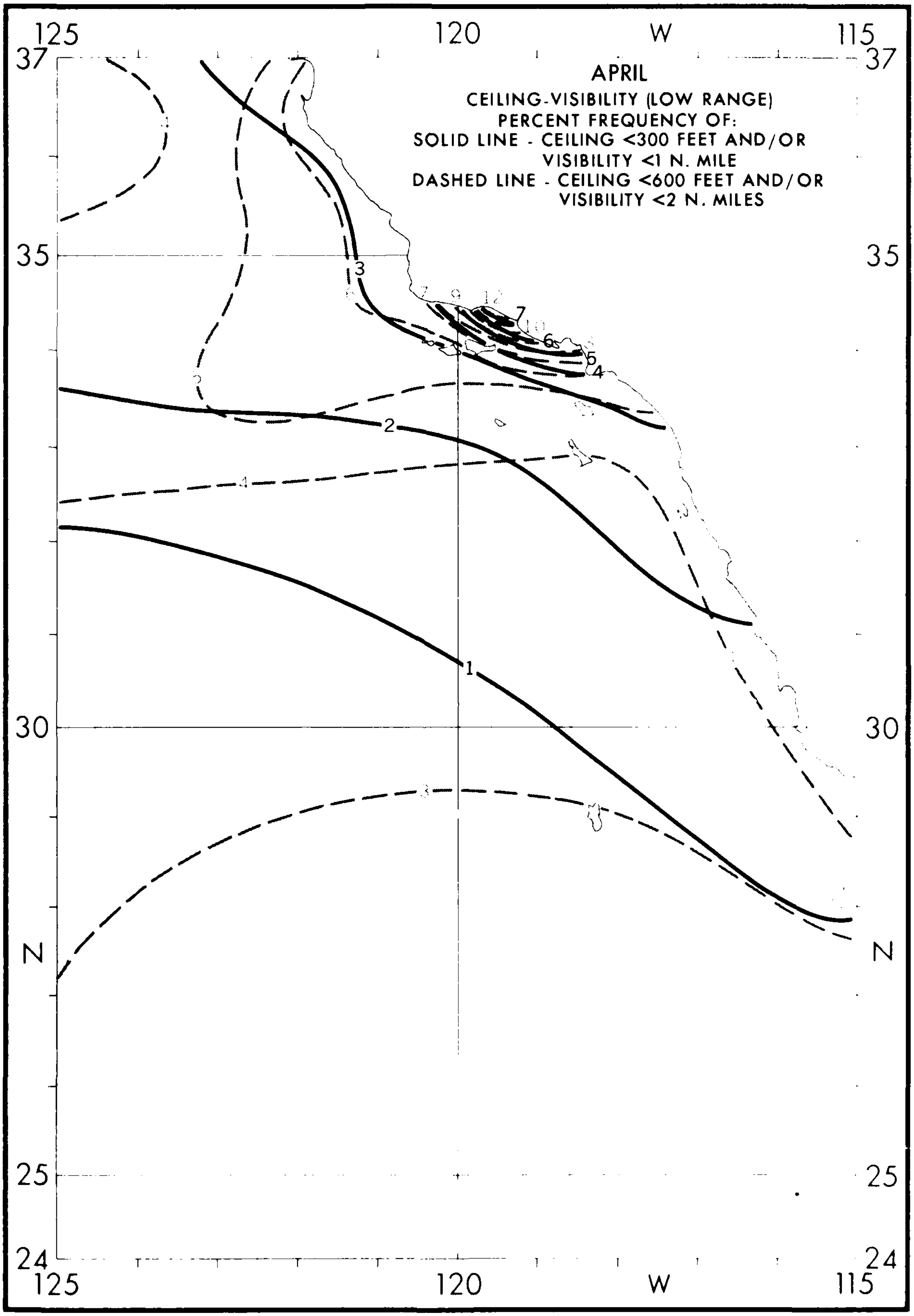
APRIL
PRECIPITATION
PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION


125
120
W
115
37
37
APRIL
VISIBILITY (NAUTICAL MILES)
PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.
<.5 .2
.5 <1 3.1
1 <2 6.7
2 <5 10.0
5 <10 60.0
≥10 20.0
N = 1234
EXAMPLE:
3.1% OF THE OBSERVED VISIBILITIES WERE <1 BUT ≥1/2 N. MILE.
OTHER PERCENTAGES CAN BE SIMILARLY INTERPRETED.
N = OBSERVATION COUNT.
35
35
30
30
N
N
25
25
24
24
125
120
W
115



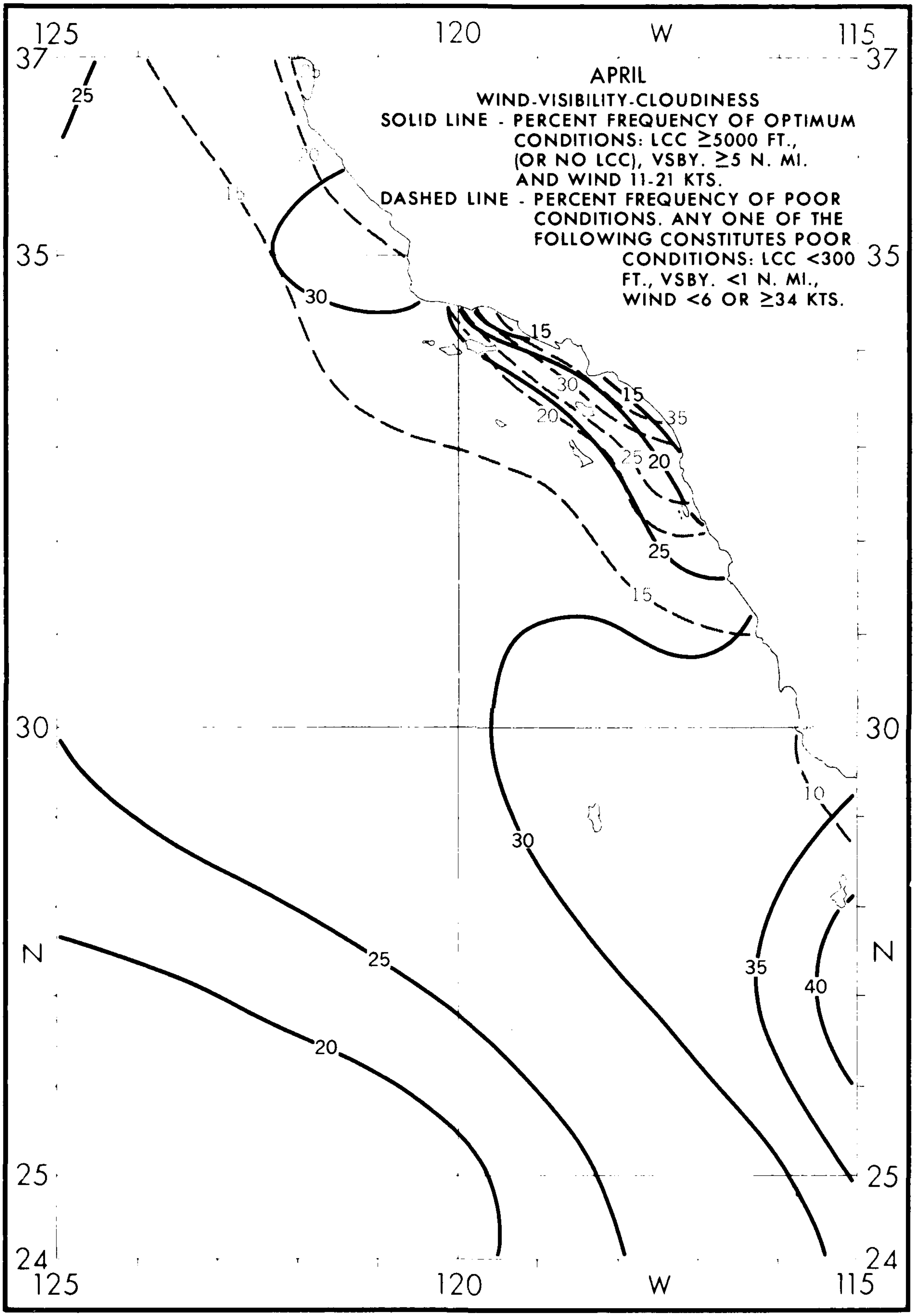
APRIL

CEILING-VISIBILITY (MID RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <1000 FEET AND/OR VISIBILITY <5 N. MILES
DASHED LINE - CEILING <8000 FEET AND/OR VISIBILITY <10 N. MILES



APRIL

CEILING-VISIBILITY (LOW RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <300 FEET AND/OR VISIBILITY <1 N. MILE
DASHED LINE - CEILING <600 FEET AND/OR VISIBILITY <2 N. MILES

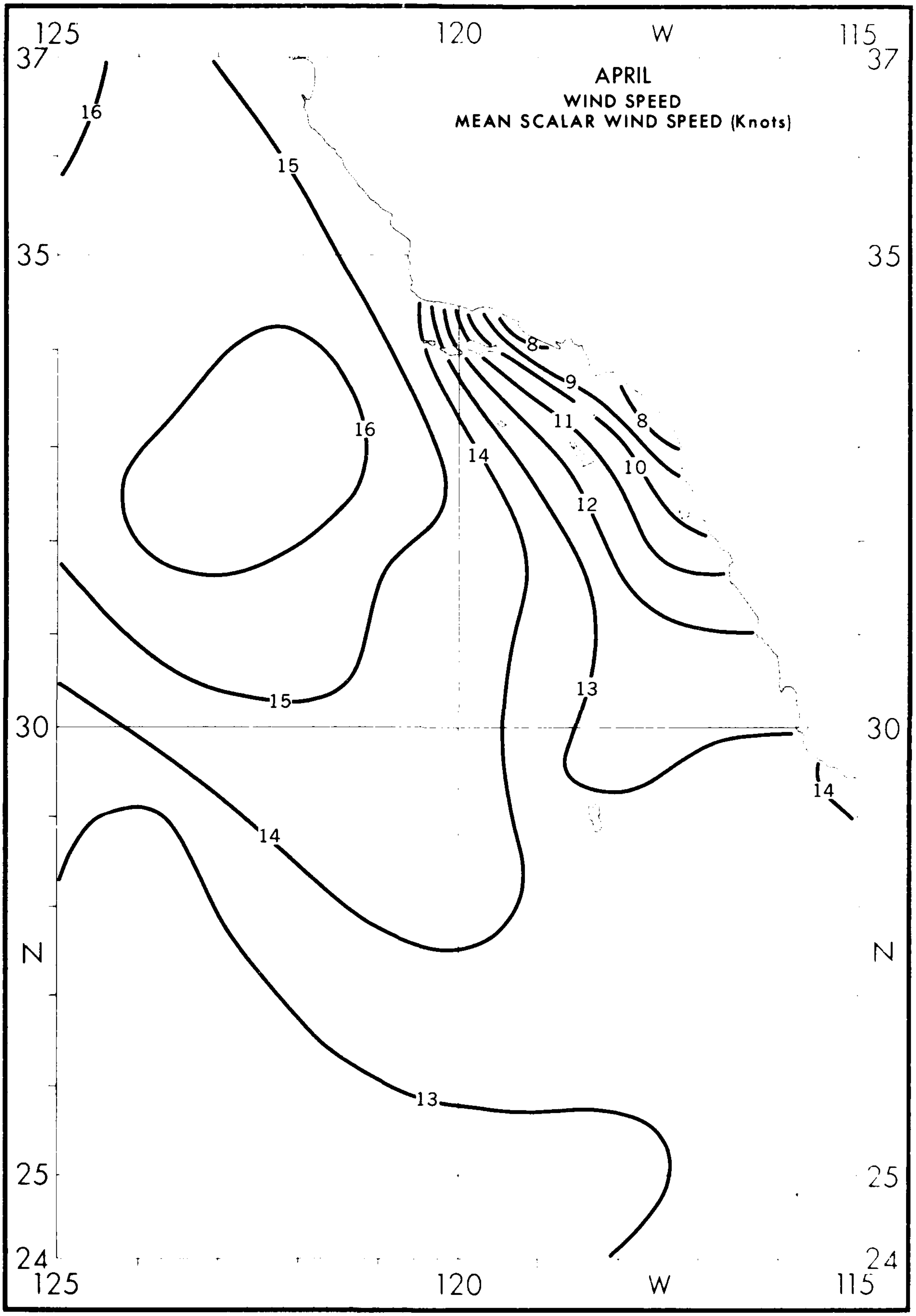


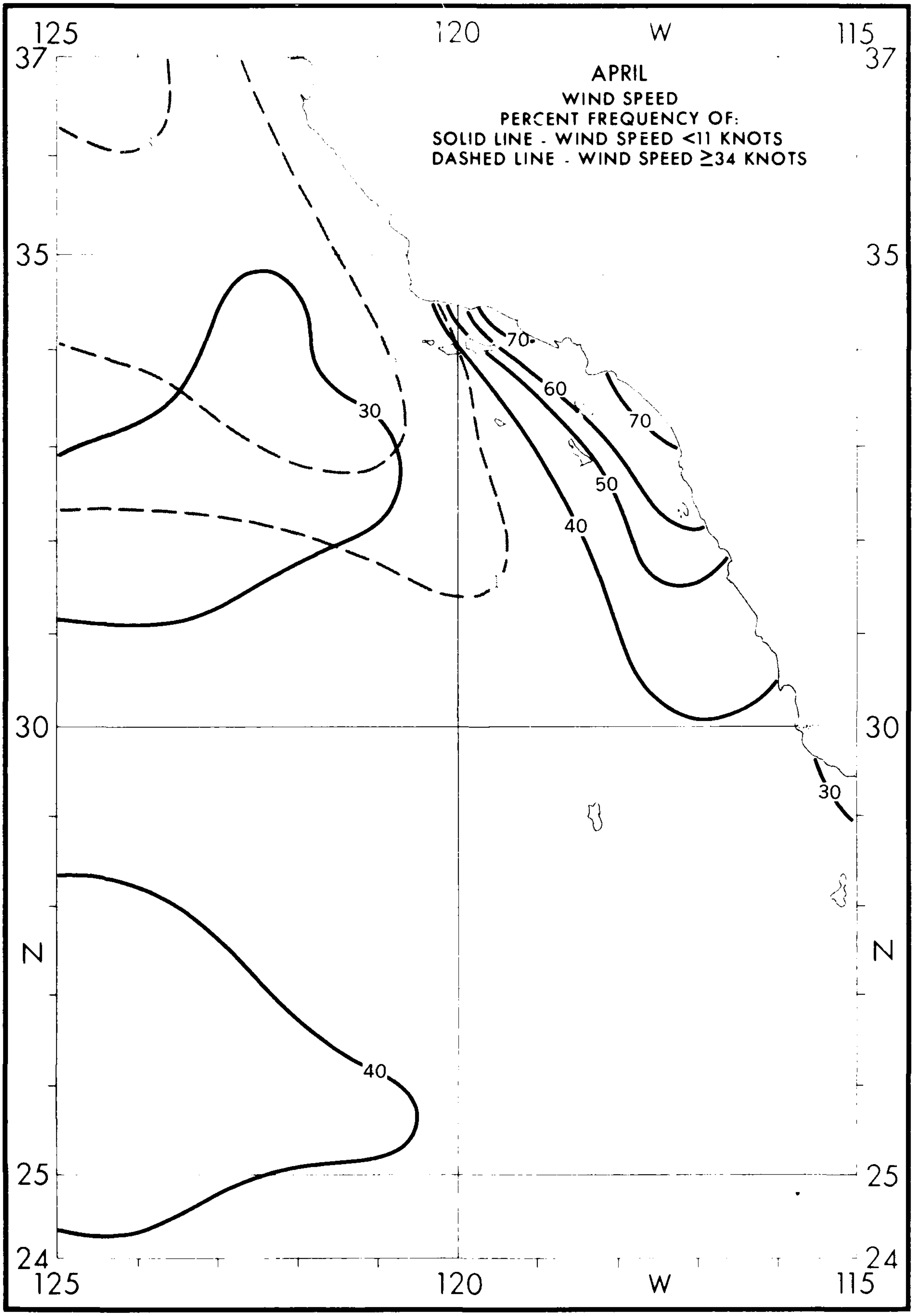
APRIL

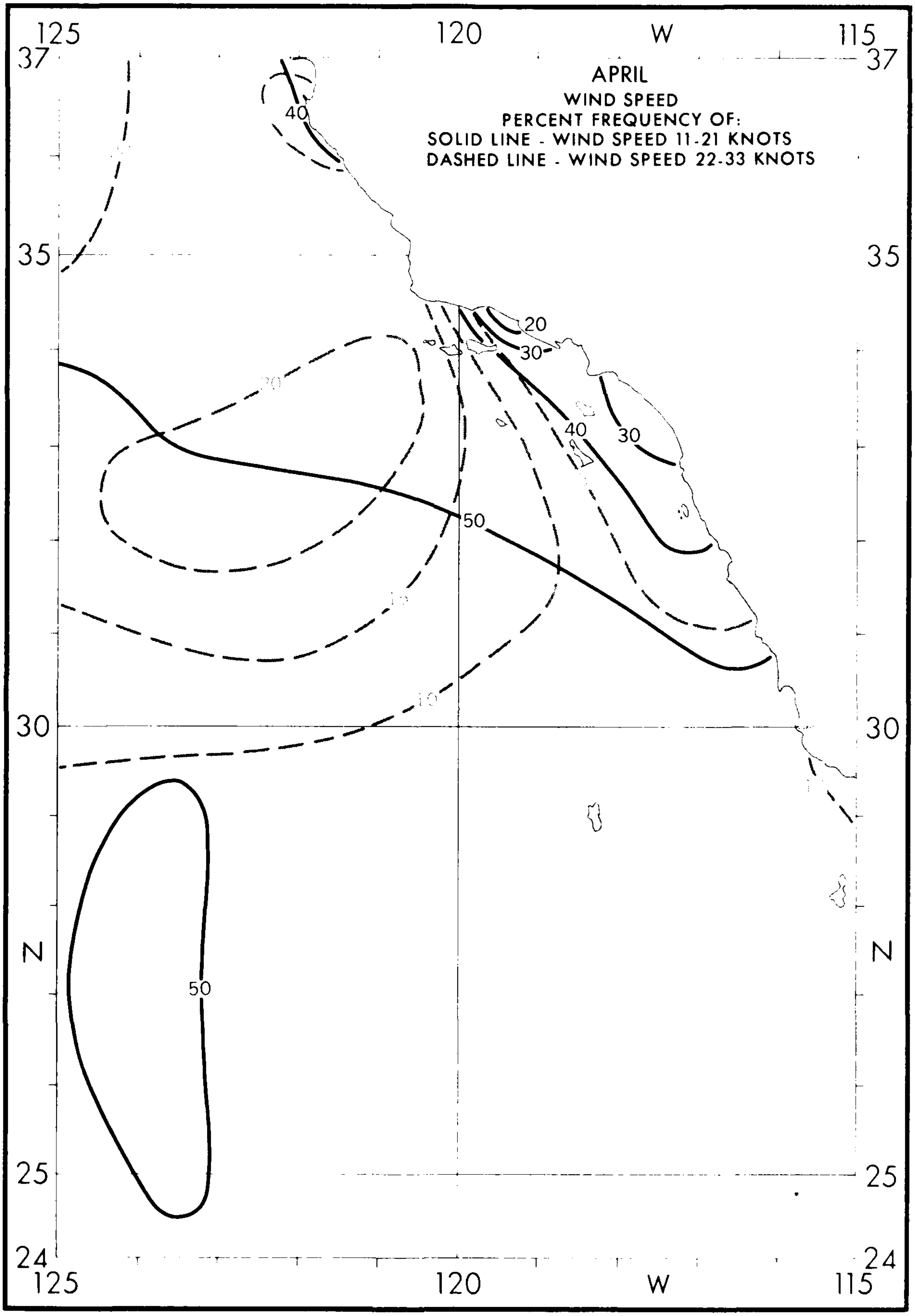
WIND-VISIBILITY-CLOUDINESS

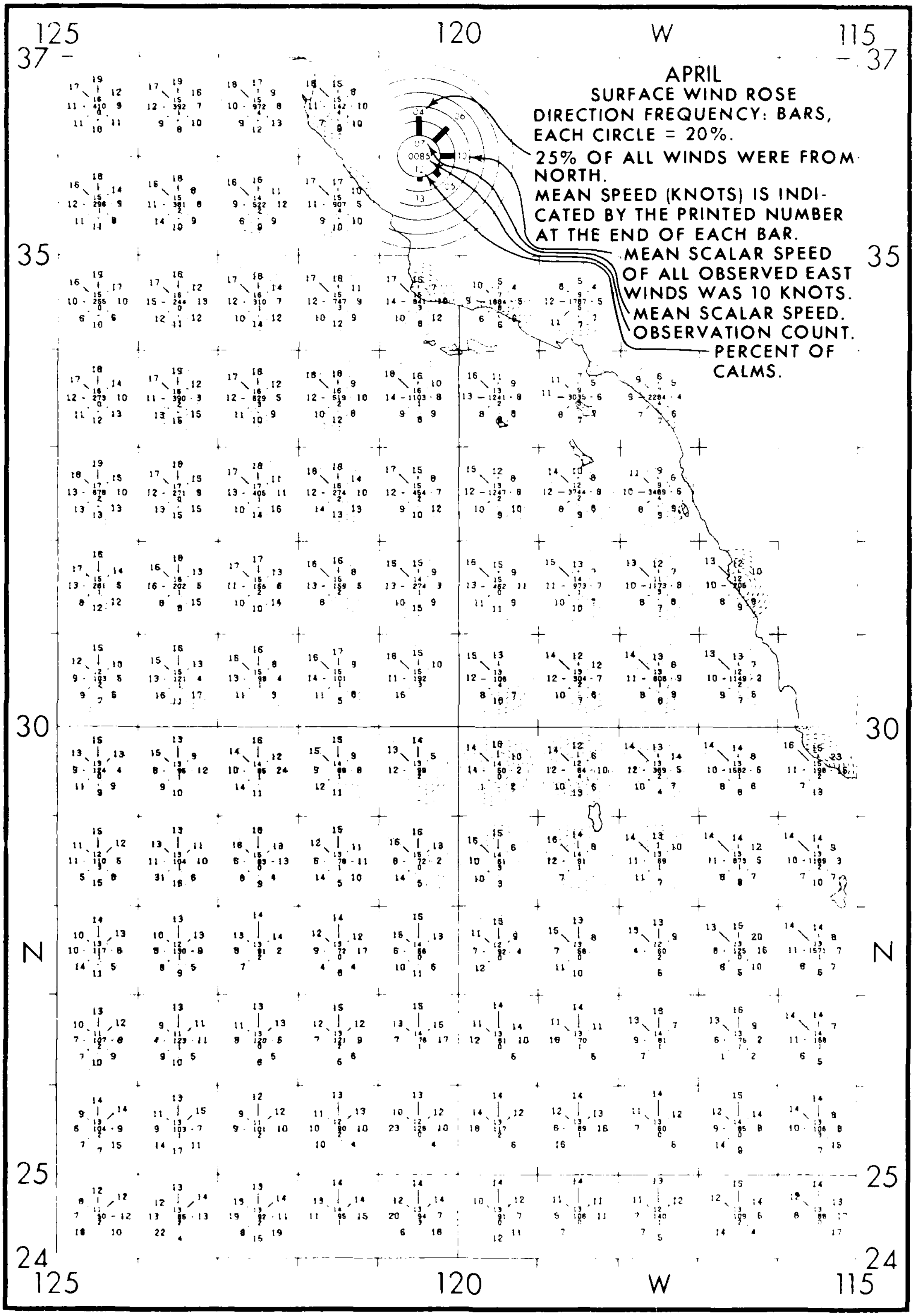
SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.

DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.

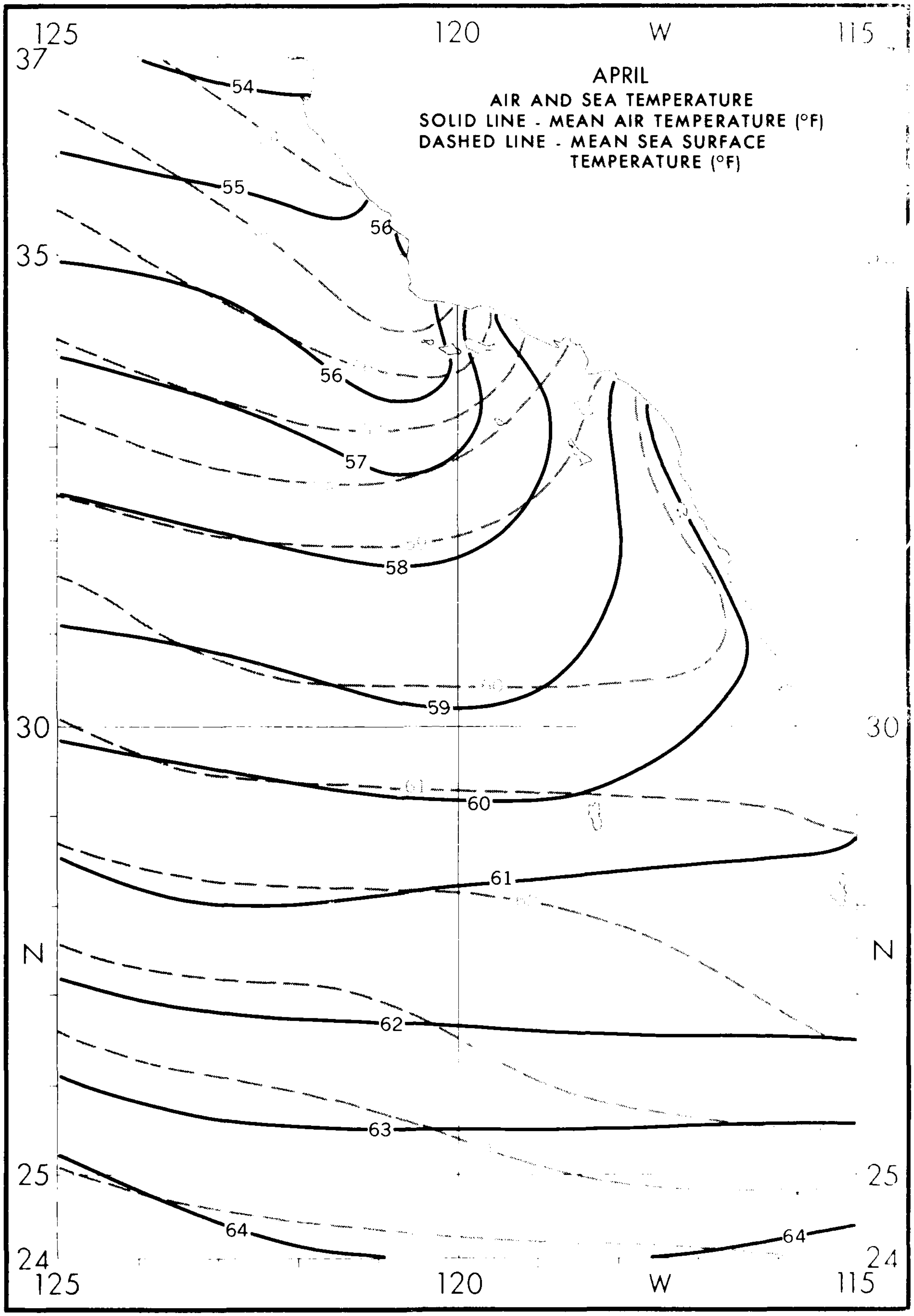

APRIL
WIND SPEED
MEAN SCALAR WIND SPEED (Knots)
125
120
W
115
37
35
30
N
25
24
16
15
16
15
14
13
14
12
13
11
10
9
8
8
14
13
14


APRIL
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED <11 KNOTS
DASHED LINE - WIND SPEED ≥34 KNOTS
125
120
W
115
37
35
30
N
25
24
70
60
70
50
40
30
30
40


APRIL
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED 11-21 KNOTS
DASHED LINE - WIND SPEED 22-33 KNOTS
125
120
W
115
37
35
30
25
24
N
40
20
30
40
30
50
20
10
10
50



APRIL
SURFACE WIND ROSE
DIRECTION FREQUENCY: BARS,
EACH CIRCLE = 20%.
25% OF ALL WINDS WERE FROM NORTH.
MEAN SPEED (KNOTS) IS INDICATED BY THE PRINTED NUMBER AT THE END OF EACH BAR.
MEAN SCALAR SPEED OF ALL OBSERVED EAST WINDS WAS 10 KNOTS.
MEAN SCALAR SPEED.
OBSERVATION COUNT.
PERCENT OF CALMS.

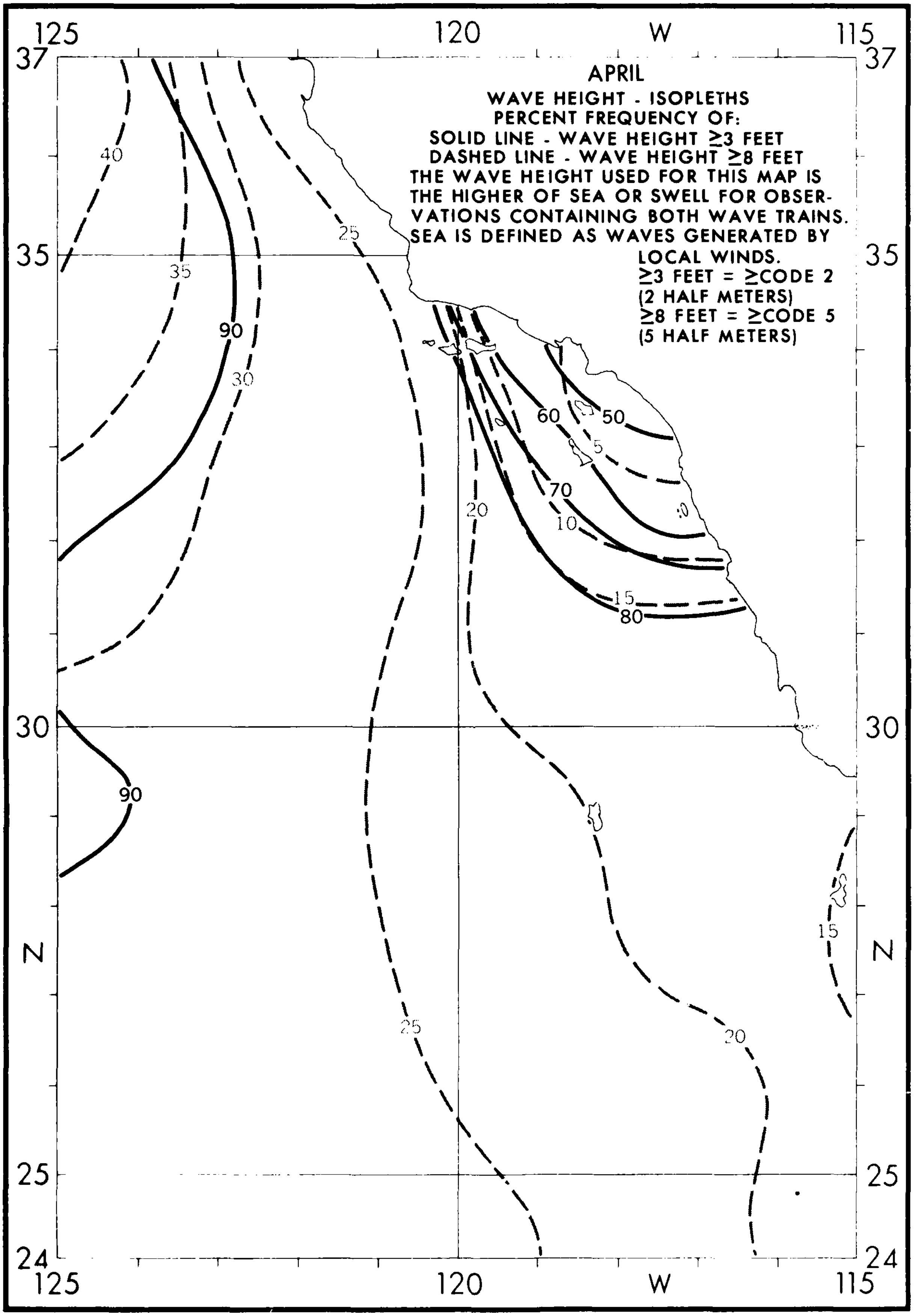


APRIL

AIR AND SEA TEMPERATURE

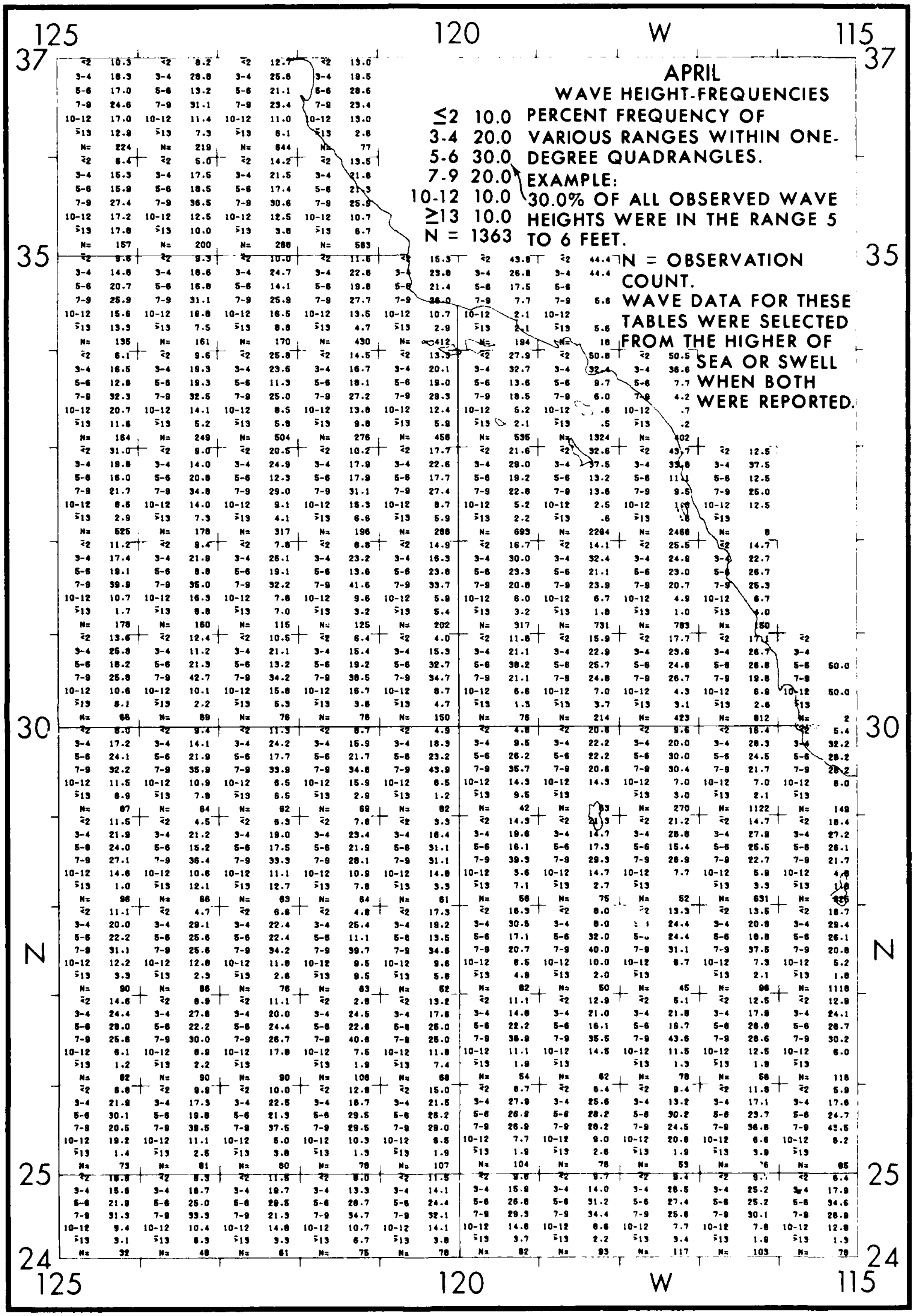
SOLID LINE - MEAN AIR TEMPERATURE (°F)

DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)



APRIL

WAVE HEIGHT - ISOPLETHS
PERCENT FREQUENCY OF:
SOLID LINE - WAVE HEIGHT ≥3 FEET
DASHED LINE - WAVE HEIGHT ≥8 FEET
THE WAVE HEIGHT USED FOR THIS MAP IS THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS. SEA IS DEFINED AS WAVES GENERATED BY LOCAL WINDS.
≥3 FEET = ≥CODE 2
(2 HALF METERS)
≥8 FEET = ≥CODE 5
(5 HALF METERS)



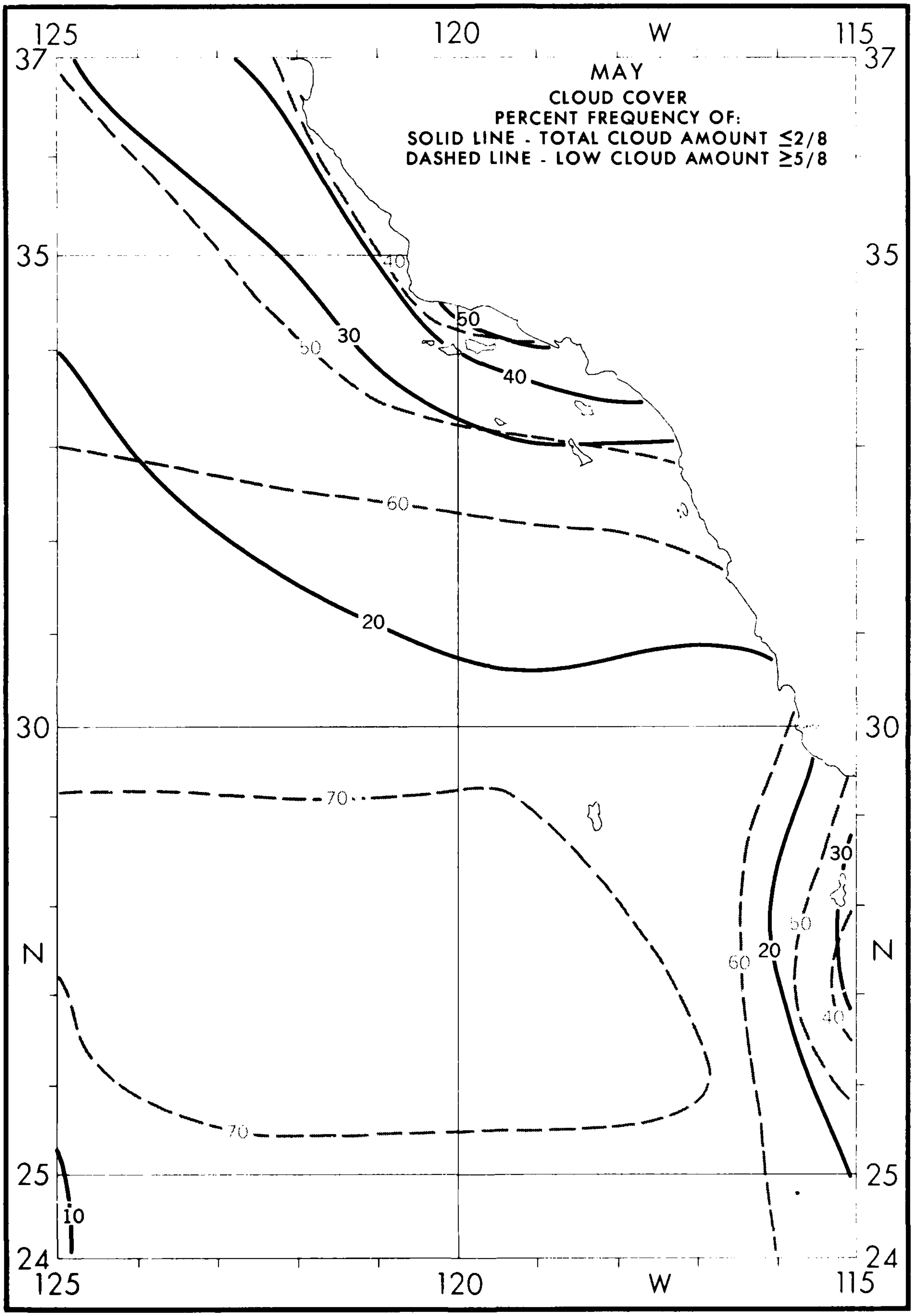
APRIL

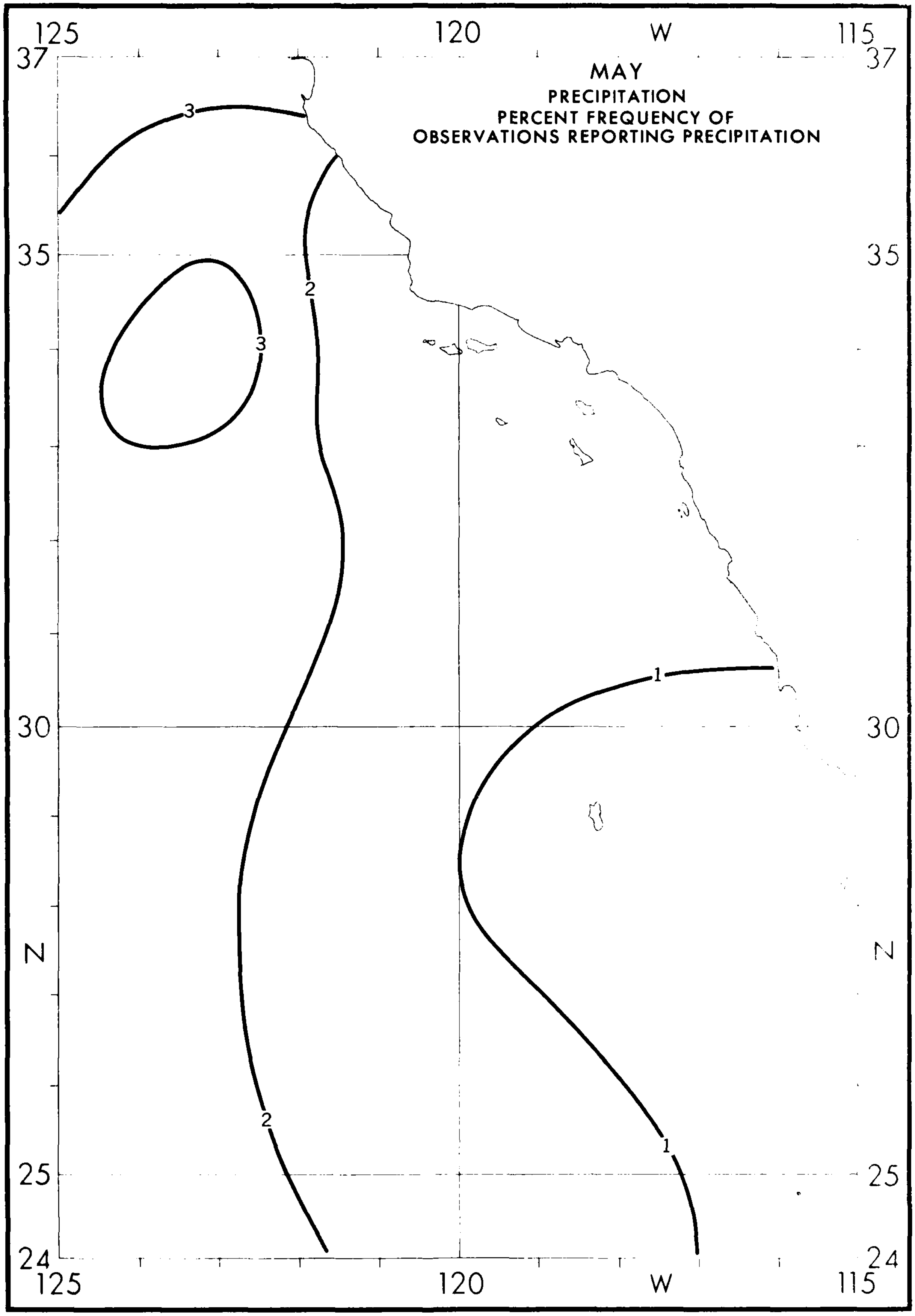
WAVE HEIGHT-FREQUENCIES

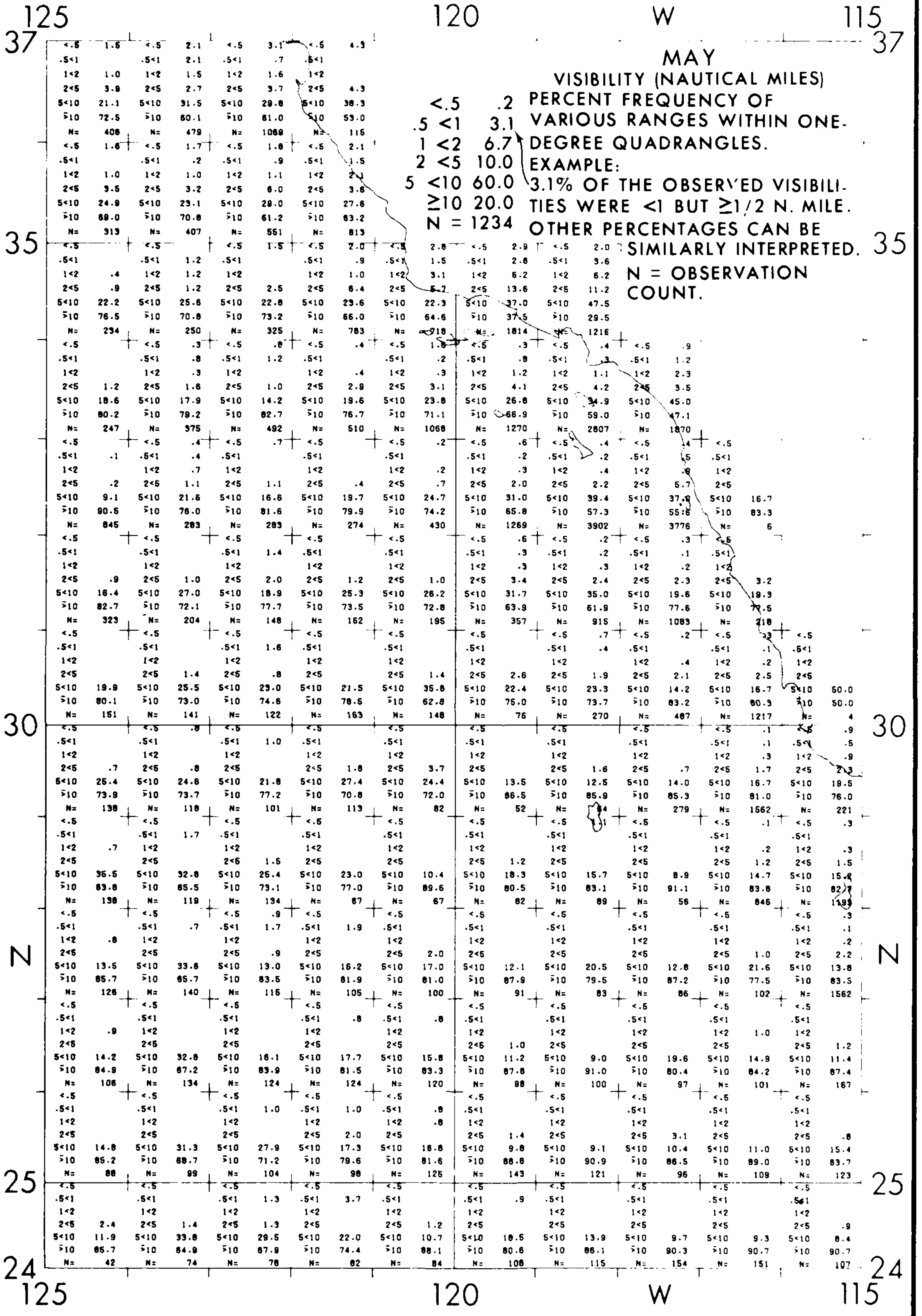
≤2	10.0	PERCENT FREQUENCY OF
3-4	20.0	VARIOUS RANGES WITHIN ONE-
5-6	30.0	DEGREE QUADRANGLES.
7-9	20.0	EXAMPLE:
10-12	10.0	30.0% OF ALL OBSERVED WAVE
≥13	10.0	HEIGHTS WERE IN THE RANGE 5
N =	1363	TO 6 FEET.

N = OBSERVATION COUNT.

WAVE DATA FOR THESE TABLES WERE SELECTED FROM THE HIGHER OF SEA OR SWELL WHEN BOTH WERE REPORTED.


MAY
CLOUD COVER
PERCENT FREQUENCY OF:
SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8
DASHED LINE - LOW CLOUD AMOUNT ≥5/8
125
120
W
115
37
35
30
N
25
24
40
50
30
50
40
60
20
70
70
30
50
20
60
40
10


MAY
PRECIPITATION
PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION
125
120
W
115
37
35
30
25
24
N
3
3
2
2
1
1



MAY

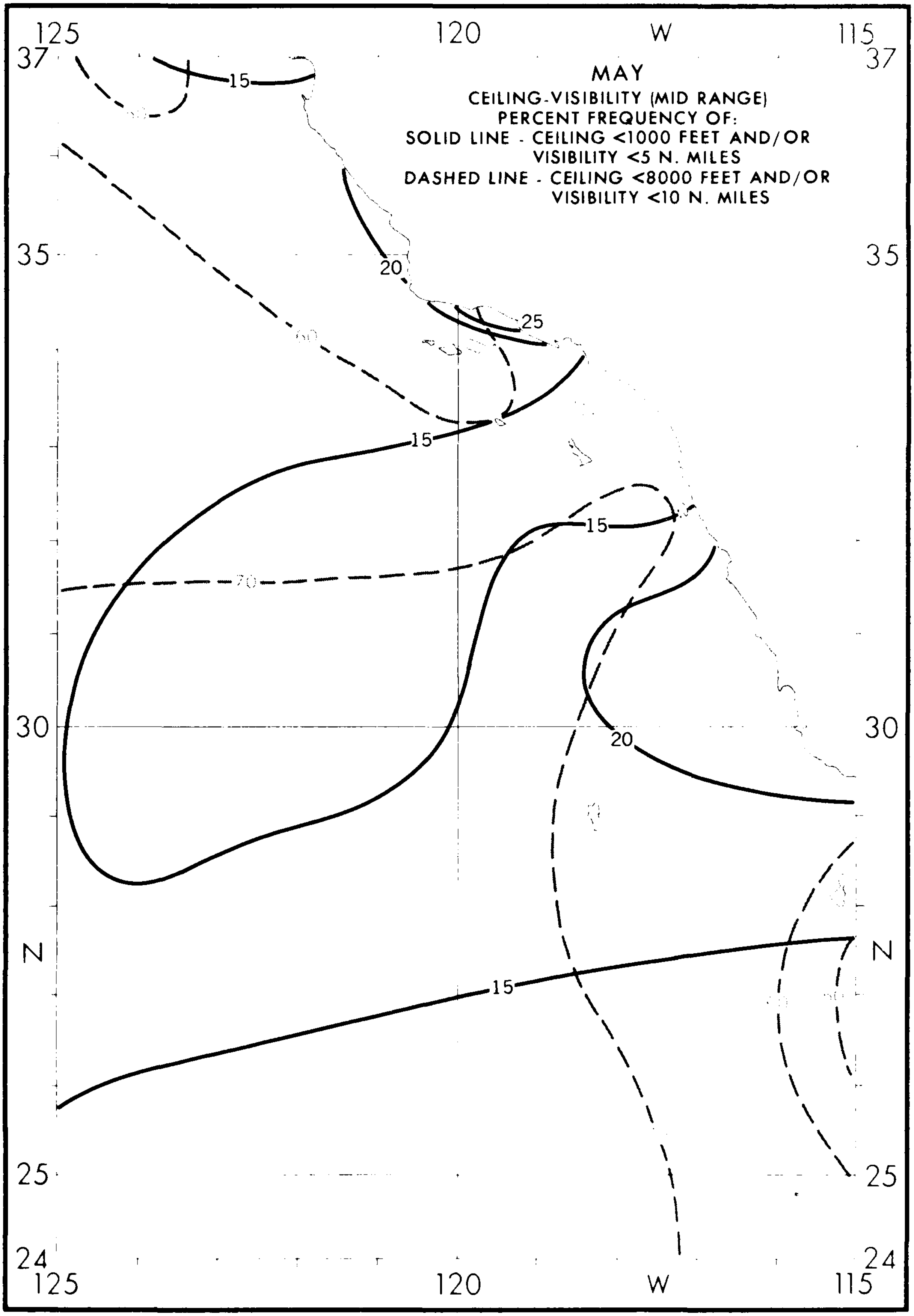
VISIBILITY (NAUTICAL MILES)

<.5	.2
.5 <1	3.1
1 <2	6.7
2 <5	10.0
5 <10	60.0
≥10	20.0
N =	1234

PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.

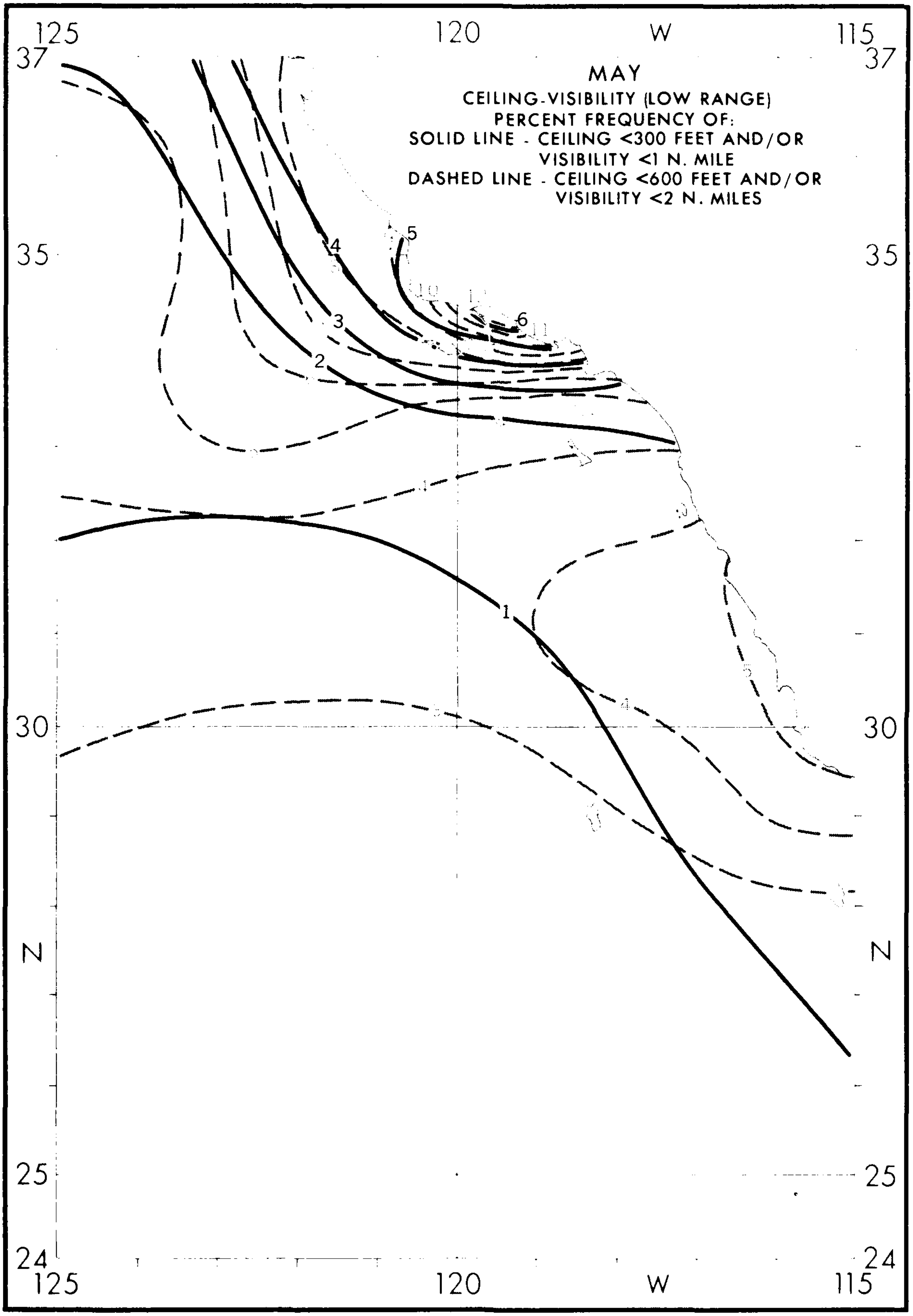
EXAMPLE:
3.1% OF THE OBSERVED VISIBILITIES WERE <1 BUT ≥1/2 N. MILE. OTHER PERCENTAGES CAN BE SIMILARLY INTERPRETED.

N = OBSERVATION COUNT.



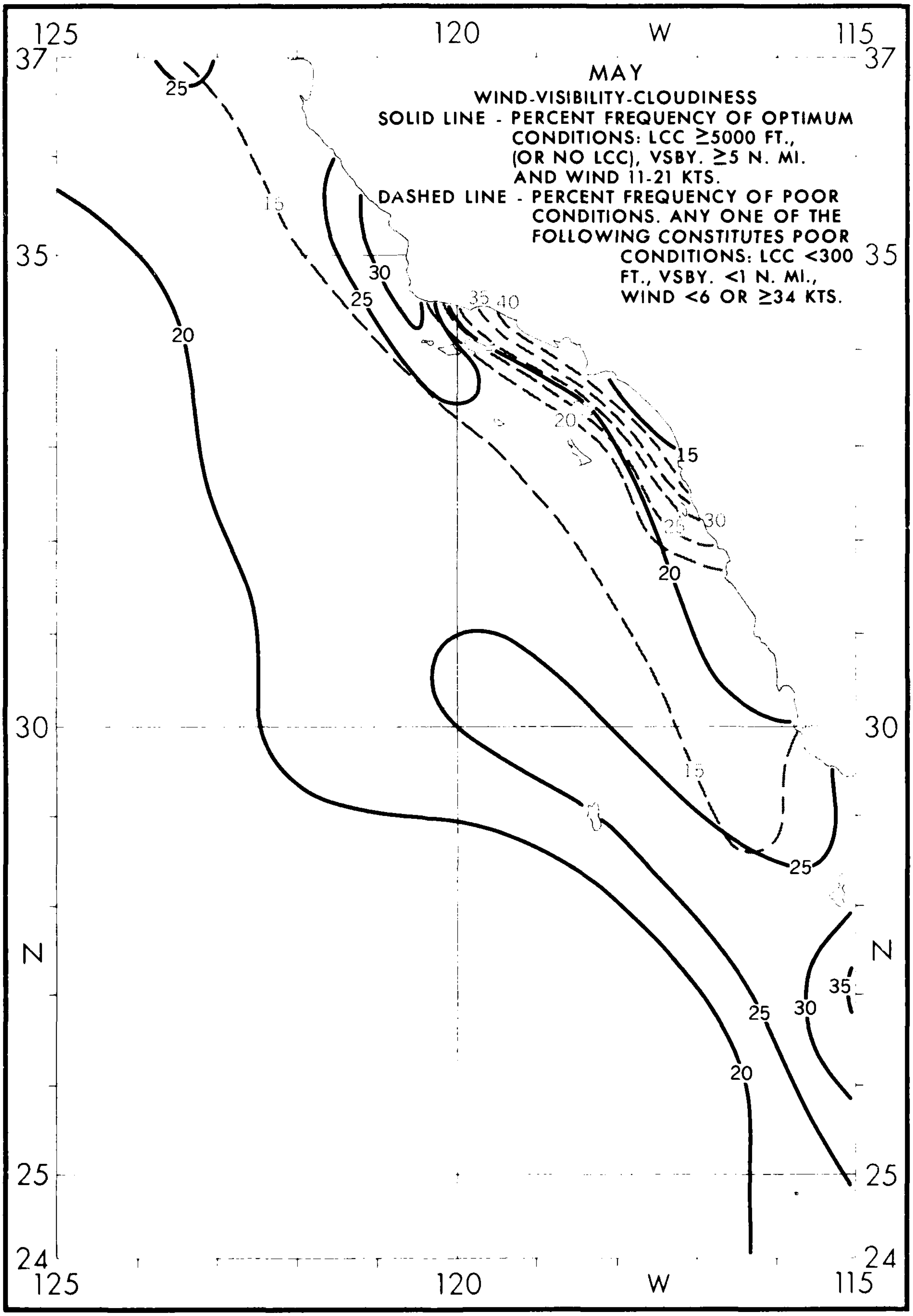
MAY

CEILING-VISIBILITY (MID RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <1000 FEET AND/OR VISIBILITY <5 N. MILES
DASHED LINE - CEILING <8000 FEET AND/OR VISIBILITY <10 N. MILES



MAY

CEILING-VISIBILITY (LOW RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <300 FEET AND/OR
VISIBILITY <1 N. MILE
DASHED LINE - CEILING <600 FEET AND/OR
VISIBILITY <2 N. MILES

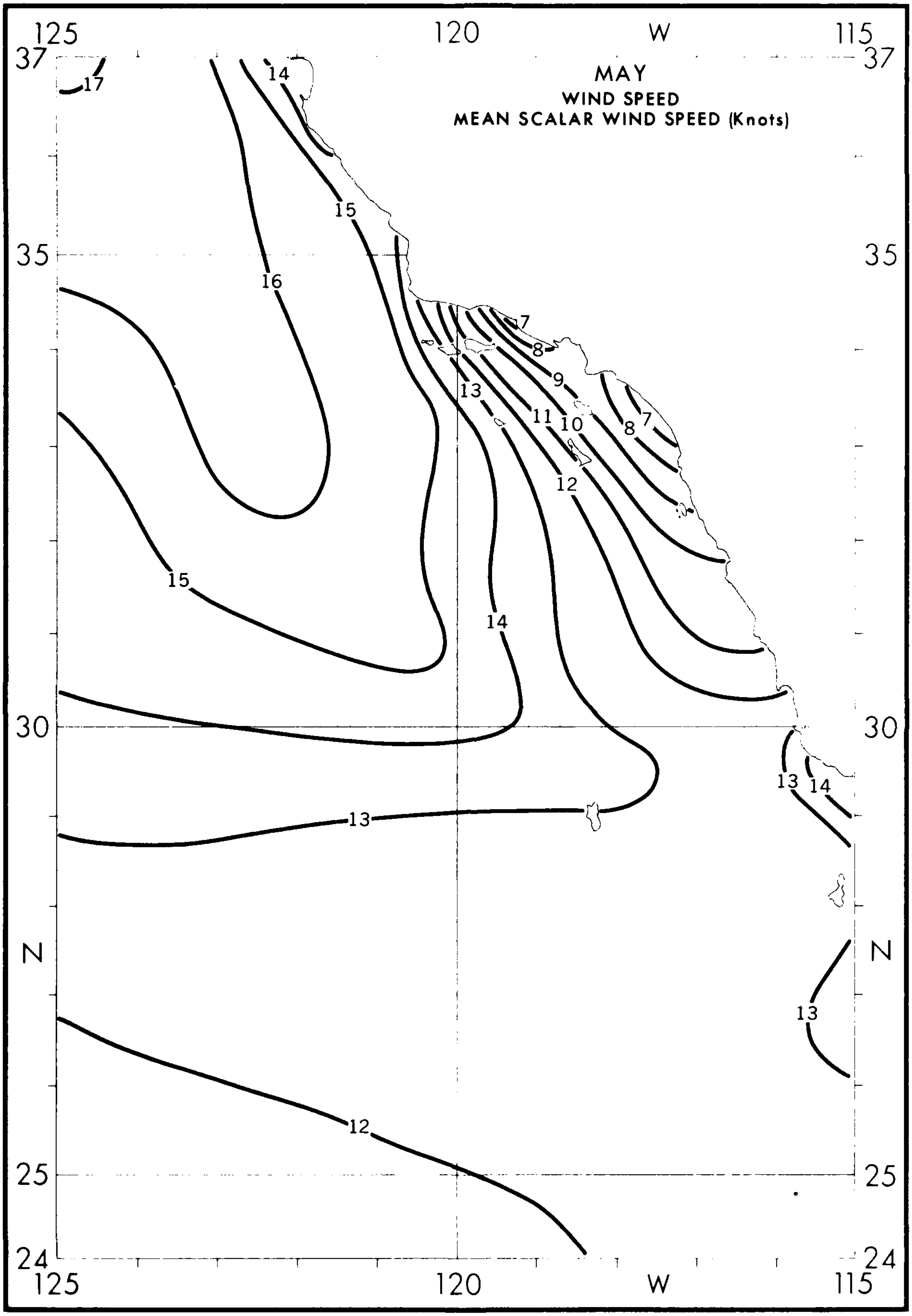


MAY

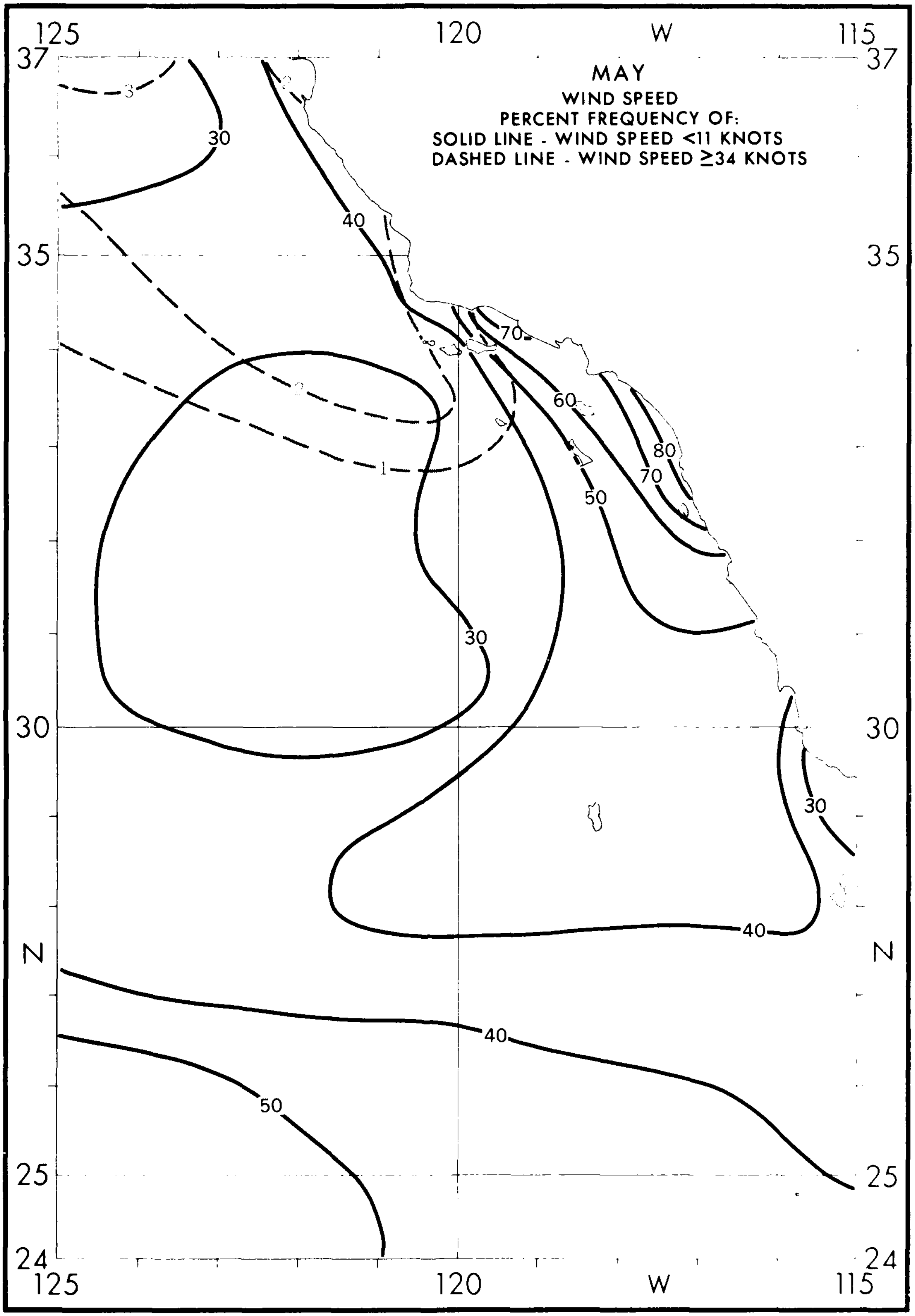
WIND-VISIBILITY-CLOUDINESS

SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.

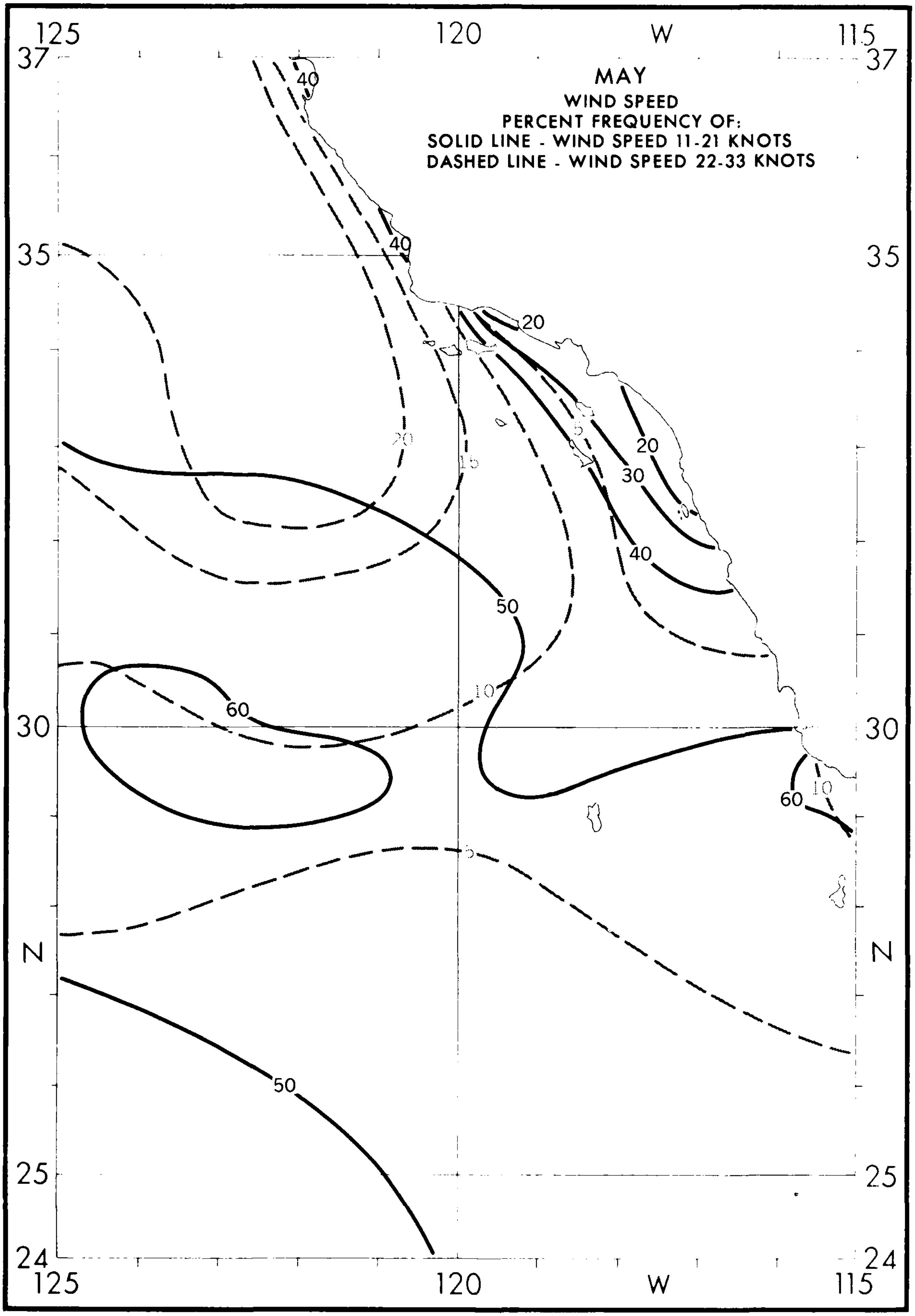
DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.



MAY
WIND SPEED
MEAN SCALAR WIND SPEED (Knots)



125
120
W
115
37
35
30
N
25
24
MAY
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED <11 KNOTS
DASHED LINE - WIND SPEED ≥34 KNOTS
3
30
40
70
2
60
80
70
1
50
30
30
40
40
50



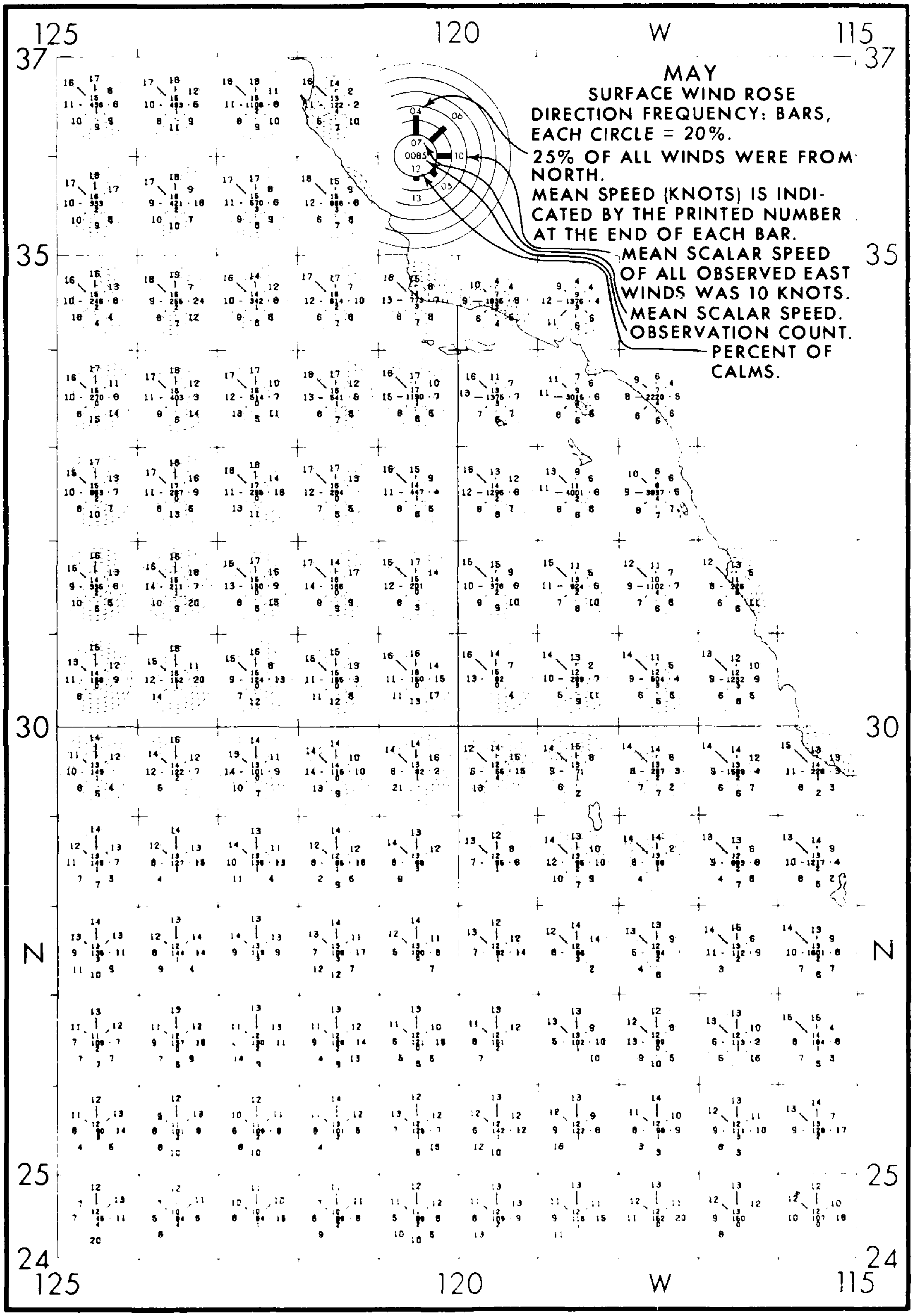
MAY

WIND SPEED

PERCENT FREQUENCY OF:

SOLID LINE - WIND SPEED 11-21 KNOTS

DASHED LINE - WIND SPEED 22-33 KNOTS



MAY

SURFACE WIND ROSE

DIRECTION FREQUENCY: BARS, EACH CIRCLE = 20%.

25% OF ALL WINDS WERE FROM NORTH.

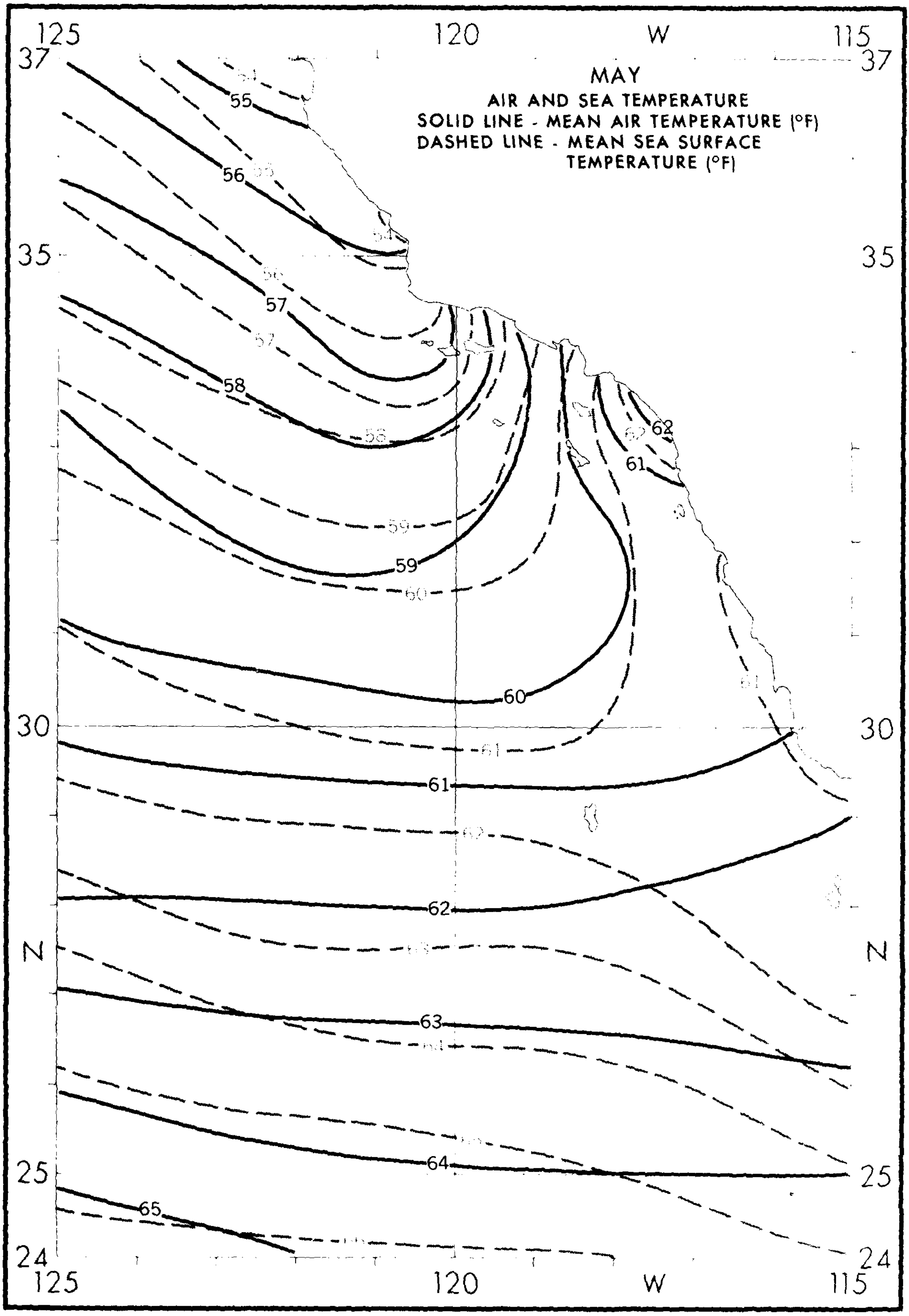
MEAN SPEED (KNOTS) IS INDICATED BY THE PRINTED NUMBER AT THE END OF EACH BAR.

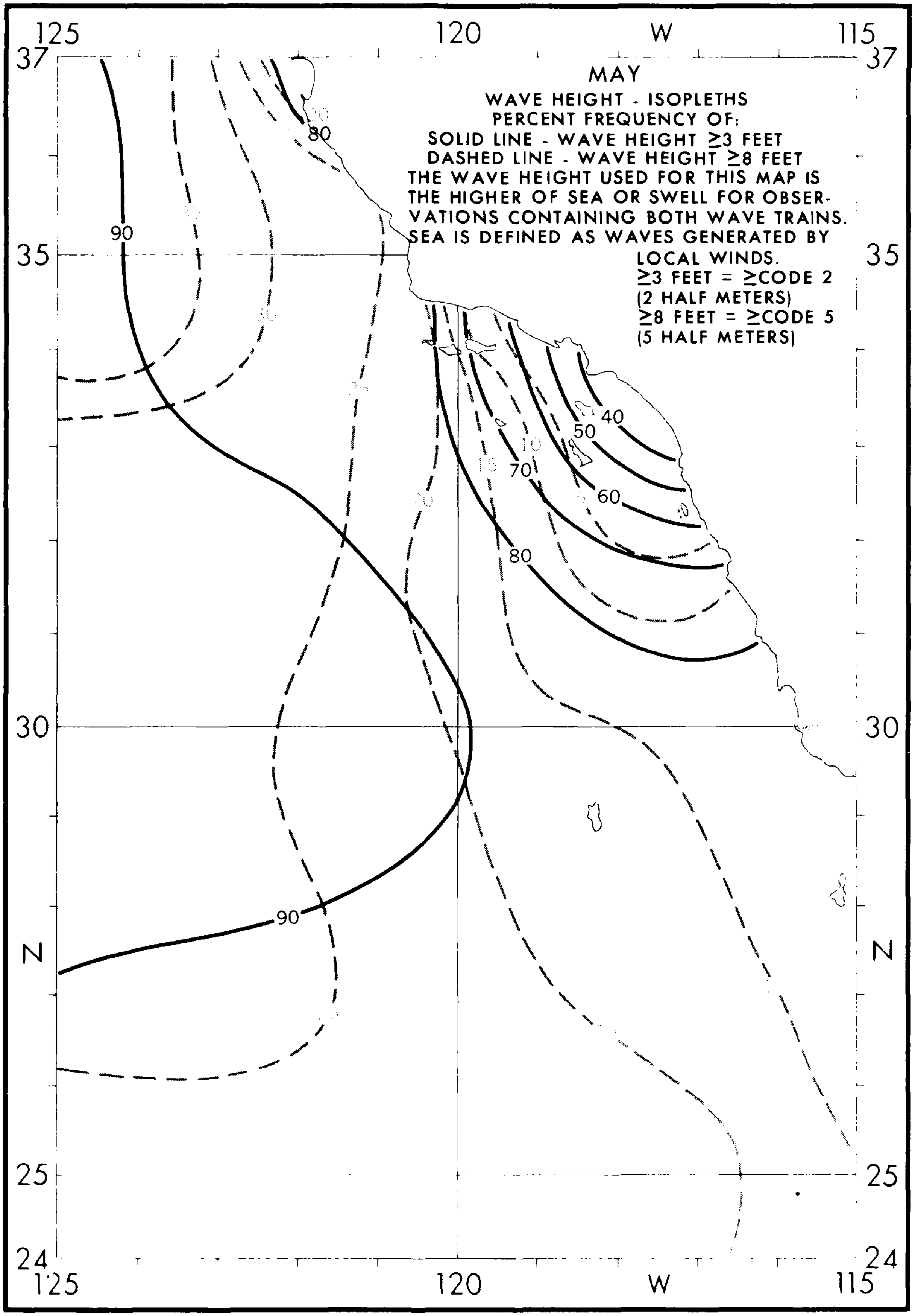
MEAN SCALAR SPEED OF ALL OBSERVED EAST WINDS WAS 10 KNOTS.

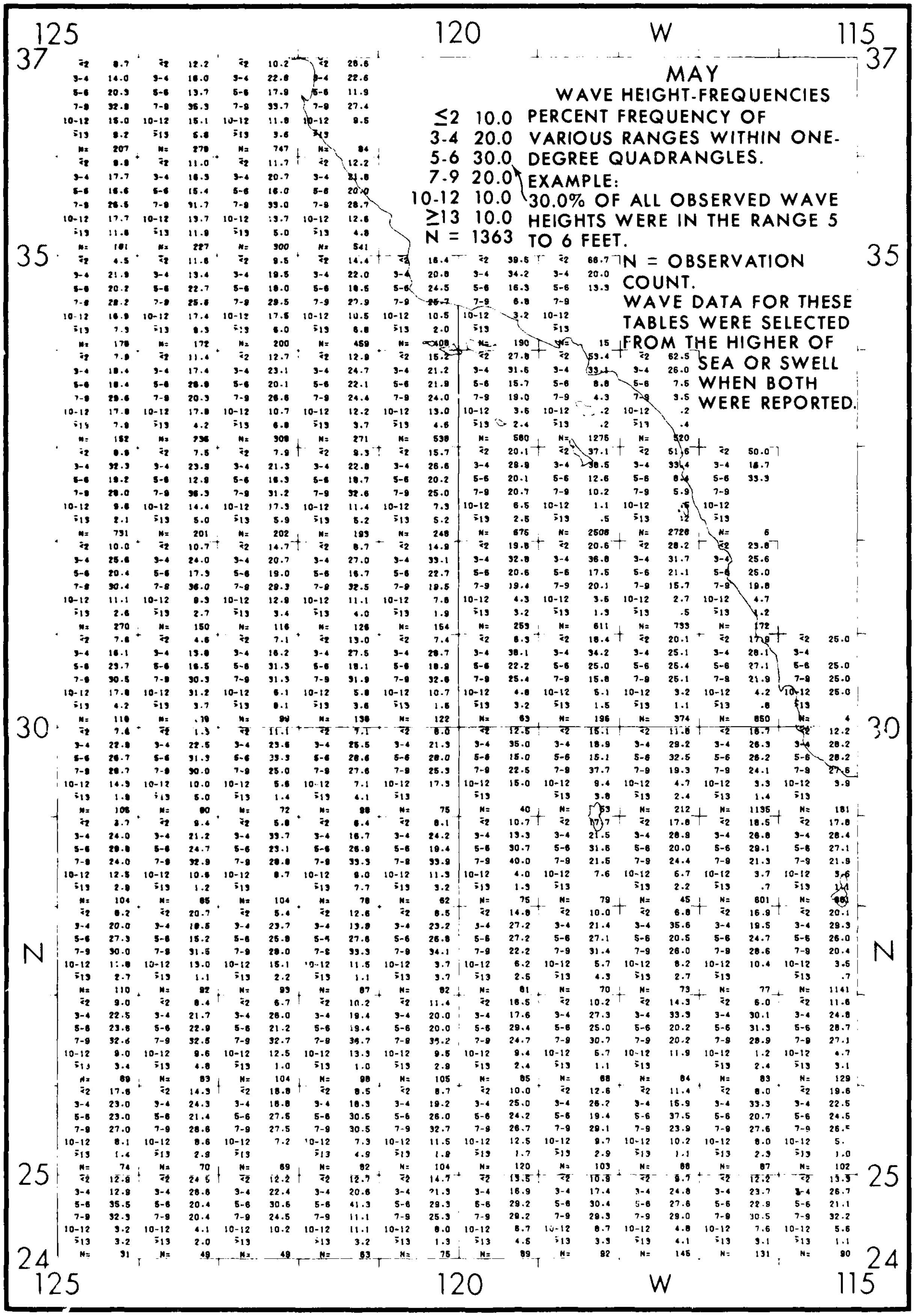
MEAN SCALAR SPEED.

OBSERVATION COUNT.

PERCENT OF CALMS.


MAY
AIR AND SEA TEMPERATURE
SOLID LINE - MEAN AIR TEMPERATURE (°F)
DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)
125
120
W
115
37
35
30
N
25
24
55
56
57
58
59
60
61
62
63
64
65


125
120
W
115
37
35
30
25
24
N
MAY
WAVE HEIGHT - ISOPLETHS
PERCENT FREQUENCY OF:
SOLID LINE - WAVE HEIGHT ≥3 FEET
DASHED LINE - WAVE HEIGHT ≥8 FEET
THE WAVE HEIGHT USED FOR THIS MAP IS THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS.
SEA IS DEFINED AS WAVES GENERATED BY LOCAL WINDS.
≥3 FEET = ≥CODE 2 (2 HALF METERS)
≥8 FEET = ≥CODE 5 (5 HALF METERS)
90
80
70
60
50
40
30
25
20
15
10
5
90



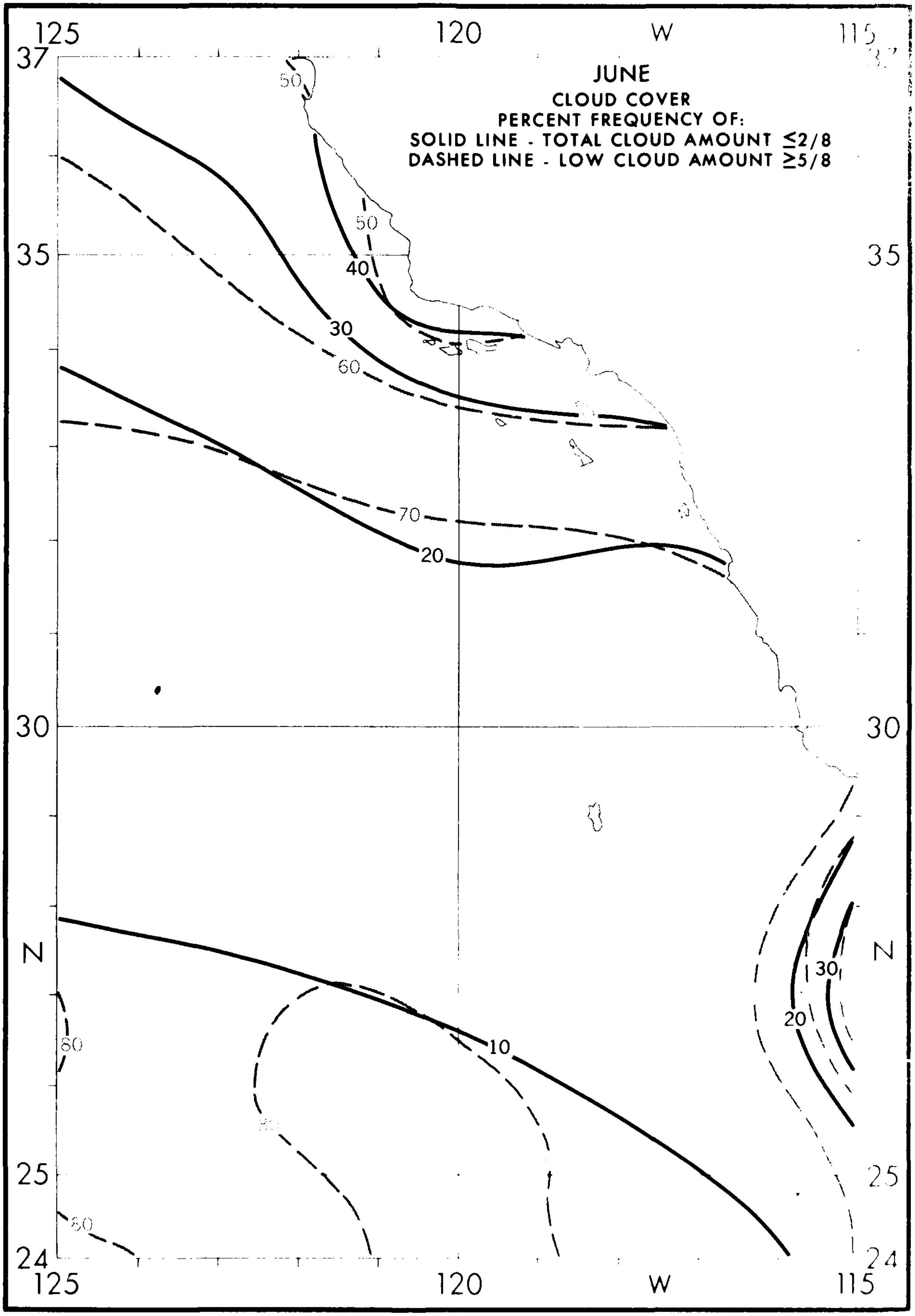
MAY

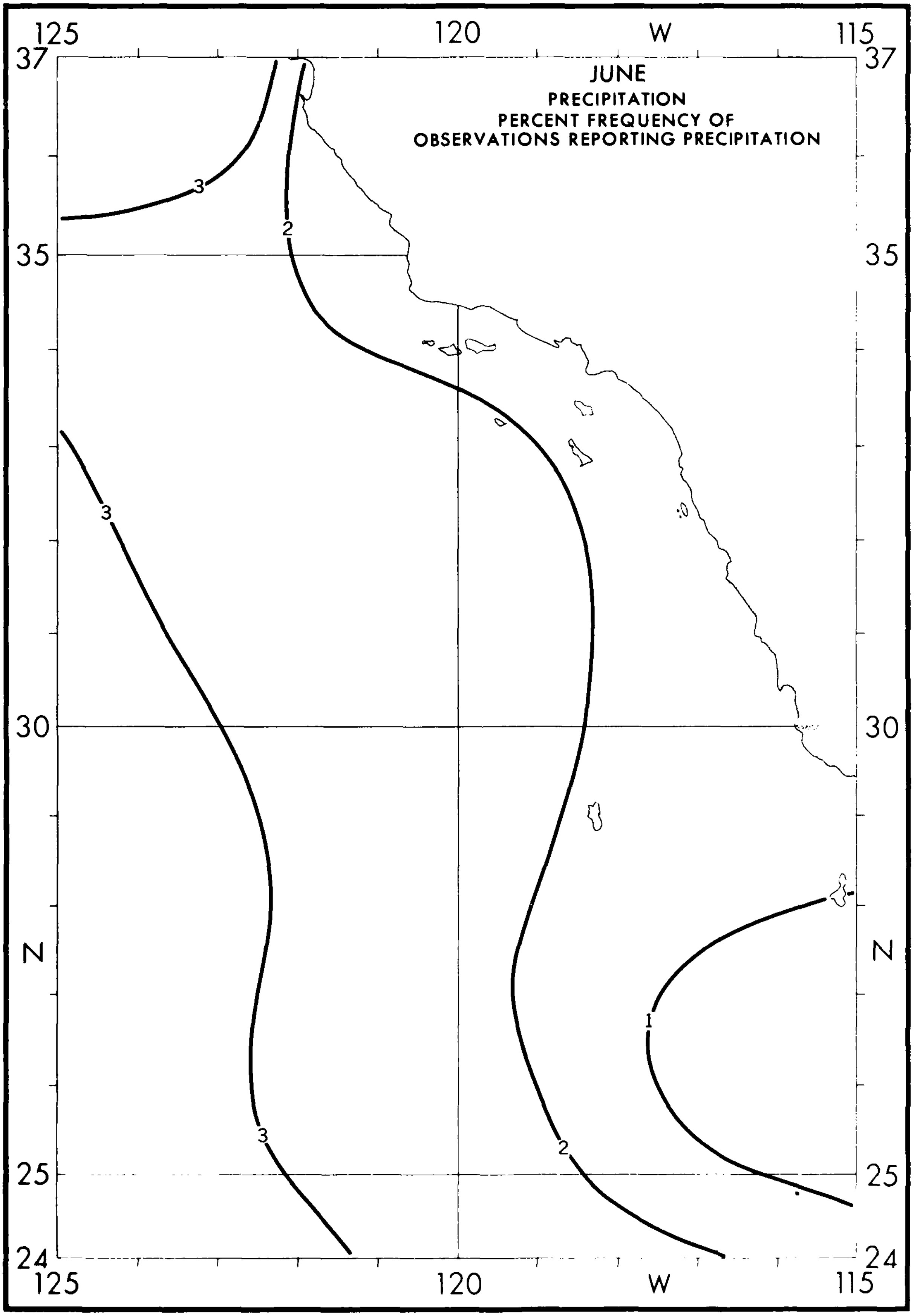
WAVE HEIGHT-FREQUENCIES

≤2	10.0	PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.
3-4	20.0	
5-6	30.0	
7-9	20.0	EXAMPLE: 30.0% OF ALL OBSERVED WAVE HEIGHTS WERE IN THE RANGE 5 TO 6 FEET.
10-12	10.0	
≥13	10.0	
N =	1363	

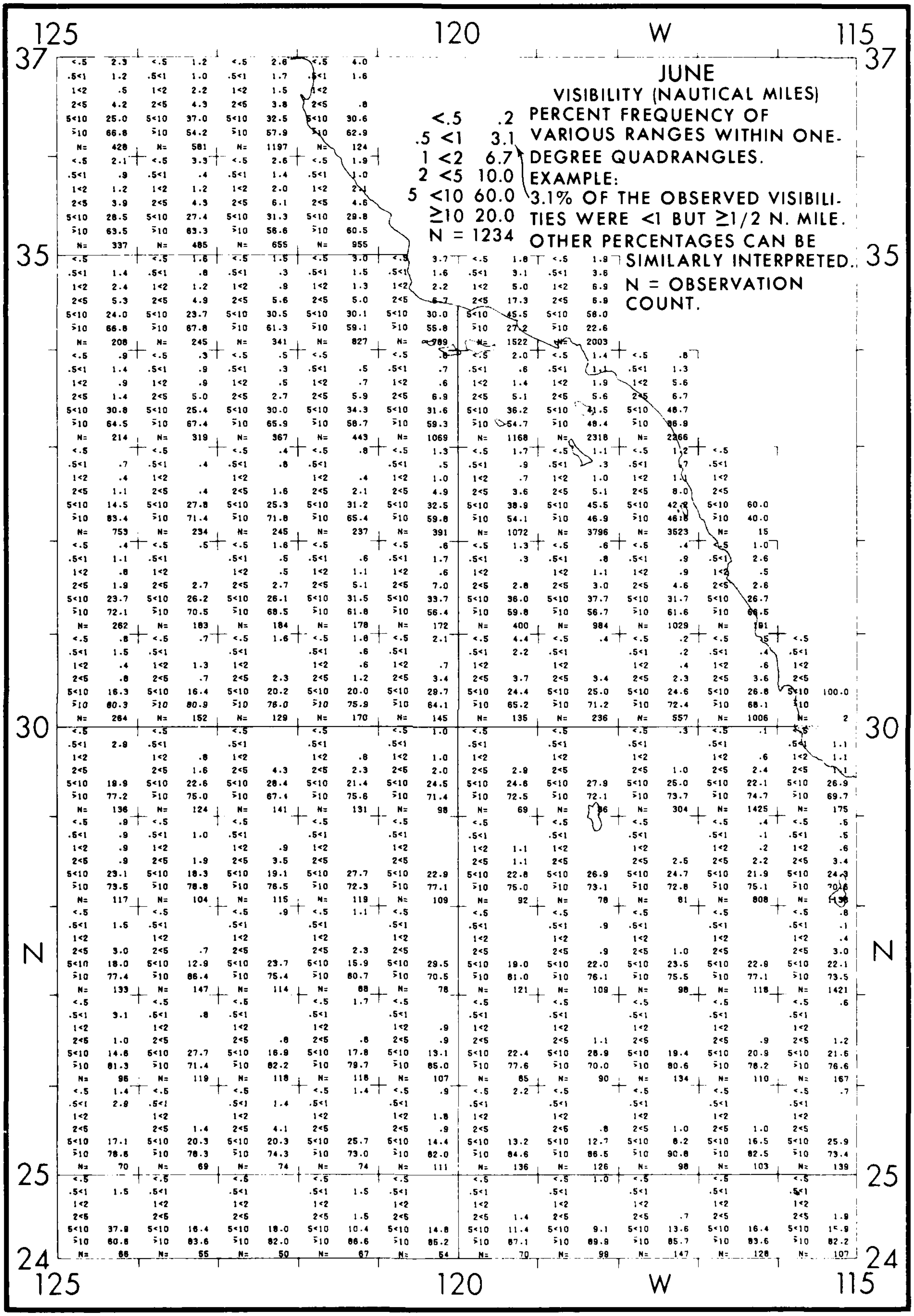
N = OBSERVATION COUNT.

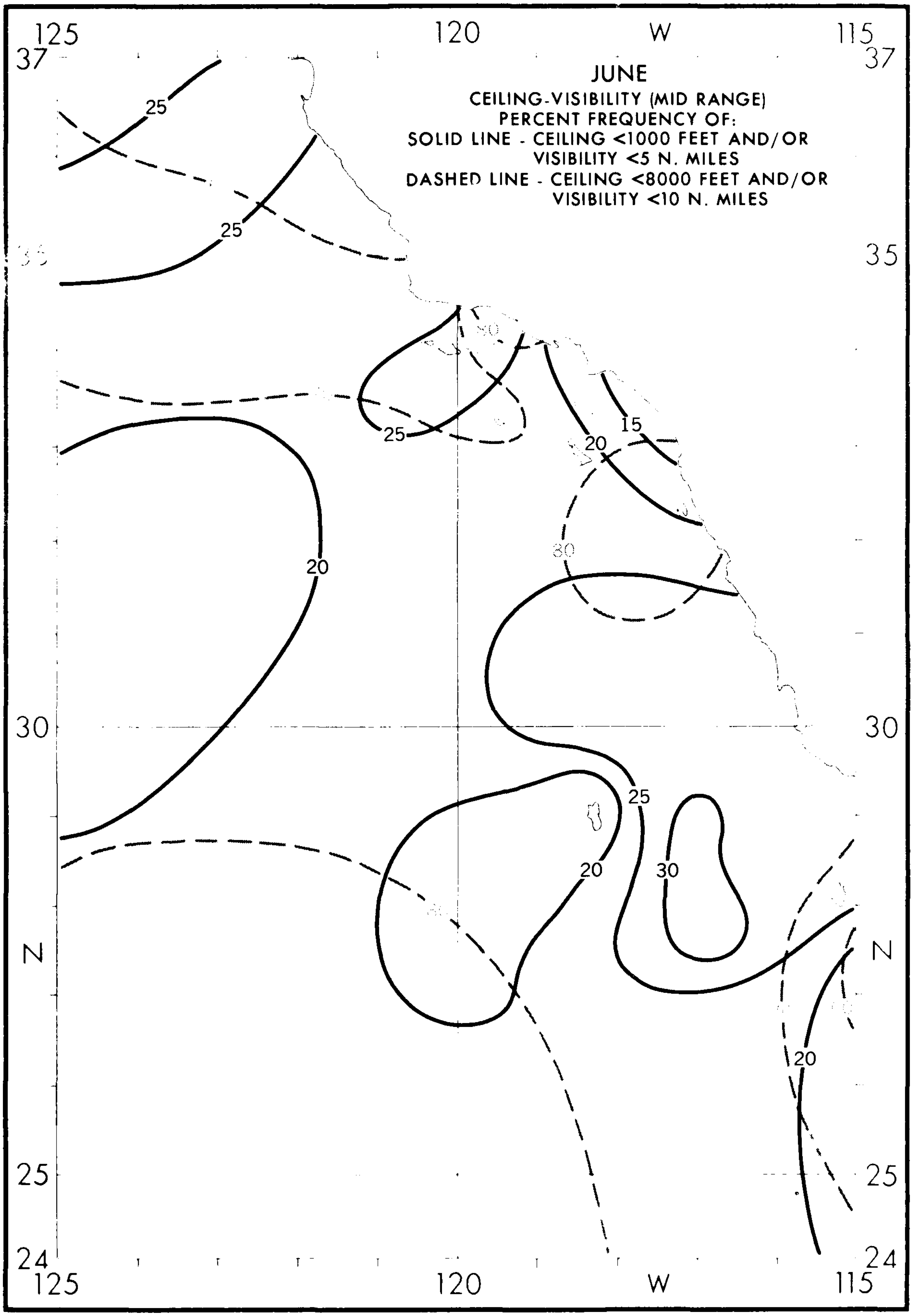
WAVE DATA FOR THESE TABLES WERE SELECTED FROM THE HIGHER OF SEA OR SWELL WHEN BOTH WERE REPORTED.

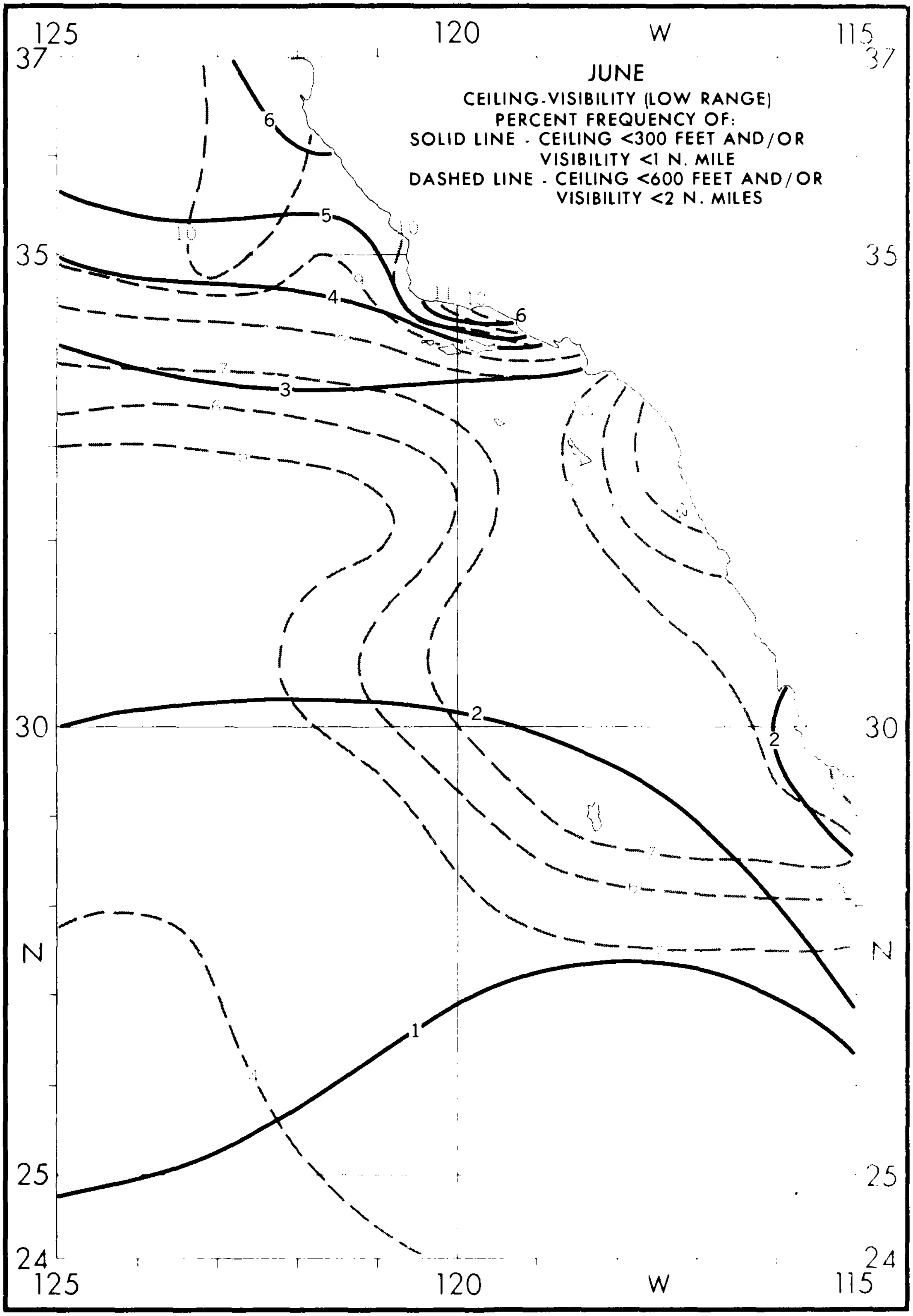

JUNE
CLOUD COVER
PERCENT FREQUENCY OF:
SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8
DASHED LINE - LOW CLOUD AMOUNT ≥5/8
125
120
W
115
37
35
30
N
25
24
50
50
40
30
60
70
20
10
30
20
80
80
80



JUNE
PRECIPITATION
PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION
125
120
W
115
37
35
30
N
25
24
3
2
3
3
2
1

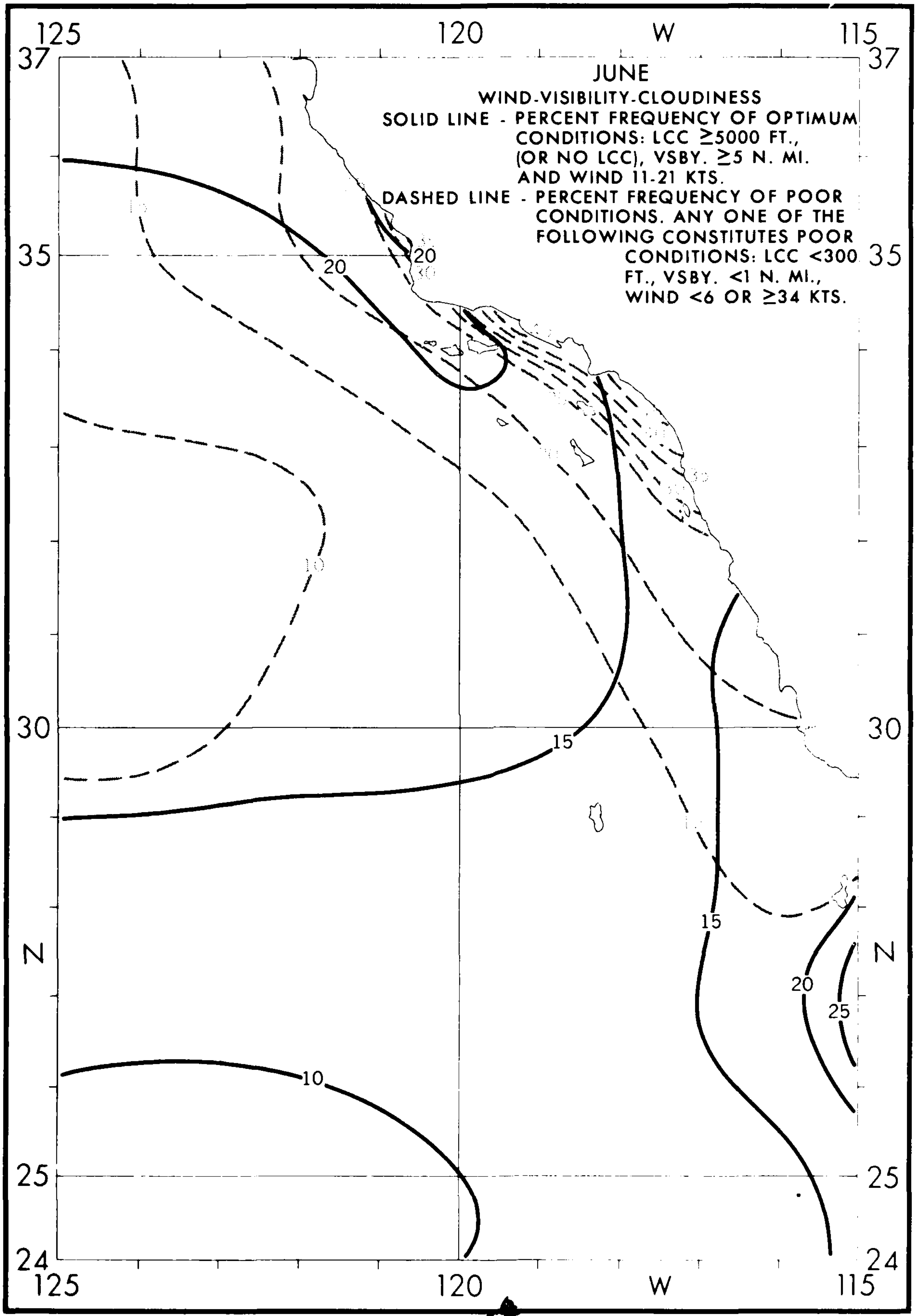

125
120
W
115
37
35
30
N
25
24
JUNE
VISIBILITY (NAUTICAL MILES)
PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.
<.5 .2
.5 <1 3.1
1 <2 6.7
2 <5 10.0
5 <10 60.0
≥10 20.0
N = 1234
EXAMPLE:
3.1% OF THE OBSERVED VISIBILITIES WERE <1 BUT ≥1/2 N. MILE. OTHER PERCENTAGES CAN BE SIMILARLY INTERPRETED.
N = OBSERVATION COUNT.


125
120
W
115
37
35
30
25
24
N
JUNE
CEILING-VISIBILITY (MID RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <1000 FEET AND/OR
VISIBILITY <5 N. MILES
DASHED LINE - CEILING <8000 FEET AND/OR
VISIBILITY <10 N. MILES
25
25
25
20
15
20
80
25
20
30
20



JUNE

CEILING-VISIBILITY (LOW RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <300 FEET AND/OR
VISIBILITY <1 N. MILE
DASHED LINE - CEILING <600 FEET AND/OR
VISIBILITY <2 N. MILES

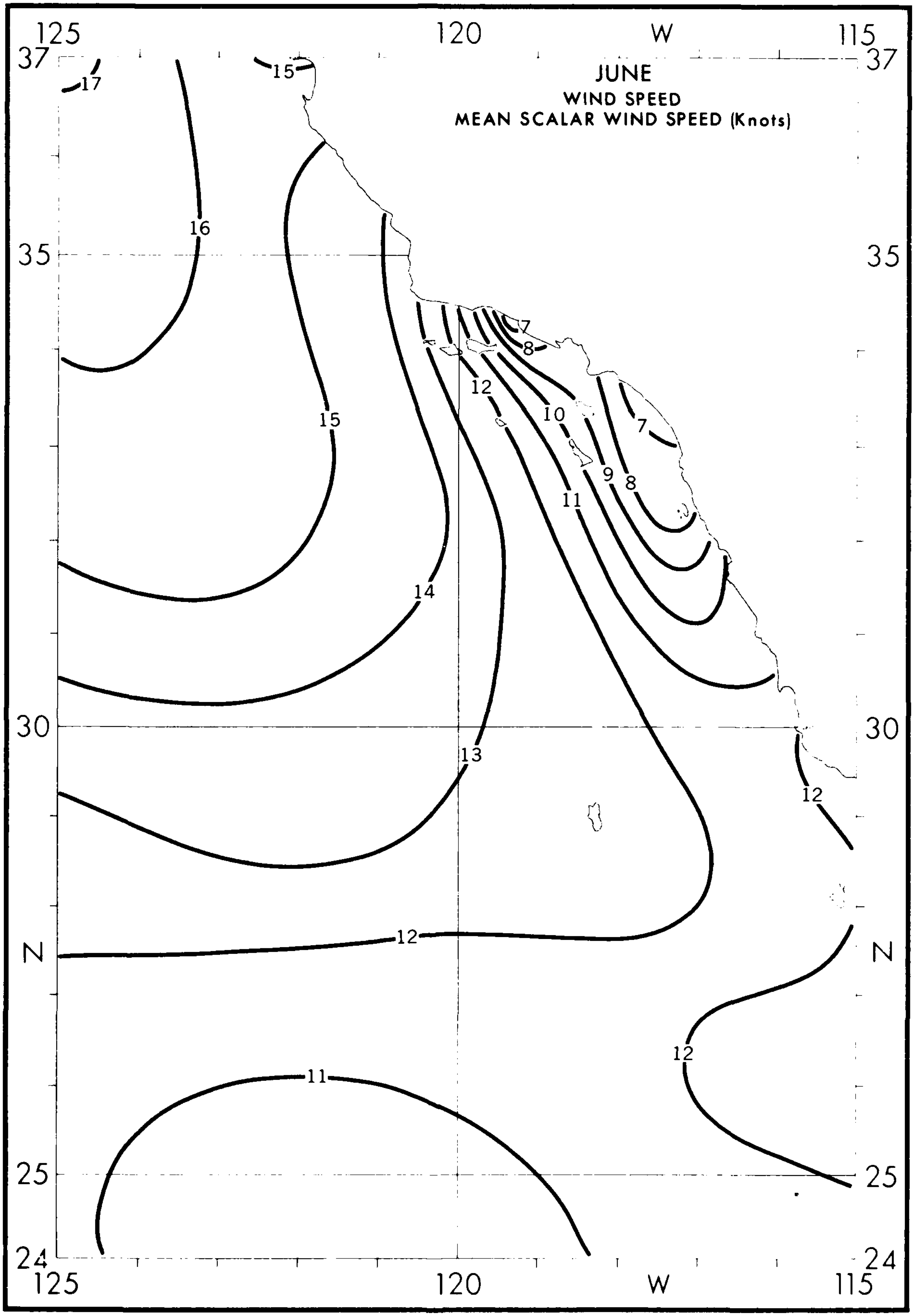


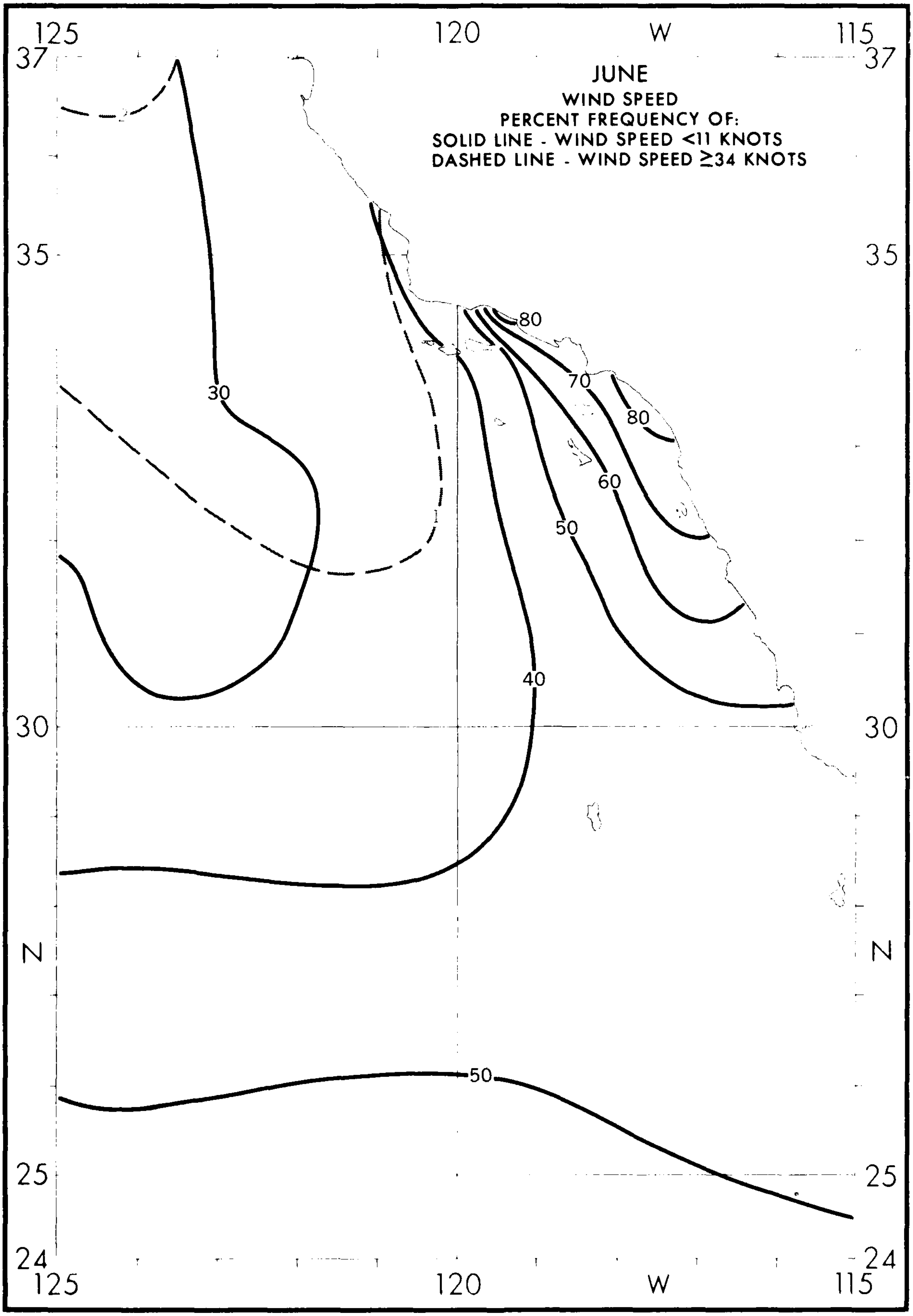
JUNE

WIND-VISIBILITY-CLOUDINESS

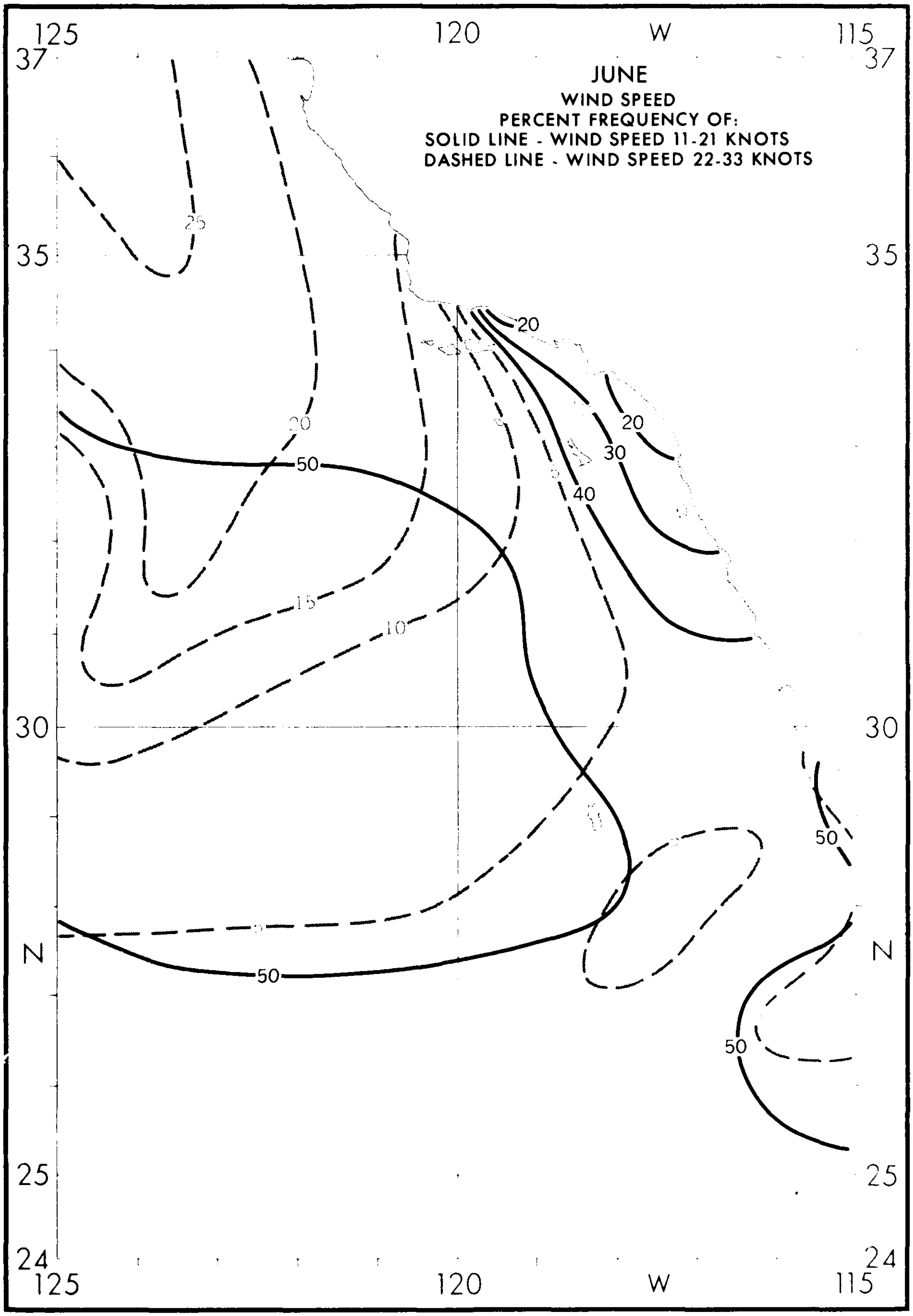
SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.

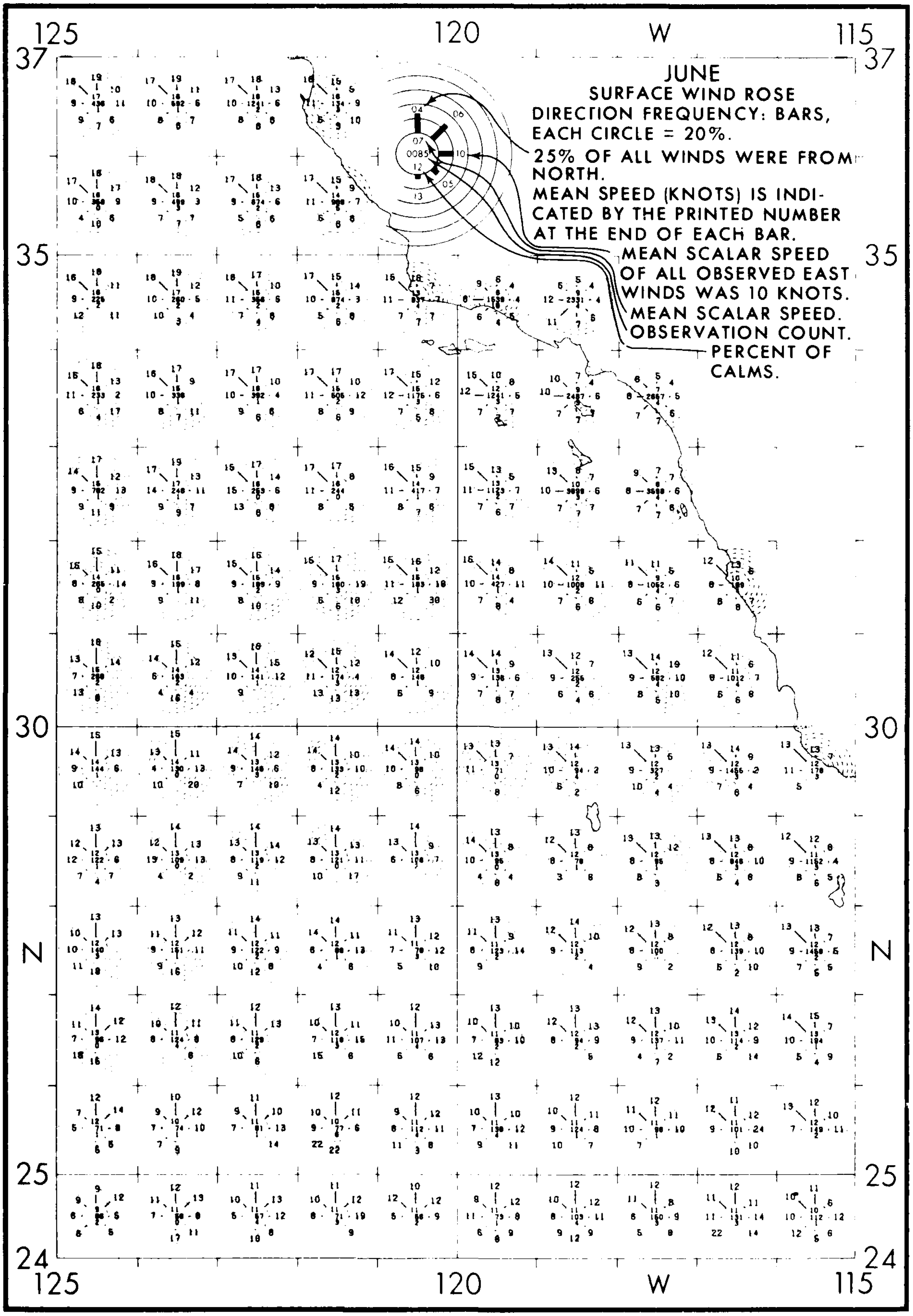
DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.

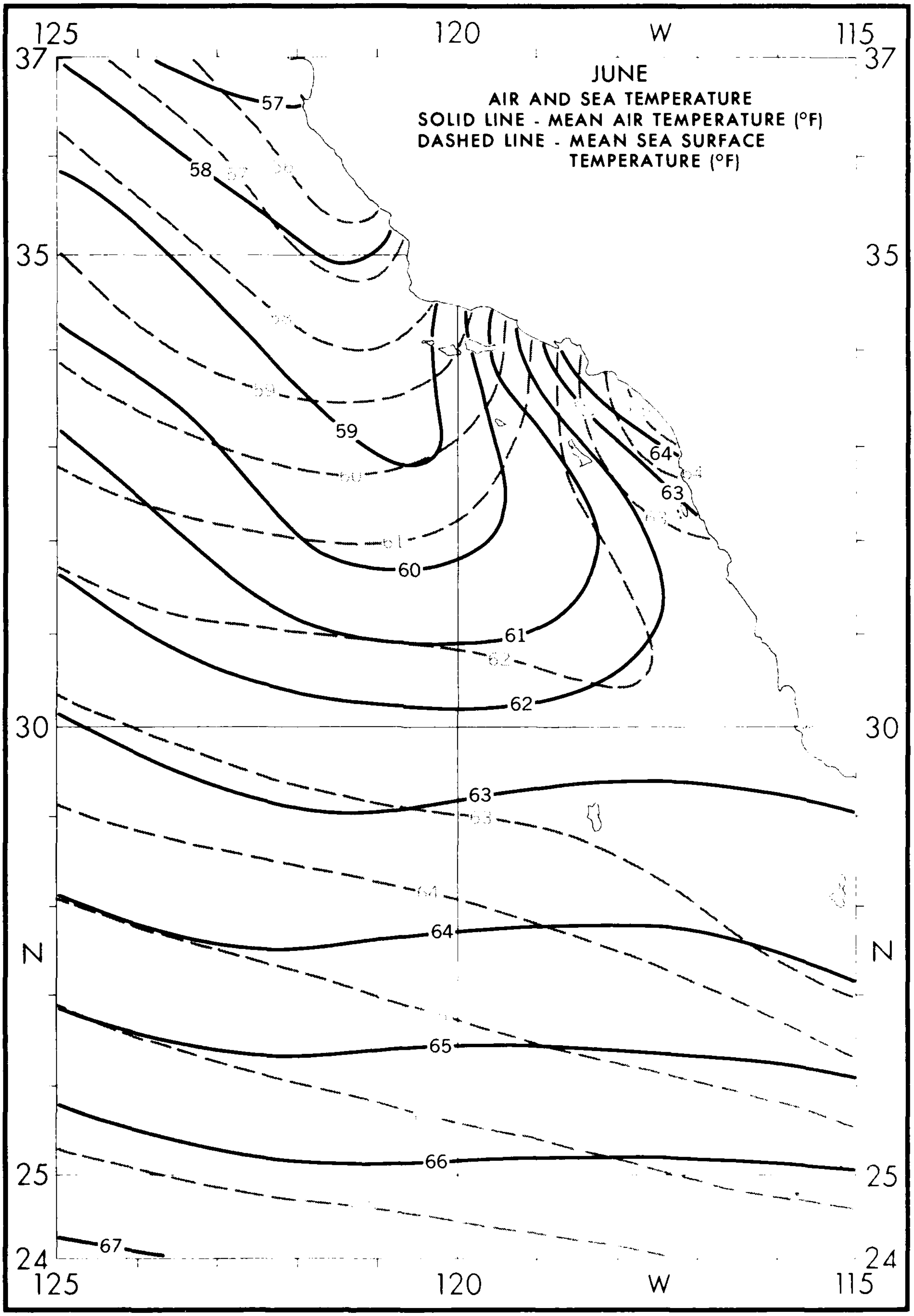

JUNE
WIND SPEED
MEAN SCALAR WIND SPEED (Knots)
125
120
W
115
37
35
30
N
25
24
17
15
16
15
14
13
12
11
12
12
12
11
10
9
8
7
8
7

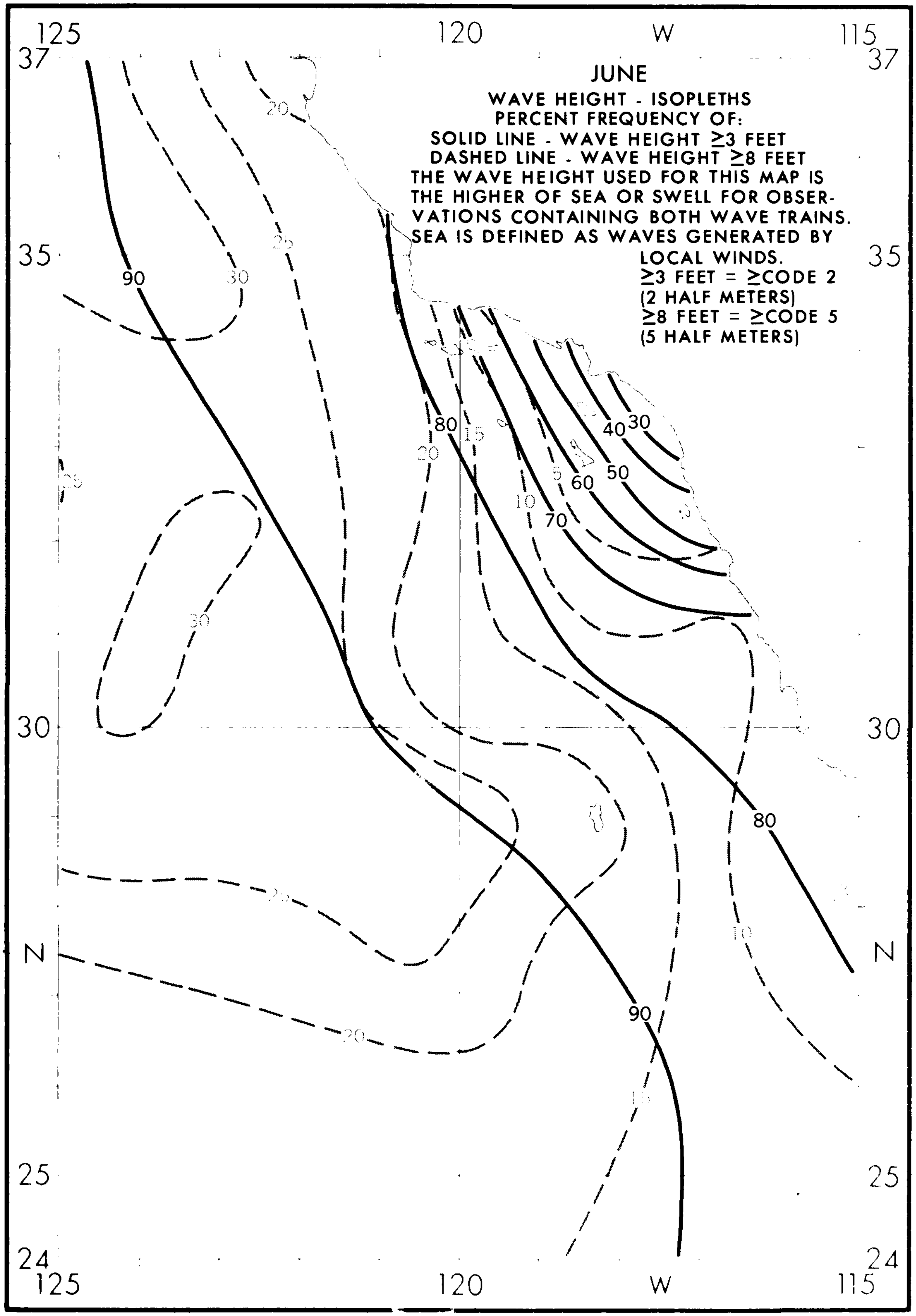


JUNE
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED <11 KNOTS
DASHED LINE - WIND SPEED ≥34 KNOTS
125
120
W
115
37
35
30
25
24
N
30
40
50
60
70
80
80
50


JUNE
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED 11-21 KNOTS
DASHED LINE - WIND SPEED 22-33 KNOTS
125
120
W
115
37
35
30
N
25
24
25
20
20
30
40
50
15
10
5
20
50
50
50

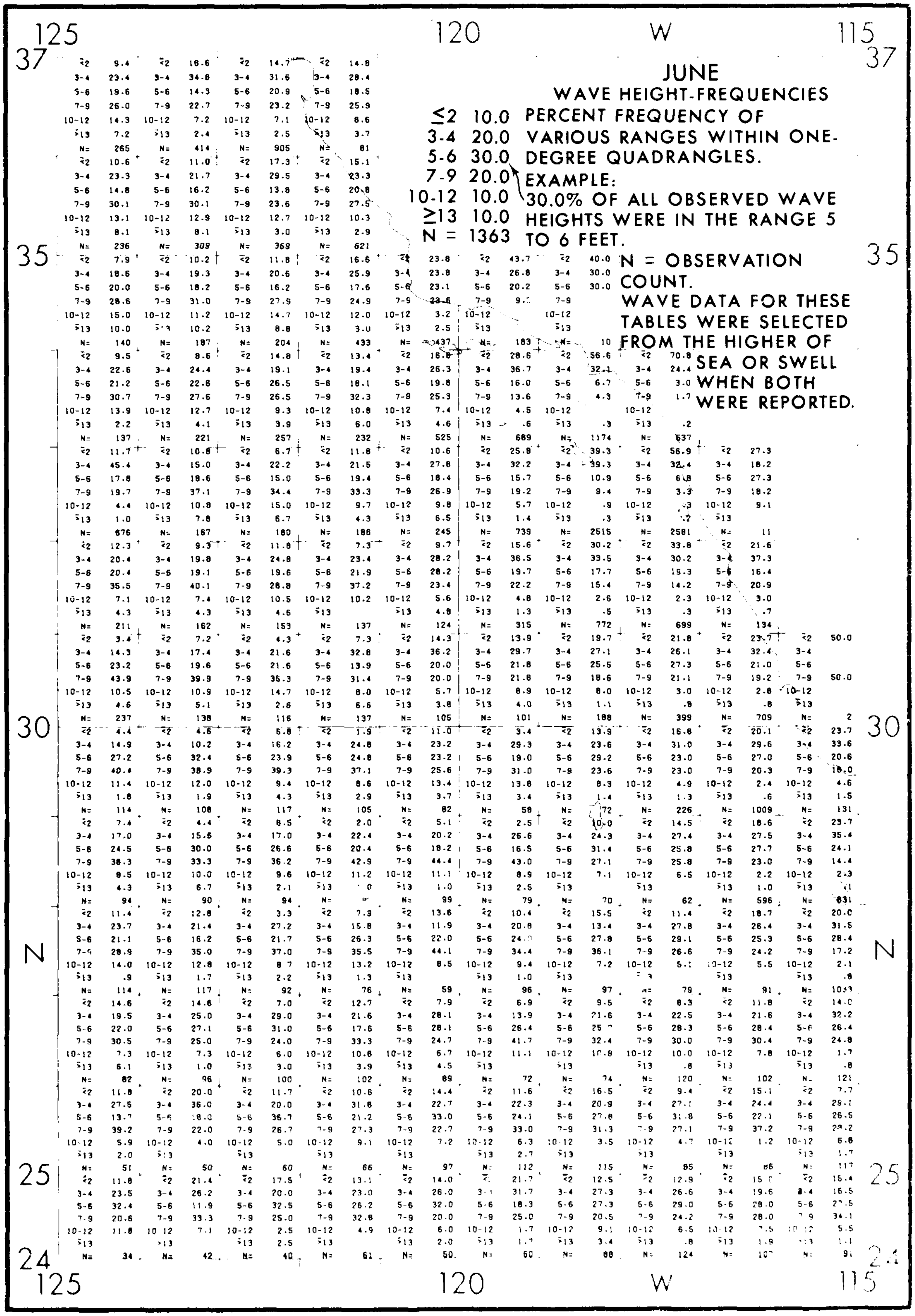

JUNE
SURFACE WIND ROSE
DIRECTION FREQUENCY: BARS, EACH CIRCLE = 20%.
25% OF ALL WINDS WERE FROM NORTH.
MEAN SPEED (KNOTS) IS INDICATED BY THE PRINTED NUMBER AT THE END OF EACH BAR.
MEAN SCALAR SPEED OF ALL OBSERVED EAST WINDS WAS 10 KNOTS.
MEAN SCALAR SPEED.
OBSERVATION COUNT.
PERCENT OF CALMS.
04
06
07
0085
10
12
05
13
125
120
W
115
37
35
30
25
24
N


JUNE
AIR AND SEA TEMPERATURE
SOLID LINE - MEAN AIR TEMPERATURE (°F)
DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)
125
120
W
115
37
35
30
N
25
24
57
58
59
60
61
62
63
64
65
66
67



JUNE

WAVE HEIGHT - ISOPLETHS
PERCENT FREQUENCY OF:
SOLID LINE - WAVE HEIGHT ≥3 FEET
DASHED LINE - WAVE HEIGHT ≥8 FEET
THE WAVE HEIGHT USED FOR THIS MAP IS THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS. SEA IS DEFINED AS WAVES GENERATED BY LOCAL WINDS.
≥3 FEET = ≥CODE 2
(2 HALF METERS)
≥8 FEET = ≥CODE 5
(5 HALF METERS)



JUNE

WAVE HEIGHT-FREQUENCIES

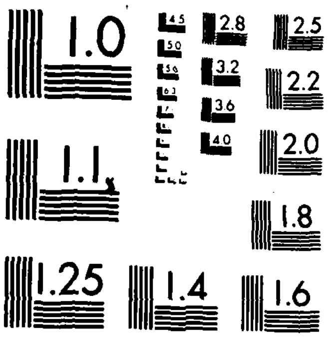
≤2	10.0	PERCENT FREQUENCY OF
3-4	20.0	VARIOUS RANGES WITHIN ONE-
5-6	30.0	DEGREE QUADRANGLES.
7-9	20.0	EXAMPLE:
10-12	10.0	30.0% OF ALL OBSERVED WAVE
≥13	10.0	HEIGHTS WERE IN THE RANGE 5
N =	1363	TO 6 FEET.

N = OBSERVATION COUNT.

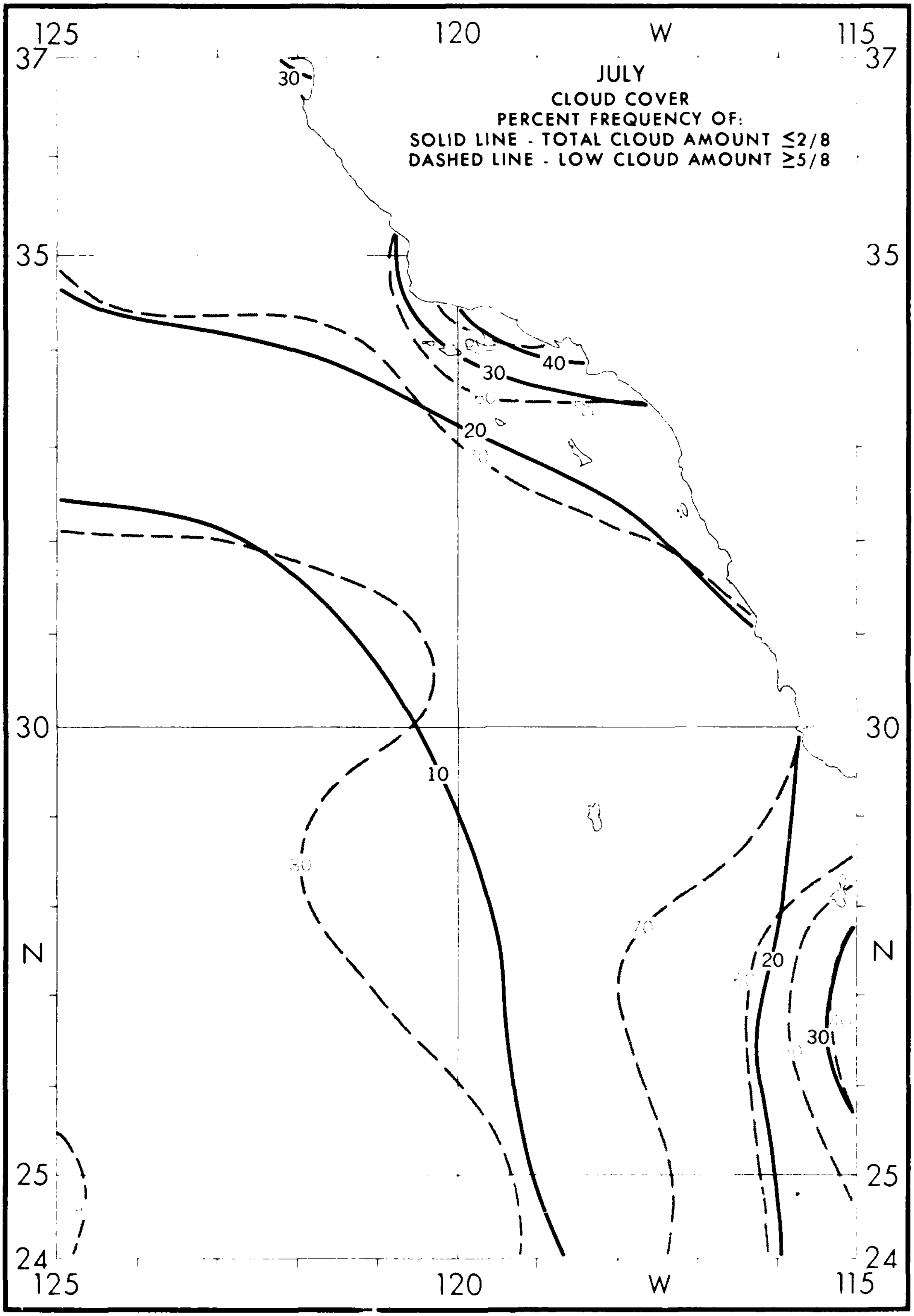
WAVE DATA FOR THESE TABLES WERE SELECTED FROM THE HIGHER OF SEA OR SWELL WHEN BOTH WERE REPORTED.

AD-A137 698 CLIMATIC STUDY OF THE SOUTHERN CALIFORNIA OPERATING AREA NEAR COASTAL ZONE(U) NAVAL OCEANOGRAPHY COMMAND DETACHMENT ASHEVILLE NC OCT 83 2/3

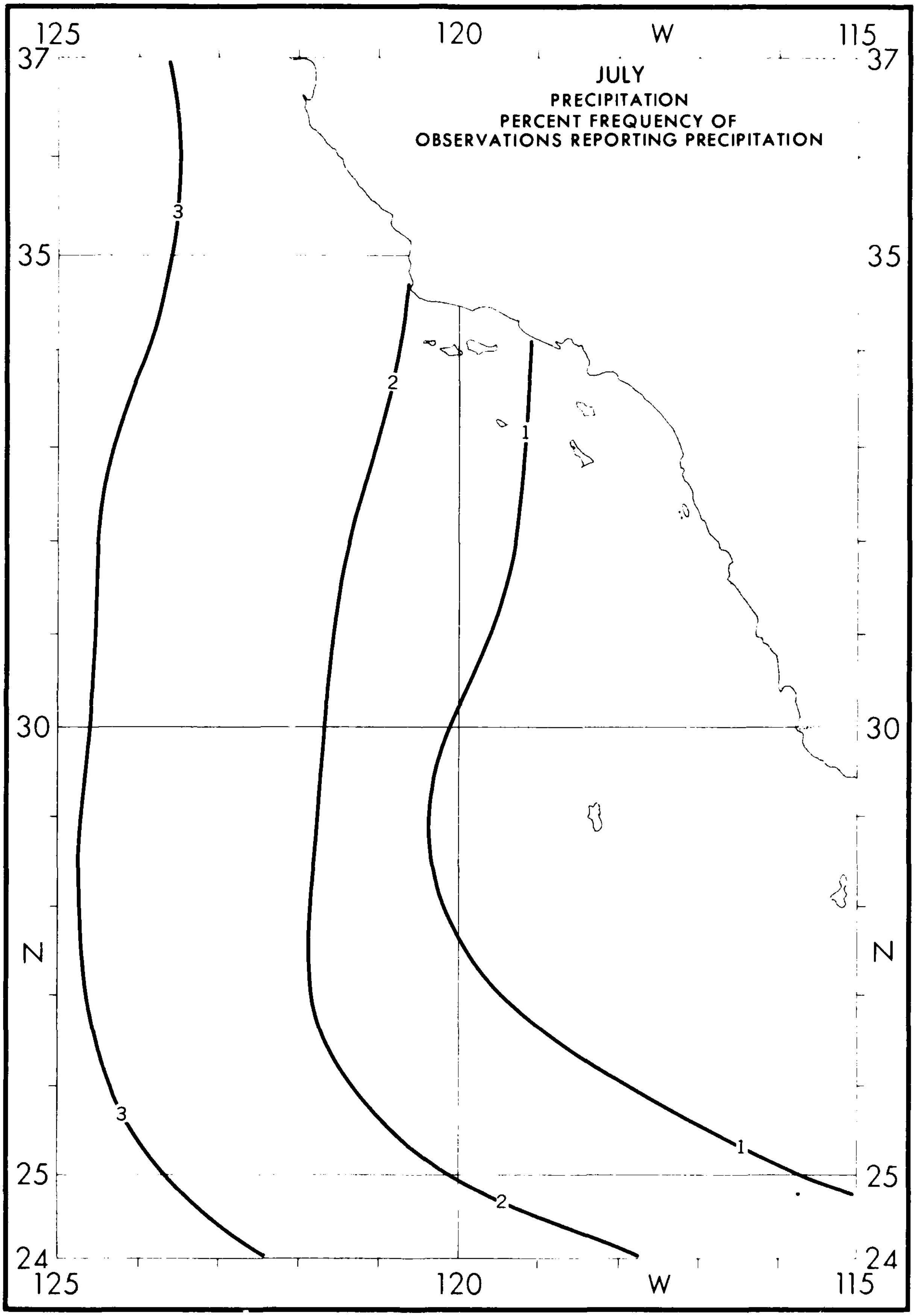
UNCLASSIFIED F/G 4/2 NL

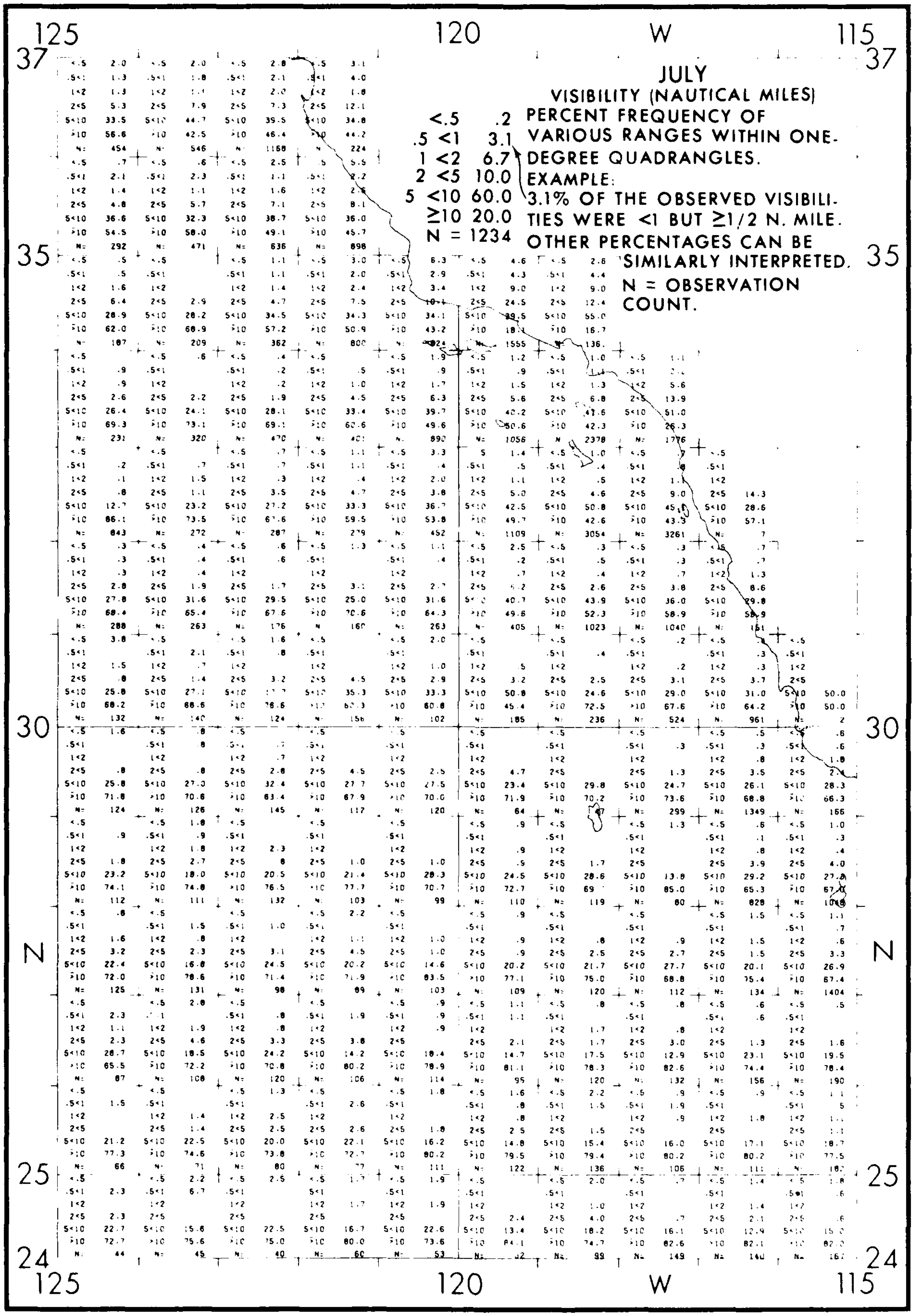


MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A



JULY
CLOUD COVER
PERCENT FREQUENCY OF:
SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8
DASHED LINE - LOW CLOUD AMOUNT ≥5/8


JULY
PRECIPITATION
PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION

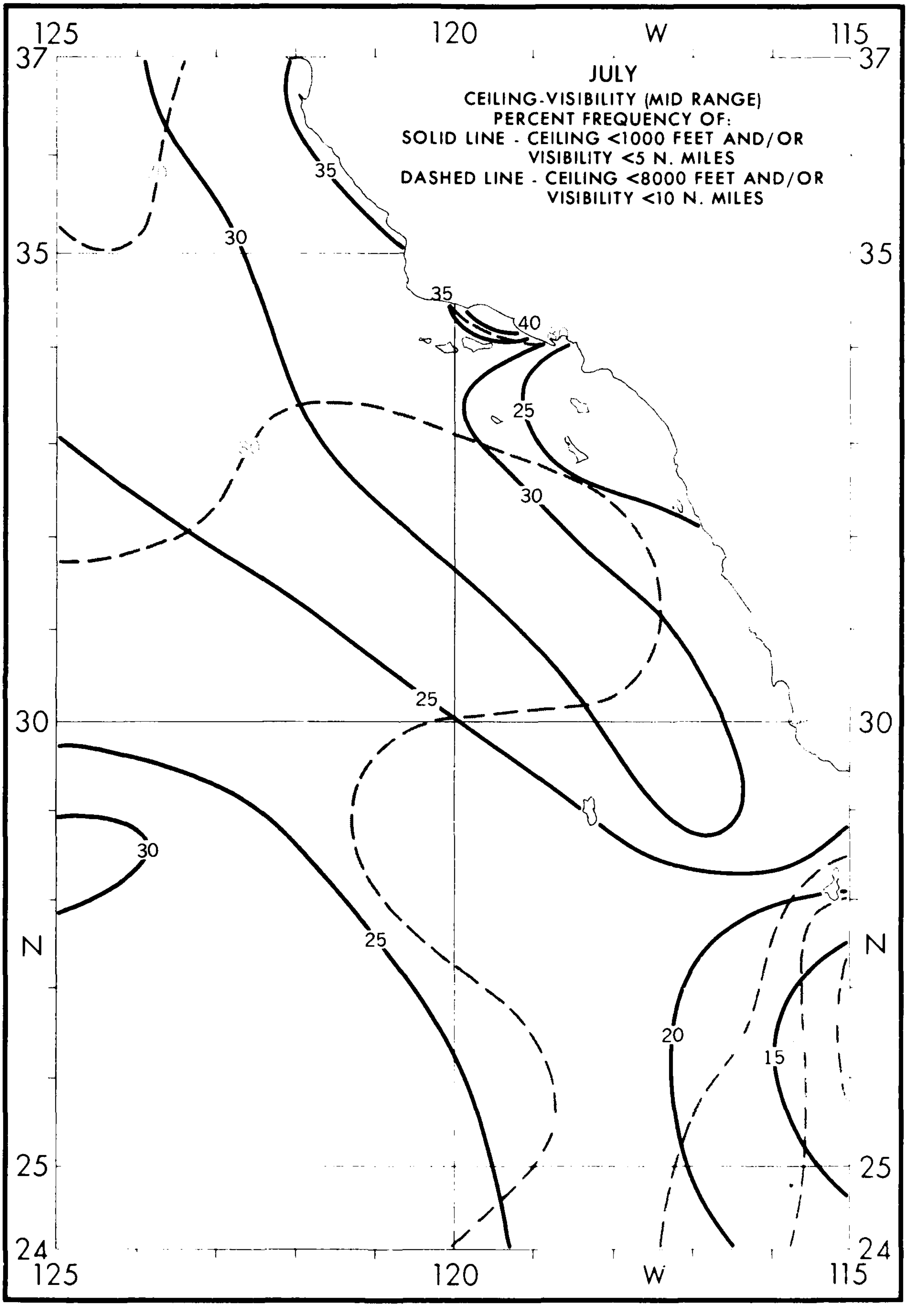


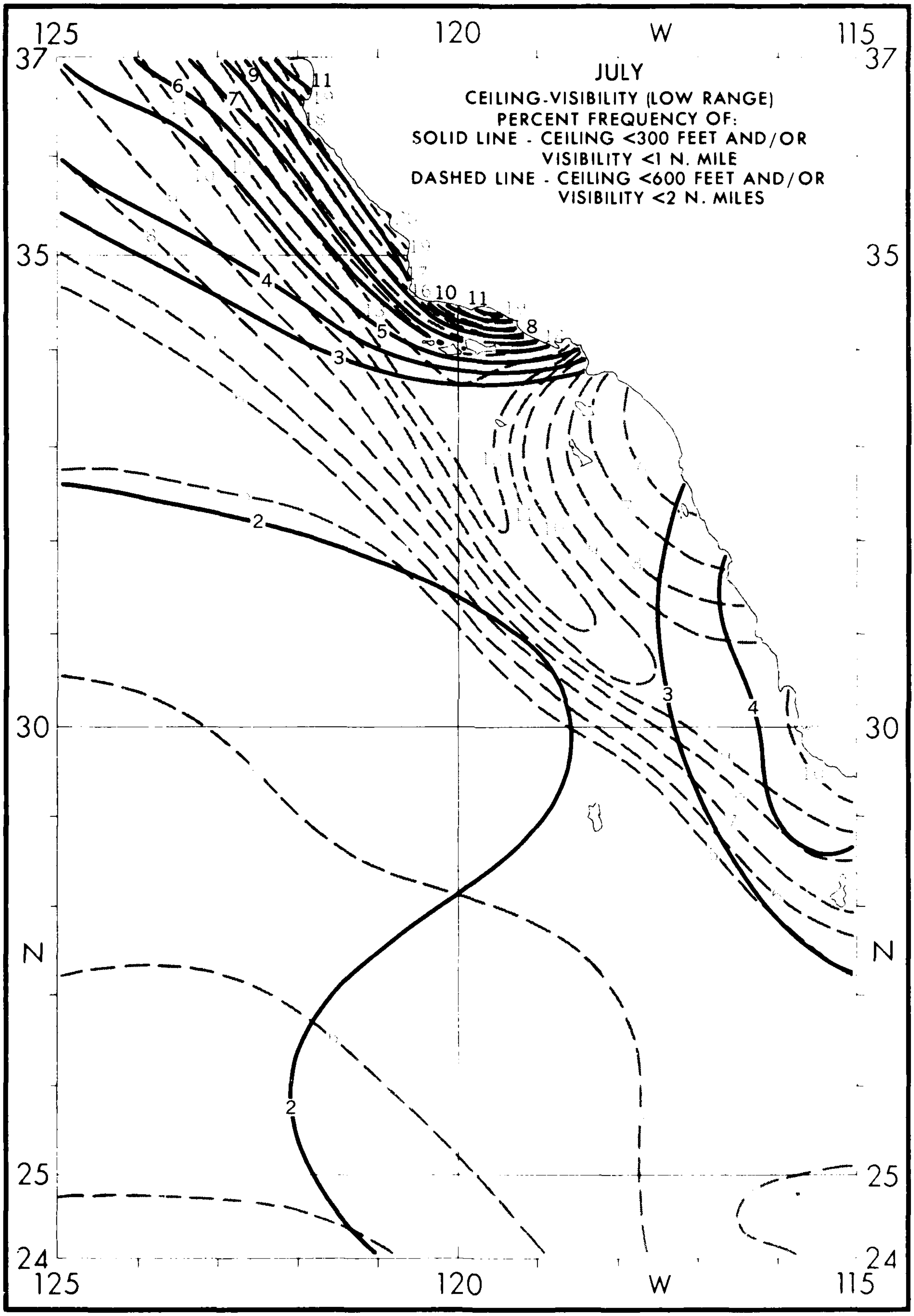
JULY

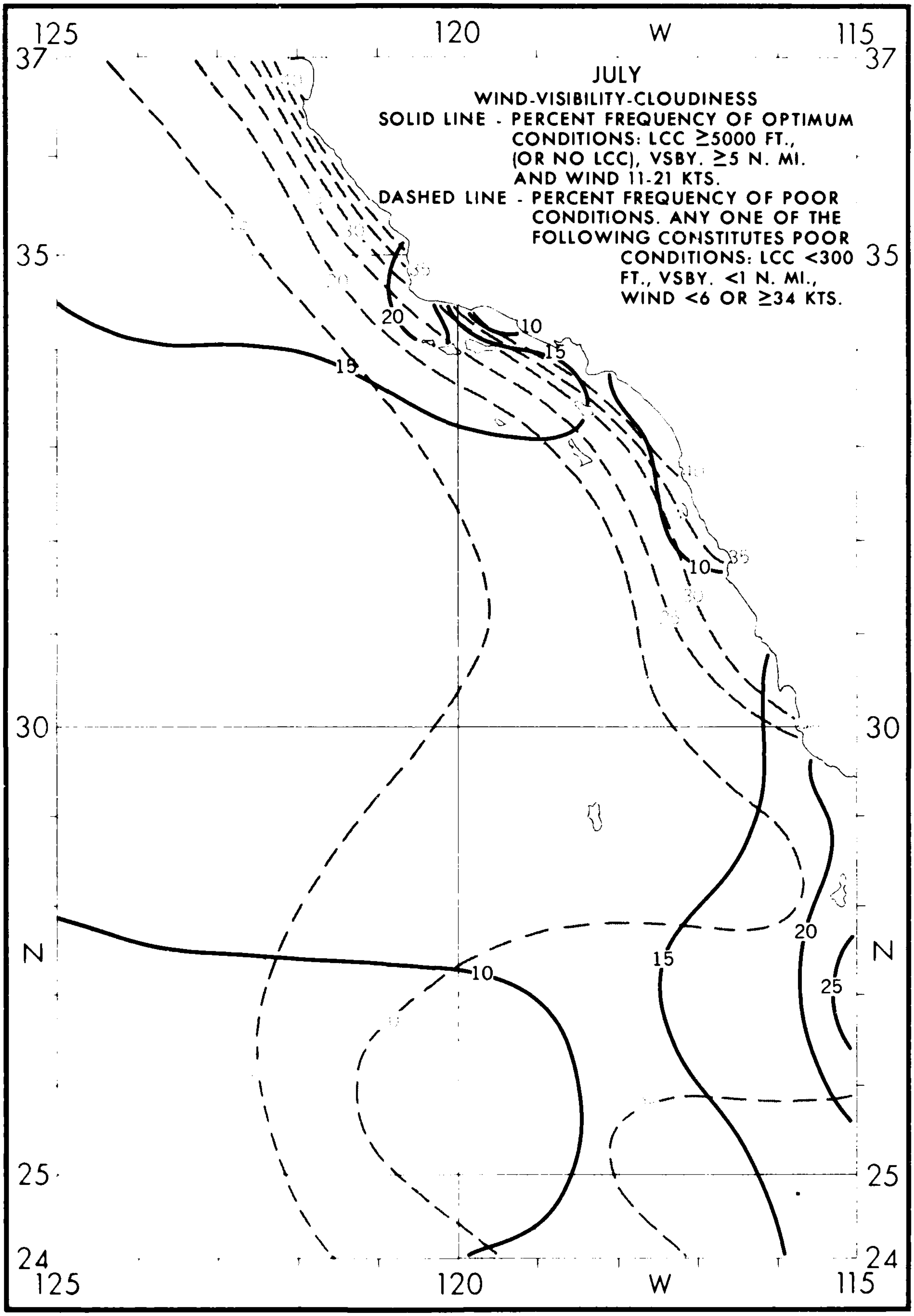
VISIBILITY (NAUTICAL MILES)
PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.

<.5	.2
.5 <1	3.1
1 <2	6.7
2 <5	10.0
5 <10	60.0
≥10	20.0
N =	1234

EXAMPLE: 3.1% OF THE OBSERVED VISIBILITIES WERE <1 BUT ≥1/2 N. MILE. OTHER PERCENTAGES CAN BE SIMILARLY INTERPRETED. N = OBSERVATION COUNT.


125
120
W
115
37
35
30
N
25
24
JULY
CEILING-VISIBILITY (MID RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <1000 FEET AND/OR VISIBILITY <5 N. MILES
DASHED LINE - CEILING <8000 FEET AND/OR VISIBILITY <10 N. MILES
35
30
35
40
25
30
25
30
25
20
15


JULY
CEILING-VISIBILITY (LOW RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <300 FEET AND/OR VISIBILITY <1 N. MILE
DASHED LINE - CEILING <600 FEET AND/OR VISIBILITY <2 N. MILES
125
120
W
115
37
35
30
N
25
24
6
7
9
11
4
5
3
10
11
8
2
3
4
2

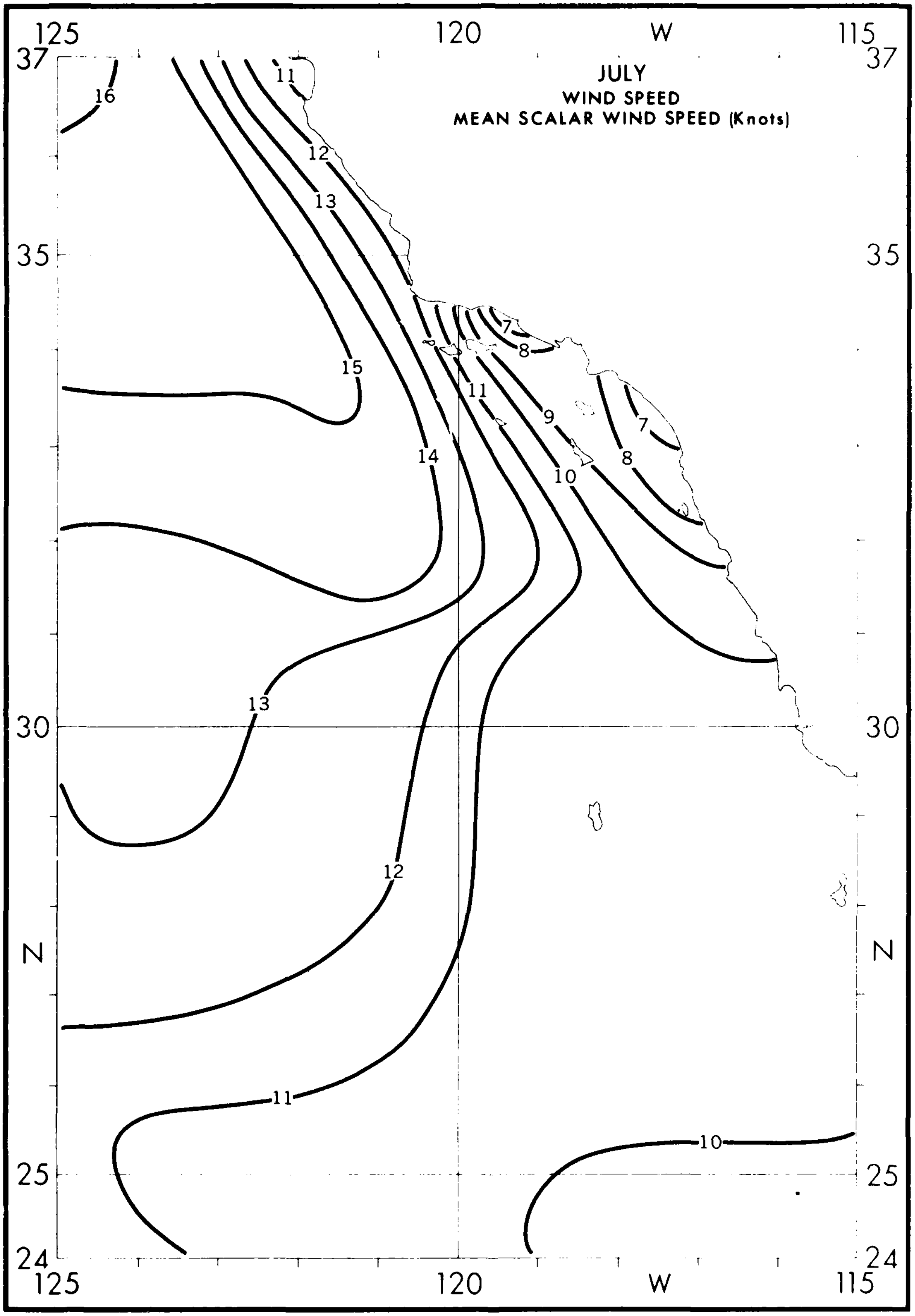


JULY

WIND-VISIBILITY-CLOUDINESS

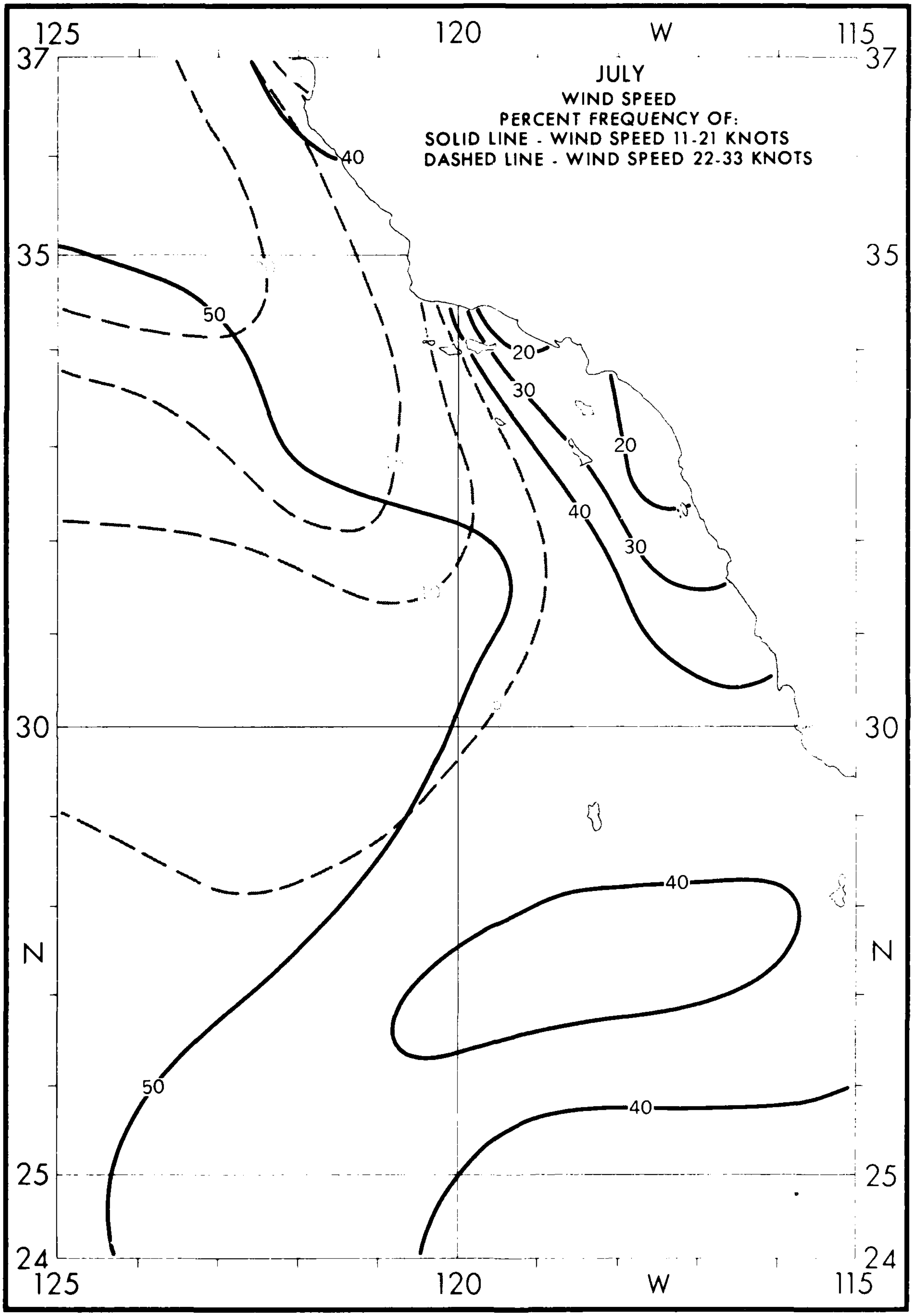
SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.

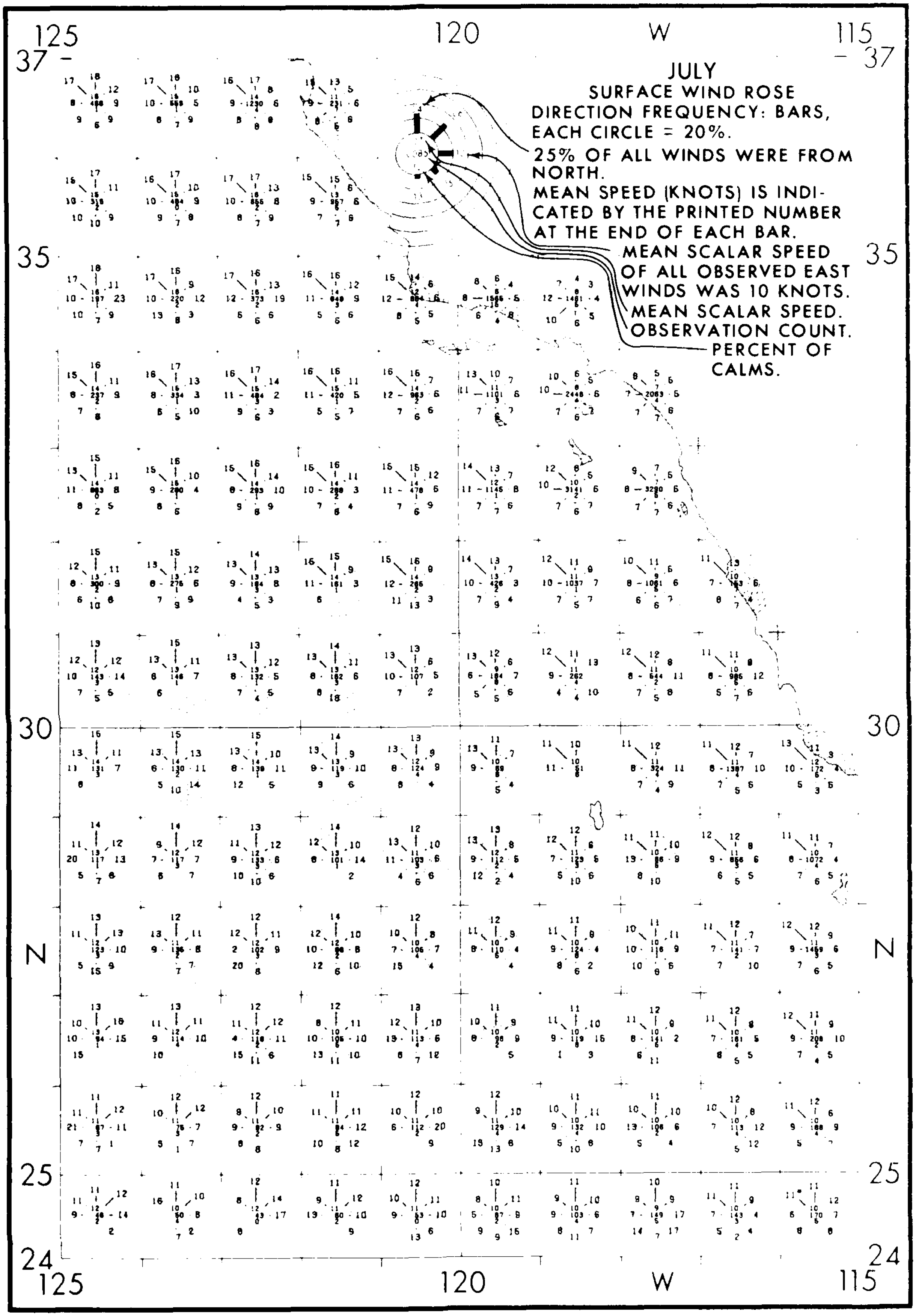
DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.

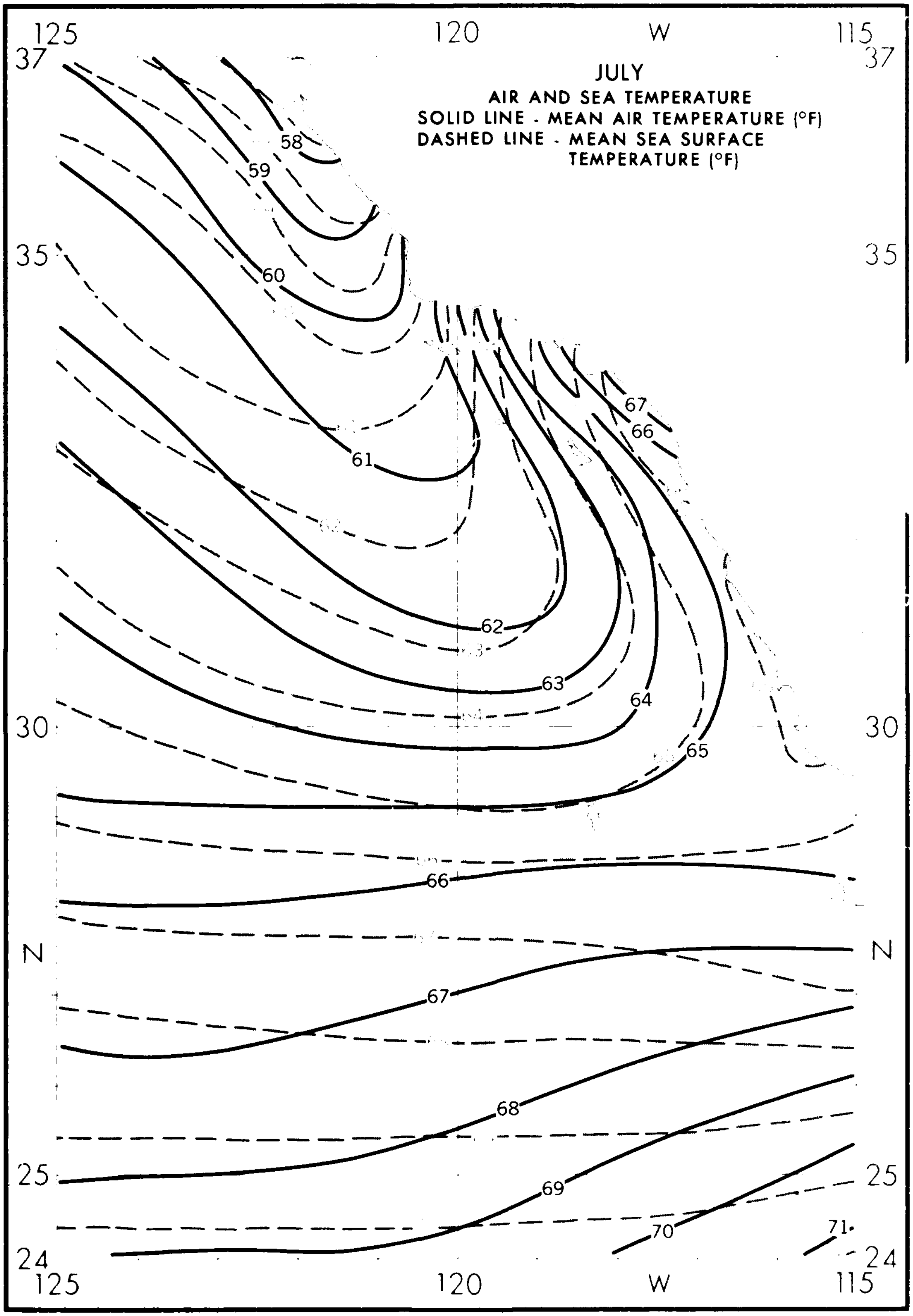


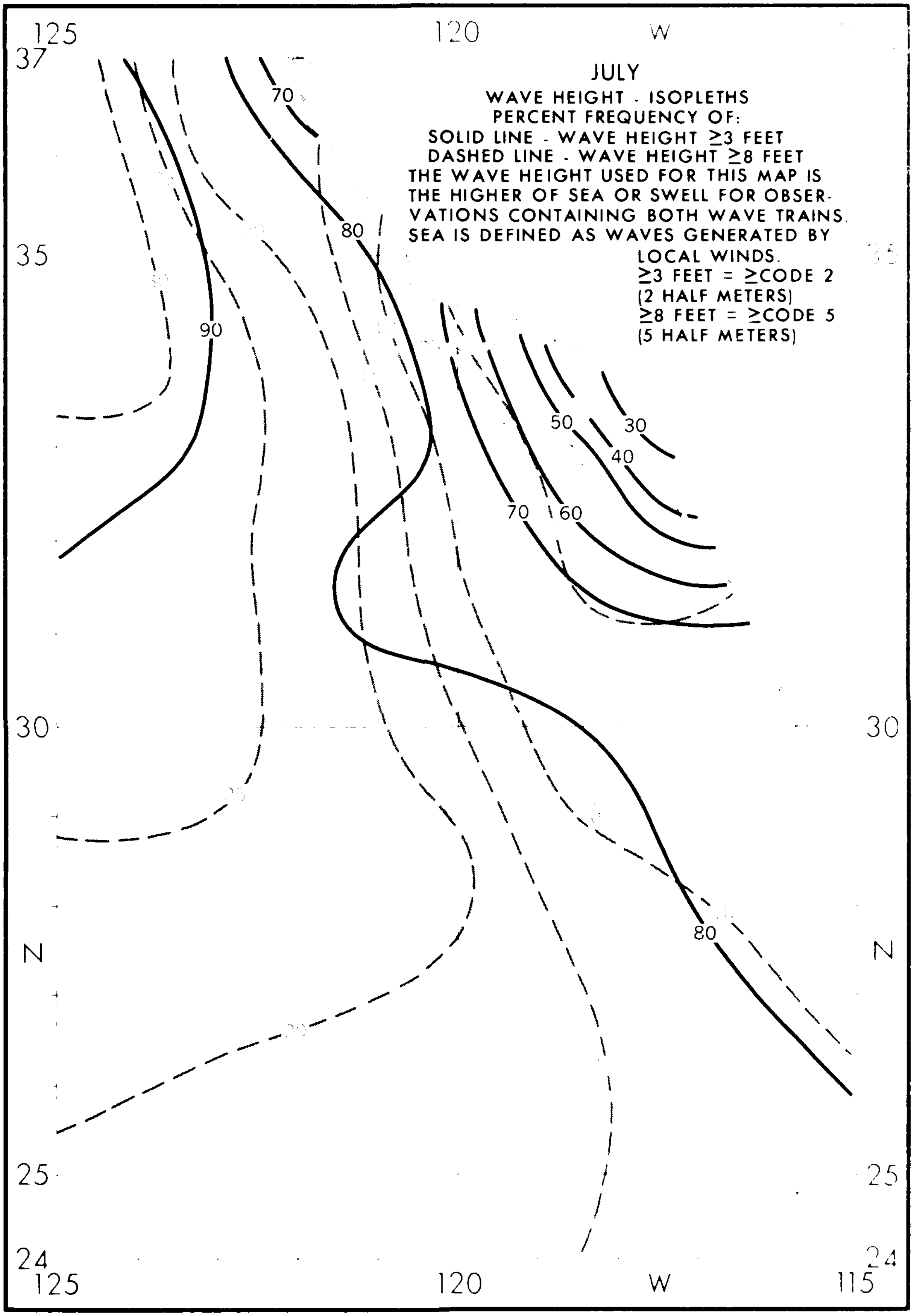
JULY
WIND SPEED
MEAN SCALAR WIND SPEED (Knots)


125
120
W
115
37
35
30
N
25
24
JULY
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED <11 KNOTS
DASHED LINE - WIND SPEED ≥34 KNOTS
50
30
80
70
80
60
40
<1%
50
50
60
60


JULY
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED 11-21 KNOTS
DASHED LINE - WIND SPEED 22-33 KNOTS
125
120
W
115
37
35
30
N
25
24
40
50
20
30
20
40
30
40
50
40


125
120
W
115
37
37
JULY
SURFACE WIND ROSE
DIRECTION FREQUENCY: BARS, EACH CIRCLE = 20%.
25% OF ALL WINDS WERE FROM NORTH.
MEAN SPEED (KNOTS) IS INDICATED BY THE PRINTED NUMBER AT THE END OF EACH BAR.
MEAN SCALAR SPEED OF ALL OBSERVED EAST WINDS WAS 10 KNOTS.
MEAN SCALAR SPEED.
OBSERVATION COUNT.
PERCENT OF CALMS.
35
35
30
30
N
N
25
25
24
24
125
120
W
115


JULY
AIR AND SEA TEMPERATURE
SOLID LINE - MEAN AIR TEMPERATURE (°F)
DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)
125
120
W
115
37
35
30
N
25
24
58
59
60
61
62
63
64
65
66
67
68
69
70
71



JULY

WAVE HEIGHT - ISOPLETHS
PERCENT FREQUENCY OF:
SOLID LINE - WAVE HEIGHT ≥3 FEET
DASHED LINE - WAVE HEIGHT ≥8 FEET
THE WAVE HEIGHT USED FOR THIS MAP IS THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS. SEA IS DEFINED AS WAVES GENERATED BY LOCAL WINDS.
≥3 FEET = ≥CODE 2
(2 HALF METERS)
≥8 FEET = ≥CODE 5
(5 HALF METERS)

125 120 W 115

JULY

WAVE HEIGHT-FREQUENCIES

≤2	10.0
3-4	20.0
5-6	30.0
7-9	20.0
10-12	10.0
≥13	10.0
N =	1363

PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.

EXAMPLE:
30.0% OF ALL OBSERVED WAVE HEIGHTS WERE IN THE RANGE 5 TO 6 FEET.

N = OBSERVATION COUNT.

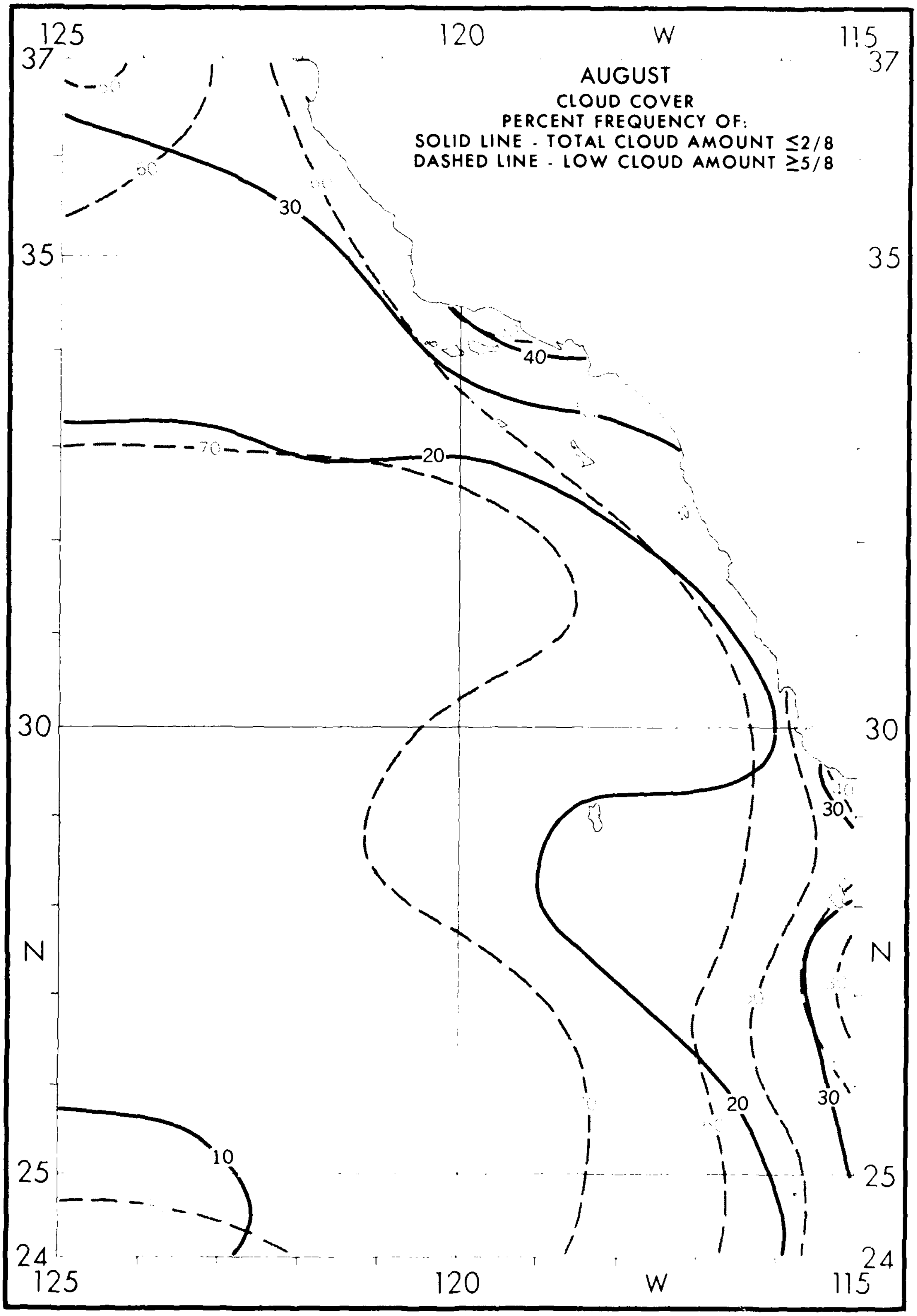
WAVE DATA FOR THESE TABLES WERE SELECTED FROM THE HIGHER OF SEA OR SWELL WHEN BOTH WERE REPORTED.

37

≤2	8.5	≤2	10.9	≤2	17.9	≤2	51.4												
3-4	15.4	3-4	29.2	3-4	26.9	3-4	18.6												
5-6	24.3	5-6	26.6	5-6	24.9	5-6	14.7												
7-9	28.3	7-9	24.5	7-9	22.6	7-9	11.3												
10-12	17.8	10-12	6.7	10-12	5.8	10-12	1.7												
≥13	5.7	≥13	2.1	≥13	1.9	≥13	2.3												
N=	247	N=	387	N=	862	N=	177												
≤2	10.1	≤2	9.4	≤2	12.0	≤2	17.7												
3-4	16.1	3-4	19.5	3-4	22.4	3-4	27.2												
5-6	21.1	5-6	20.8	5-6	27.6	5-6	22.4												
7-9	32.2	7-9	33.4	7-9	28.8	7-9	26.4												
10-12	16.6	10-12	10.4	10-12	6.1	10-12	5.2												
≥13	4.0	≥13	6.5	≥13	3.2	≥13	1.1												
N=	199	N=	308	N=	410	N=	611												
≤2	7.8	≤2	9.9	≤2	10.7	≤2	13.8	≤2	24.2	≤2	43.5	≤2	58.8						
3-4	14.7	3-4	16.2	3-4	22.9	3-4	27.4	3-4	25.1	3-4	35.0	3-4	35.3						
5-6	24.0	5-6	24.6	5-6	19.2	5-6	23.3	5-6	23.5	5-6	15.9	5-6							
7-9	34.1	7-9	33.1	7-9	34.1	7-9	26.2	7-9	23.0	7-9	5.1	7-9	5.9						
10-12	14.7	10-12	8.5	10-12	8.9	10-12	6.8	10-12	3.1	10-12	.5	10-12							
≥13	4.7	≥13	7.7	≥13	4.2	≥13	2.5	≥13	1.2	≥13		≥13							
N=	129	N=	142	N=	214	N=	486	N=	426	N=	214	N=	17						
≤2	14.9	≤2	9.4	≤2	12.3	≤2	13.6	≤2	17.0	≤2	39.2	≤2	64.5	≤2	70.2				
3-4	14.3	3-4	20.8	3-4	25.2	3-4	21.2	3-4	31.3	3-4	33.1	3-4	27.4	3-4	26.5				
5-6	21.7	5-6	22.4	5-6	21.0	5-6	24.6	5-6	21.3	5-6	14.8	5-6	5.0	5-6	2.8				
7-9	37.9	7-9	34.4	7-9	32.7	7-9	28.0	7-9	22.9	7-9	10.8	7-9	2.8	7-9	.5				
10-12	6.2	10-12	10.4	10-12	6.0	10-12	9.3	10-12	5.6	10-12	1.9	10-12	.4	10-12					
≥13	5.0	≥13	2.6	≥13	2.7	≥13	3.4	≥13	1.9	≥13	.2	≥13		≥13					
N=	161	N=	192	N=	333	N=	236	N=	596	N=	622	N=	1078	N=	393				
≤2	12.6	≤2	8.8	≤2	6.8	≤2	17.0	≤2	18.6	≤2	26.2	≤2	41.1	≤2	60.3	≤2	50.0		
3-4	28.4	3-4	19.8	3-4	35.4	3-4	25.0	3-4	35.6	3-4	39.4	3-4	42.2	3-4	30.1	3-4	25.0		
5-6	14.6	5-6	25.3	5-6	17.5	5-6	21.8	5-6	18.3	5-6	17.3	5-6	10.6	5-6	6.0	5-6			
7-9	32.6	7-9	31.3	7-9	31.6	7-9	26.6	7-9	21.6	7-9	14.6	7-9	5.6	7-9	3.0	7-9	25.0		
10-12	9.3	10-12	12.1	10-12	7.8	10-12	9.0	10-12	4.2	10-12	2.2	10-12	.4	10-12	.3	10-12			
≥13	2.4	≥13	2.7	≥13	1.0	≥13	.5	≥13	1.6	≥13	.3	≥13	.1	≥13	.4	≥13			
N=	739	N=	182	N=	206	N=	188	N=	306	N=	724	N=	2063	N-	2297	N=	4		
≤2	10.5	≤2	13.2	≤2	7.6	≤2	23.1	≤2	23.4	≤2	22.6	≤2	29.4	≤2	36.5	≤2	26.8		
3-4	23.6	3-4	24.7	3-4	31.1	3-4	16.5	3-4	26.1	3-4	38.7	3-4	39.7	3-4	32.9	3-4	33.0		
5-6	21.8	5-6	13.7	5-6	24.2	5-6	17.4	5-6	16.0	5-6	18.3	5-6	17.9	5-6	19.4	5-6	27.7		
7-9	33.2	7-9	35.2	7-9	29.5	7-9	32.2	7-9	28.2	7-9	18.3	7-9	11.3	7-9	9.8	7-9	9.8		
10-12	9.5	10-12	10.4	10-12	5.3	10-12	6.6	10-12	4.8	10-12	1.5	10-12	1.4	10-12	1.3	10-12	1.8		
≥13	1.4	≥13	2.7	≥13	2.3	≥13	4.1	≥13	1.6	≥13	.6	≥13	.4	≥13	.1	≥13	.9		
N=	220	N=	182	N=	132	N=	121	N=	188	N=	328	N=	814	N=	715	N=	112		
≤2	3.7	≤2	5.6	≤2	8.3	≤2	6.3	≤2	8.5	≤2	27.7	≤2	24.1	≤2	23.4	≤2	26.3	≤2	
3-4	25.7	3-4	16.7	3-4	19.8	3-4	22.7	3-4	31.7	3-4	19.3	3-4	29.5	3-4	33.6	3-4	34.6	3-4	100.0
5-6	20.2	5-6	26.9	5-6	18.8	5-6	25.8	5-6	28.0	5-6	19.3	5-6	25.9	5-6	26.2	5-6	24.0	5-6	
7-9	34.9	7-9	32.4	7-9	35.4	7-9	34.4	7-9	26.8	7-9	25.3	7-9	15.7	7-9	12.6	7-9	12.6	7-9	
10-12	13.8	10-12	14.8	10-12	14.6	10-12	6.3	10-12	4.9	10-12	6.0	10-12	3.6	10-12	3.7	10-12	2.5	10-12	
≥13	1.8	≥13	3.7	≥13	3.1	≥13	4.7	≥13		≥13	2.4	≥13	1.2	≥13	.5	≥13	.2	≥13	
N=	109	N=	108	N=	96	N=	128	N=	82	N=	83	N=	166	N=	381	N=	651	N=	1
≤2	8.1	≤2	13.2	≤2	7.9	≤2	4.0	≤2	10.0	≤2	23.6	≤2	11.1	≤2	22.3	≤2	25.7	≤2	22.0
3-4	23.2	3-4	11.3	3-4	21.9	3-4	19.0	3-4	19.0	3-4	25.5	3-4	42.2	3-4	34.5	3-4	34.2	3-4	31.5
5-6	16.2	5-6	21.7	5-6	20.2	5-6	21.0	5-6	32.0	5-6	20.0	5-6	20.0	5-6	21.8	5-6	26.2	5-6	28.3
7-9	34.3	7-9	35.8	7-9	34.2	7-9	42.0	7-9	32.0	7-9	27.3	7-9	22.2	7-9	18.3	7-9	11.0	7-9	17.3
10-12	15.2	10-12	16.0	10-12	13.2	10-12	14.0	10-12	7.0	10-12	3.6	10-12	4.4	10-12	1.3	10-12	2.2	10-12	.8
≥13	3.0	≥13	1.9	≥13	2.6	≥13		≥13		≥13		≥13		≥13	1.7	≥13	.7	≥13	
N=	99	N=	106	N=	114	N=	100	N=	100	N=	55	N=	45	N=	229	N=	948	N=	127
≤2	1.0	≤2	11.2	≤2	4.7	≤2	3.5	≤2	17.6	≤2	10.2	≤2	18.3	≤2	16.4	≤2	23.8	≤2	26.8
3-4	15.6	3-4	16.3	3-4	22.6	3-4	14.1	3-4	14.1	3-4	16.3	3-4	20.2	3-4	37.3	3-4	33.7	3-4	36.0
5-6	24.0	5-6	24.5	5-6	20.8	5-6	29.4	5-6	21.2	5-6	29.6	5-6	23.1	5-6	20.9	5-6	26.1	5-6	23.0
7-9	38.5	7-9	33.7	7-9	41.5	7-9	38.8	7-9	34.1	7-9	35.7	7-9	31.7	7-9	19.4	7-9	14.7	7-9	11.7
10-12	15.6	10-12	7.1	10-12	9.4	10-12	12.9	10-12	11.8	10-12	8.2	10-12	6.7	10-12	4.5	10-12	1.0	10-12	2.0
≥13	5.2	≥13	7.1	≥13	.9	≥13	1.2	≥13	1.2	≥13		≥13		≥13	1.5	≥13	.7	≥13	.4
N=	96	N=	98	N=	106	N=	85	N=	85	N=	98	N=	104	N=	67	N=	597	N=	742
≤2	9.1	≤2	9.2	≤2	4.9	≤2	6.3	≤2	7.6	≤2	10.3	≤2	13.0	≤2	17.2	≤2	20.8	≤2	26.5
3-4	20.2	3-4	31.9	3-4	24.7	3-4	15.0	3-4	19.6	3-4	25.3	3-4	23.0	3-4	23.2	3-4	32.1	3-4	34.0
5-6	30.3	5-6	24.4	5-6	32.1	5-6	27.5	5-6	27.2	5-6	31.0	5-6	26.0	5-6	30.3	5-6	23.6	5-6	24.3
7-9	29.3	7-9	28.1	7-9	32.1	7-9	37.5	7-9	40.2	7-9	23.0	7-9	29.0	7-9	26.3	7-9	17.9	7-9	12.9
10-12	7.1	10-12	7.6	10-12	4.9	10-12	12.5	10-12	5.4	10-12	8.0	10-12	8.0	10-12	3.0	10-12	3.8	10-12	1.5
≥13	4.0	≥13	.8	≥13	1.2	≥13	1.3	≥13		≥13	2.3	≥13	1.0	≥13		≥13	1.9	≥13	.5
N=	99	N=	119	N=	81	N=	80	N=	92	N=	87	N=	100	N=	99	N=	106	N=	971
≤2	13.2	≤2	9.1	≤2	8.6	≤2	17.0	≤2	13.0	≤2	13.1	≤2	9.6	≤2	12.5	≤2	15.2	≤2	22.9
3-4	27.6	3-4	25.0	3-4	24.7	3-4	20.2	3-4	24.0	3-4	26.2	3-4	23.1	3-4	25.9	3-4	25.0	3-4	28.0
5-6	19.7	5-6	19.3	5-6	25.8	5-6	27.7	5-6	23.0	5-6	27.4	5-6	35.6	5-6	32.1	5-6	28.0	5-6	21.7
7-9	28.9	7-9	39.8	7-9	32.3	7-9	28.7	7-9	30.0	7-9	28.6	7-9	26.0	7-9	23.2	7-9	27.3	7-9	21.7
10-12	9.2	10-12	5.7	10-12	8.6	10-12	6.4	10-12	8.0	10-12	4.8	10-12	5 8	10-12	6.3	10-12	4.5	10-12	4.5
≥13	1.3	≥13	1.1	≥13		≥13		≥13	2.0	≥13		≥13		≥13		≥13		≥13	1.3
N=	76	N=	88	N=	93	N=	94	N=	100	N=	84	N=	104	N=	112	N=	132	N=	157
≤2	11.8	≤2	16.7	≤2	14.7	≤2	13.0	≤2	14.1	≤2	15.2	≤2	17.2	≤2	8.9	≤2	11.7	≤2	12.3
3-4	23.5	3-4	18.5	3-4	23.5	3-4	23.2	3-4	19.2	3-4	14.3	3-4	22.1	3-4	23.3	3-4	26.6	3-4	26.0
5-6	27.5	5-6	25.9	5-6	23.5	5-6	17.4	5-6	26.3	5-6	31.4	5-6	27.0	5-6	28.9	5-6	27.7	5-6	29.2
7-9	29.4	7-9	31.5	7-9	30.9	7-9	39.1	7-9	29.3	7-9	35.2	7-9	23.8	7-9	33.3	7-9	28.7	7-9	24.0
10-12	7.8	10-12	5.6	10-12	5.9	10-12	7.2	10-12	9.1	10-12	2.9	10-12	8.2	10-12	3.3	10-12	5.3	10-12	7.1
≥13		≥13	1.9	≥13	1.5	≥13		≥13	2.0	≥13	1.0	≥13	1.6	≥13	2.2	≥13		≥13	1.3
N=	51	N=	54	N=	68	N=	69	N=	99	N=	105	N=	122	N=	90	N=	94	N=	154
≤2	21.6	≤2	8.8	≤2	8.8	≤2	12.8	≤2	18.8	≤2	15.4	≤2	17.0	≤2	20.6	≤2	21.5	≤2	13.5
3-4	21.6	3-4	32.4	3-4	20.6	3-4	36.2	3-4	25.0	3-4	29.5	3-4	22.3	3-4	20.6	3-4	29.8	3-4	29.7
5-6	32.4	5-6	26.5	5-6	23.5	5-6	29.8	5-6	16.7	5-6	20.5	5-6	23.4	5-6	30.2	5-6	24.8	5-6	27.0
7-9	16.2	7-9	20.6	7-9	32.4	7-9	17.0	7-9	31.3	7-9	28.2	7-9	30.9	7-9	22.2	7-9	19.0	7-9	27.0
10-12	5.4	10-12	8.8	10-12	11.8	10-12	2.1	10-12	4.2	10-12	6.4	10-12	5.3	10-12	6.3	10-12	3.3	10-12	2.7
≥13	2.7	≥13	2.9	≥13	2.9	≥13	2.1	≥13	4.2	≥13		≥13	1.1	≥13		≥13	1.7	≥13	
N=	37	N=	34	N=	34	N=	47	N=	48	N=	78	N=	94	N=	126	N=	121	N=	148

37 35 30 N 25 24

125 120 W 115



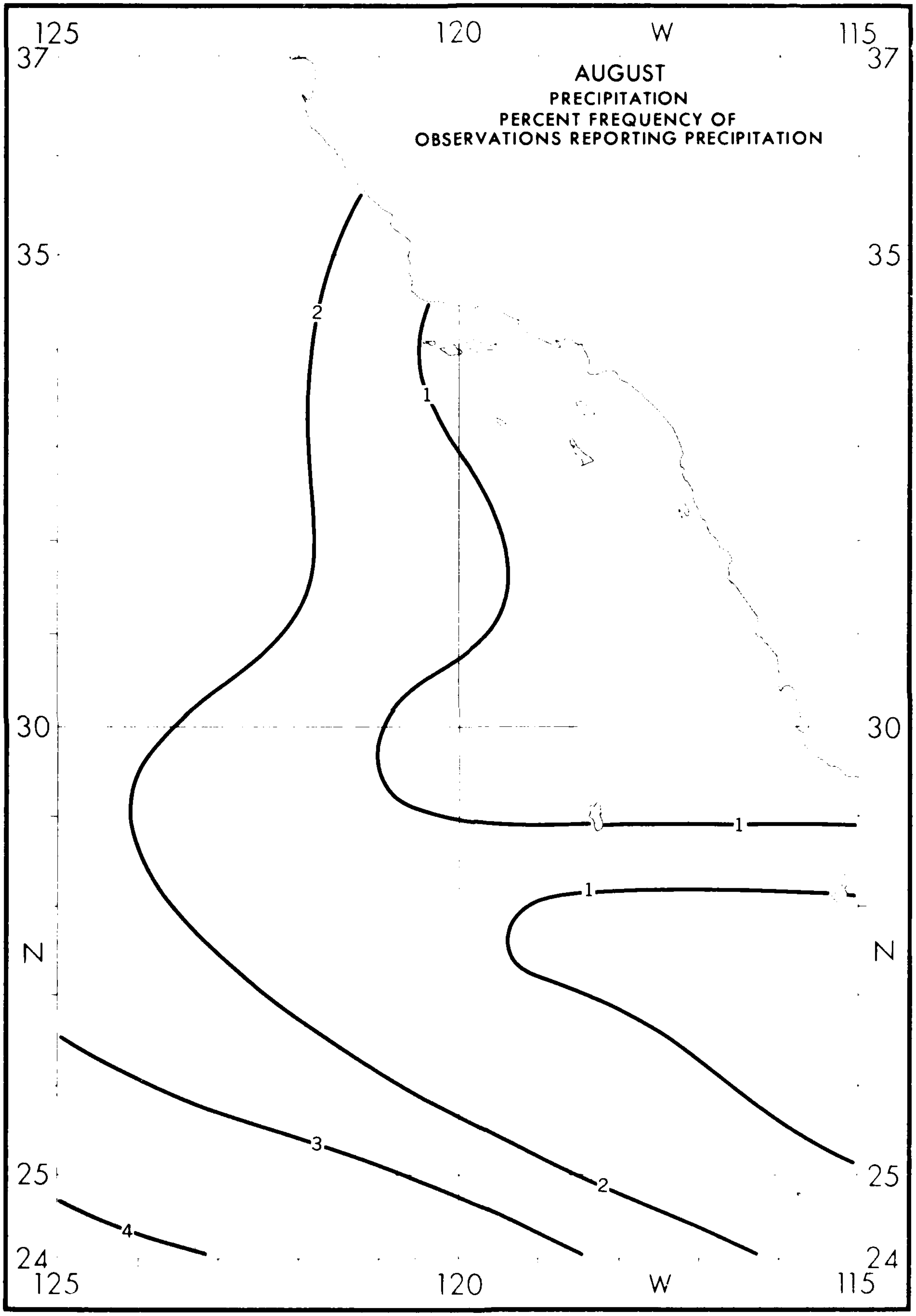
AUGUST

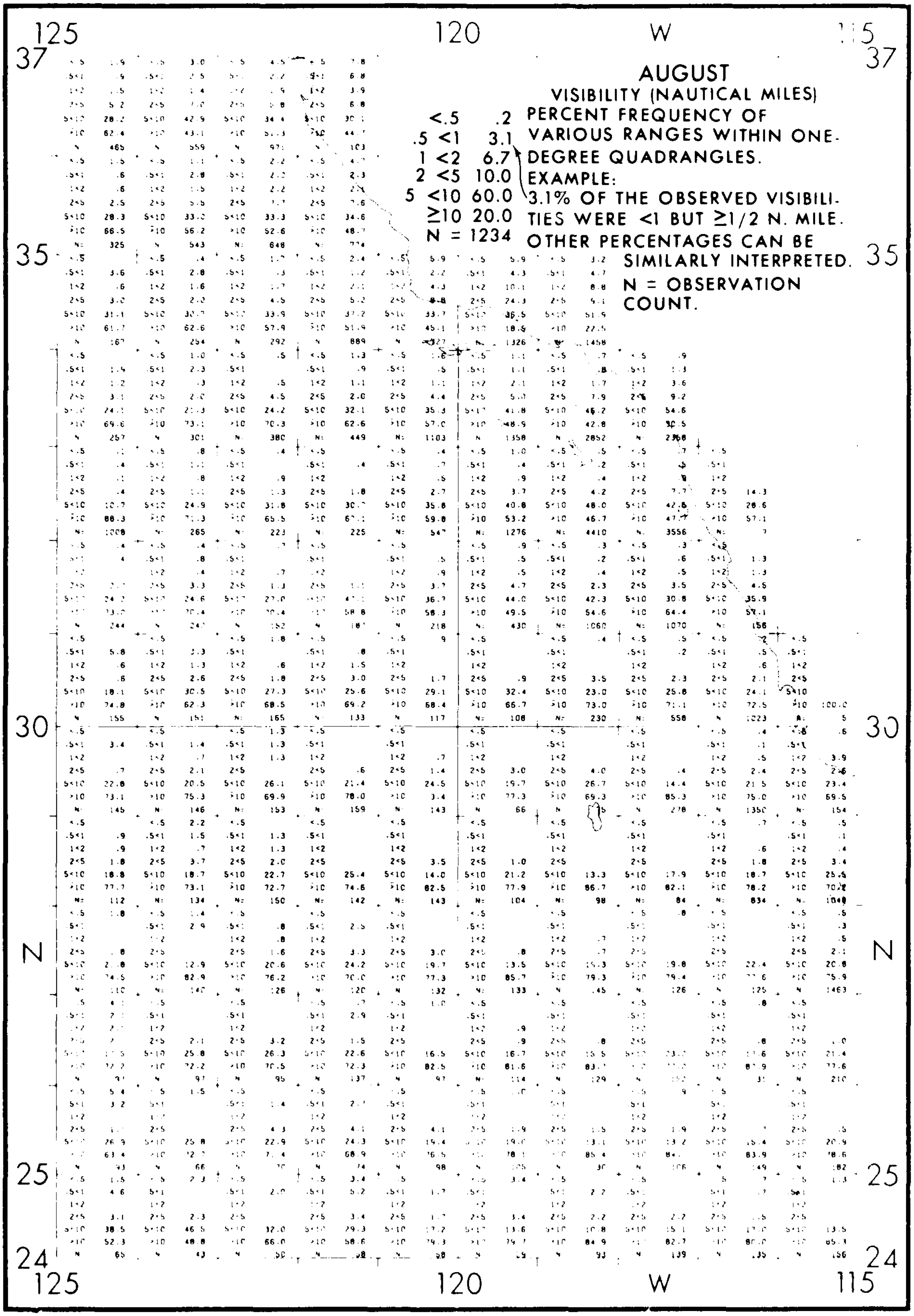
CLOUD COVER

PERCENT FREQUENCY OF:

SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8

DASHED LINE - LOW CLOUD AMOUNT ≥5/8


125
120
W
115
37
37
AUGUST
PRECIPITATION
PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION
35
35
2
1
30
30
1
1
N
N
3
2
25
25
4
24
24
125
120
W
115



AUGUST

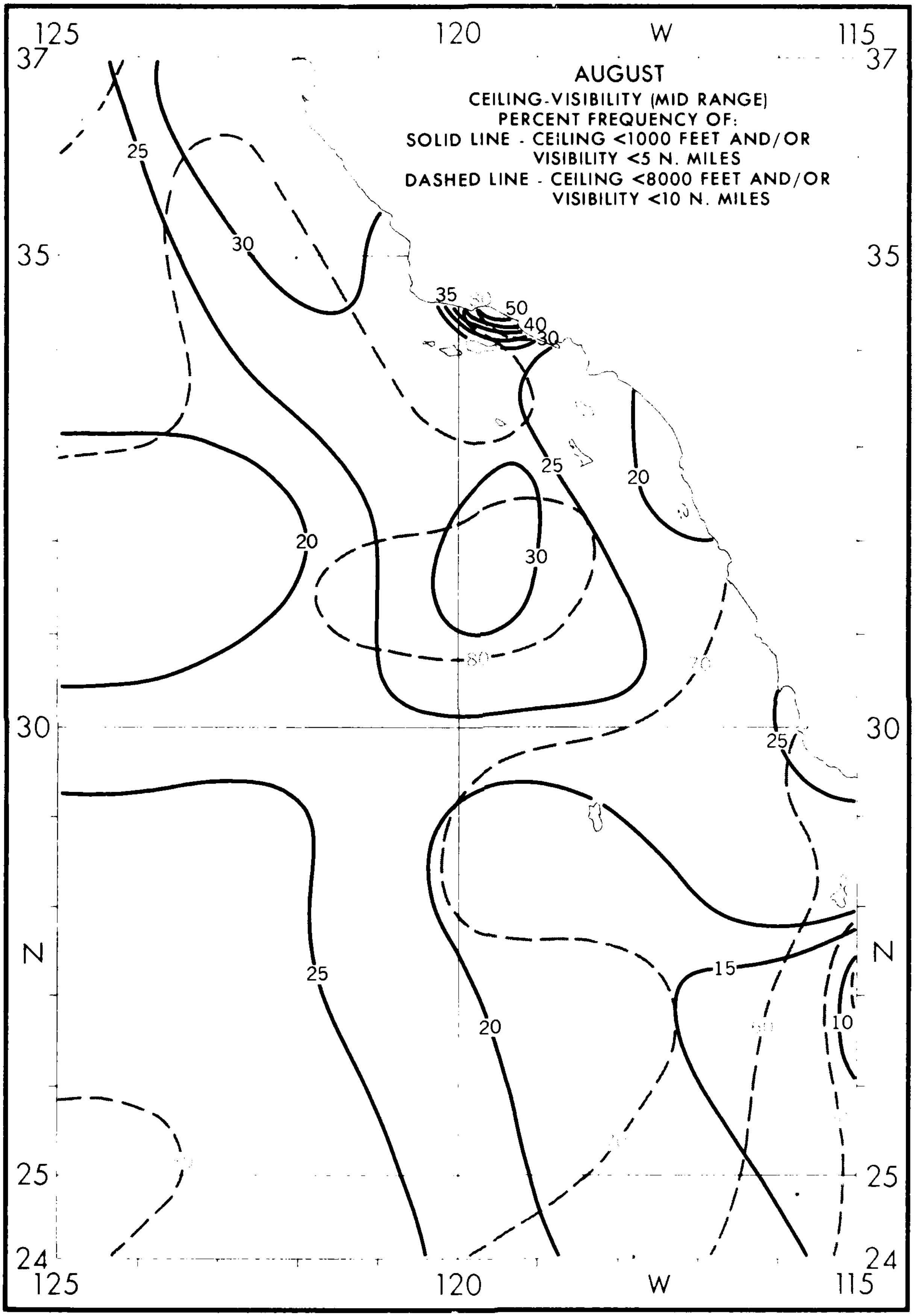
VISIBILITY (NAUTICAL MILES)
PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.

EXAMPLE:

<.5	.2
.5 <1	3.1
1 <2	6.7
2 <5	10.0
5 <10	60.0
≥10	20.0
N =	1234

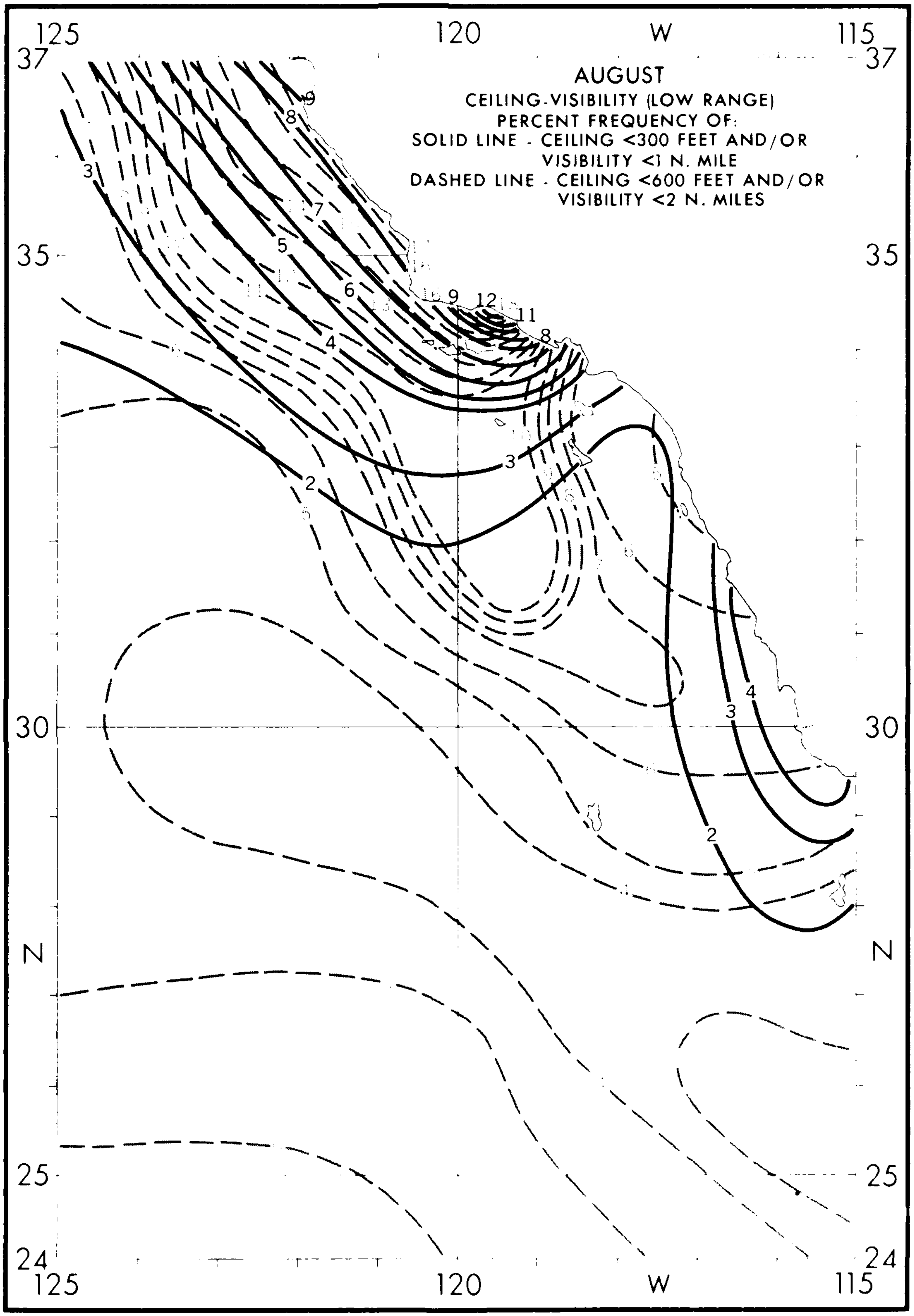
3.1% OF THE OBSERVED VISIBILITIES WERE <1 BUT ≥1/2 N. MILE. OTHER PERCENTAGES CAN BE SIMILARLY INTERPRETED.

N = OBSERVATION COUNT.



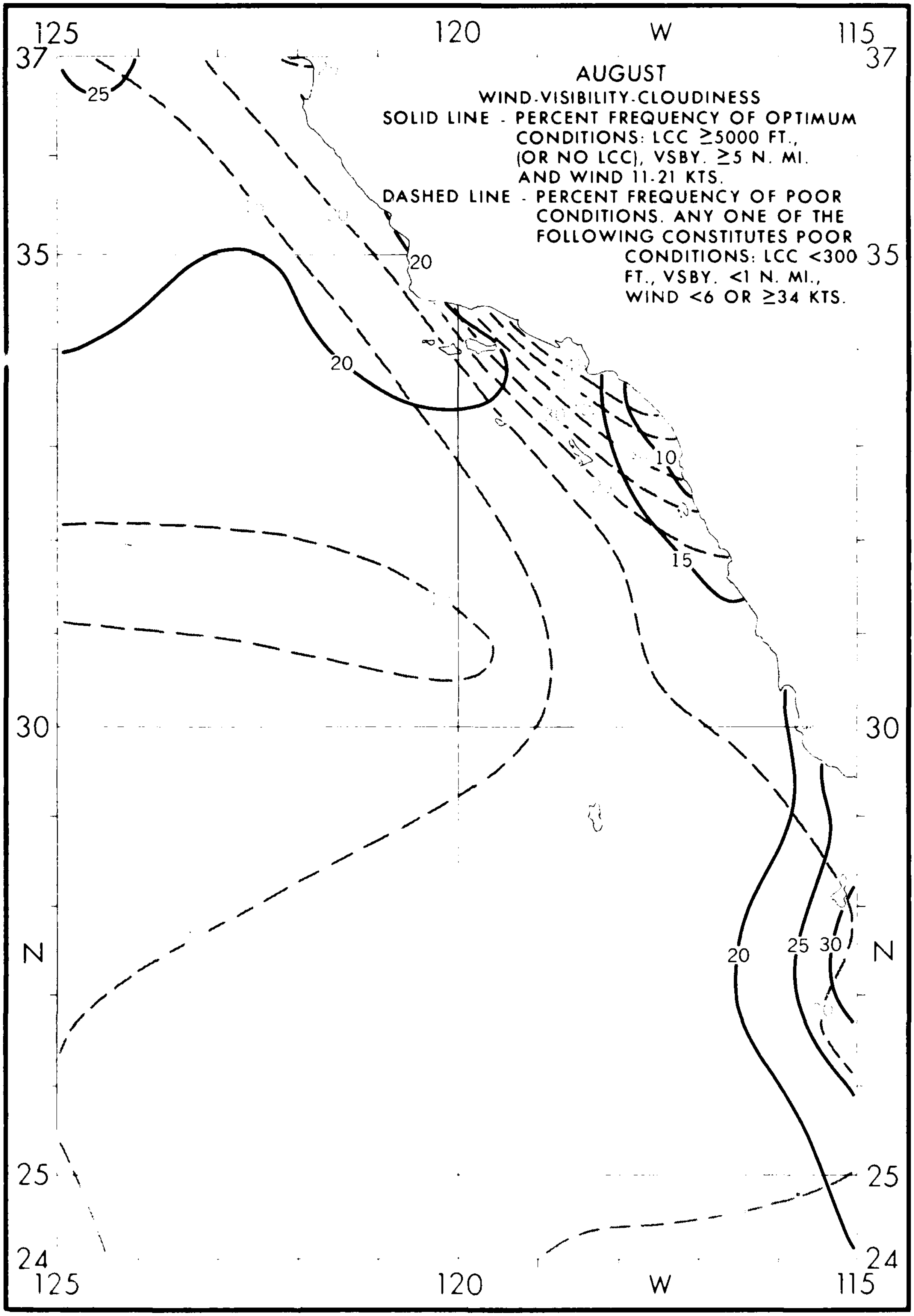
AUGUST

CEILING-VISIBILITY (MID RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <1000 FEET AND/OR VISIBILITY <5 N. MILES
DASHED LINE - CEILING <8000 FEET AND/OR VISIBILITY <10 N. MILES

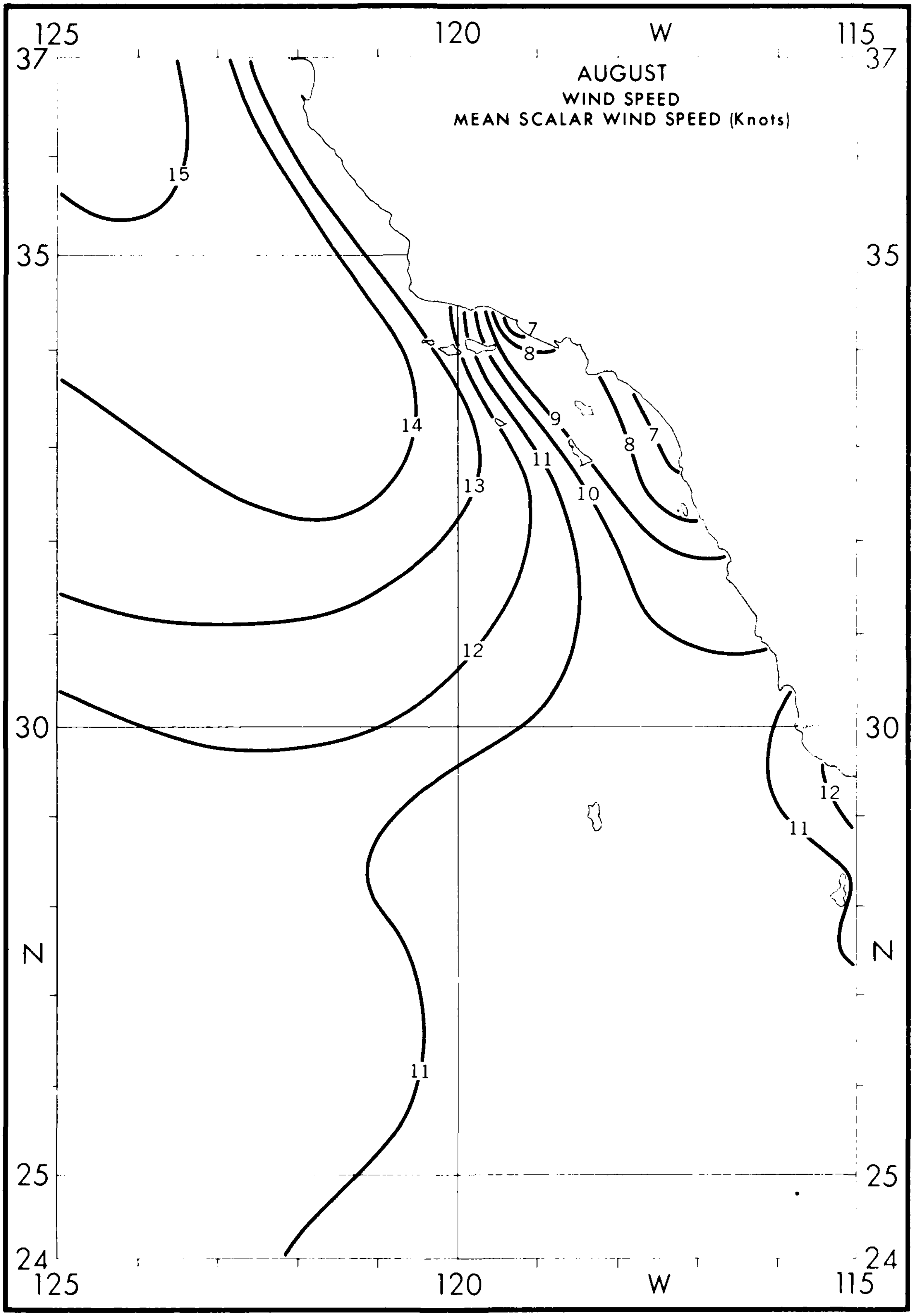


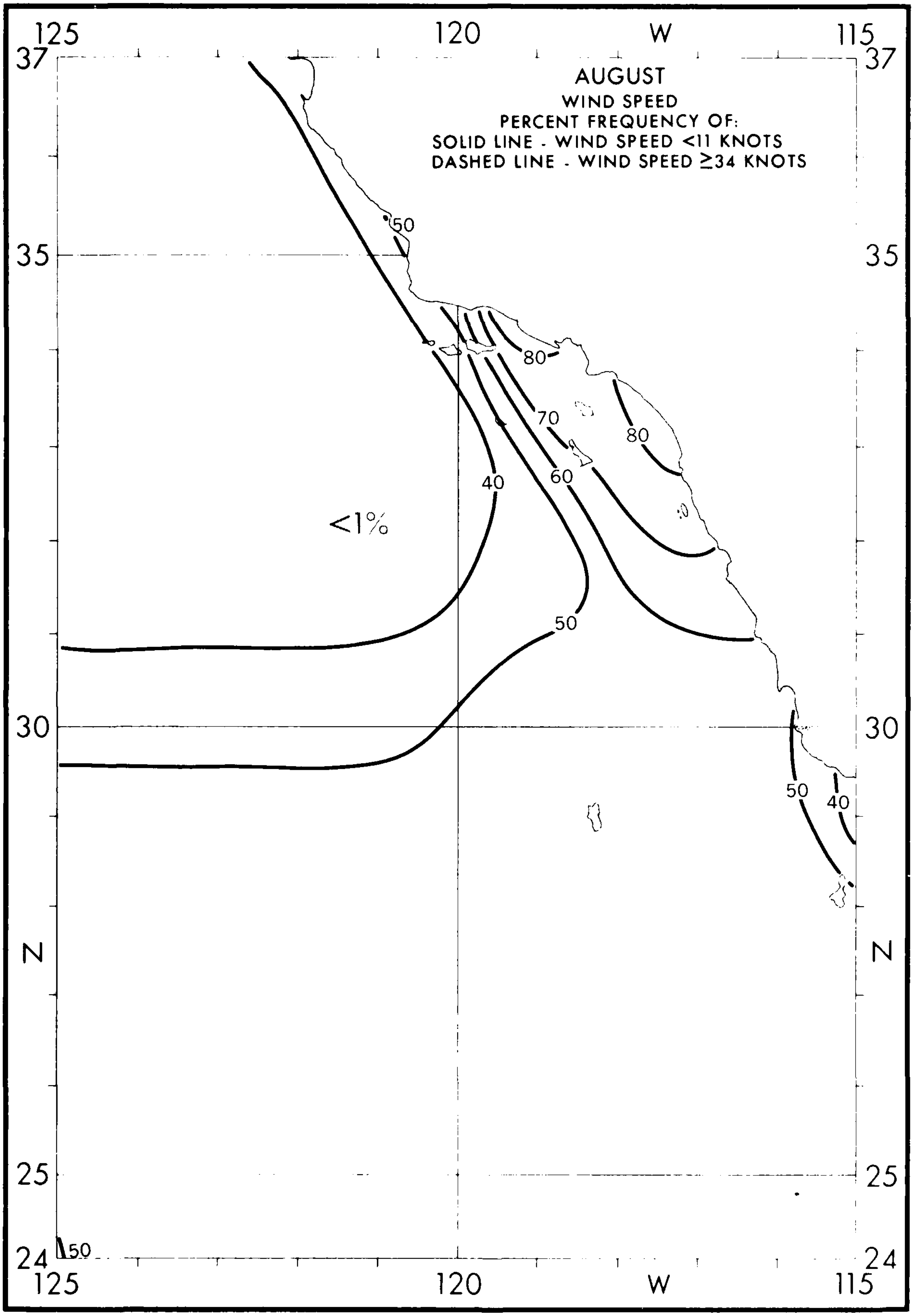
AUGUST

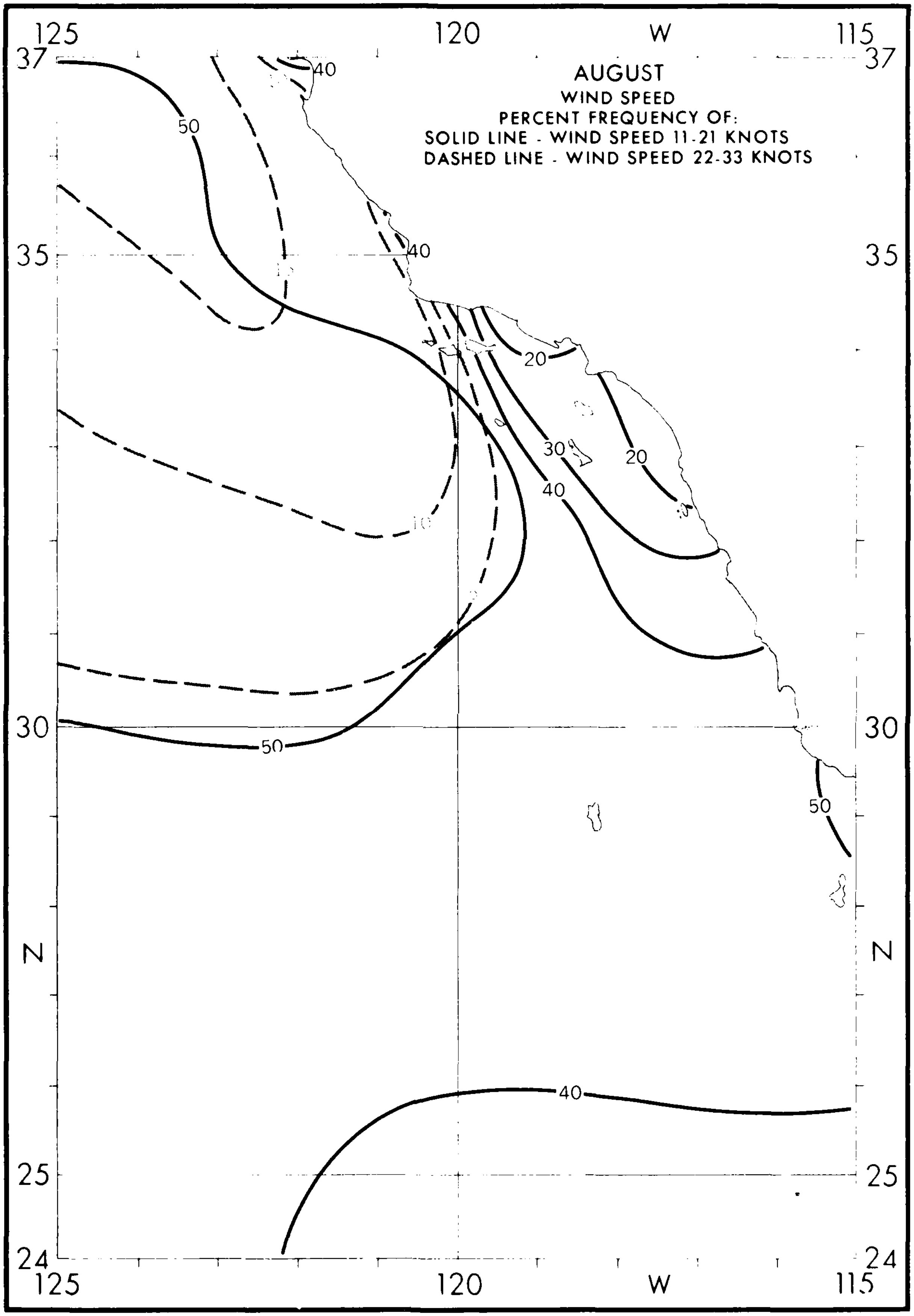
CEILING-VISIBILITY (LOW RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <300 FEET AND/OR
VISIBILITY <1 N. MILE
DASHED LINE - CEILING <600 FEET AND/OR
VISIBILITY <2 N. MILES

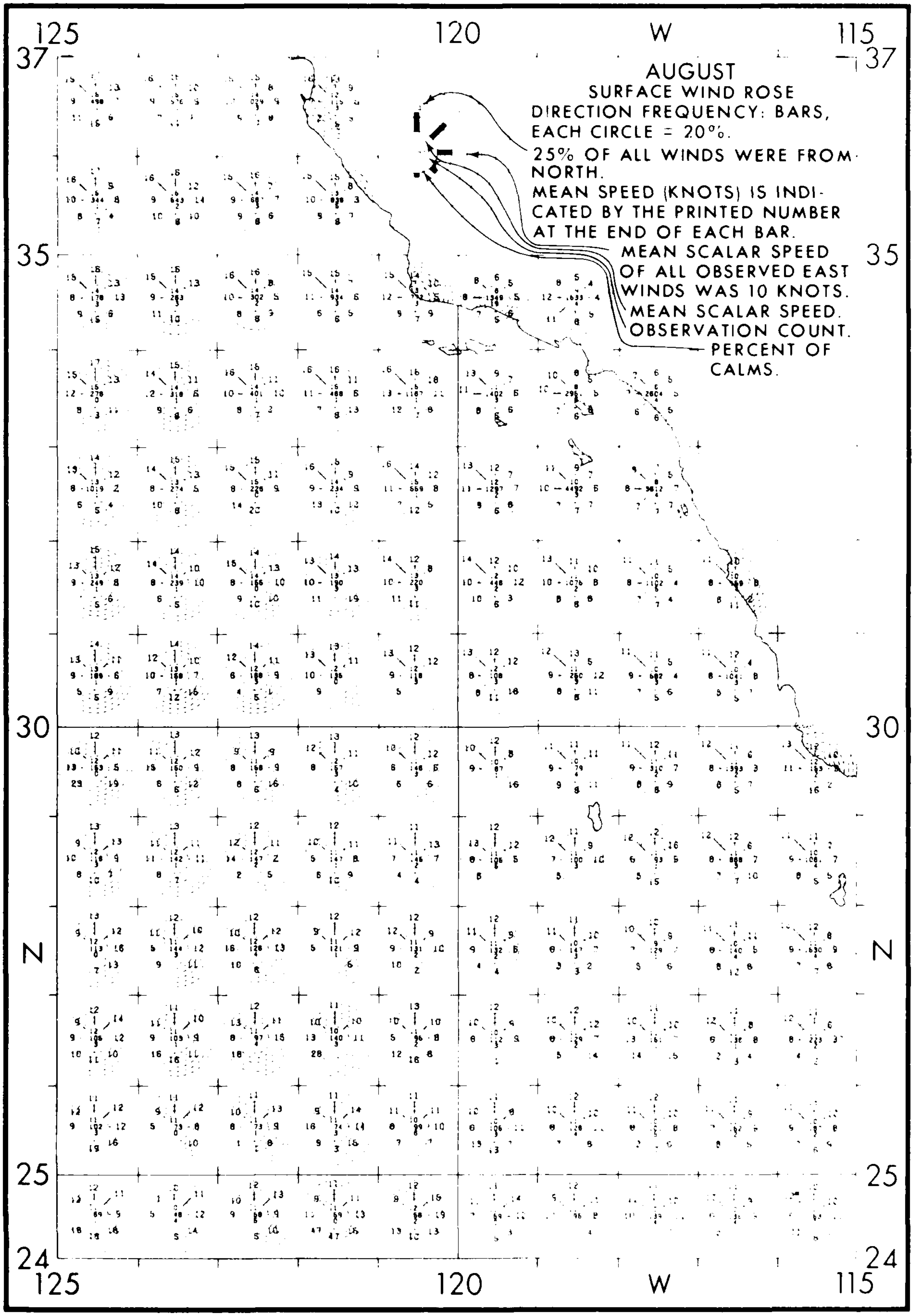


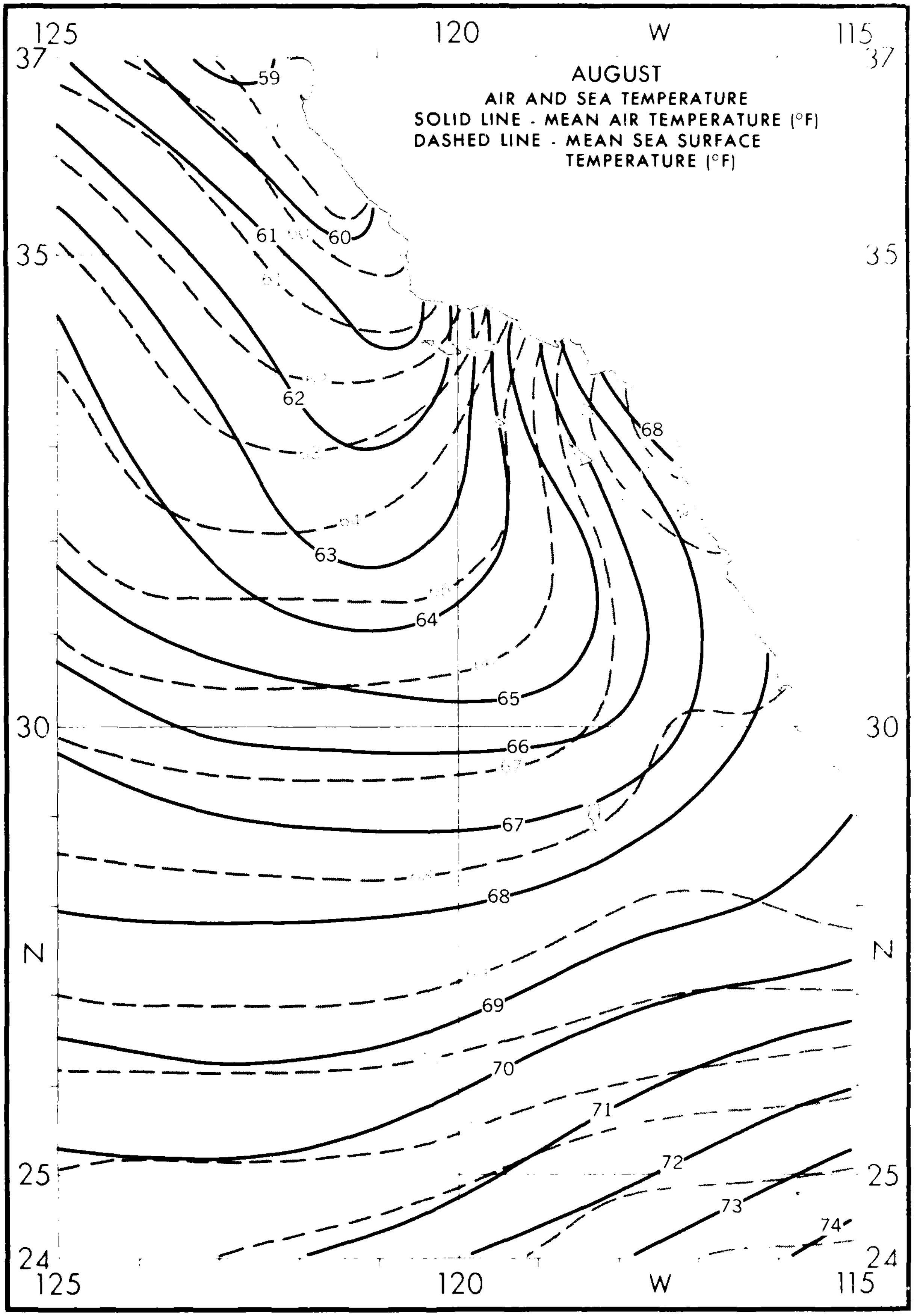
AUGUST
WIND-VISIBILITY-CLOUDINESS
SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.
DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.
125
120
W
115
37
35
30
N
25
24
20
10
15
25
30


AUGUST
WIND SPEED
MEAN SCALAR WIND SPEED (Knots)
125
120
W
115
37
35
30
N
25
24
15
14
13
12
11
10
9
8
7
8
7
12
11
11

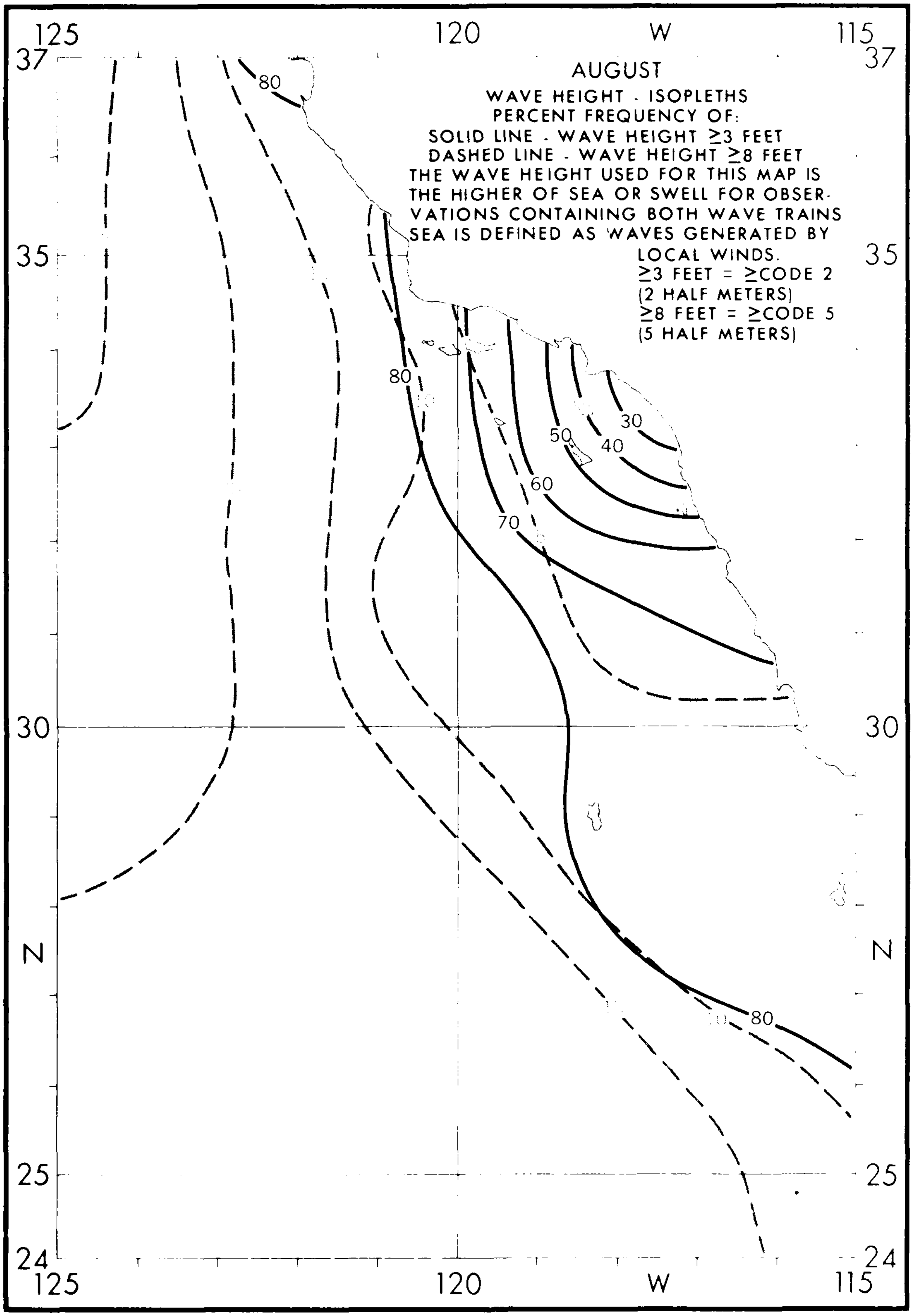

AUGUST
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED <11 KNOTS
DASHED LINE - WIND SPEED ≥34 KNOTS
125
120
W
115
37
35
30
25
24
N
50
80
70
80
60
40
<1%
50
50
40
50

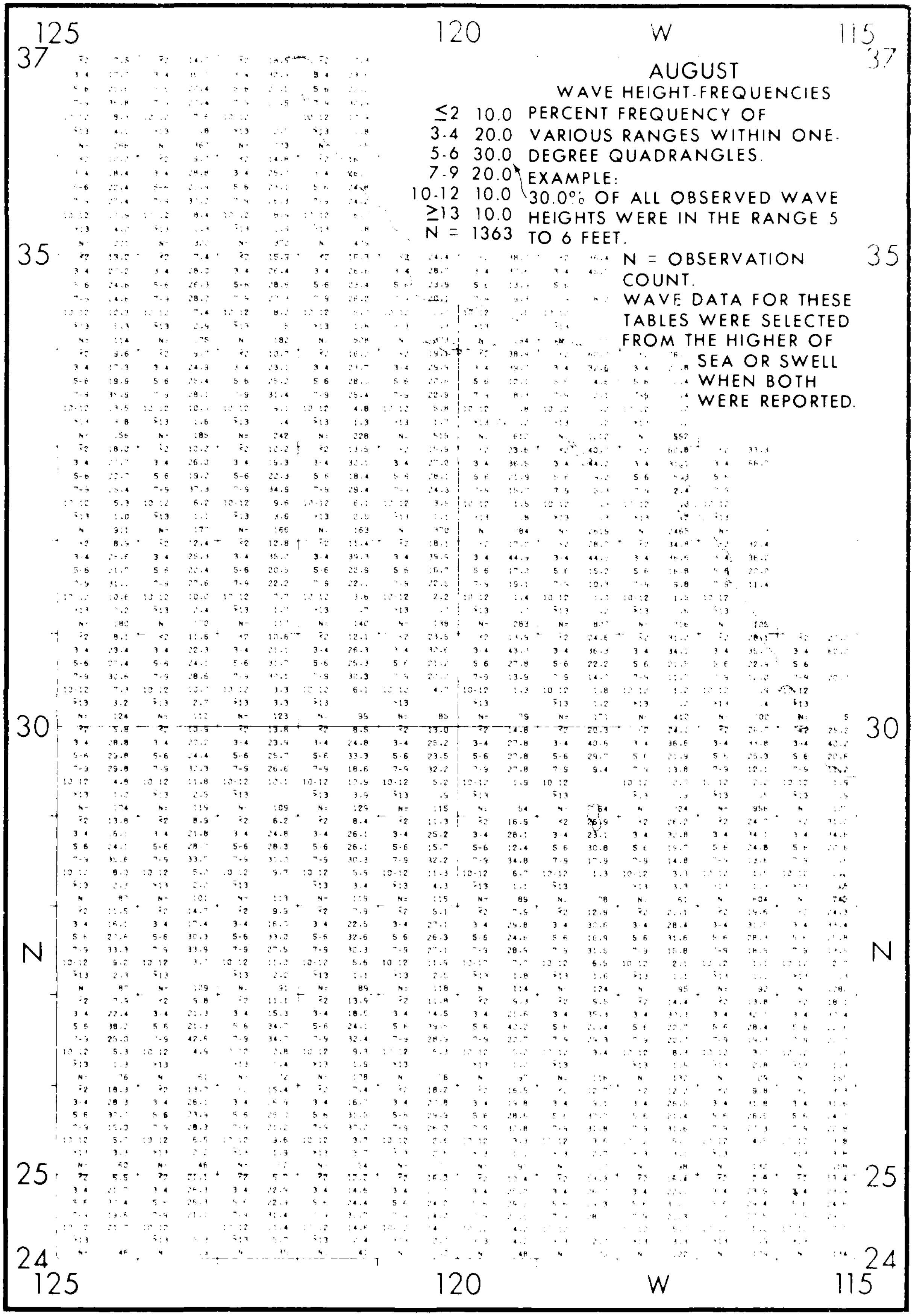

AUGUST
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED 11-21 KNOTS
DASHED LINE - WIND SPEED 22-33 KNOTS
125
120
W
115
37
35
30
N
25
24
40
50
40
20
30
20
40
10
50
50
40

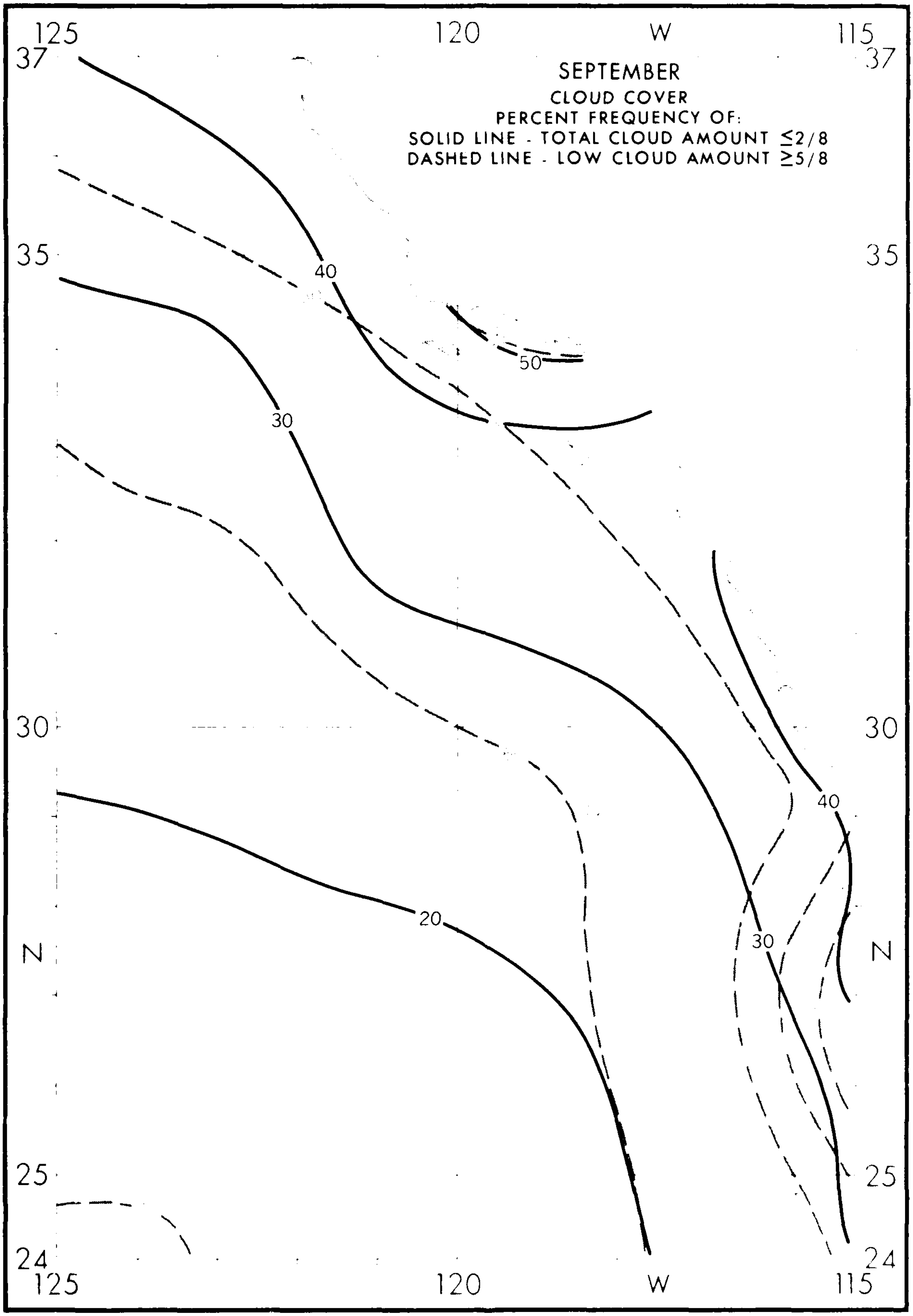

125
120
W
115
37
35
30
N
25
24
AUGUST
SURFACE WIND ROSE
DIRECTION FREQUENCY: BARS, EACH CIRCLE = 20%.
25% OF ALL WINDS WERE FROM NORTH.
MEAN SPEED (KNOTS) IS INDICATED BY THE PRINTED NUMBER AT THE END OF EACH BAR.
MEAN SCALAR SPEED OF ALL OBSERVED EAST WINDS WAS 10 KNOTS.
MEAN SCALAR SPEED.
OBSERVATION COUNT.
PERCENT OF CALMS.

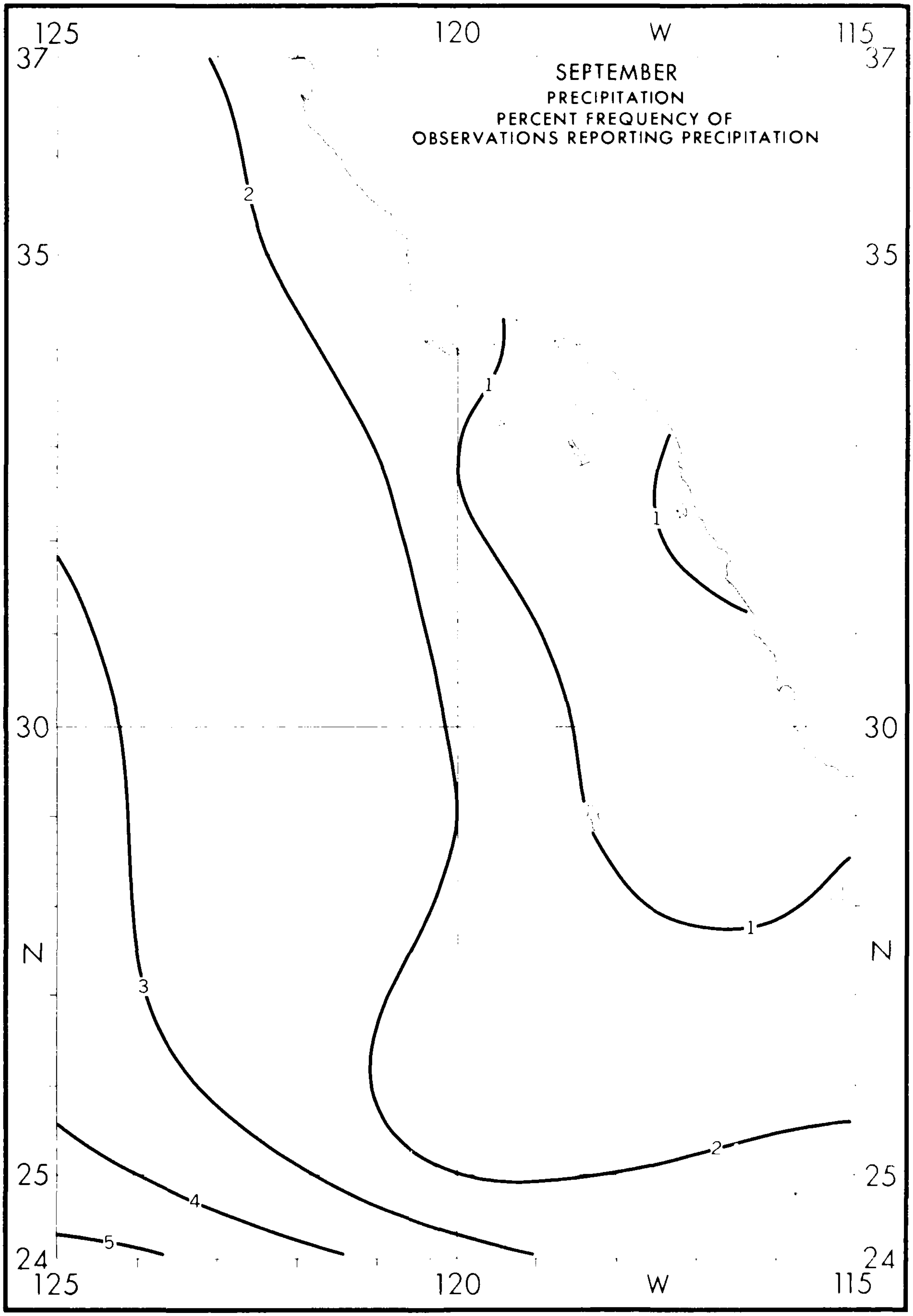


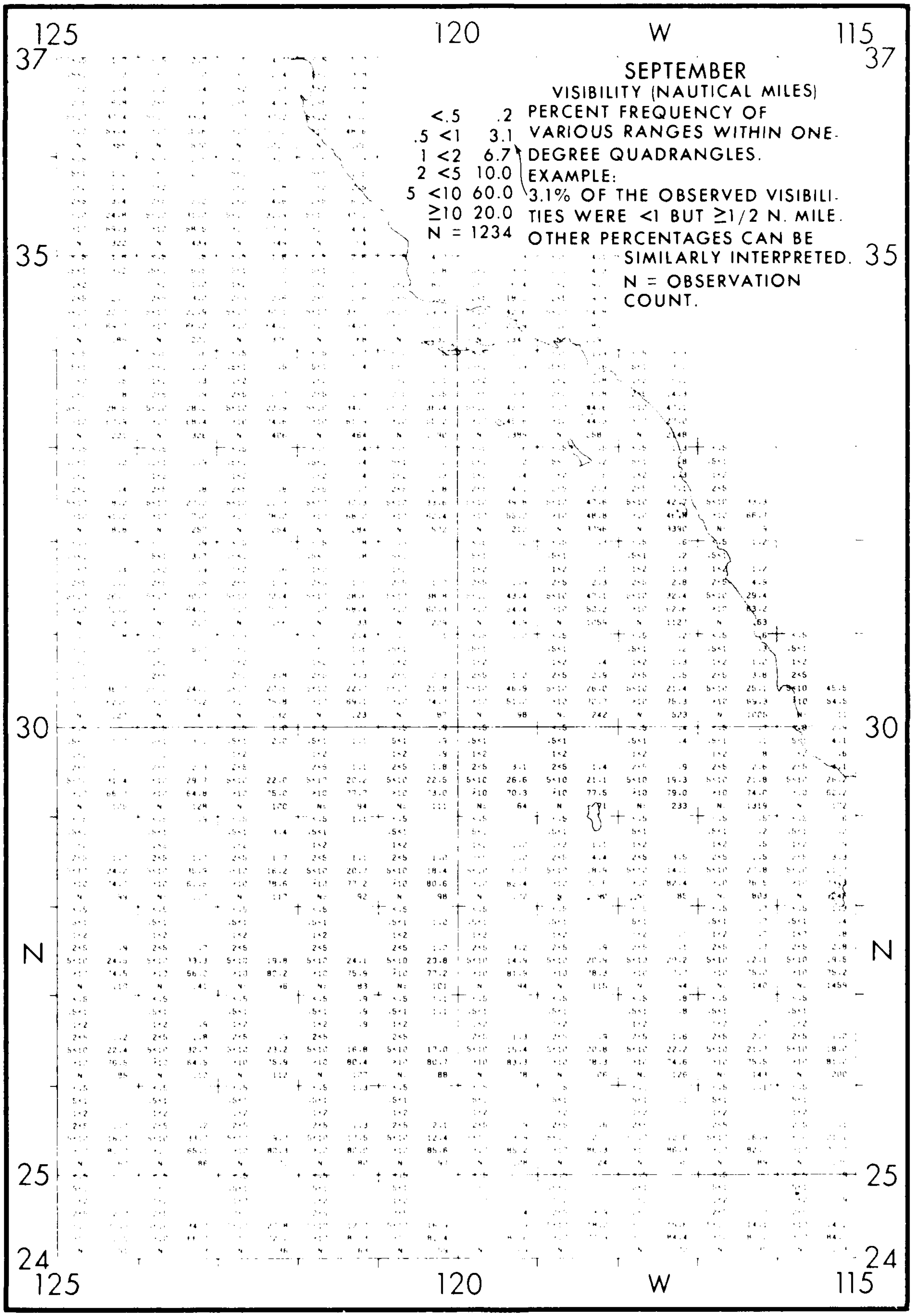
AUGUST
AIR AND SEA TEMPERATURE
SOLID LINE - MEAN AIR TEMPERATURE (°F)
DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)
125
120
W
115
37
35
30
N
25
24
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74


AUGUST
WAVE HEIGHT - ISOPLETHS
PERCENT FREQUENCY OF:
SOLID LINE - WAVE HEIGHT ≥3 FEET
DASHED LINE - WAVE HEIGHT ≥8 FEET
THE WAVE HEIGHT USED FOR THIS MAP IS THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS
SEA IS DEFINED AS WAVES GENERATED BY LOCAL WINDS.
≥3 FEET = ≥CODE 2
(2 HALF METERS)
≥8 FEET = ≥CODE 5
(5 HALF METERS)
125
120
W
115
37
35
30
25
24
N
80
80
30
40
50
60
70
80


125
120
W
115
37
37
AUGUST
WAVE HEIGHT FREQUENCIES
≤2 10.0
3-4 20.0
5-6 30.0
7-9 20.0
10-12 10.0
≥13 10.0
N = 1363
PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.
EXAMPLE: 30.0% OF ALL OBSERVED WAVE HEIGHTS WERE IN THE RANGE 5 TO 6 FEET.
N = OBSERVATION COUNT.
WAVE DATA FOR THESE TABLES WERE SELECTED FROM THE HIGHER OF SEA OR SWELL WHEN BOTH WERE REPORTED.
35
35
30
30
N
N
25
25
24
24
125
120
W
115


SEPTEMBER
CLOUD COVER
PERCENT FREQUENCY OF:
SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8
DASHED LINE - LOW CLOUD AMOUNT ≥5/8
125
120
W
115
37
35
30
N
25
24
40
50
30
20
40
30


SEPTEMBER
PRECIPITATION
PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION
125
120
W
115
37
35
30
N
25
24
1
1
1
2
2
3
4
5

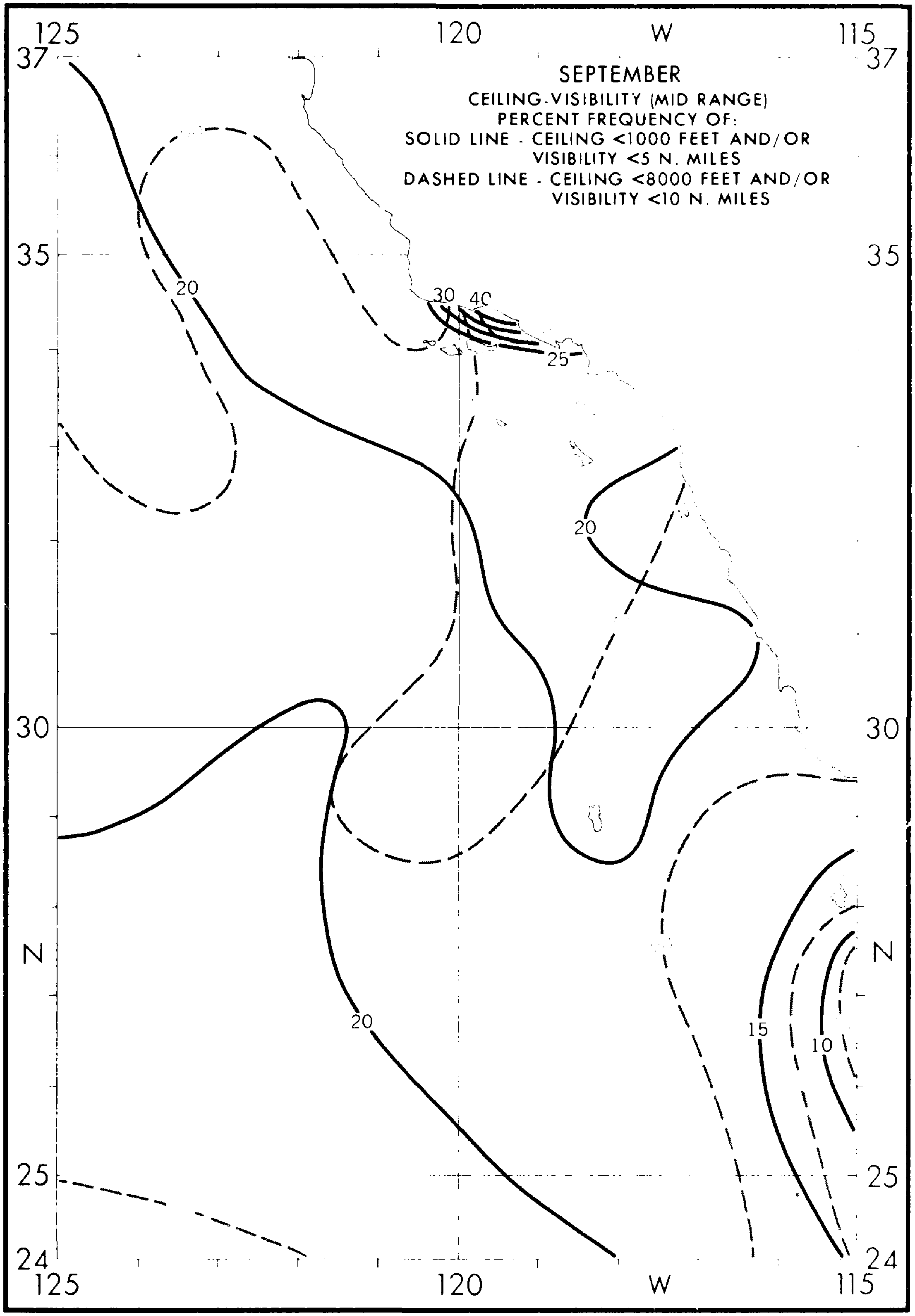


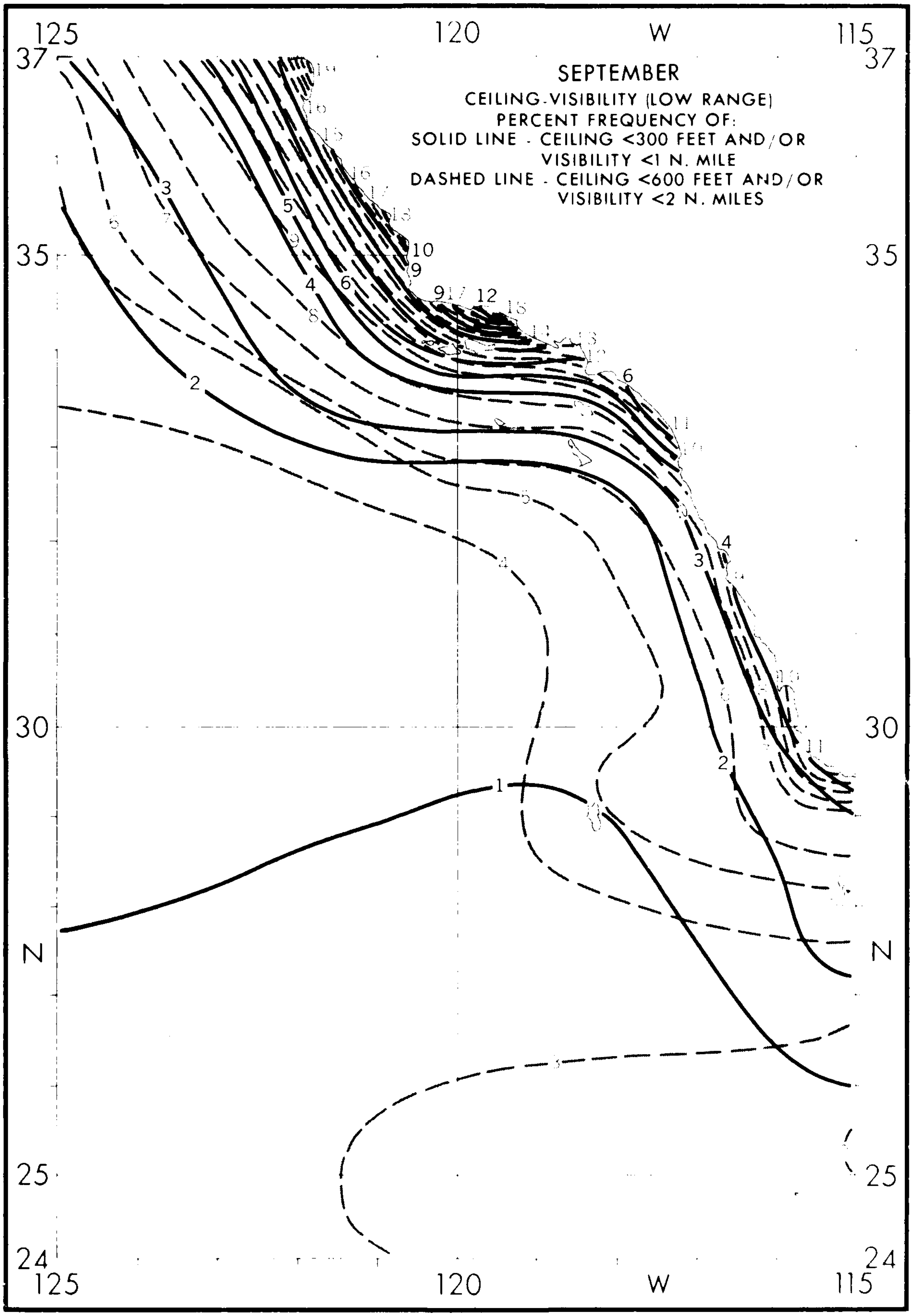
SEPTEMBER

VISIBILITY (NAUTICAL MILES)

<.5	.2	PERCENT FREQUENCY OF
.5 <1	3.1	VARIOUS RANGES WITHIN ONE-
1 <2	6.7	DEGREE QUADRANGLES.
2 <5	10.0	EXAMPLE:
5 <10	60.0	3.1% OF THE OBSERVED VISIBILITIES WERE <1 BUT ≥1/2 N. MILE.
≥10	20.0	
N = 1234		OTHER PERCENTAGES CAN BE SIMILARLY INTERPRETED.

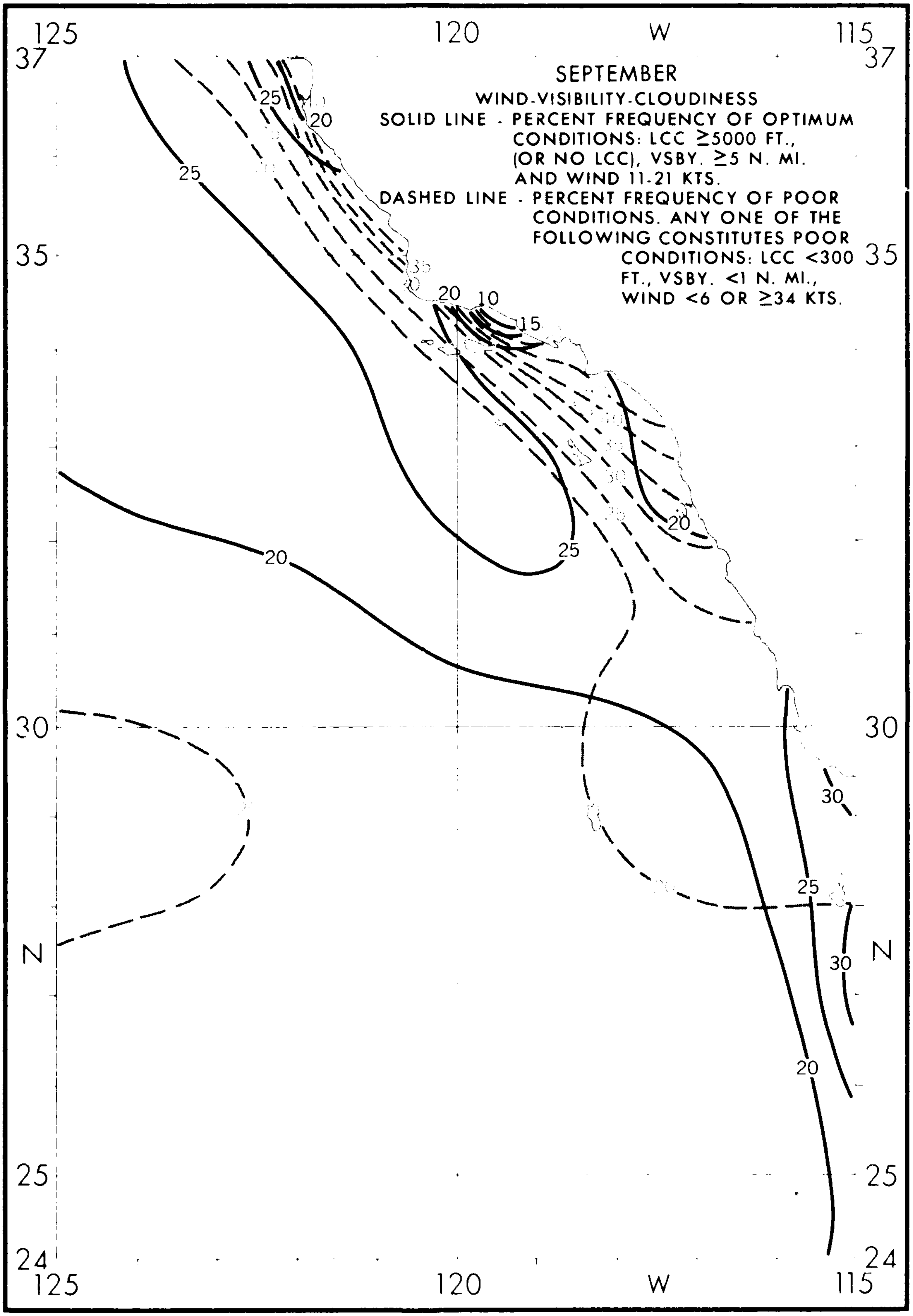
N = OBSERVATION COUNT.


125
120
W
115
37
37
SEPTEMBER
CEILING-VISIBILITY (MID RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <1000 FEET AND/OR
VISIBILITY <5 N. MILES
DASHED LINE - CEILING <8000 FEET AND/OR
VISIBILITY <10 N. MILES
35
35
20
30
40
25
20
30
30
N
N
20
15
10
25
25
24
24
125
120
W
115



SEPTEMBER

CEILING-VISIBILITY (LOW RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <300 FEET AND/OR VISIBILITY <1 N. MILE
DASHED LINE - CEILING <600 FEET AND/OR VISIBILITY <2 N. MILES

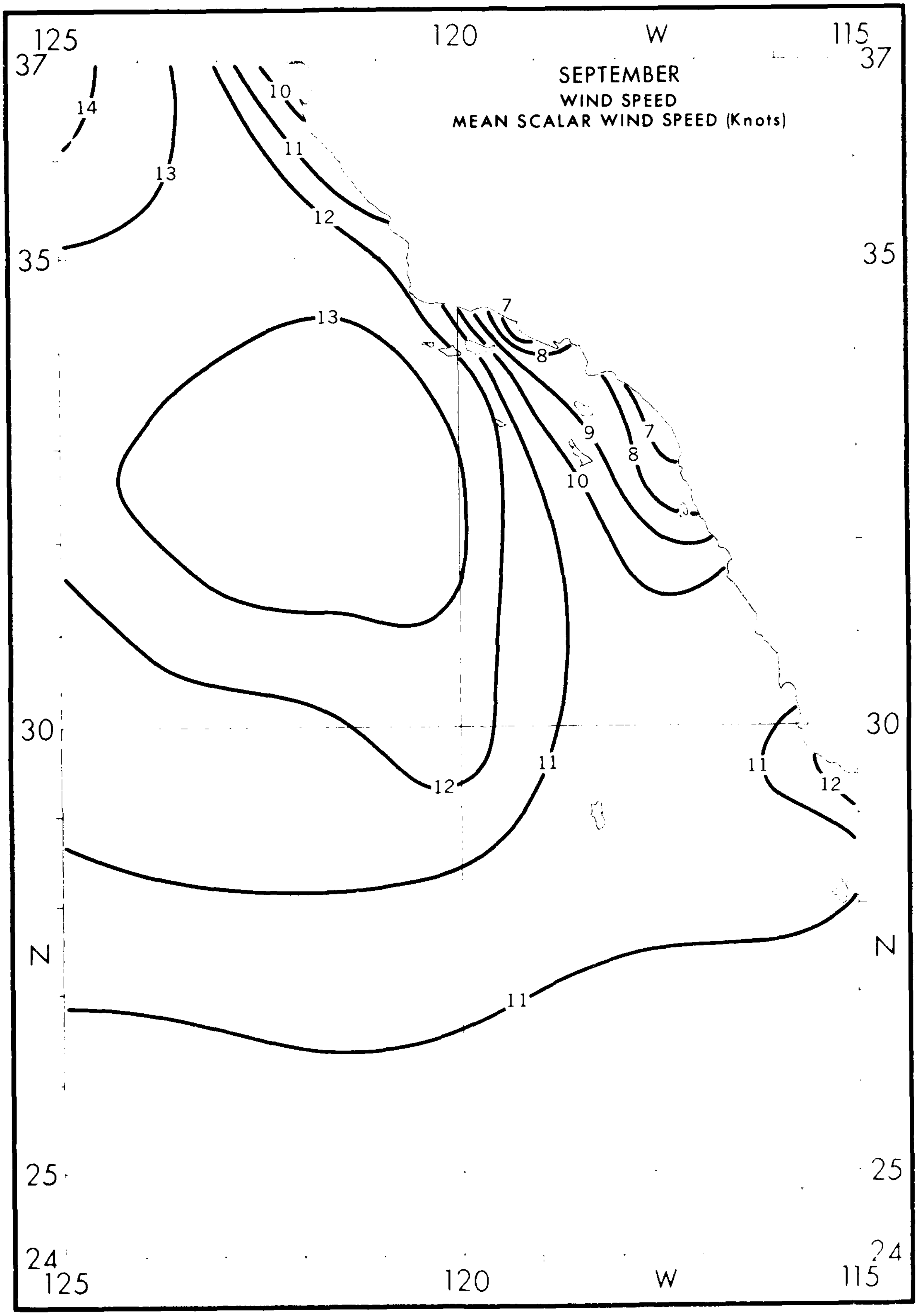


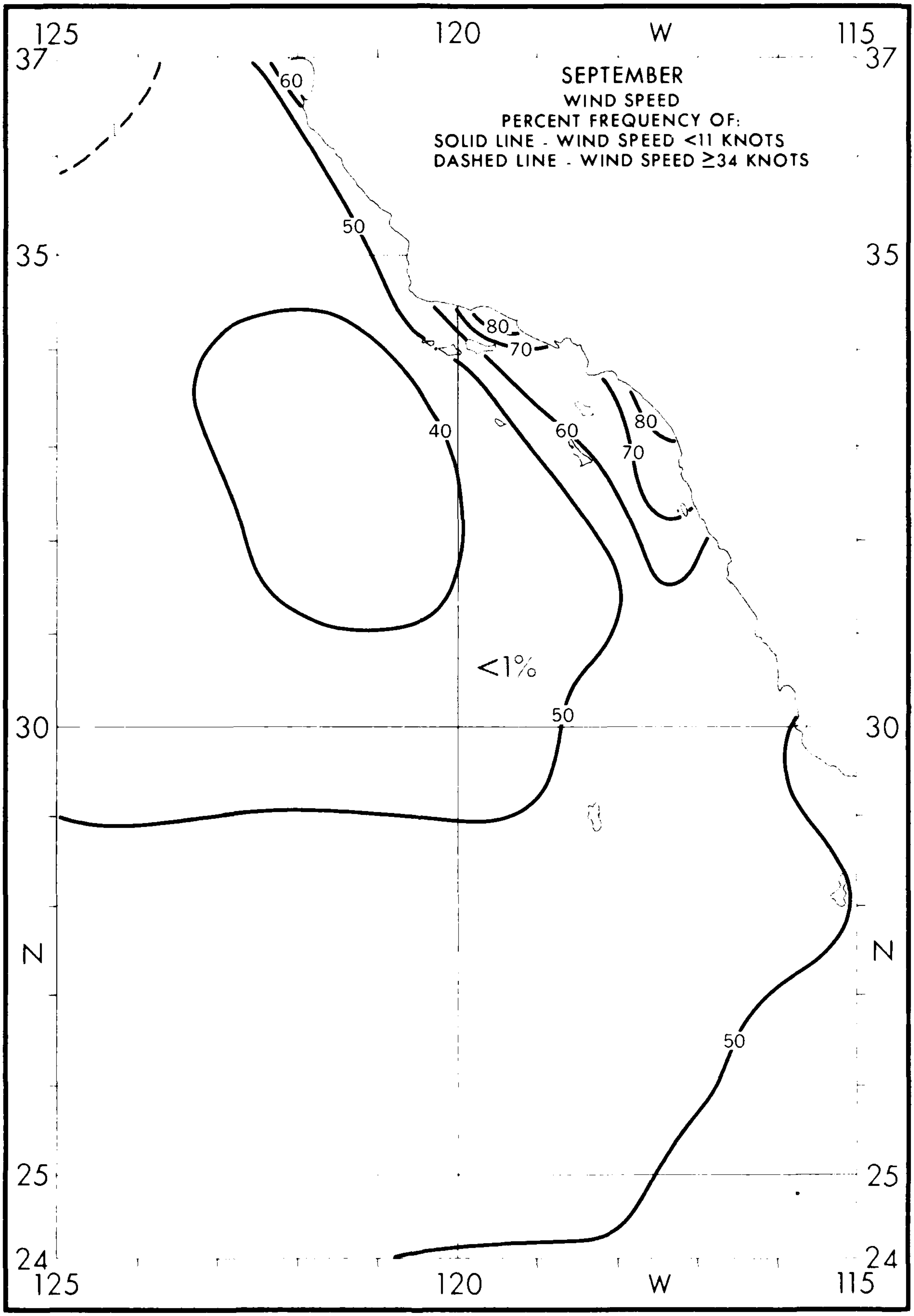
SEPTEMBER

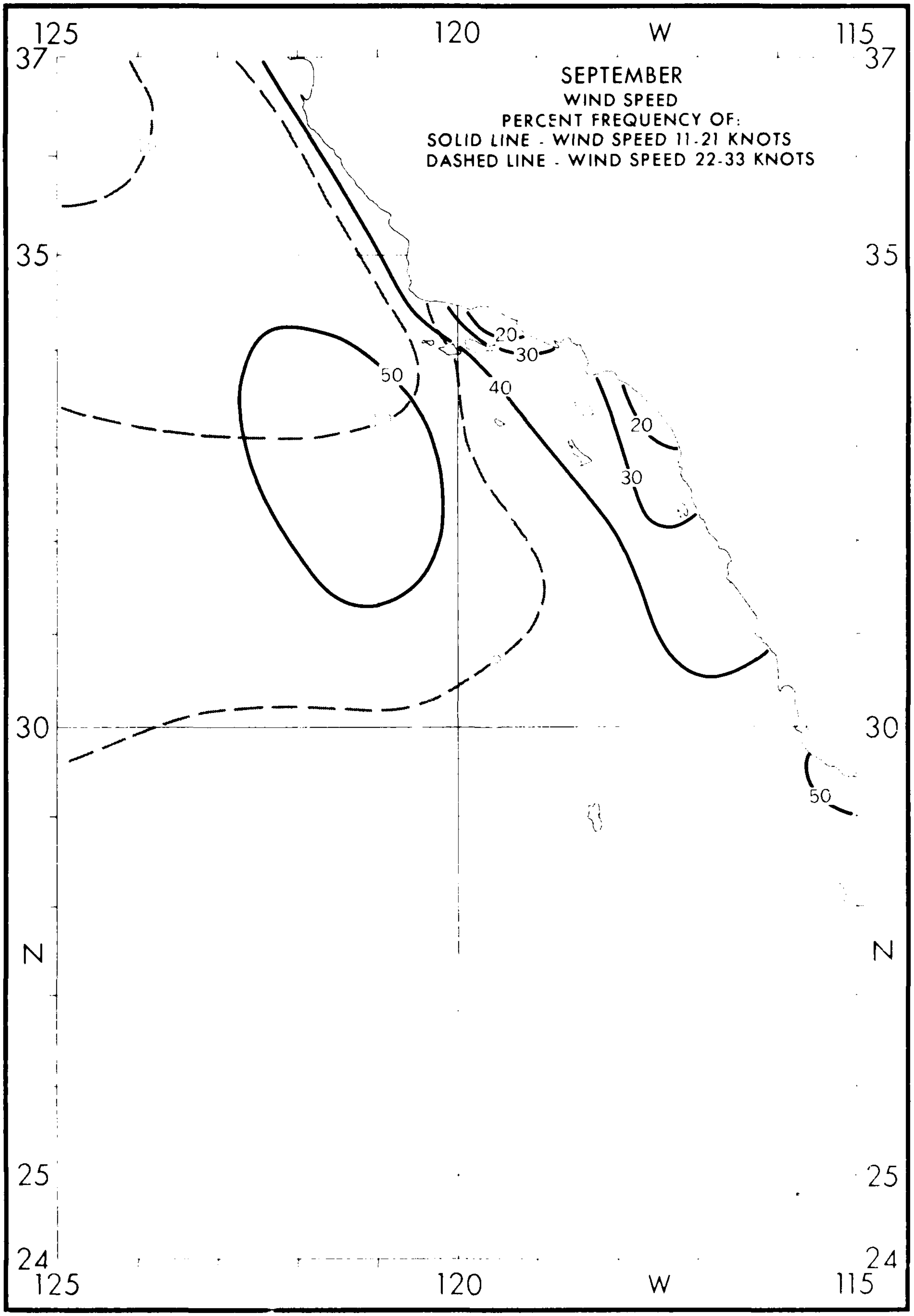
WIND-VISIBILITY-CLOUDINESS

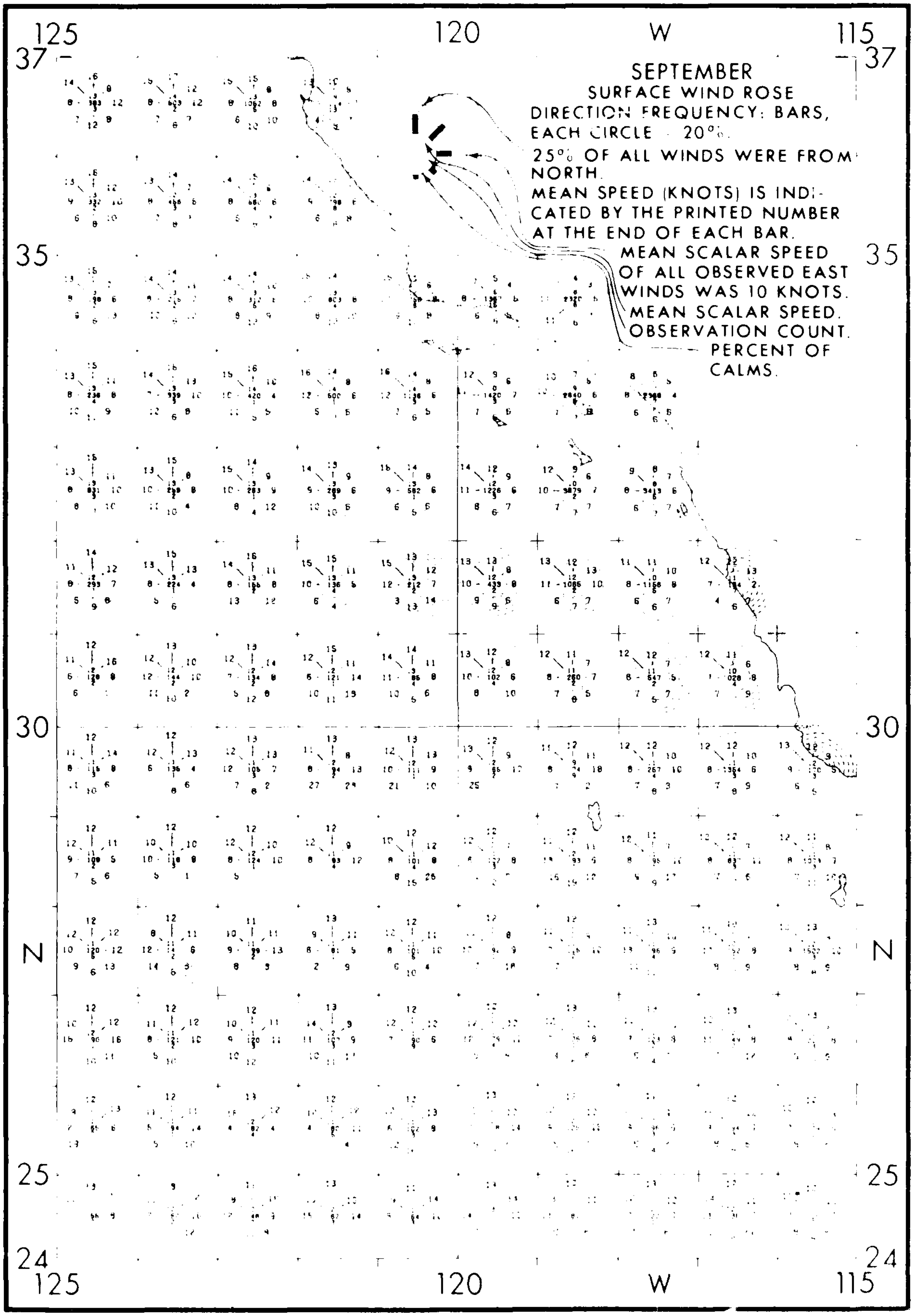
SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.

DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.

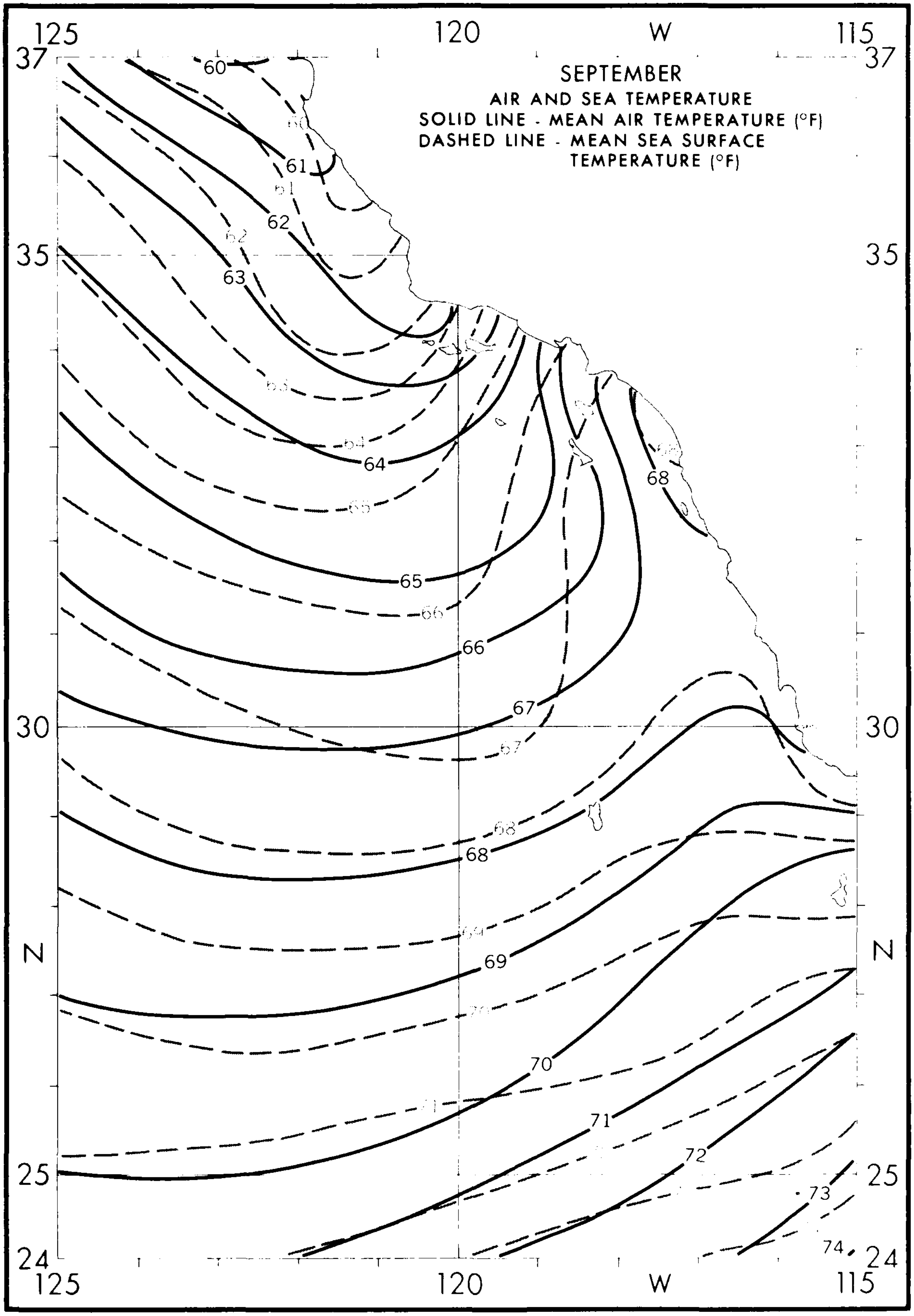

125
37
120
W
115
37
SEPTEMBER
WIND SPEED
MEAN SCALAR WIND SPEED (Knots)
14
13
10
11
12
35
35
7
13
8
9
7
8
10
30
30
11
11
12
12
N
N
11
25
25
24
24
125
120
W
115

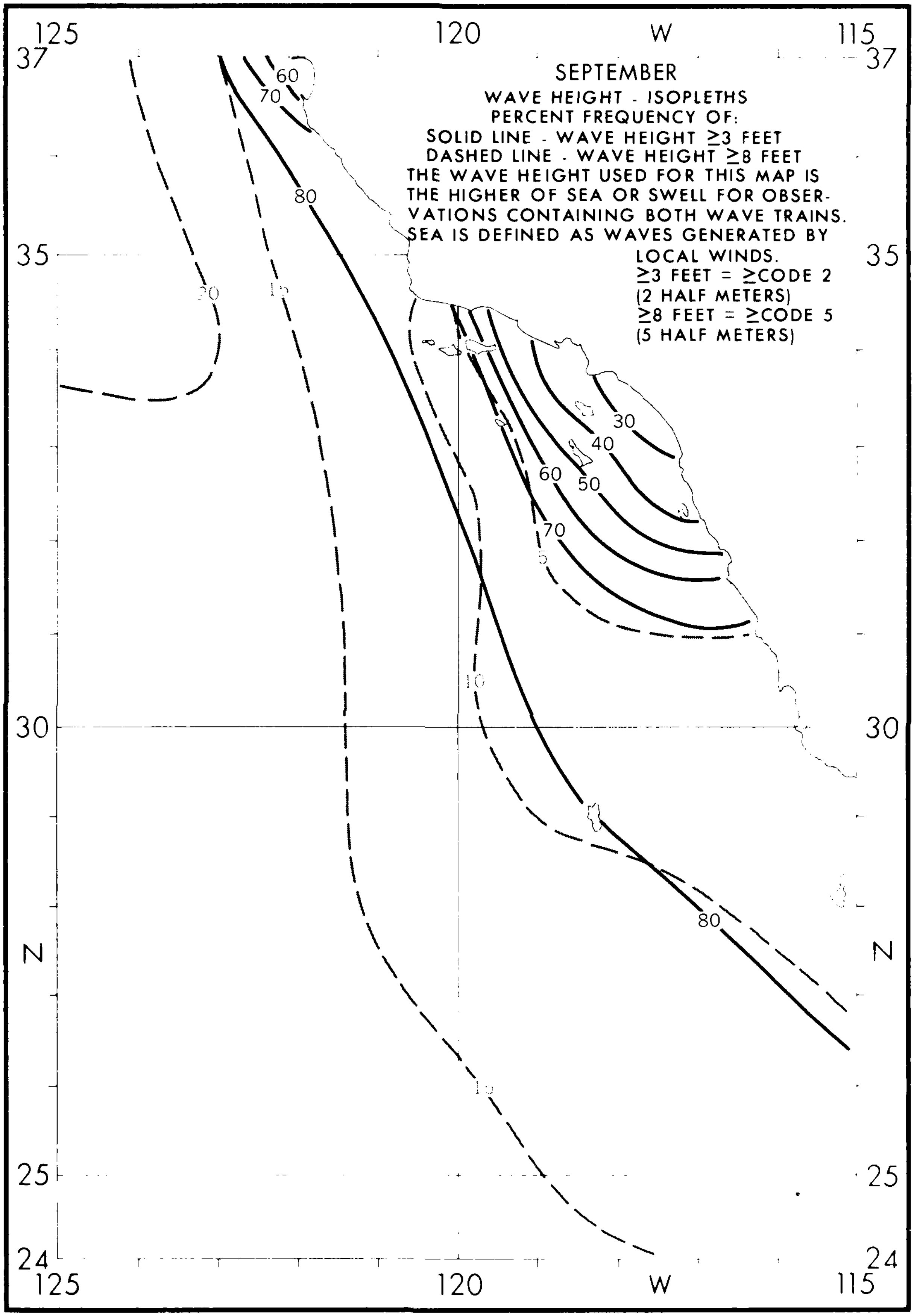

SEPTEMBER
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED <11 KNOTS
DASHED LINE - WIND SPEED ≥34 KNOTS
125
120
W
115
37
35
30
25
24
N
60
50
80
70
40
60
80
70
<1%
50
50


SEPTEMBER
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED 11-21 KNOTS
DASHED LINE - WIND SPEED 22-33 KNOTS
125
120
W
115
37
35
30
N
25
24
20
30
40
50
20
30
50



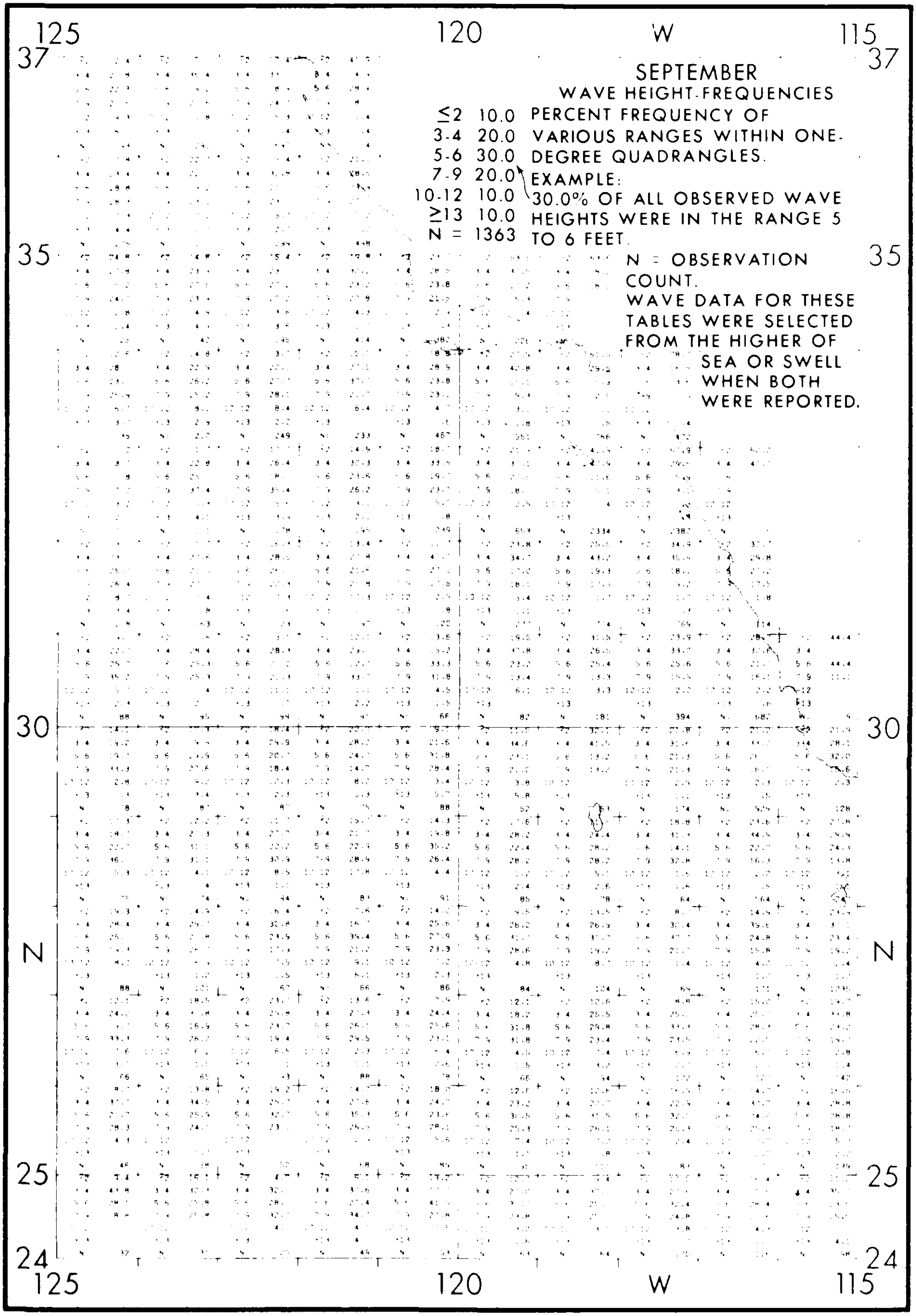
SEPTEMBER
SURFACE WIND ROSE
DIRECTION FREQUENCY: BARS,
EACH CIRCLE = 20%.
25% OF ALL WINDS WERE FROM NORTH.
MEAN SPEED (KNOTS) IS INDICATED BY THE PRINTED NUMBER AT THE END OF EACH BAR.
MEAN SCALAR SPEED OF ALL OBSERVED EAST WINDS WAS 10 KNOTS.
MEAN SCALAR SPEED.
OBSERVATION COUNT.
PERCENT OF CALMS.

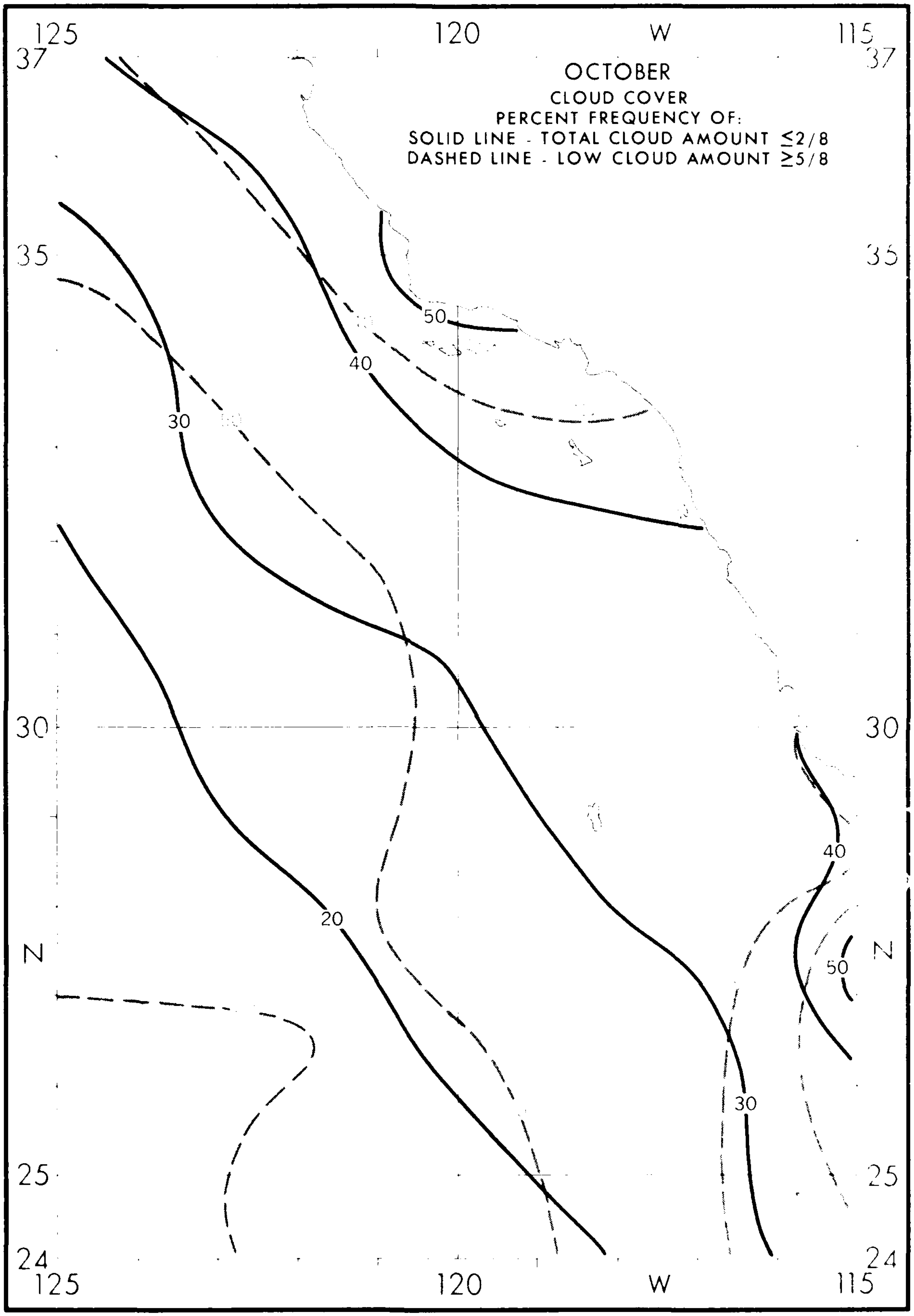

SEPTEMBER
AIR AND SEA TEMPERATURE
SOLID LINE - MEAN AIR TEMPERATURE (°F)
DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)
125
120
W
115
37
35
30
25
24
N
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74

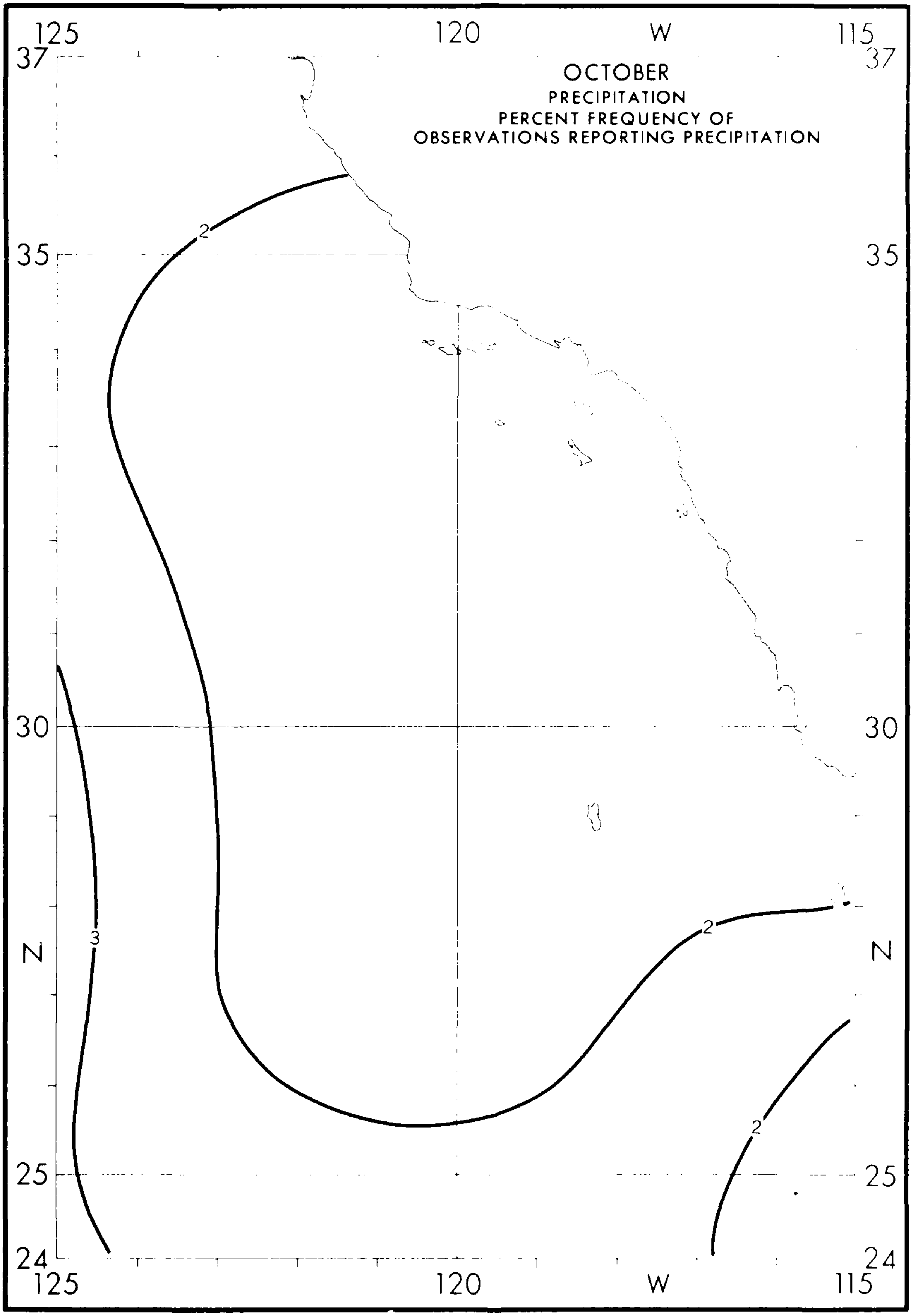


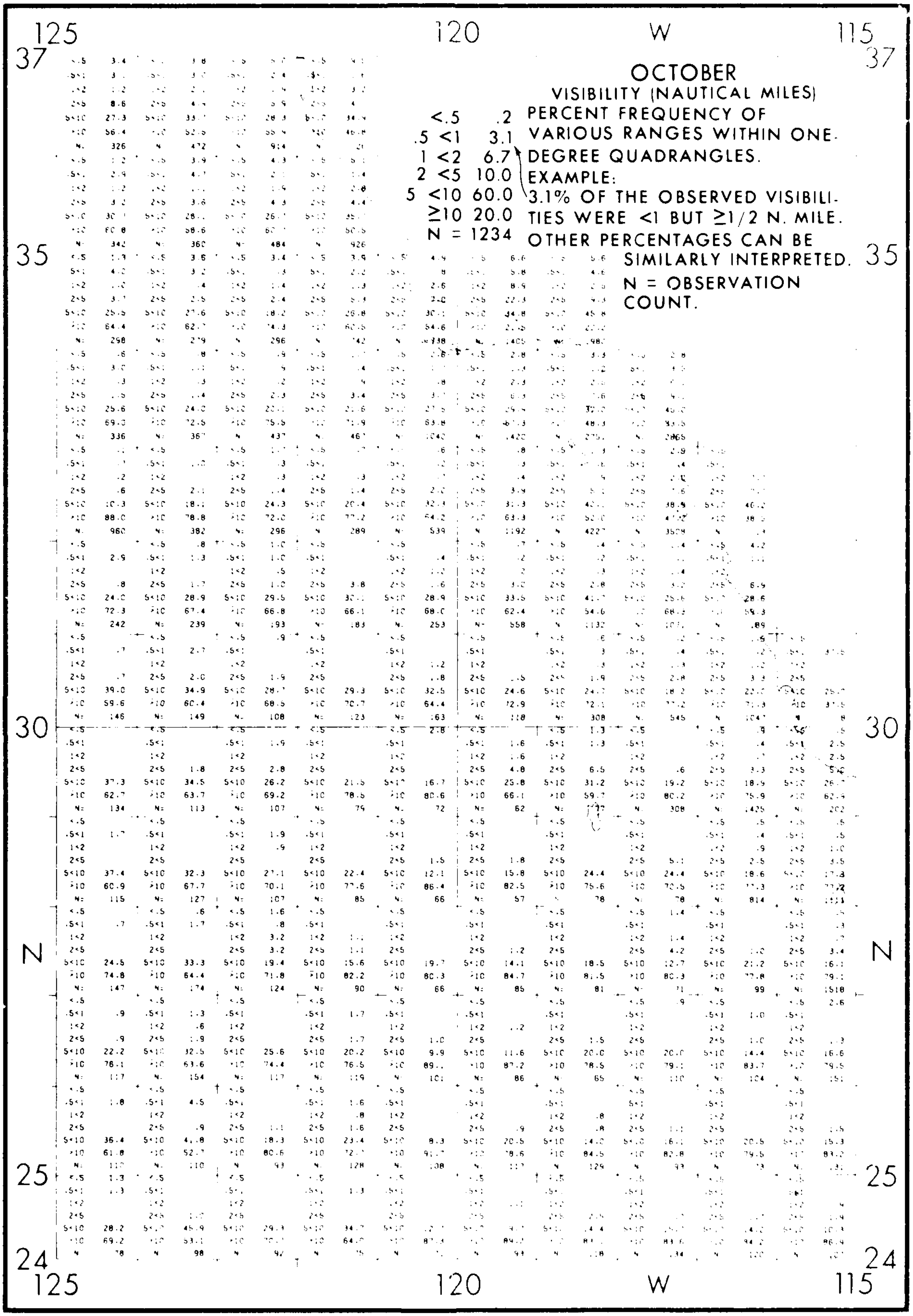
SEPTEMBER

WAVE HEIGHT - ISOPLETHS
PERCENT FREQUENCY OF:
SOLID LINE - WAVE HEIGHT ≥3 FEET
DASHED LINE - WAVE HEIGHT ≥8 FEET
THE WAVE HEIGHT USED FOR THIS MAP IS THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS. SEA IS DEFINED AS WAVES GENERATED BY LOCAL WINDS.
≥3 FEET = ≥CODE 2
(2 HALF METERS)
≥8 FEET = ≥CODE 5
(5 HALF METERS)


125
120
W
115
37
37
SEPTEMBER
WAVE HEIGHT FREQUENCIES
≤2 10.0 PERCENT FREQUENCY OF
3-4 20.0 VARIOUS RANGES WITHIN ONE-
5-6 30.0 DEGREE QUADRANGLES.
7-9 20.0 EXAMPLE:
10-12 10.0 30.0% OF ALL OBSERVED WAVE
≥13 10.0 HEIGHTS WERE IN THE RANGE 5
N = 1363 TO 6 FEET.
N = OBSERVATION
COUNT.
WAVE DATA FOR THESE
TABLES WERE SELECTED
FROM THE HIGHER OF
SEA OR SWELL
WHEN BOTH
WERE REPORTED.
35
35
30
30
N
N
25
25
24
24
125
120
W
115


OCTOBER
CLOUD COVER
PERCENT FREQUENCY OF:
SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8
DASHED LINE - LOW CLOUD AMOUNT ≥5/8
125
120
W
115
37
35
30
N
25
24
50
40
30
20
40
50
30


OCTOBER
PRECIPITATION
PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION
125
120
W
115
37
35
30
25
24
N
2
2
2
3



OCTOBER

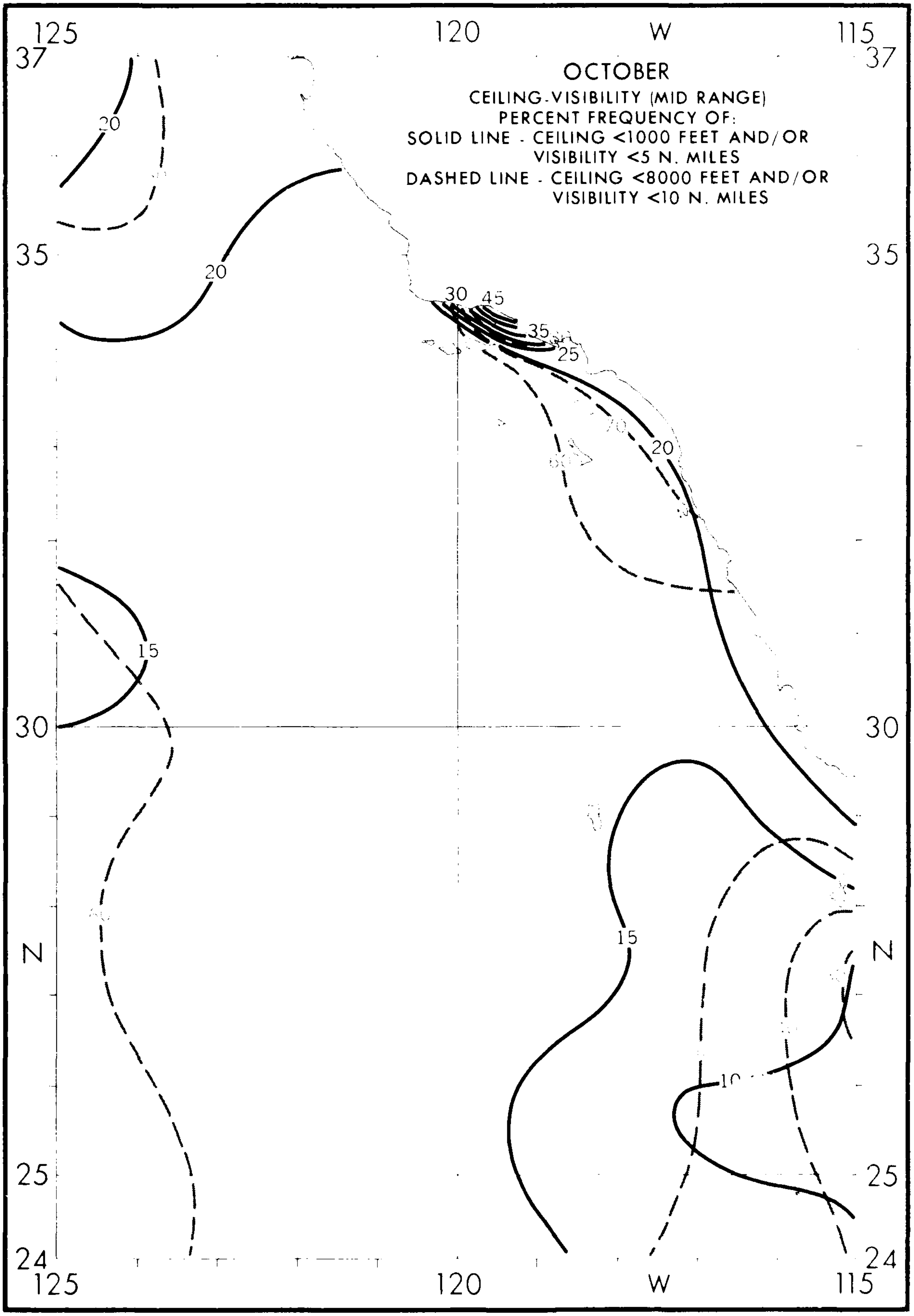
VISIBILITY (NAUTICAL MILES)

PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.

<.5	.2
.5 <1	3.1
1 <2	6.7
2 <5	10.0
5 <10	60.0
≥10	20.0
N =	1234

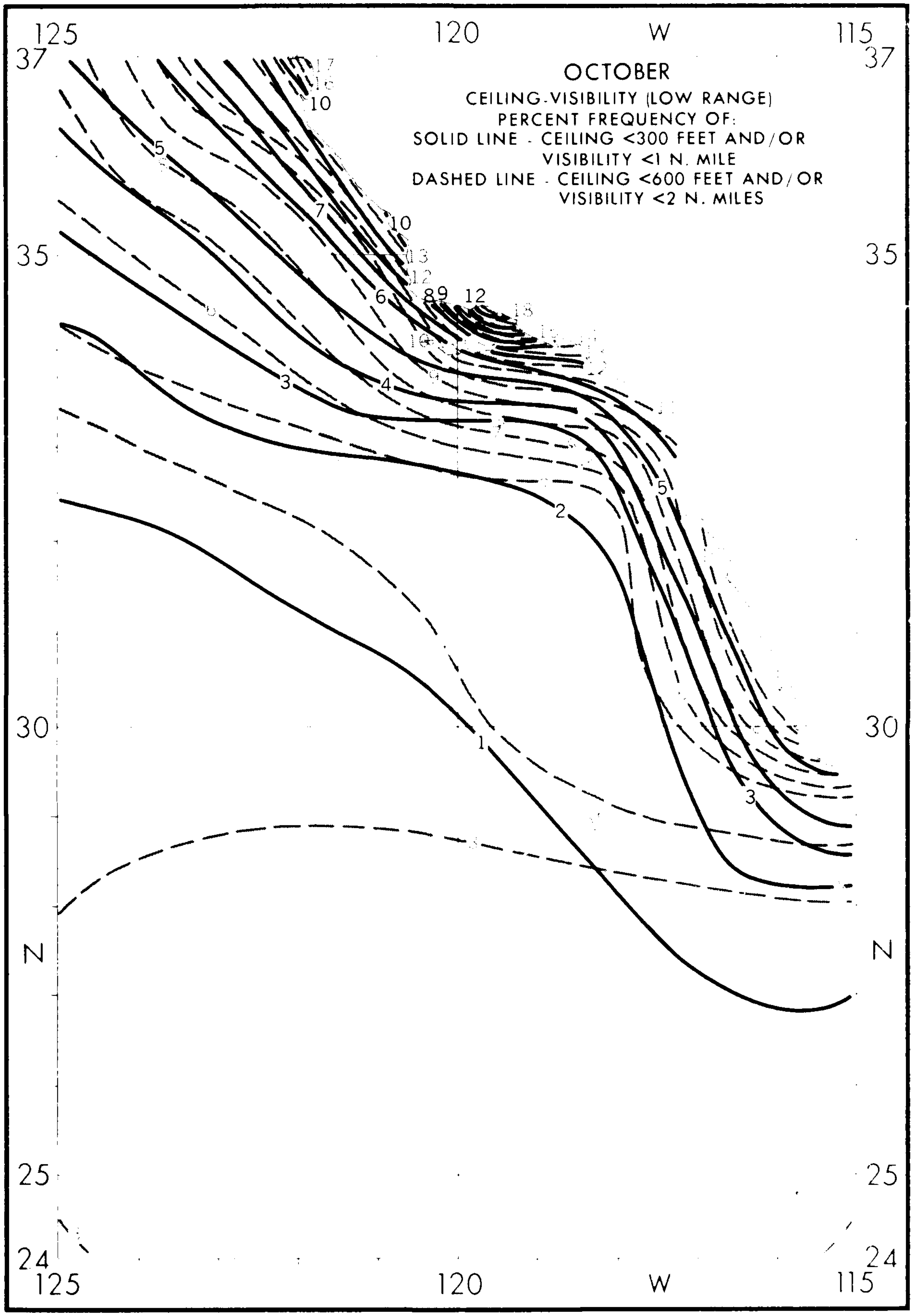
EXAMPLE:
3.1% OF THE OBSERVED VISIBILITIES WERE <1 BUT ≥1/2 N. MILE. OTHER PERCENTAGES CAN BE SIMILARLY INTERPRETED.

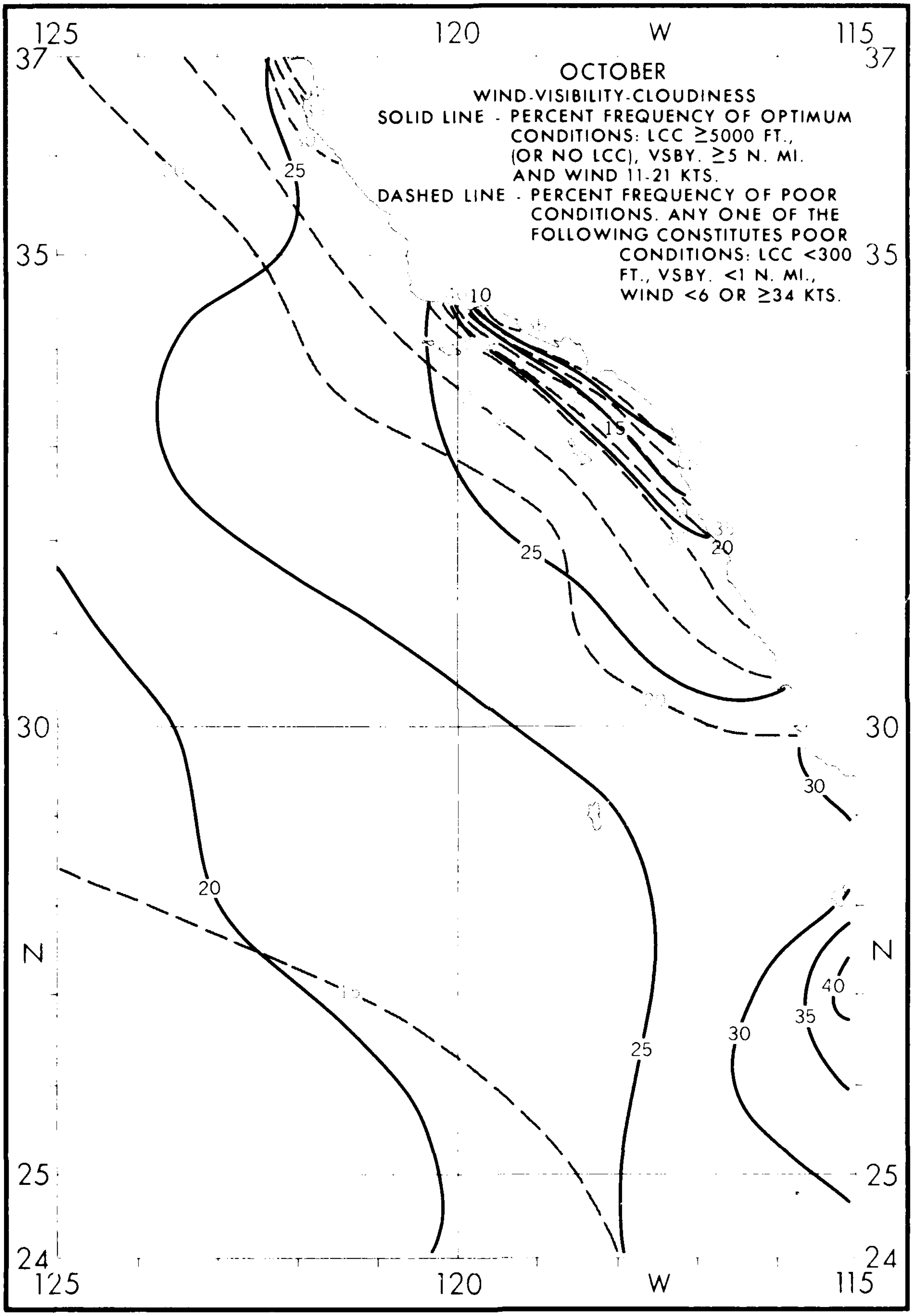
N = OBSERVATION COUNT.



OCTOBER

CEILING-VISIBILITY (MID RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <1000 FEET AND/OR
VISIBILITY <5 N. MILES
DASHED LINE - CEILING <8000 FEET AND/OR
VISIBILITY <10 N. MILES


OCTOBER
CEILING-VISIBILITY (LOW RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <300 FEET AND/OR VISIBILITY <1 N. MILE
DASHED LINE - CEILING <600 FEET AND/OR VISIBILITY <2 N. MILES
125
120
W
115
37
35
30
N
25
24
17
16
10
5
7
10
13
12
6
8
9
12
4
3
2
5
1
3

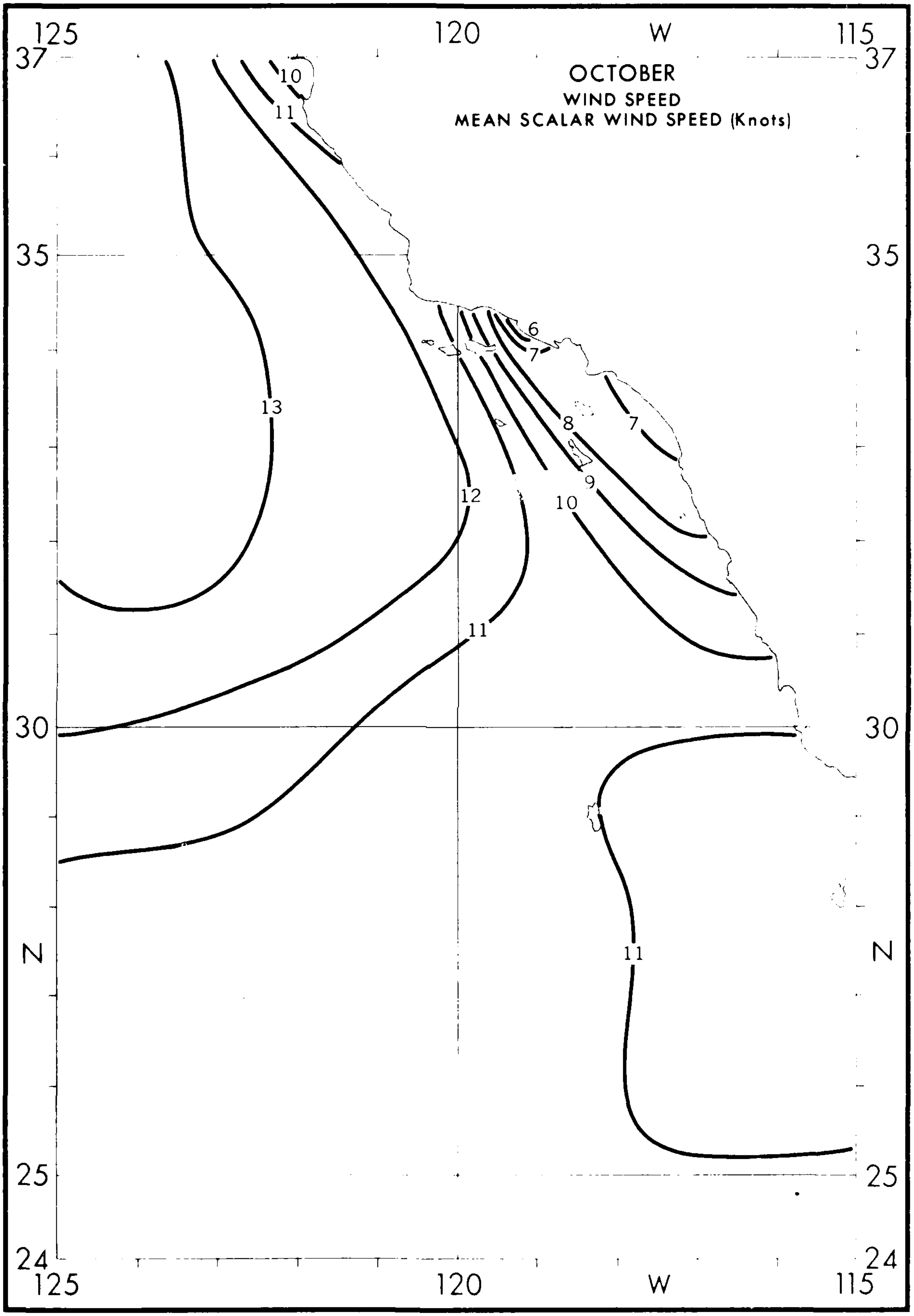


OCTOBER

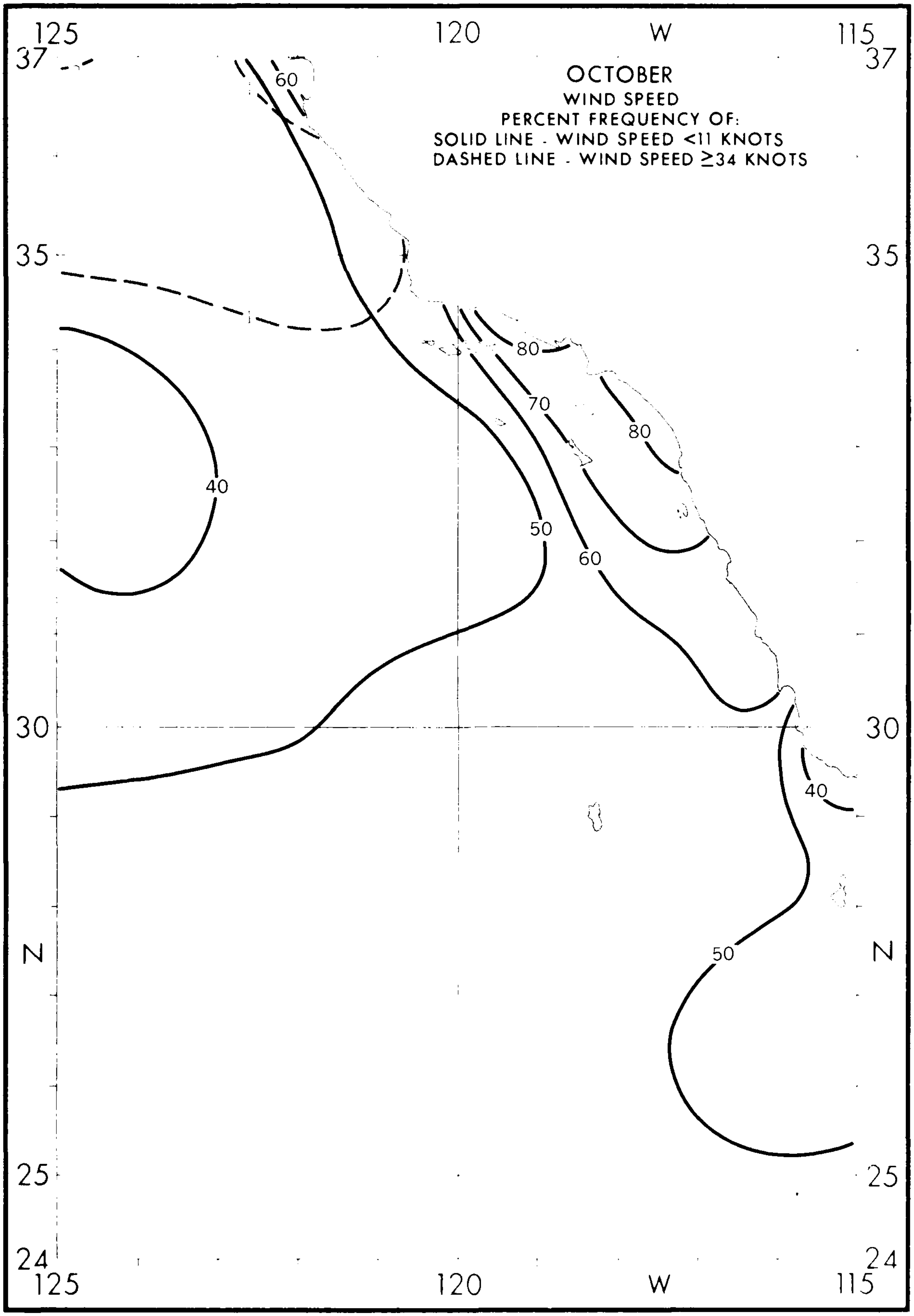
WIND-VISIBILITY-CLOUDINESS

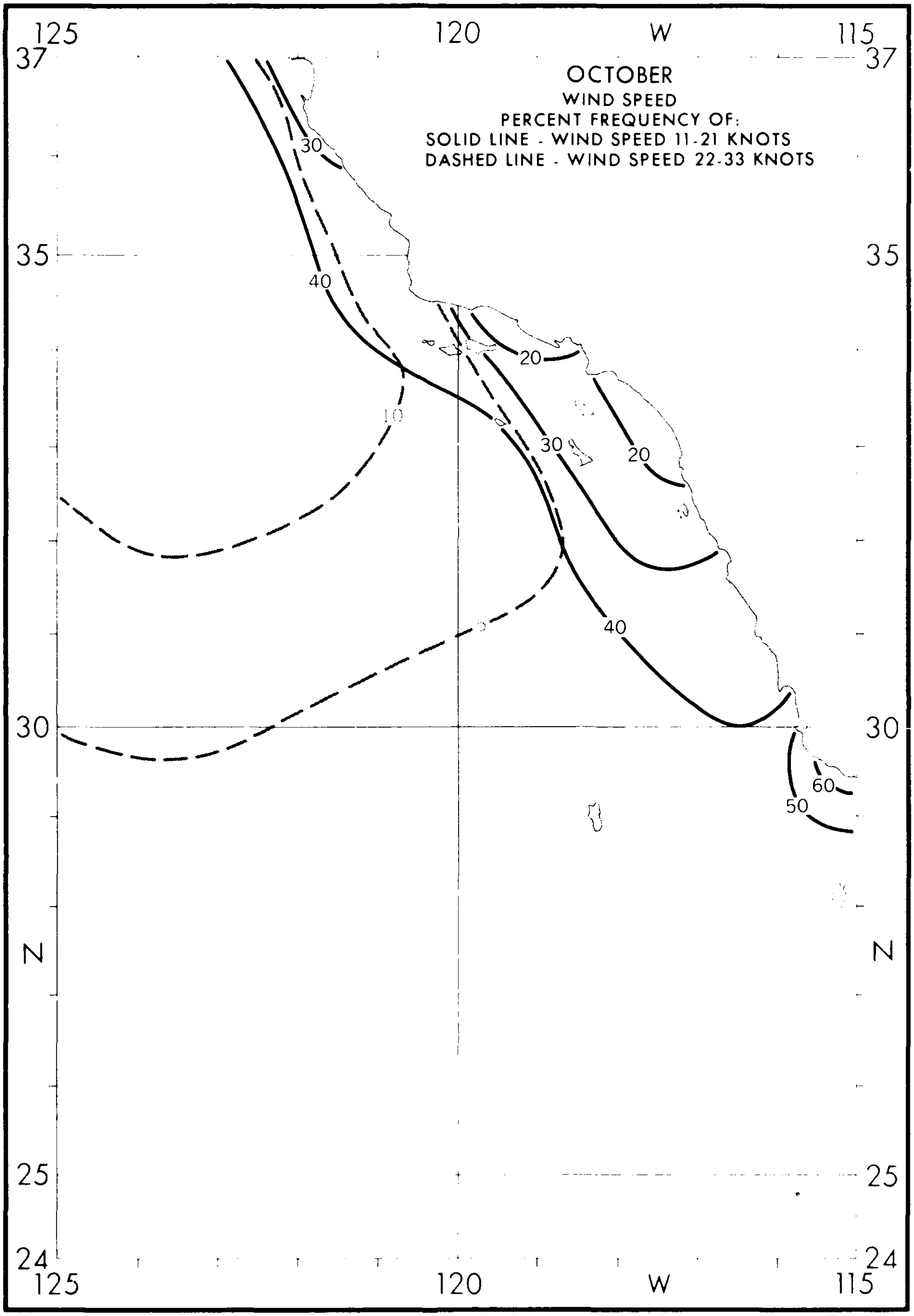
SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.

DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.



OCTOBER
WIND SPEED
MEAN SCALAR WIND SPEED (Knots)


OCTOBER
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED <11 KNOTS
DASHED LINE - WIND SPEED ≥34 KNOTS
125
120
W
115
37
35
30
25
24
N
60
80
70
80
40
50
60
40
50



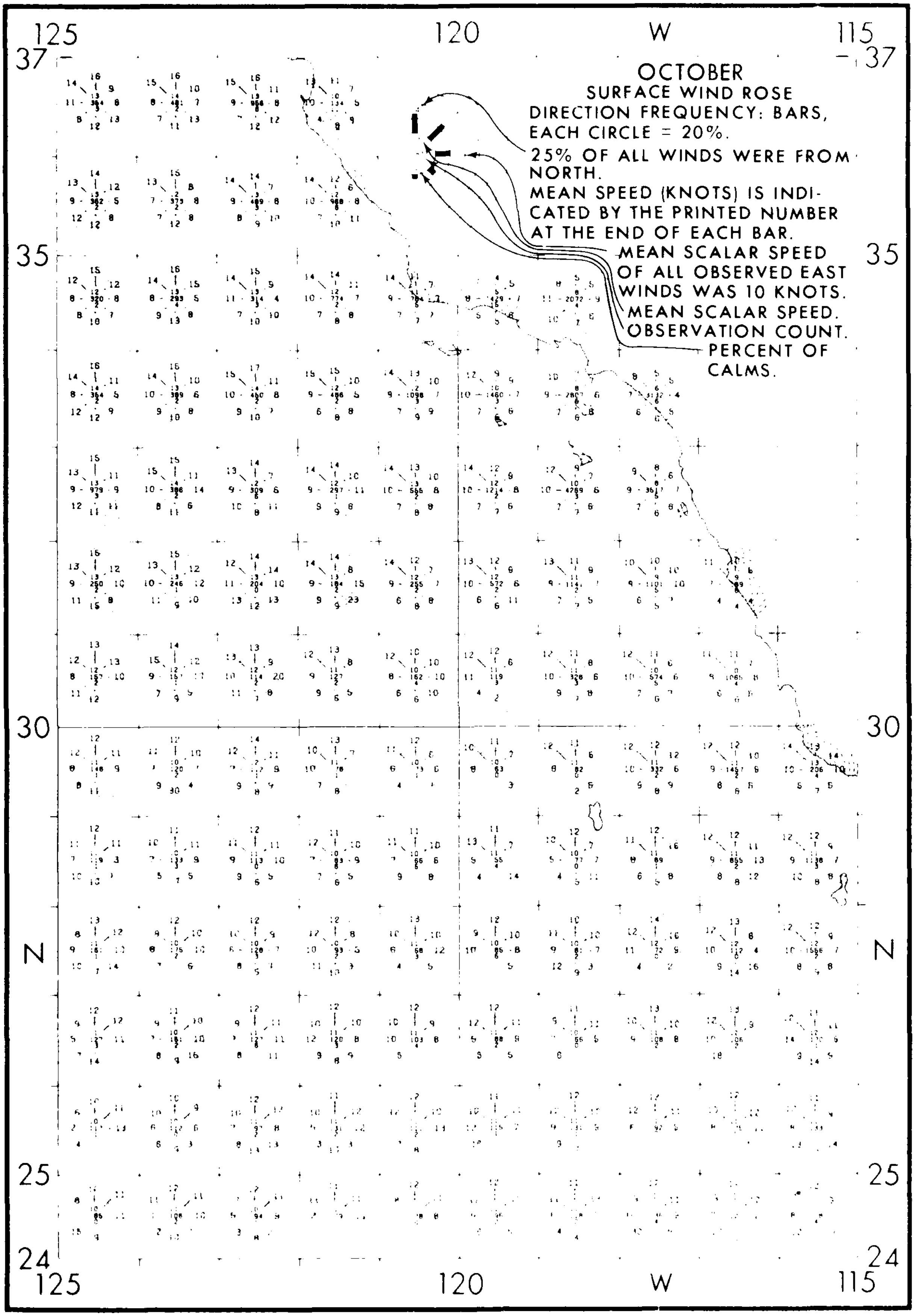
OCTOBER

WIND SPEED

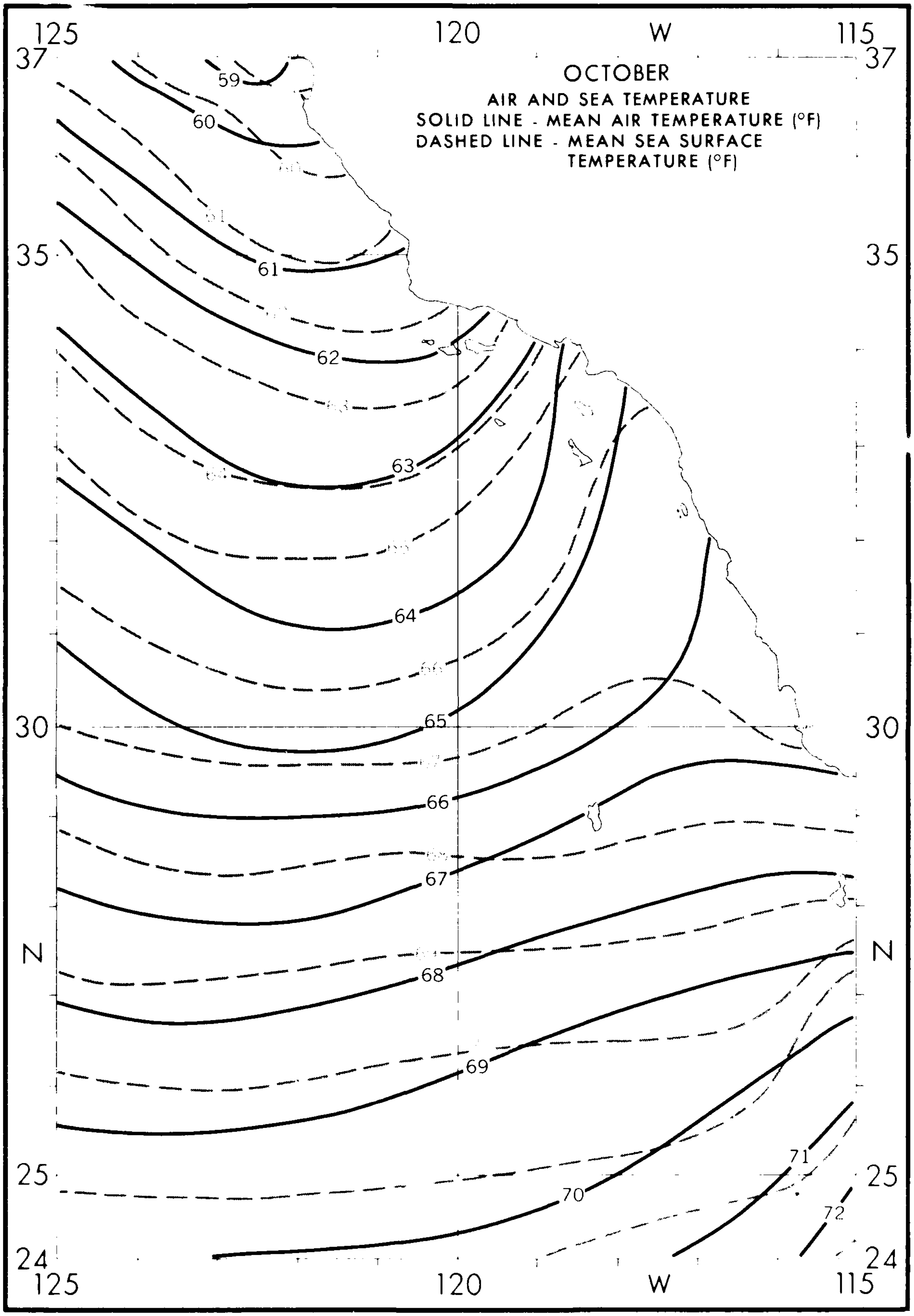
PERCENT FREQUENCY OF:

SOLID LINE - WIND SPEED 11-21 KNOTS

DASHED LINE - WIND SPEED 22-33 KNOTS



OCTOBER
SURFACE WIND ROSE
DIRECTION FREQUENCY: BARS,
EACH CIRCLE = 20%.
25% OF ALL WINDS WERE FROM NORTH.
MEAN SPEED (KNOTS) IS INDICATED BY THE PRINTED NUMBER AT THE END OF EACH BAR.
MEAN SCALAR SPEED OF ALL OBSERVED EAST WINDS WAS 10 KNOTS.
MEAN SCALAR SPEED.
OBSERVATION COUNT.
PERCENT OF CALMS.

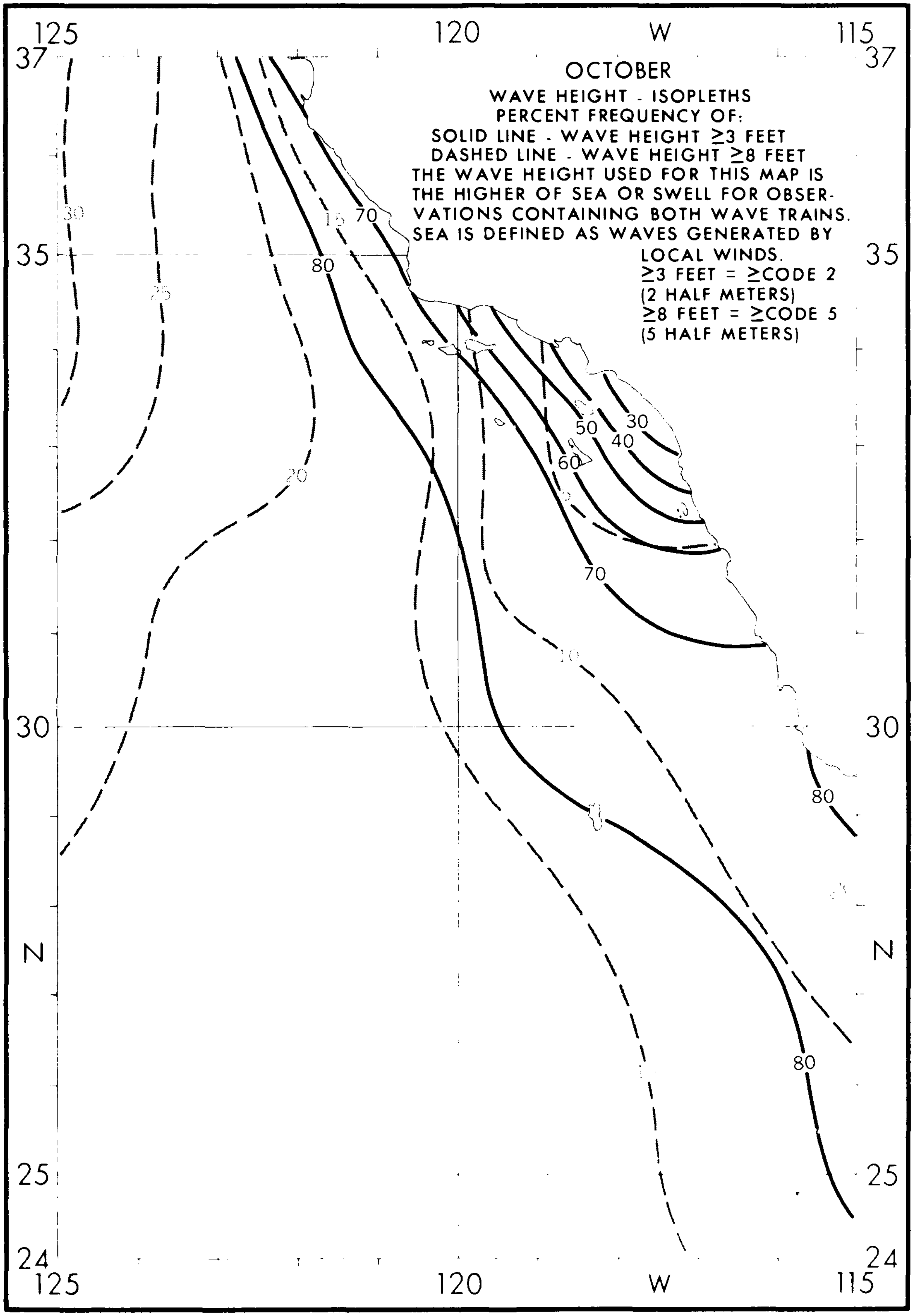


OCTOBER

AIR AND SEA TEMPERATURE

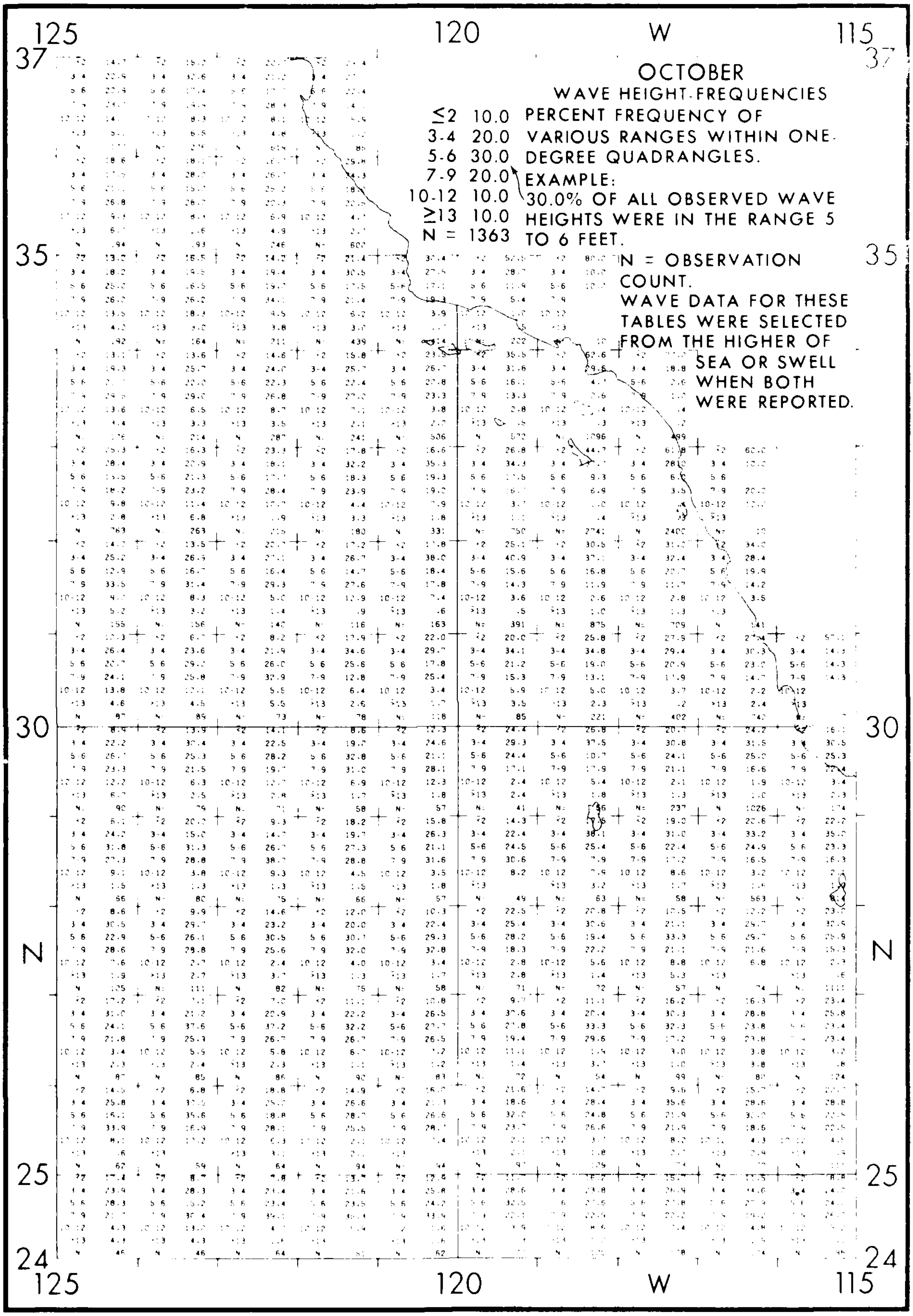
SOLID LINE - MEAN AIR TEMPERATURE (°F)

DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)



OCTOBER

WAVE HEIGHT - ISOPLETHS
PERCENT FREQUENCY OF:
SOLID LINE - WAVE HEIGHT ≥3 FEET
DASHED LINE - WAVE HEIGHT ≥8 FEET
THE WAVE HEIGHT USED FOR THIS MAP IS THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS. SEA IS DEFINED AS WAVES GENERATED BY LOCAL WINDS.
≥3 FEET = ≥CODE 2
(2 HALF METERS)
≥8 FEET = ≥CODE 5
(5 HALF METERS)



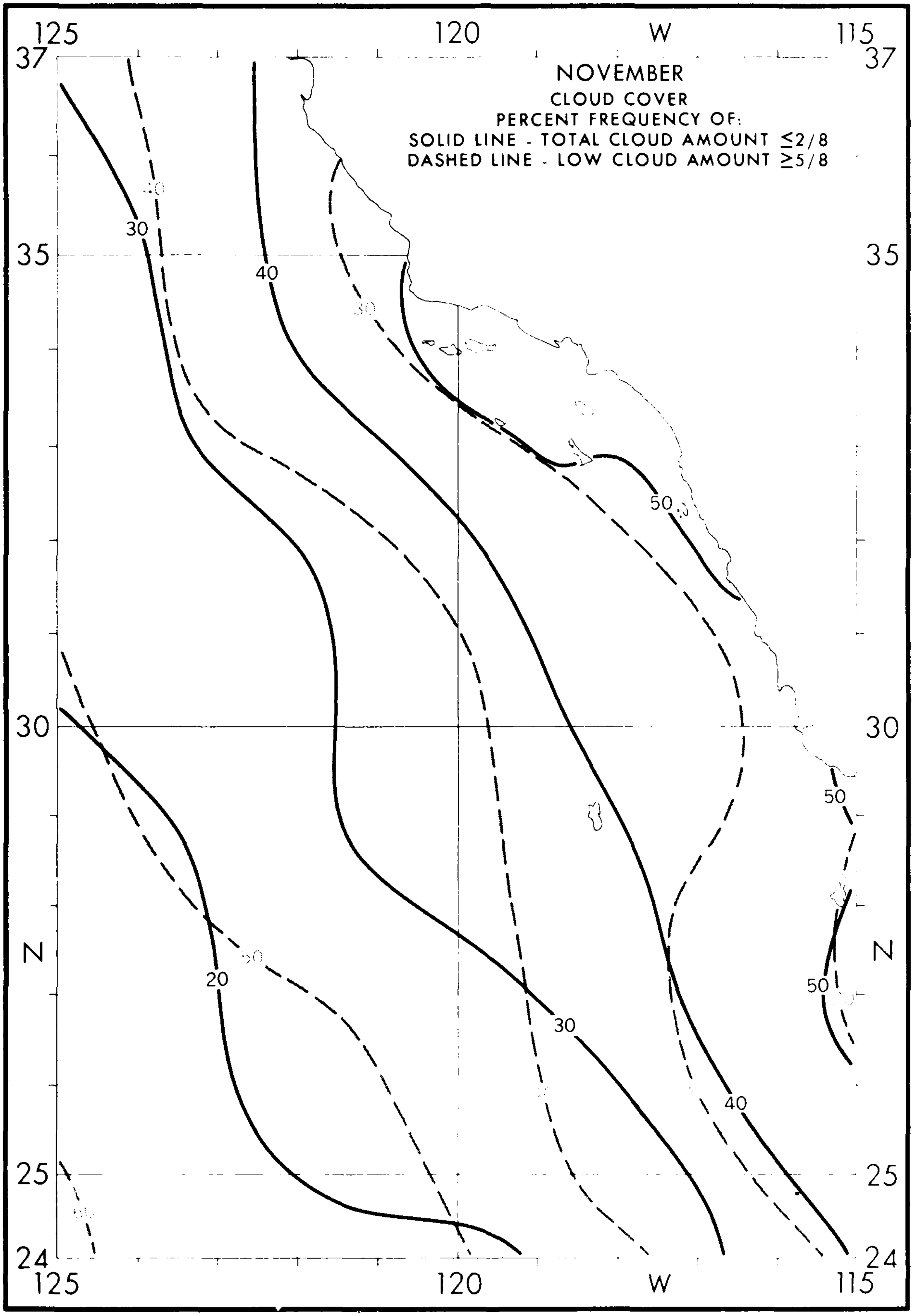
OCTOBER

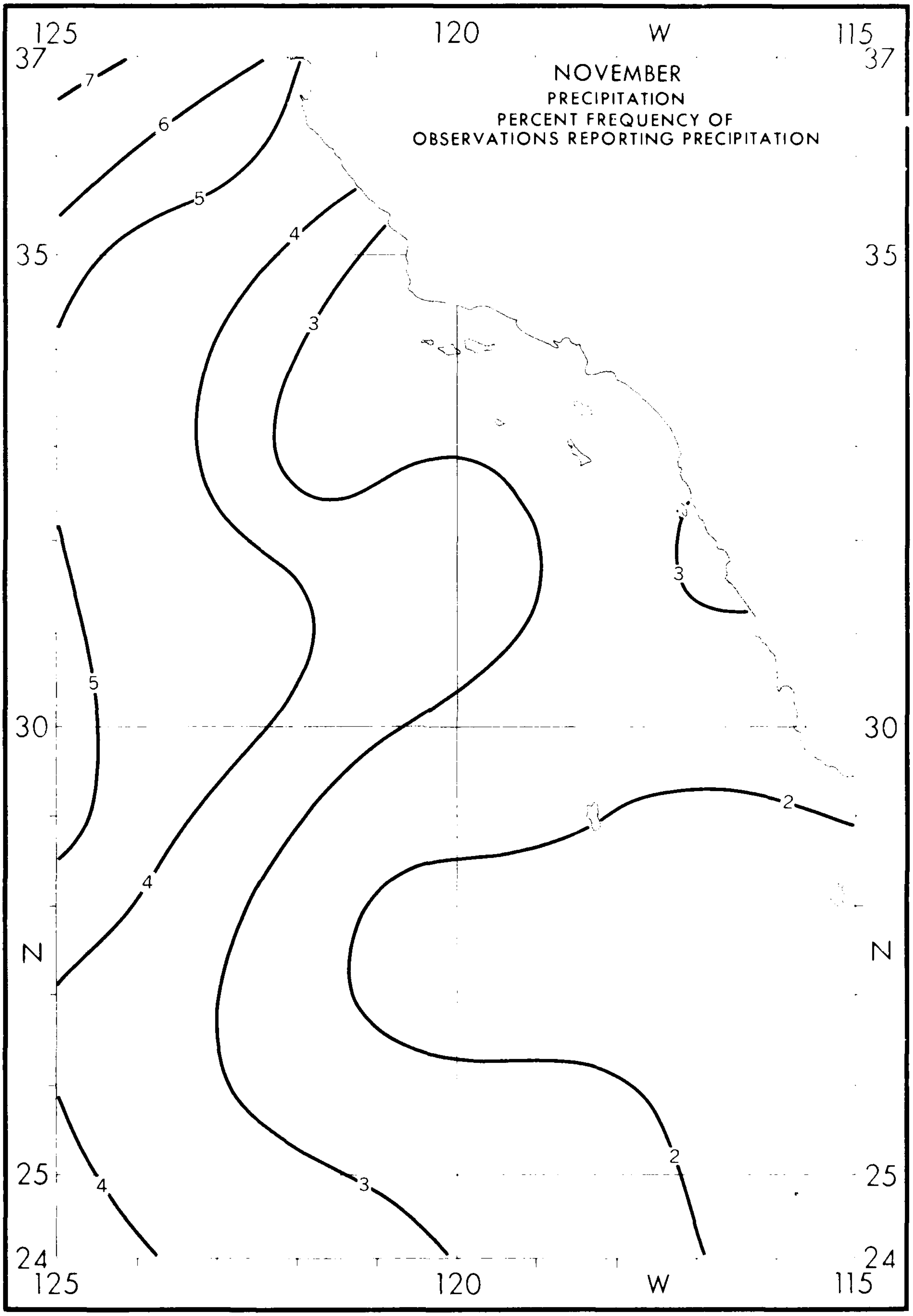
WAVE HEIGHT-FREQUENCIES

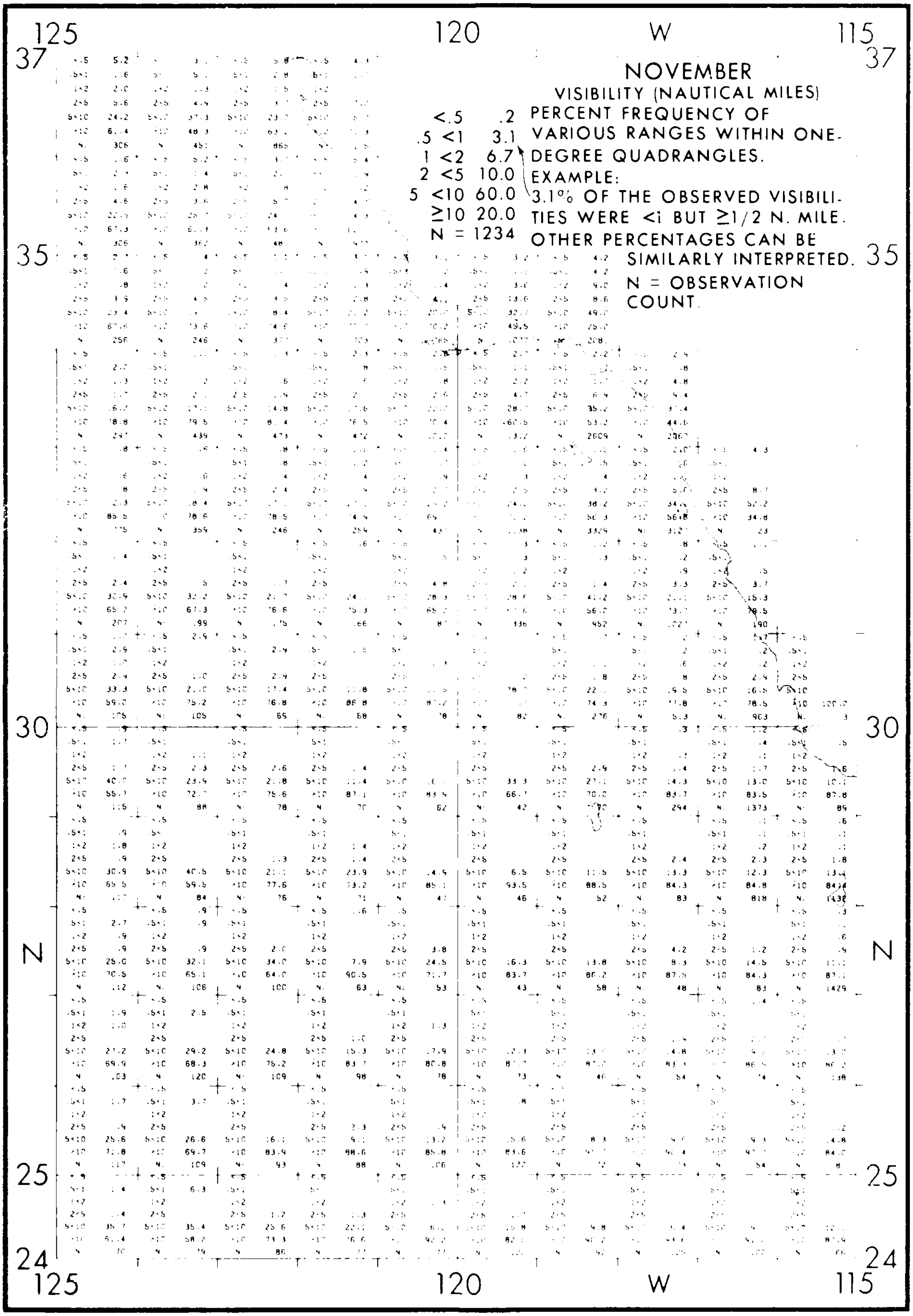
≤2	10.0	PERCENT FREQUENCY OF
3-4	20.0	VARIOUS RANGES WITHIN ONE-
5-6	30.0	DEGREE QUADRANGLES.
7-9	20.0	EXAMPLE:
10-12	10.0	30.0% OF ALL OBSERVED WAVE
≥13	10.0	HEIGHTS WERE IN THE RANGE 5
N =	1363	TO 6 FEET.

N = OBSERVATION COUNT.

WAVE DATA FOR THESE TABLES WERE SELECTED FROM THE HIGHER OF SEA OR SWELL WHEN BOTH WERE REPORTED.


NOVEMBER
CLOUD COVER
PERCENT FREQUENCY OF:
SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8
DASHED LINE - LOW CLOUD AMOUNT ≥5/8
125
120
W
115
37
35
30
N
25
24
30
40
30
40
50
50
50
20
50
30
40


125
120
W
115
37
NOVEMBER
PRECIPITATION
PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION
7
6
5
4
3
35
3
5
30
2
4
N
2
3
4
25
24



NOVEMBER

VISIBILITY (NAUTICAL MILES)

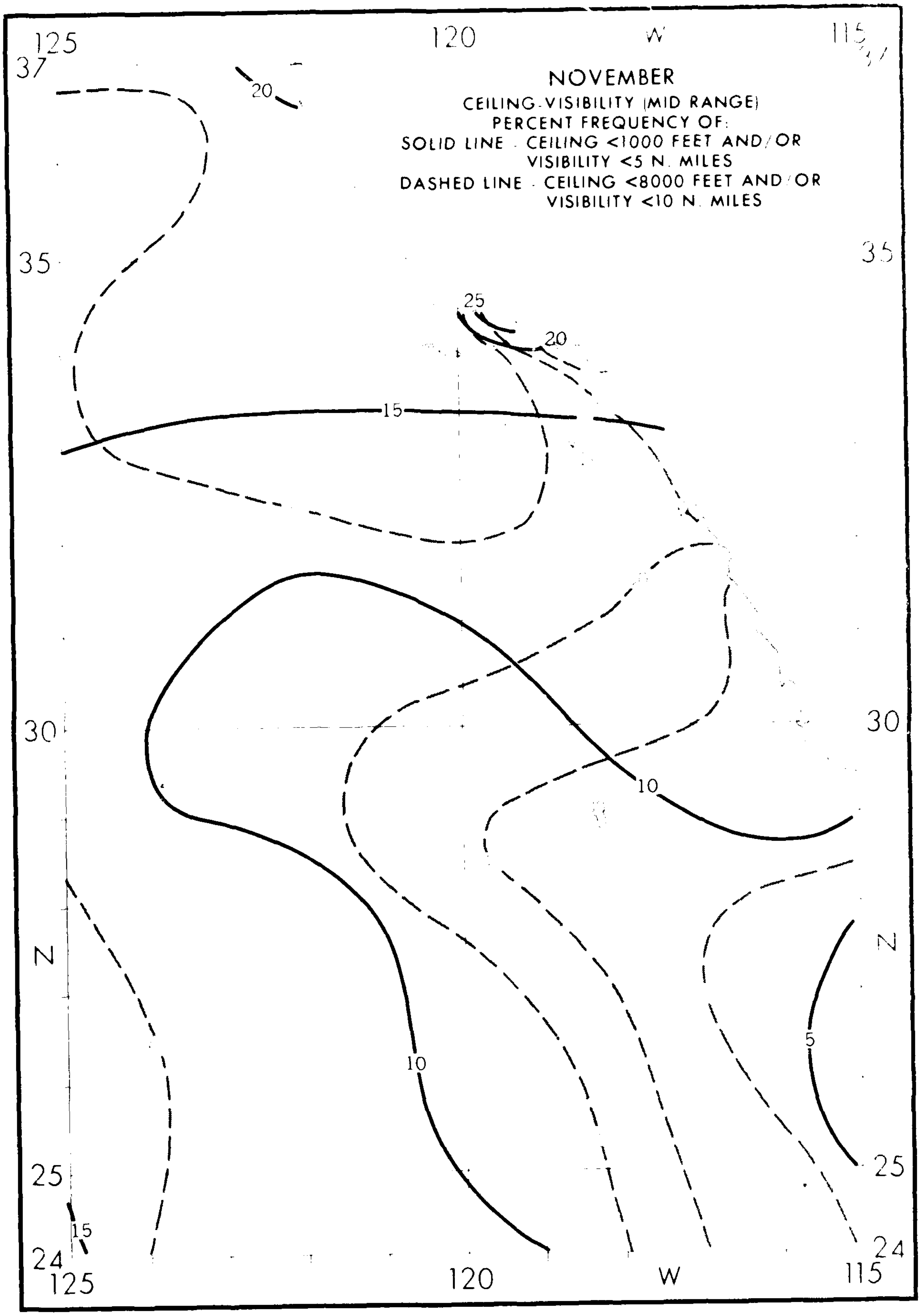
PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.

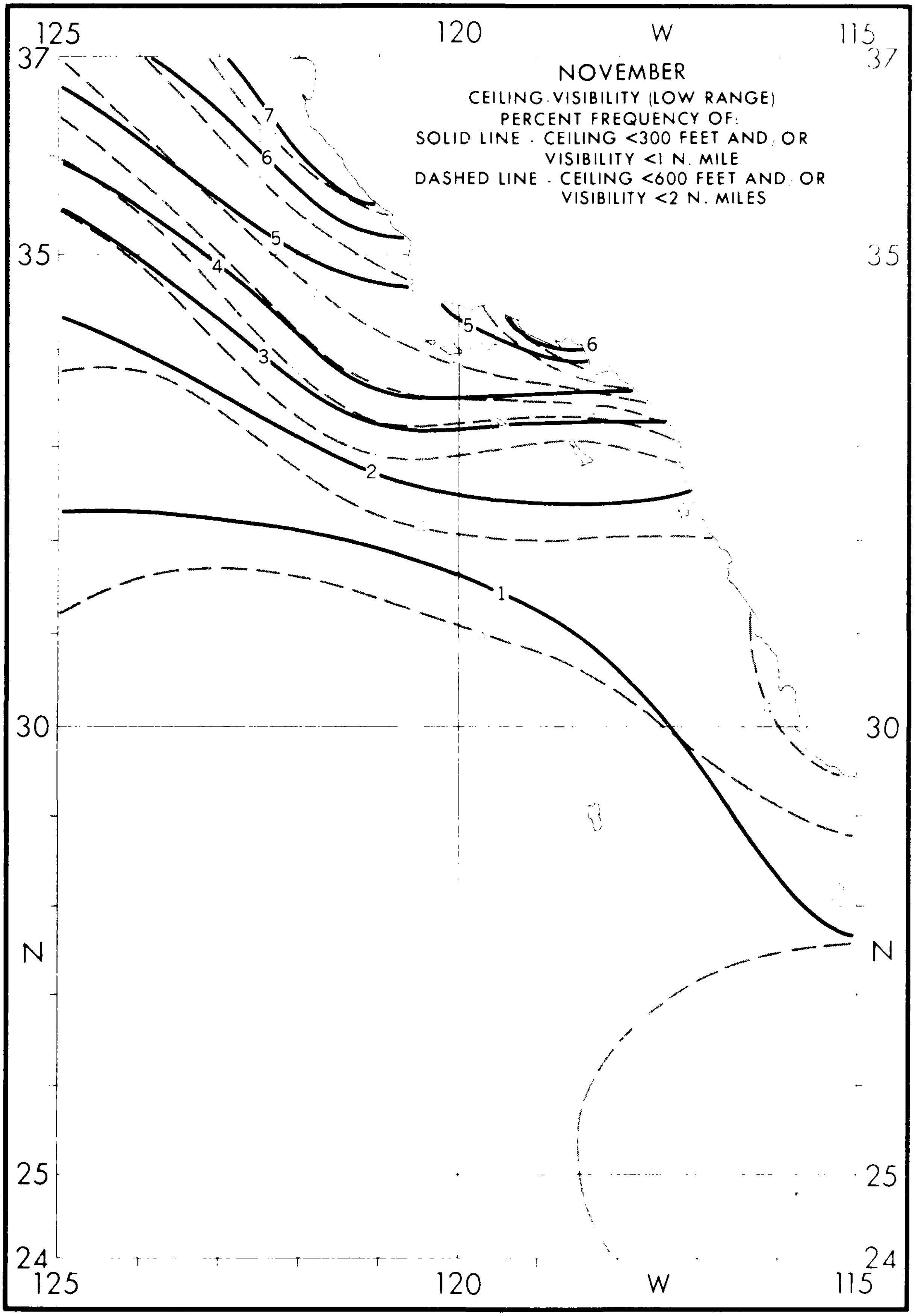
EXAMPLE:

<.5	.2
.5 <1	3.1
1 <2	6.7
2 <5	10.0
5 <10	60.0
≥10	20.0
N = 1234	

3.1% OF THE OBSERVED VISIBILITIES WERE <1 BUT ≥1/2 N. MILE. OTHER PERCENTAGES CAN BE SIMILARLY INTERPRETED.

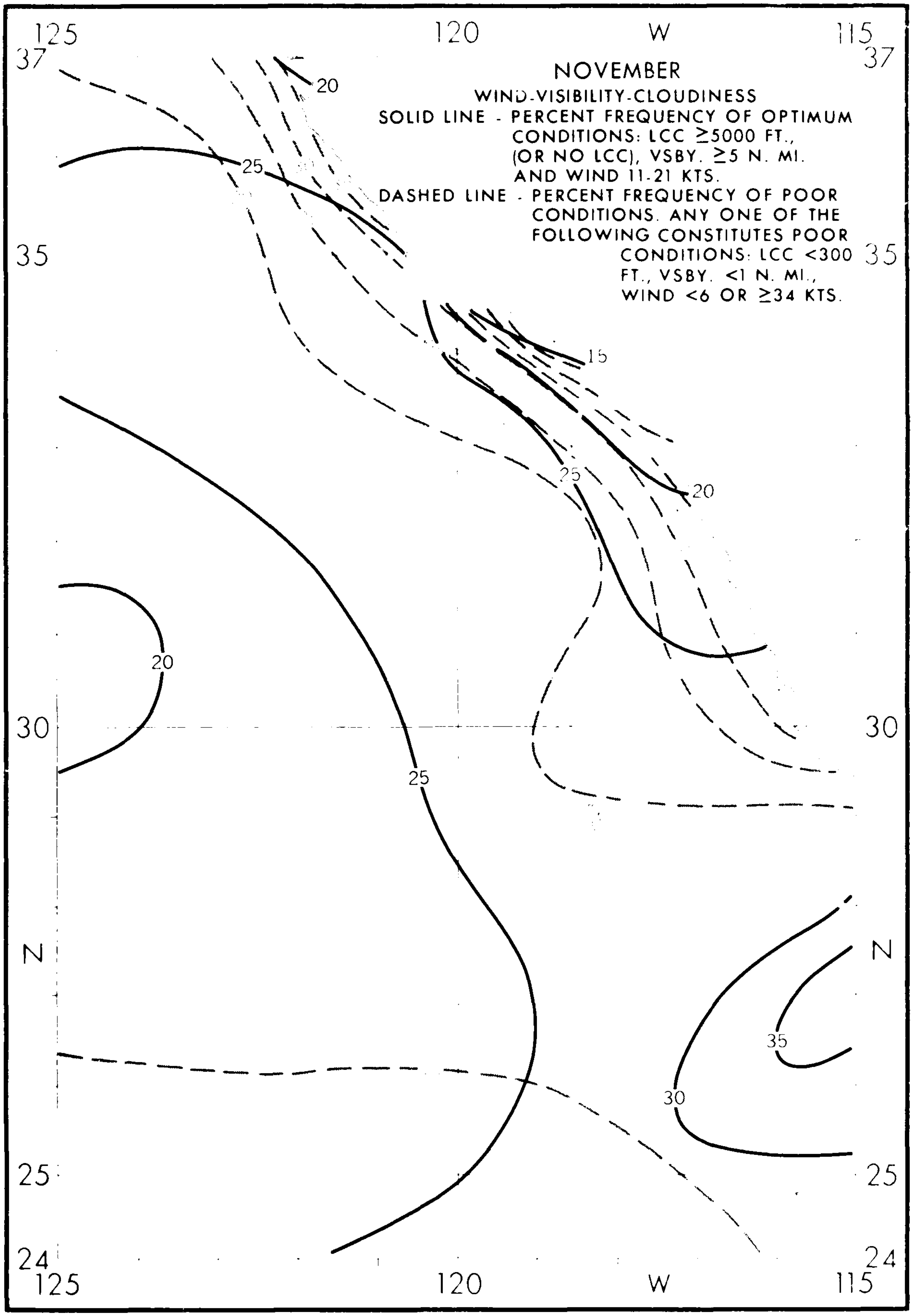
N = OBSERVATION COUNT.


125
120
W
115
37
37
NOVEMBER
CEILING-VISIBILITY (MID RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <1000 FEET AND/OR VISIBILITY <5 N. MILES
DASHED LINE - CEILING <8000 FEET AND/OR VISIBILITY <10 N. MILES
20
35
35
25
20
15
30
30
15
10
N
N
10
5
25
25
15
24
24
125
120
W
115



NOVEMBER

CEILING-VISIBILITY (LOW RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <300 FEET AND/OR VISIBILITY <1 N. MILE
DASHED LINE - CEILING <600 FEET AND/OR VISIBILITY <2 N. MILES

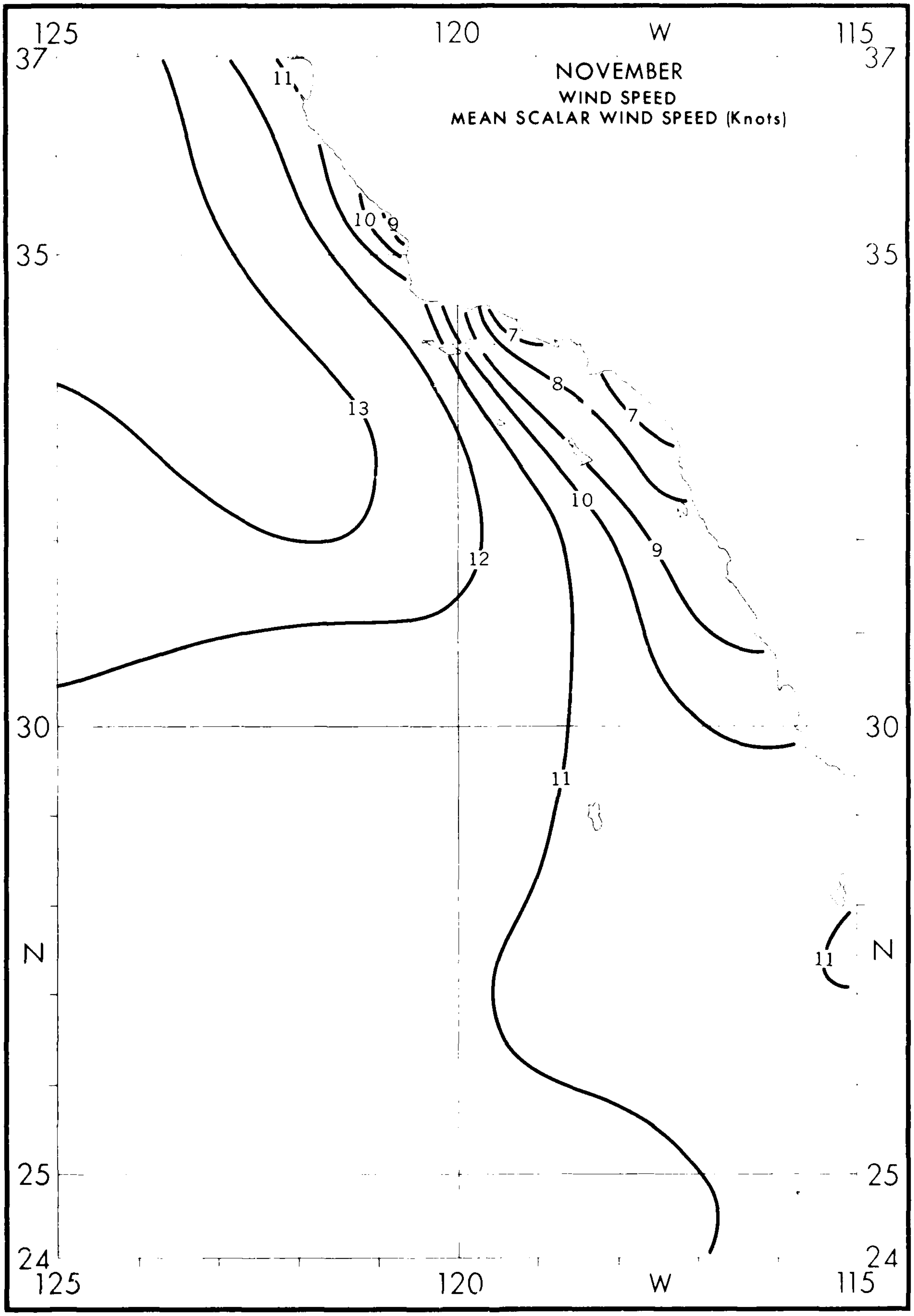


NOVEMBER

WIND-VISIBILITY-CLOUDINESS

SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.

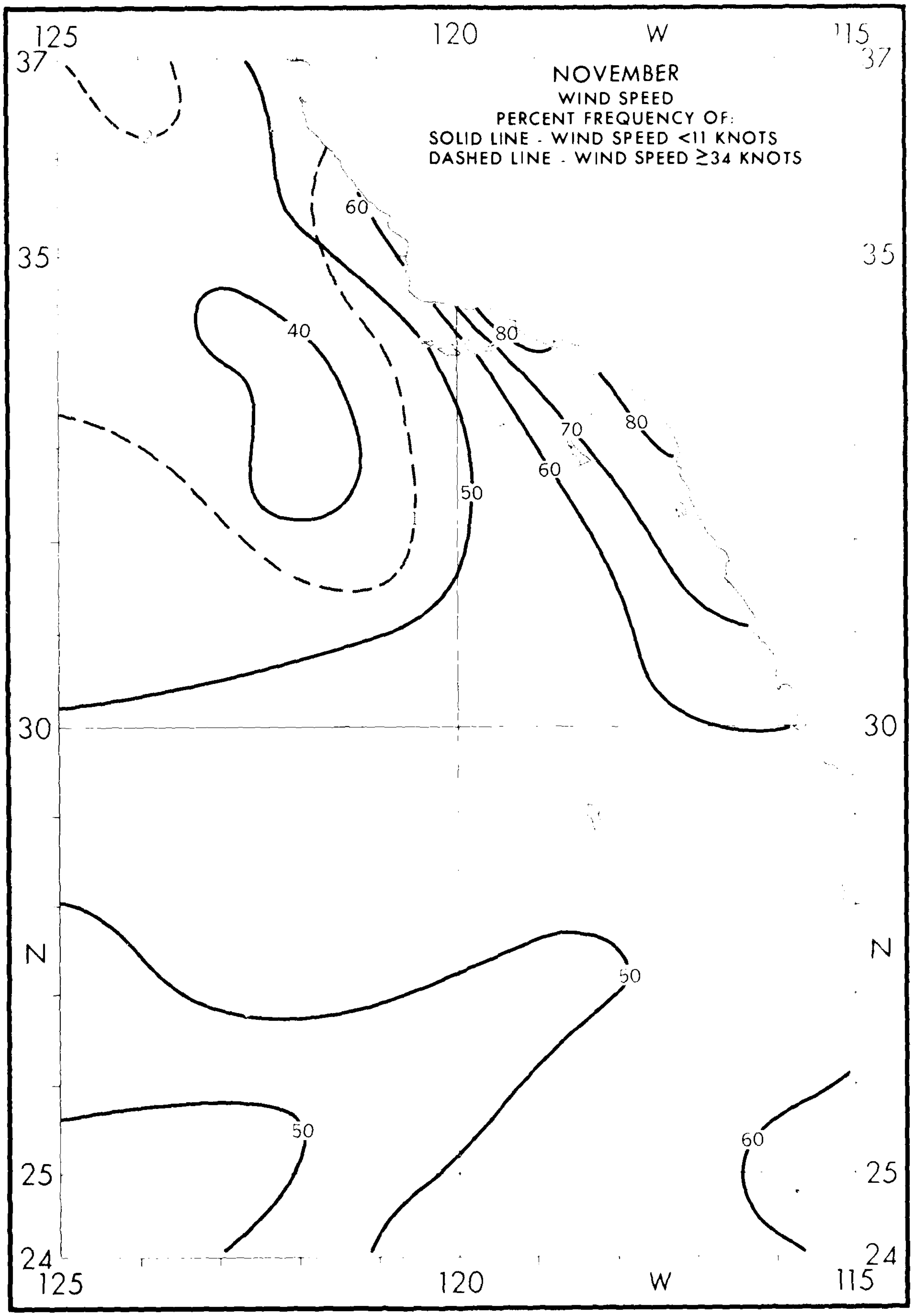
DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.



NOVEMBER

WIND SPEED

MEAN SCALAR WIND SPEED (Knots)



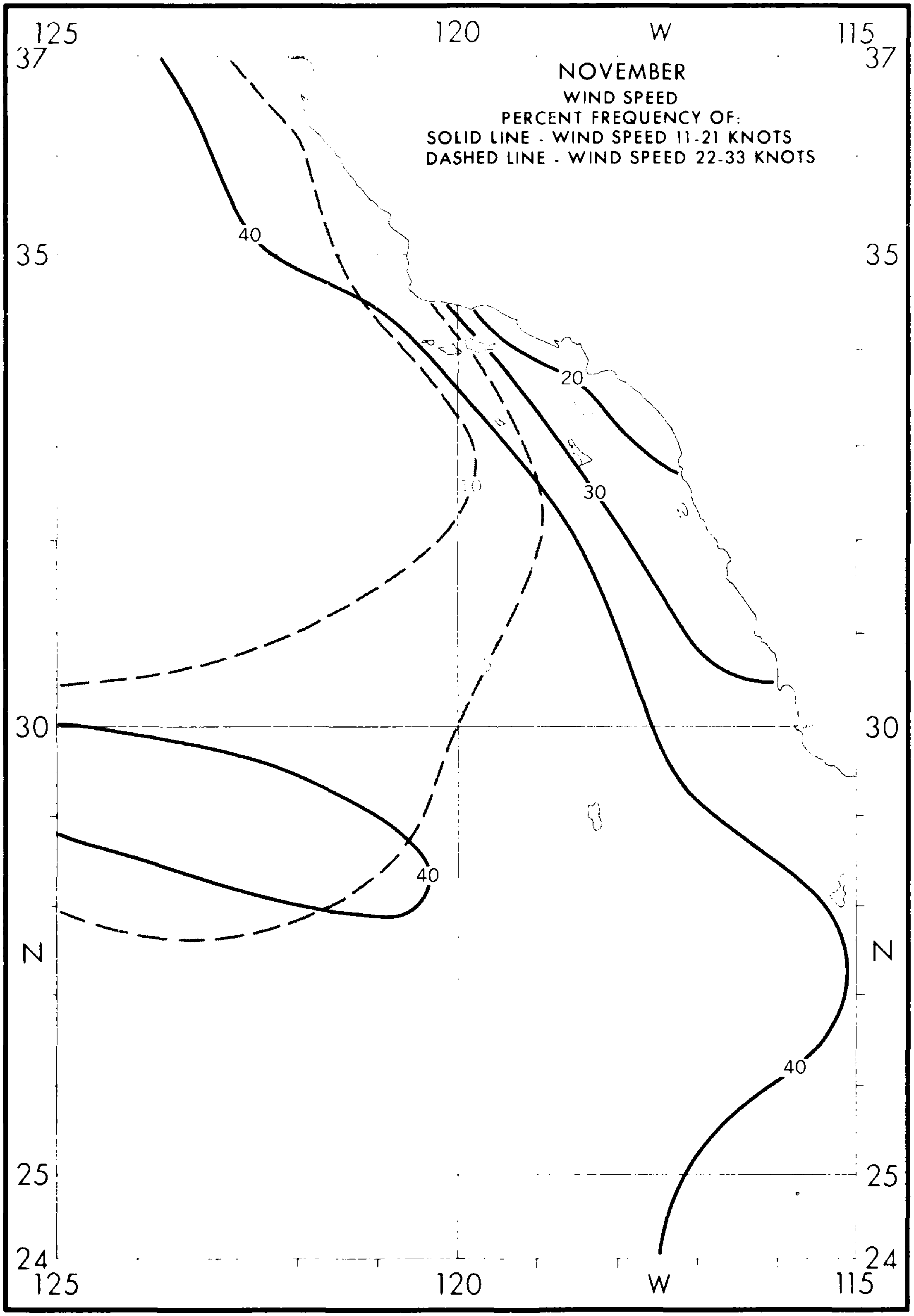
NOVEMBER

WIND SPEED

PERCENT FREQUENCY OF:

SOLID LINE - WIND SPEED <11 KNOTS

DASHED LINE - WIND SPEED ≥34 KNOTS



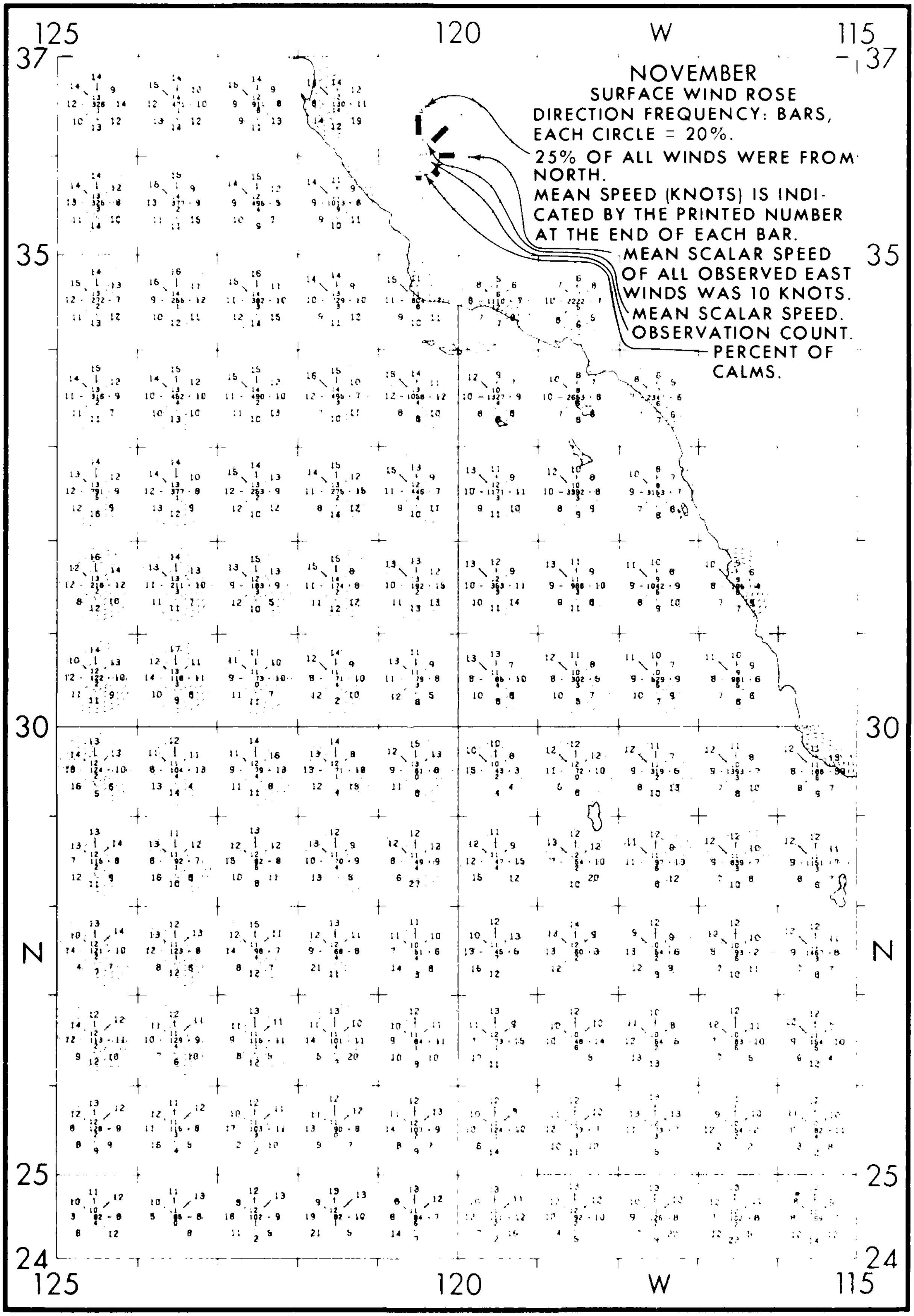
NOVEMBER

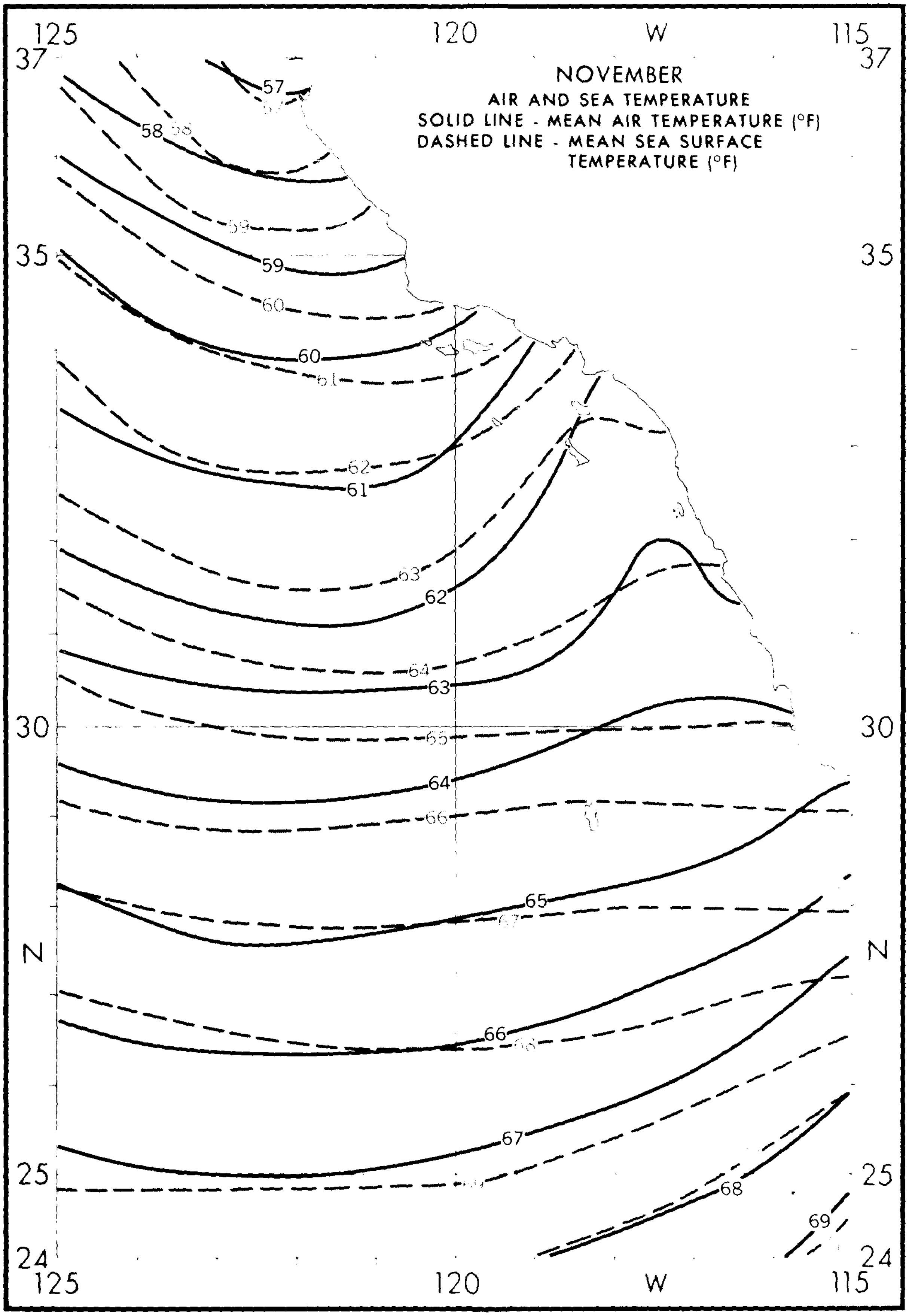
WIND SPEED

PERCENT FREQUENCY OF:

SOLID LINE - WIND SPEED 11-21 KNOTS

DASHED LINE - WIND SPEED 22-33 KNOTS


125
120
W
115
37
35
30
N
25
24
NOVEMBER
SURFACE WIND ROSE
DIRECTION FREQUENCY: BARS,
EACH CIRCLE = 20%.
25% OF ALL WINDS WERE FROM NORTH.
MEAN SPEED (KNOTS) IS INDICATED BY THE PRINTED NUMBER AT THE END OF EACH BAR.
MEAN SCALAR SPEED OF ALL OBSERVED EAST WINDS WAS 10 KNOTS.
MEAN SCALAR SPEED.
OBSERVATION COUNT.
PERCENT OF CALMS.

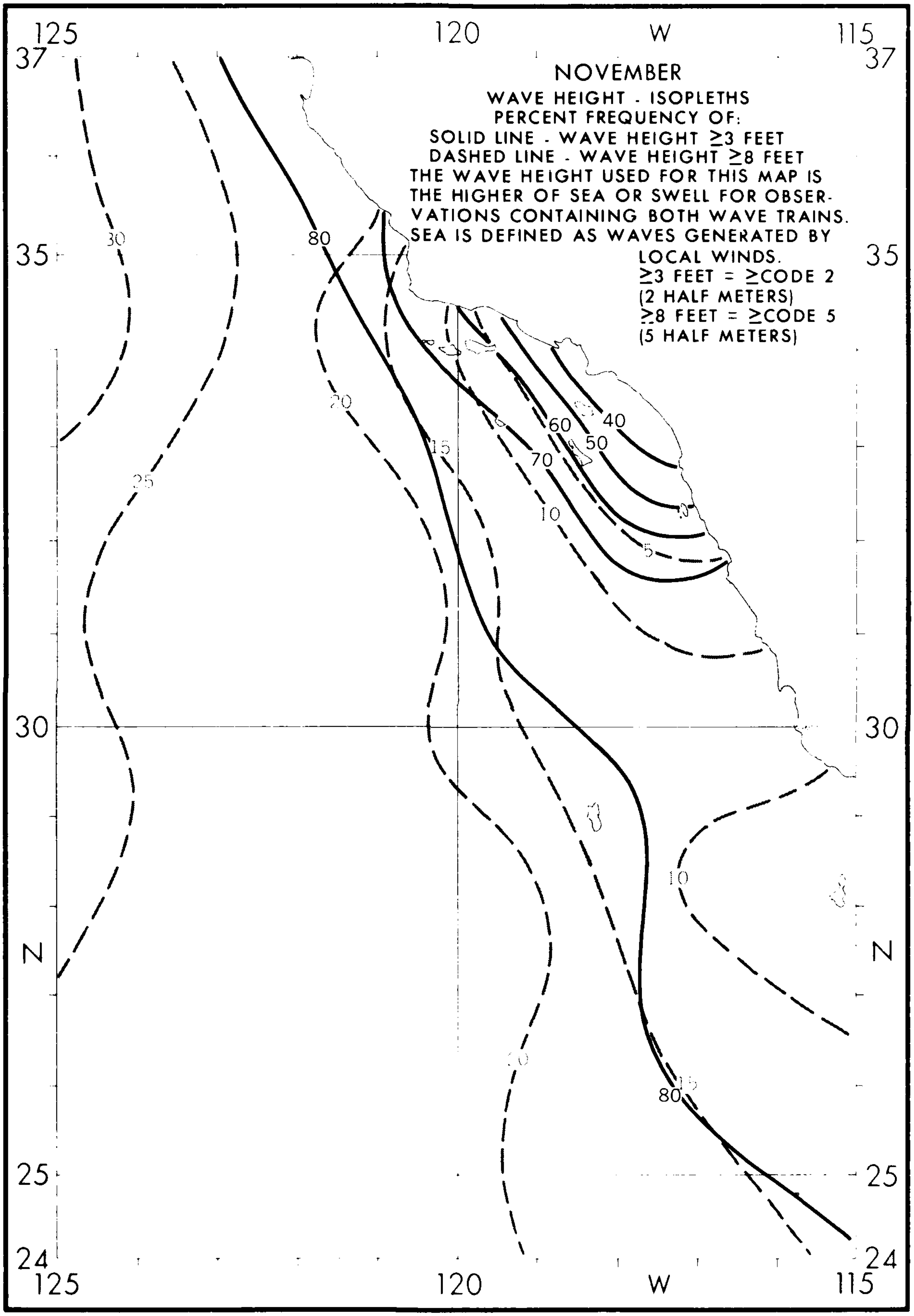


NOVEMBER

AIR AND SEA TEMPERATURE

SOLID LINE - MEAN AIR TEMPERATURE (°F)

DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)



NOVEMBER

WAVE HEIGHT - ISOPLETHS

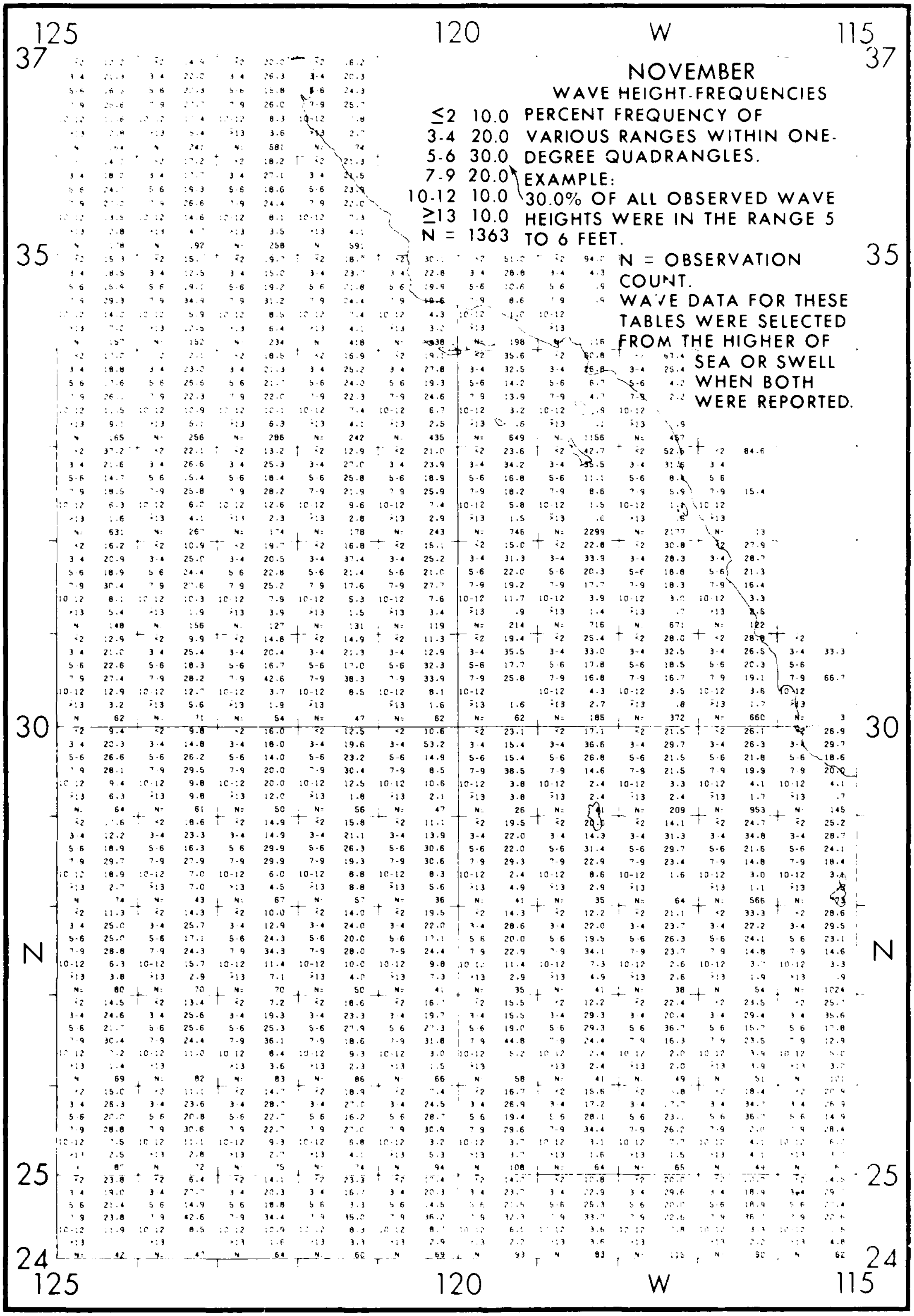
PERCENT FREQUENCY OF:

SOLID LINE - WAVE HEIGHT ≥3 FEET

DASHED LINE - WAVE HEIGHT ≥8 FEET

THE WAVE HEIGHT USED FOR THIS MAP IS THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS. SEA IS DEFINED AS WAVES GENERATED BY LOCAL WINDS.

≥3 FEET = ≥CODE 2
(2 HALF METERS)
≥8 FEET = ≥CODE 5
(5 HALF METERS)



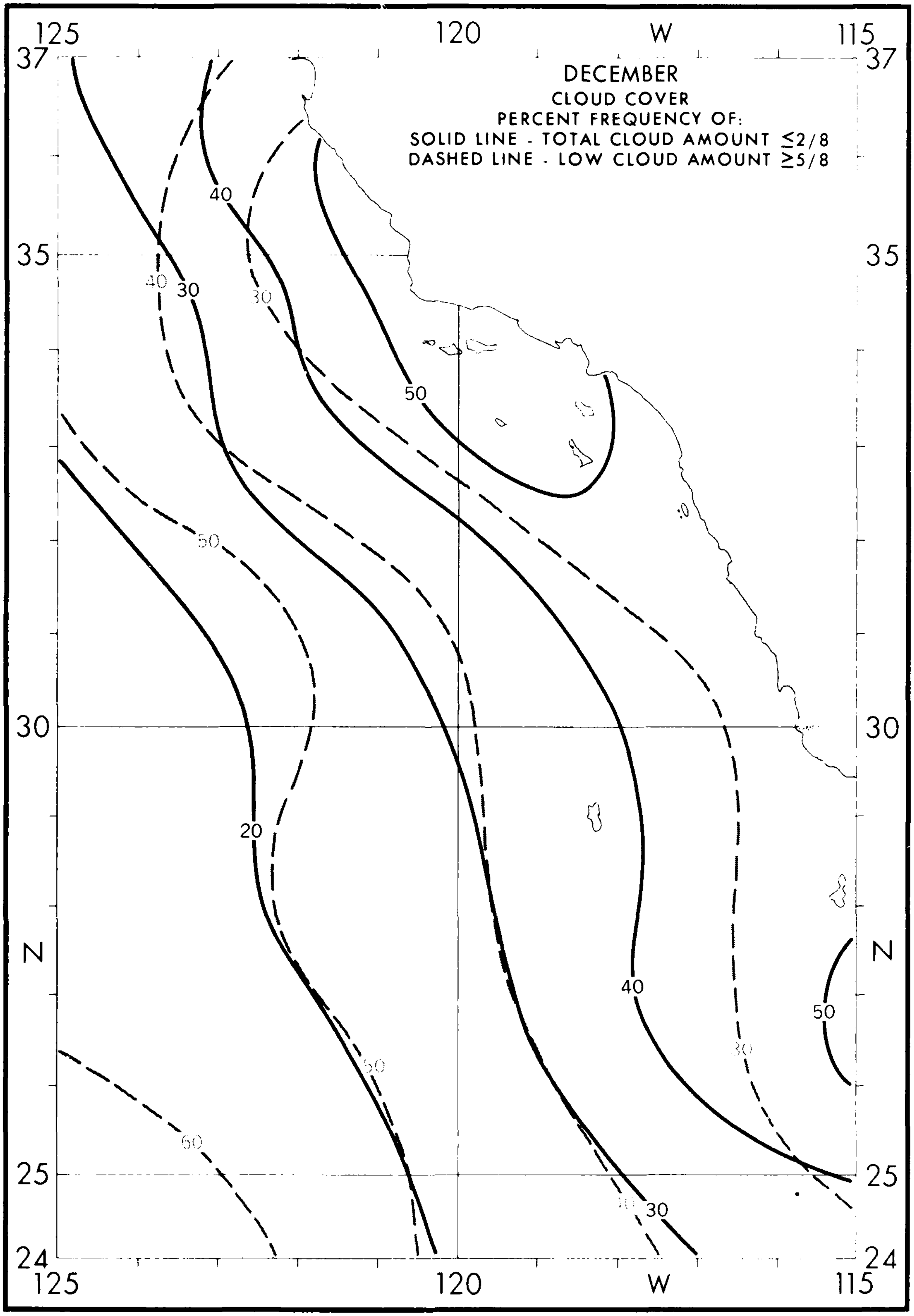
NOVEMBER

WAVE HEIGHT-FREQUENCIES

≤2	10.0	PERCENT FREQUENCY OF
3-4	20.0	VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES.
5-6	30.0	
7-9	20.0	EXAMPLE:
10-12	10.0	30.0% OF ALL OBSERVED WAVE HEIGHTS WERE IN THE RANGE 5 TO 6 FEET.
≥13	10.0	
N =	1363	

N = OBSERVATION COUNT.

WAVE DATA FOR THESE TABLES WERE SELECTED FROM THE HIGHER OF SEA OR SWELL WHEN BOTH WERE REPORTED.



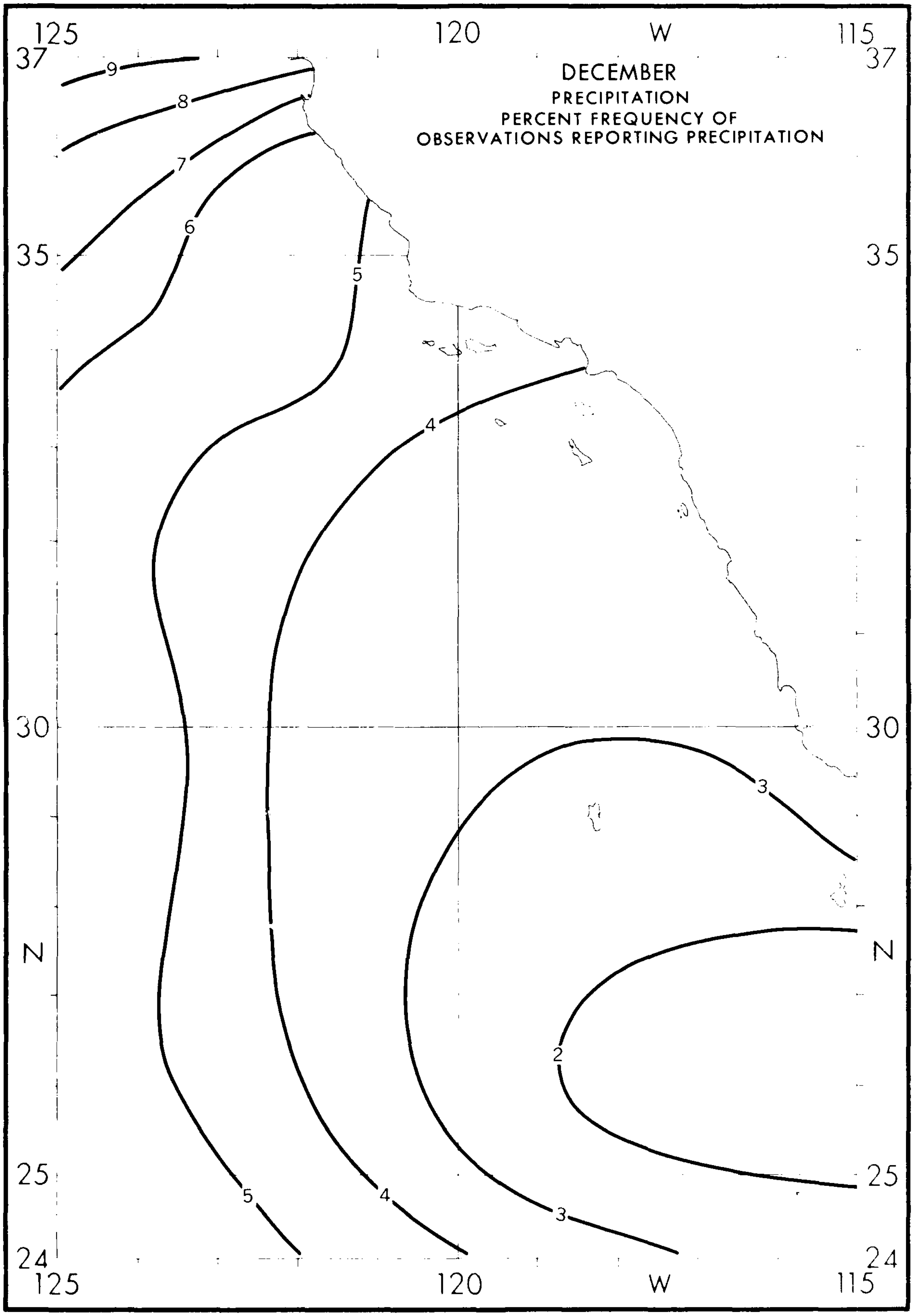
DECEMBER

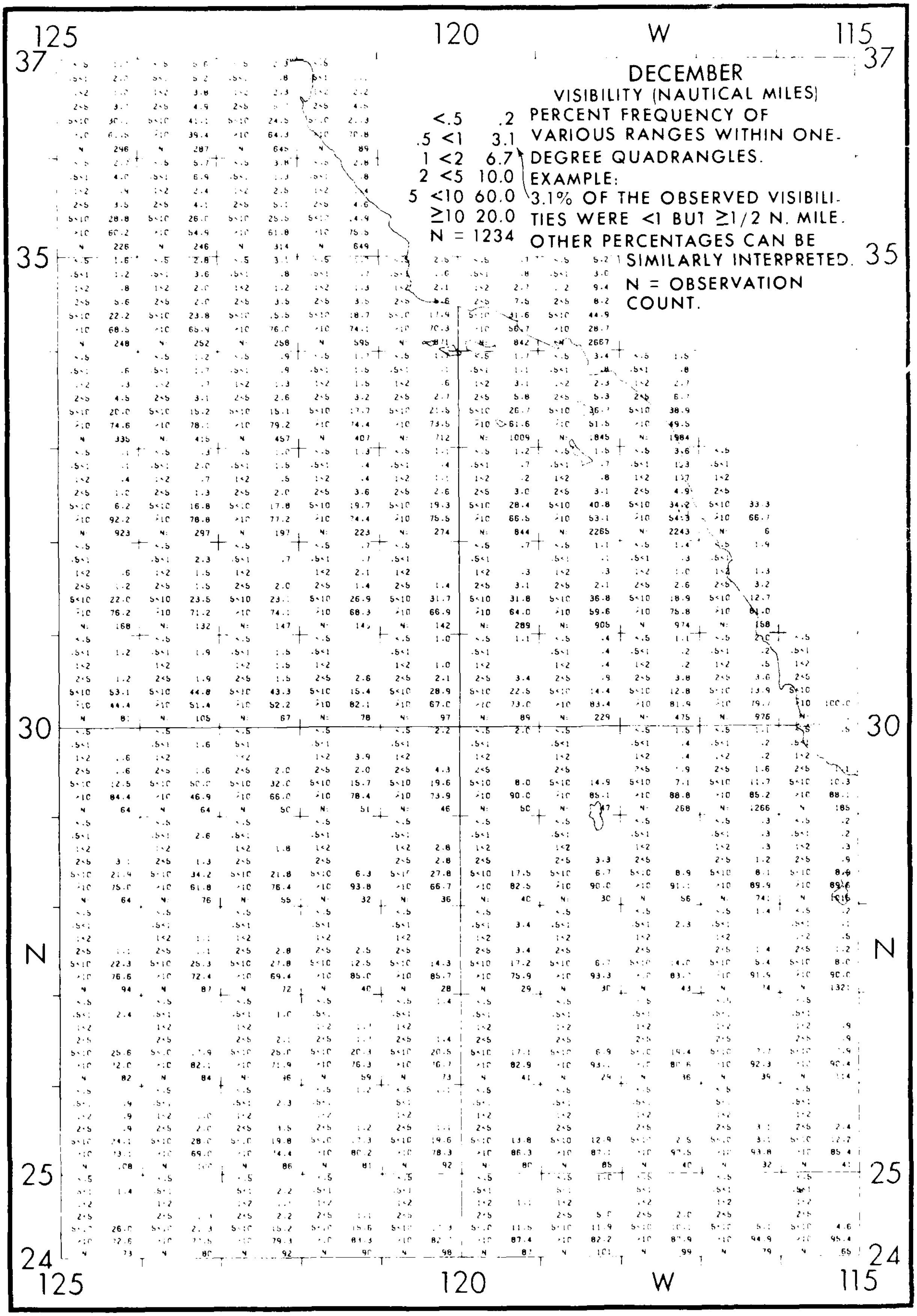
CLOUD COVER

PERCENT FREQUENCY OF:

SOLID LINE - TOTAL CLOUD AMOUNT ≤2/8

DASHED LINE - LOW CLOUD AMOUNT ≥5/8


DECEMBER
PRECIPITATION
PERCENT FREQUENCY OF
OBSERVATIONS REPORTING PRECIPITATION
125
120
W
115
37
35
30
N
25
24
9
8
7
6
5
4
3
2



DECEMBER

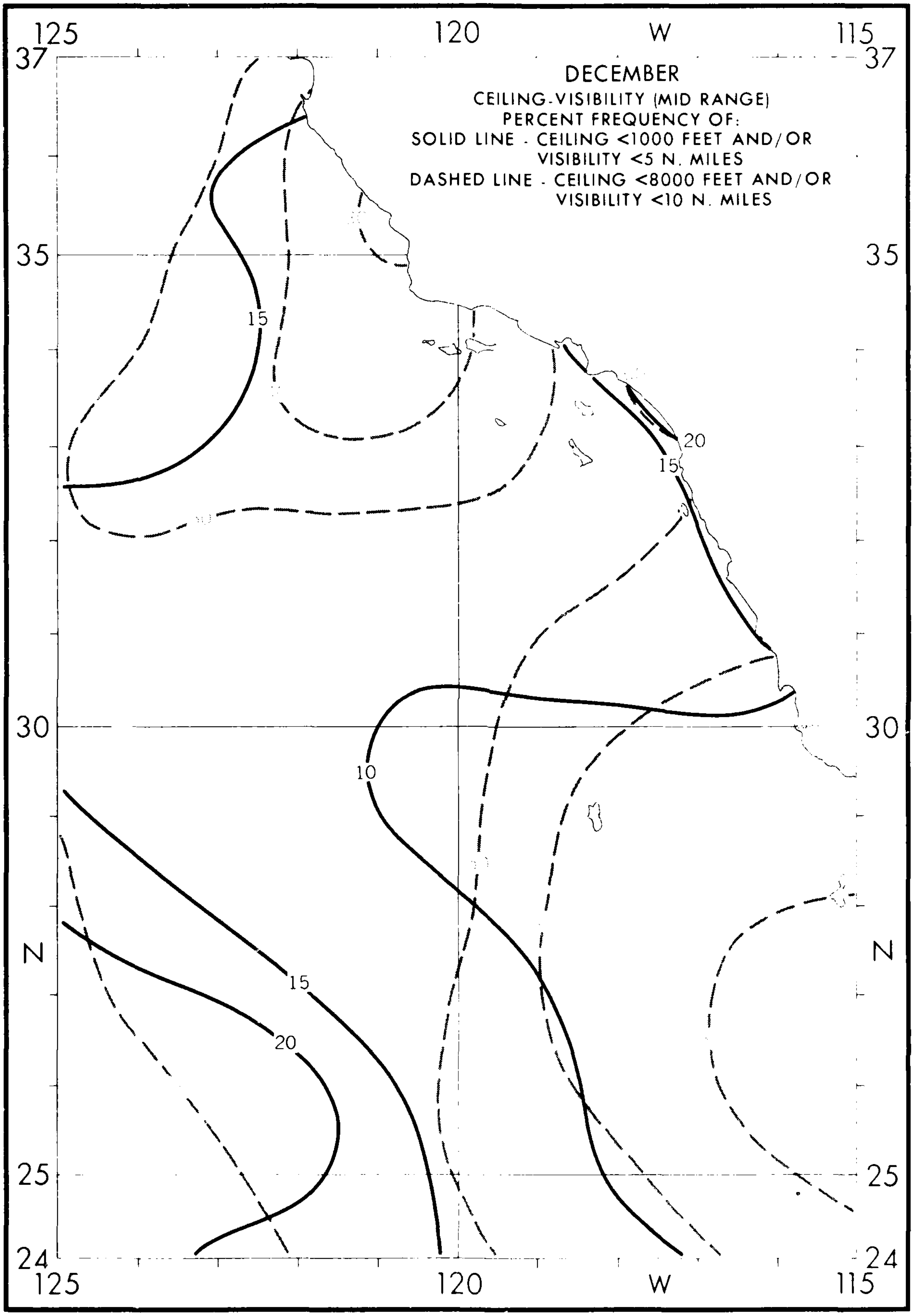
VISIBILITY (NAUTICAL MILES)

PERCENT FREQUENCY OF VARIOUS RANGES WITHIN ONE-DEGREE QUADRANGLES. EXAMPLE:

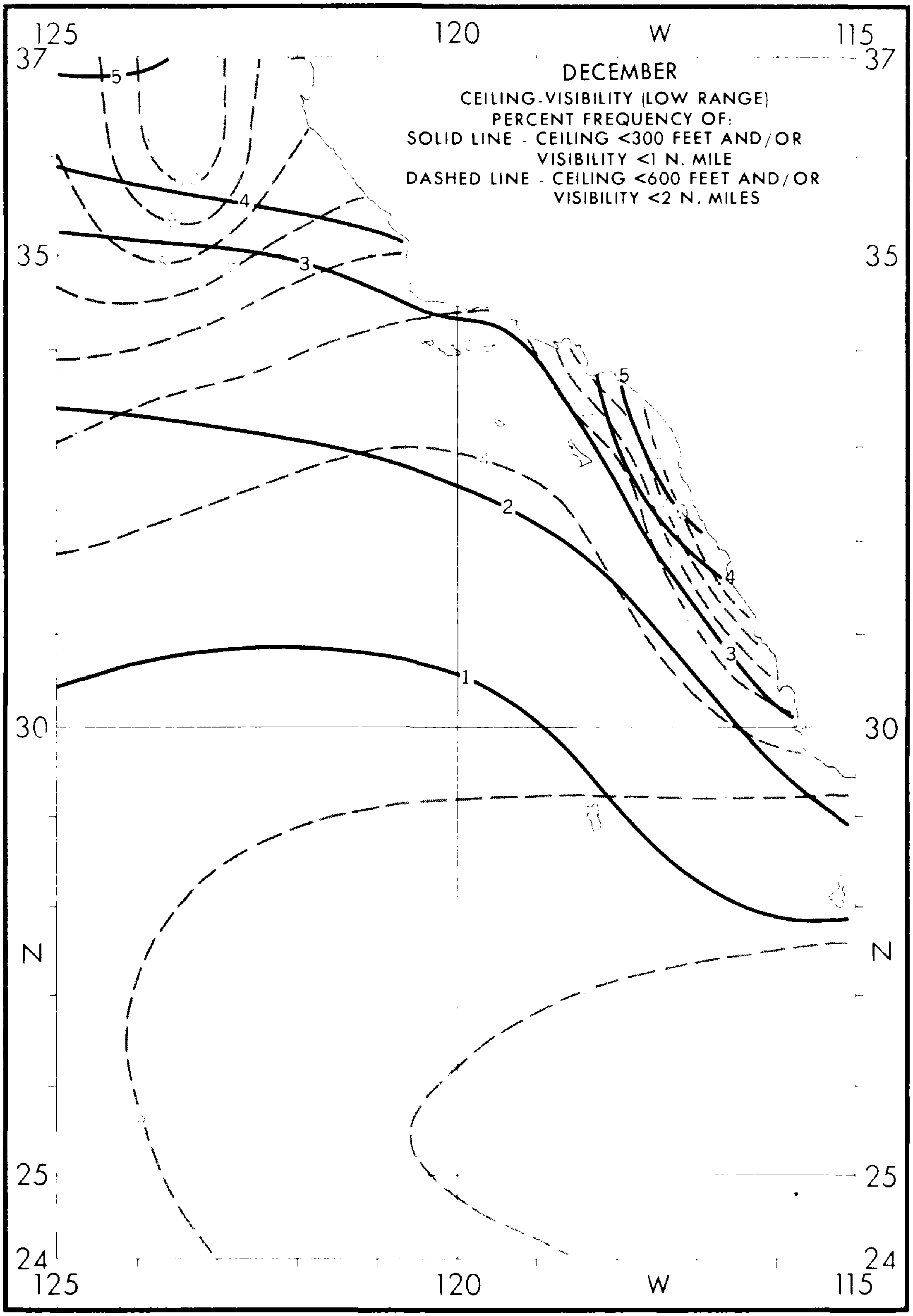
<.5	.2
.5 <1	3.1
1 <2	6.7
2 <5	10.0
5 <10	60.0
≥10	20.0
N =	1234

3.1% OF THE OBSERVED VISIBILITIES WERE <1 BUT ≥1/2 N. MILE. OTHER PERCENTAGES CAN BE SIMILARLY INTERPRETED.

N = OBSERVATION COUNT.

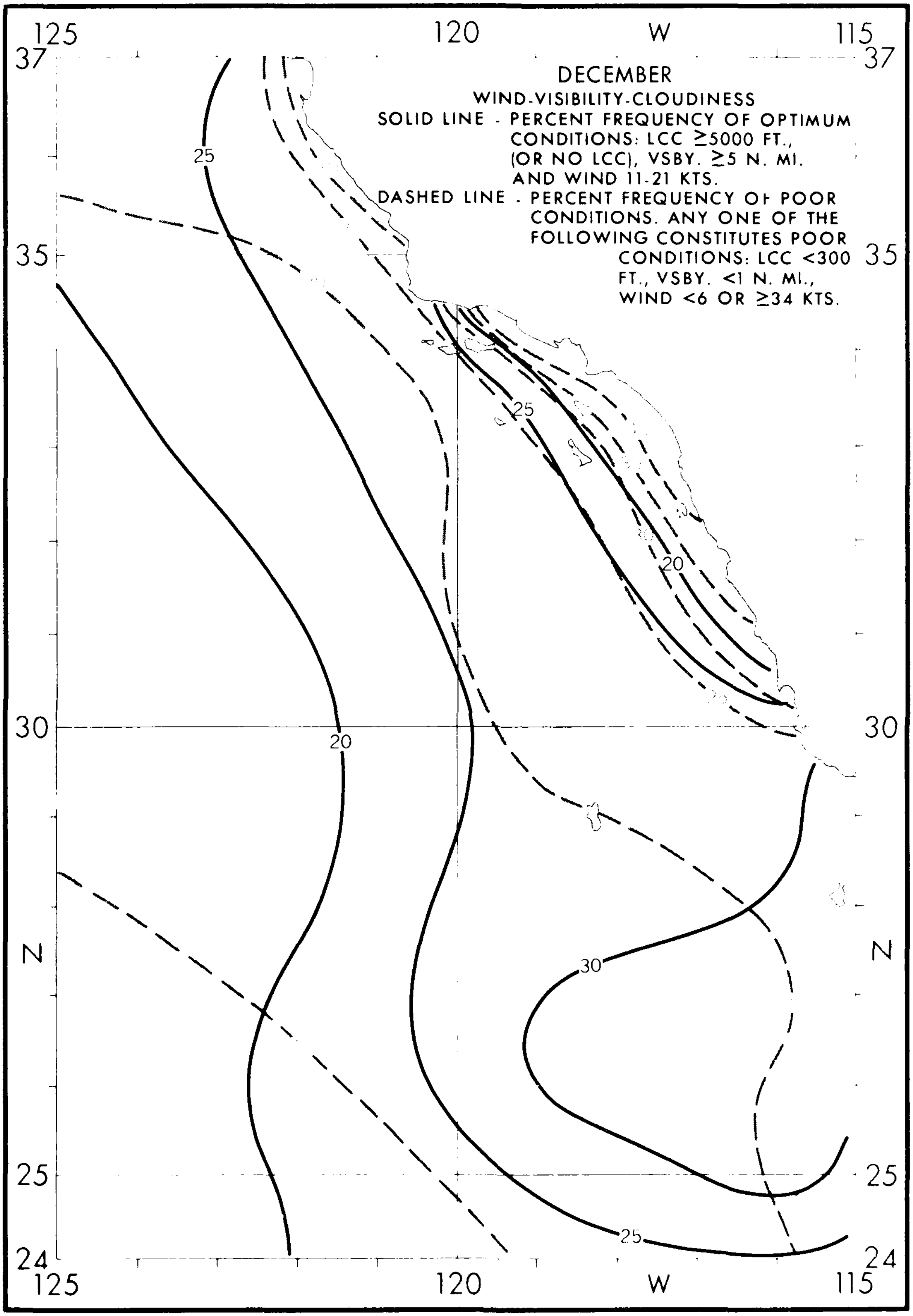


DECEMBER
CEILING-VISIBILITY (MID RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <1000 FEET AND/OR VISIBILITY <5 N. MILES
DASHED LINE - CEILING <8000 FEET AND/OR VISIBILITY <10 N. MILES
125
120
W
115
37
35
30
25
24
N
15
20
15
10
15
20



DECEMBER

CEILING-VISIBILITY (LOW RANGE)
PERCENT FREQUENCY OF:
SOLID LINE - CEILING <300 FEET AND/OR VISIBILITY <1 N. MILE
DASHED LINE - CEILING <600 FEET AND/OR VISIBILITY <2 N. MILES

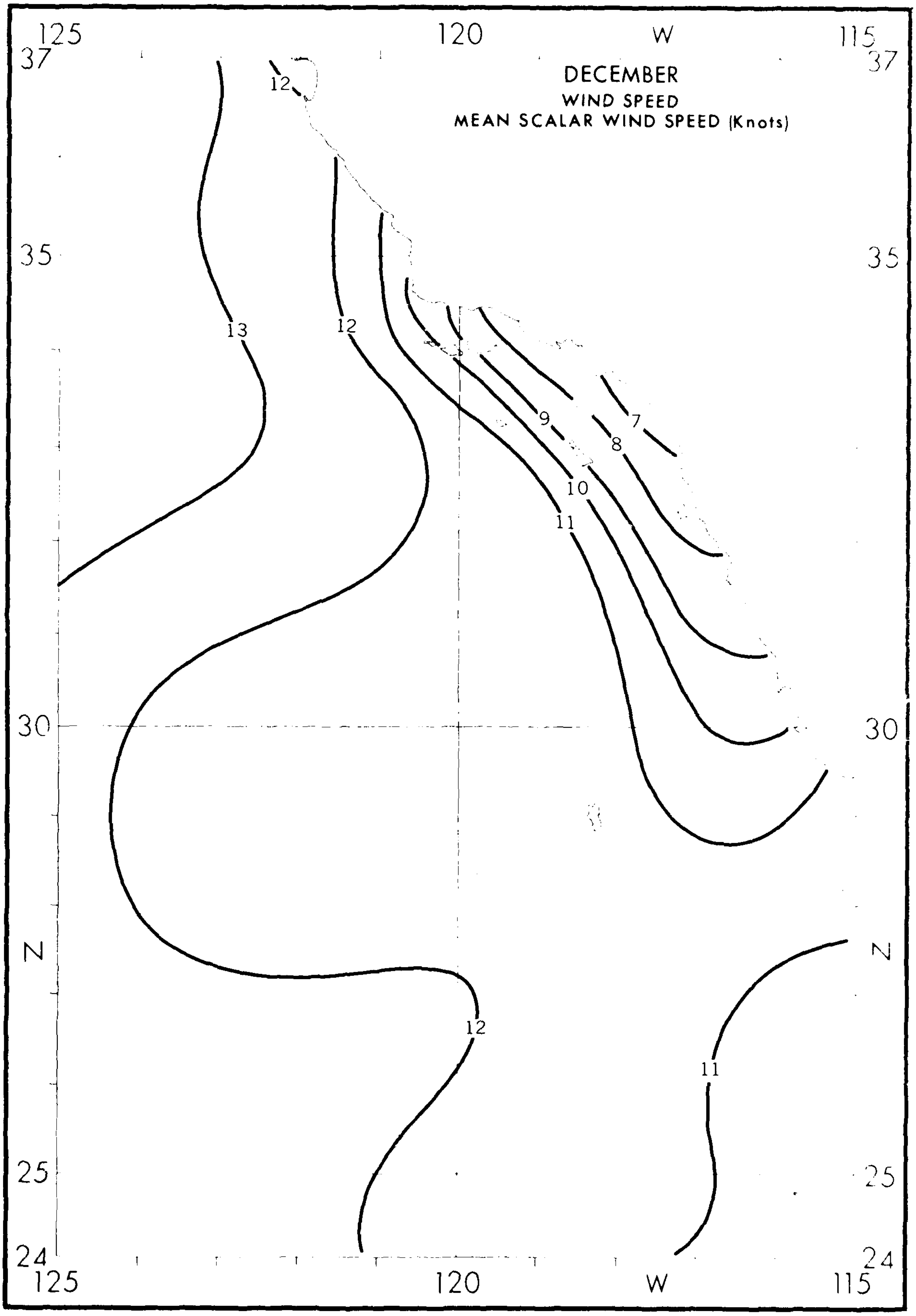


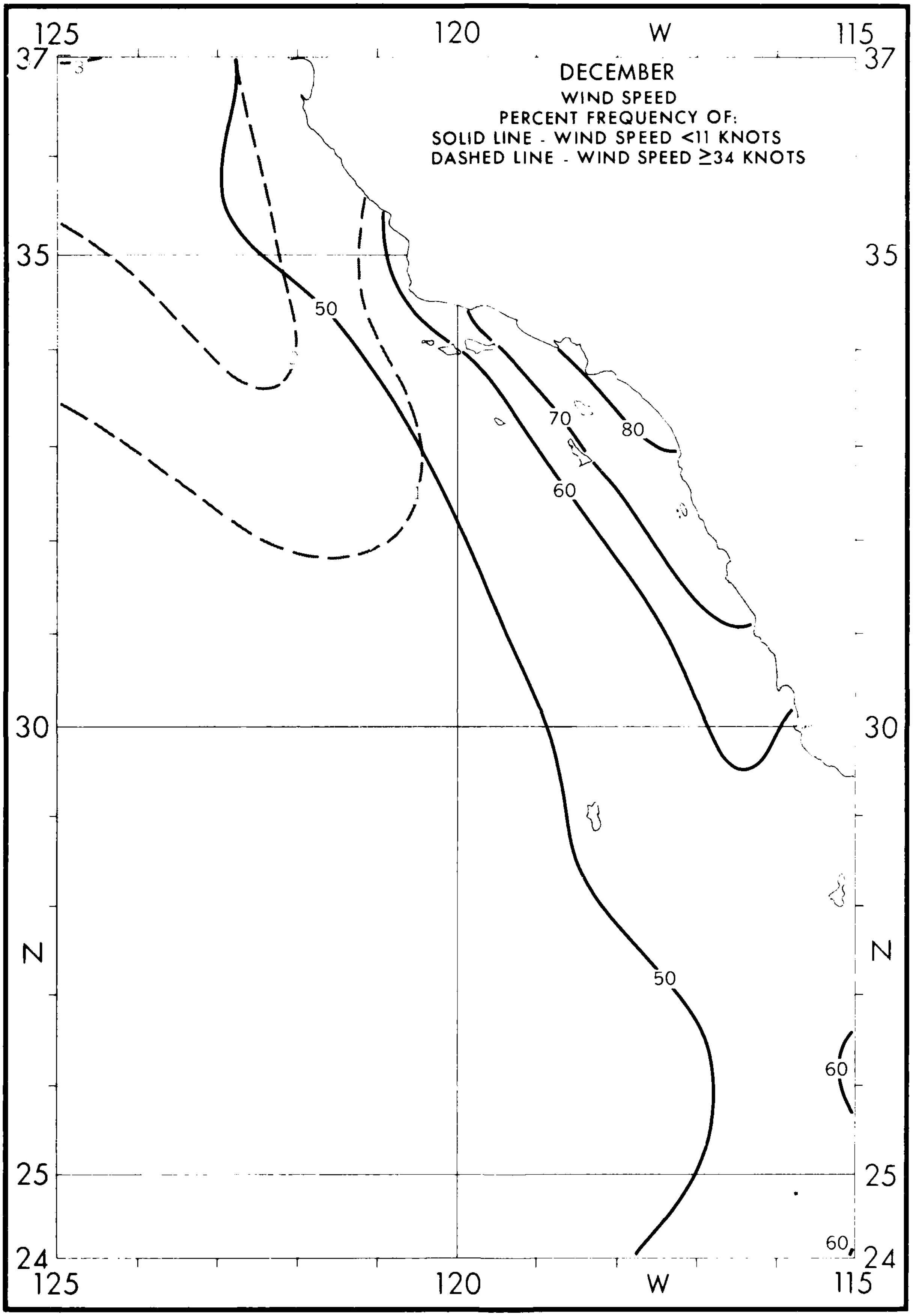
DECEMBER

WIND-VISIBILITY-CLOUDINESS

SOLID LINE - PERCENT FREQUENCY OF OPTIMUM CONDITIONS: LCC ≥5000 FT., (OR NO LCC), VSBY. ≥5 N. MI. AND WIND 11-21 KTS.

DASHED LINE - PERCENT FREQUENCY OF POOR CONDITIONS. ANY ONE OF THE FOLLOWING CONSTITUTES POOR CONDITIONS: LCC <300 FT., VSBY. <1 N. MI., WIND <6 OR ≥34 KTS.


DECEMBER
WIND SPEED
MEAN SCALAR WIND SPEED (Knots)
125
120
W
115
37
35
30
N
25
24
13
12
12
12
11
11
10
9
8
7



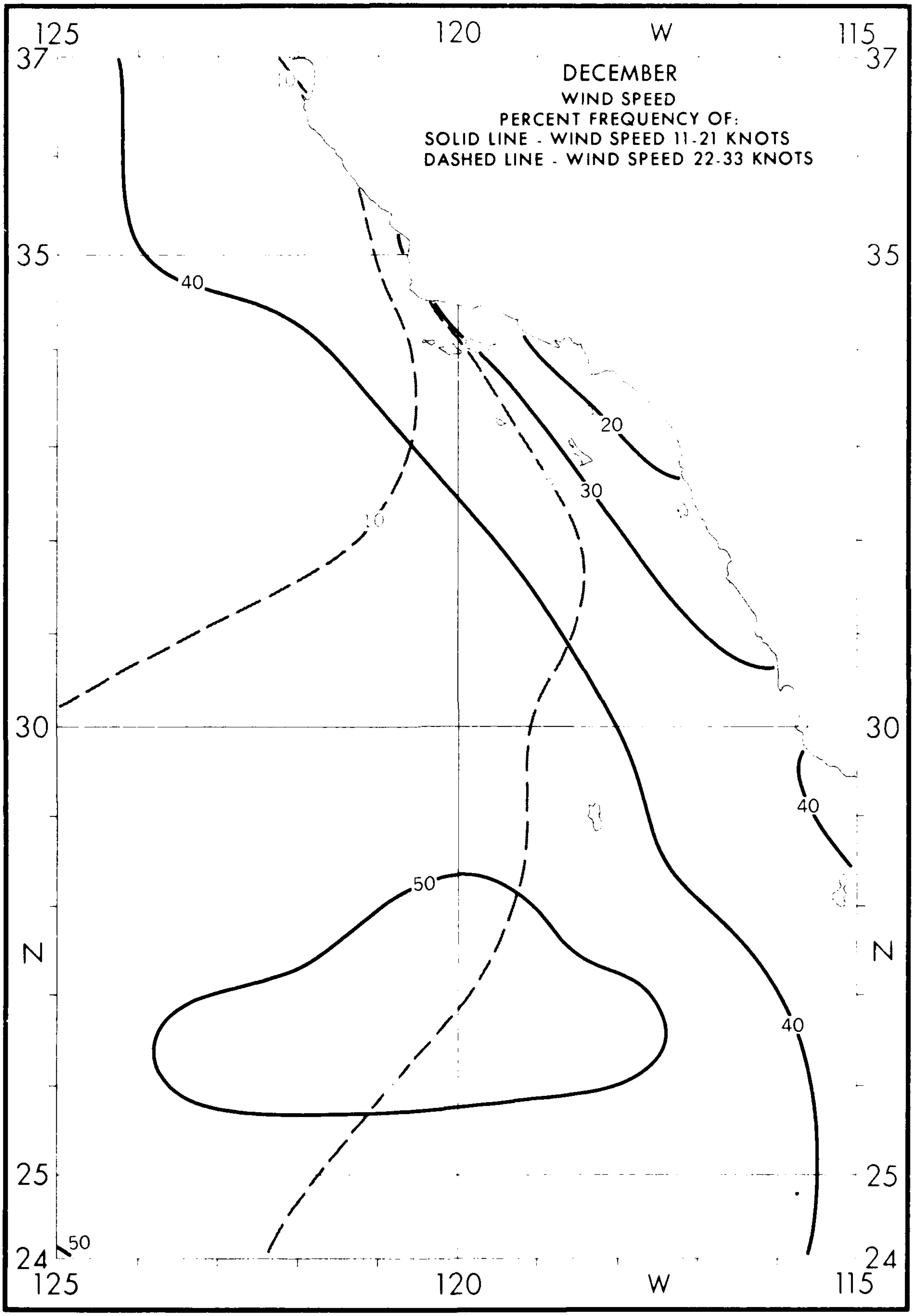
DECEMBER

WIND SPEED

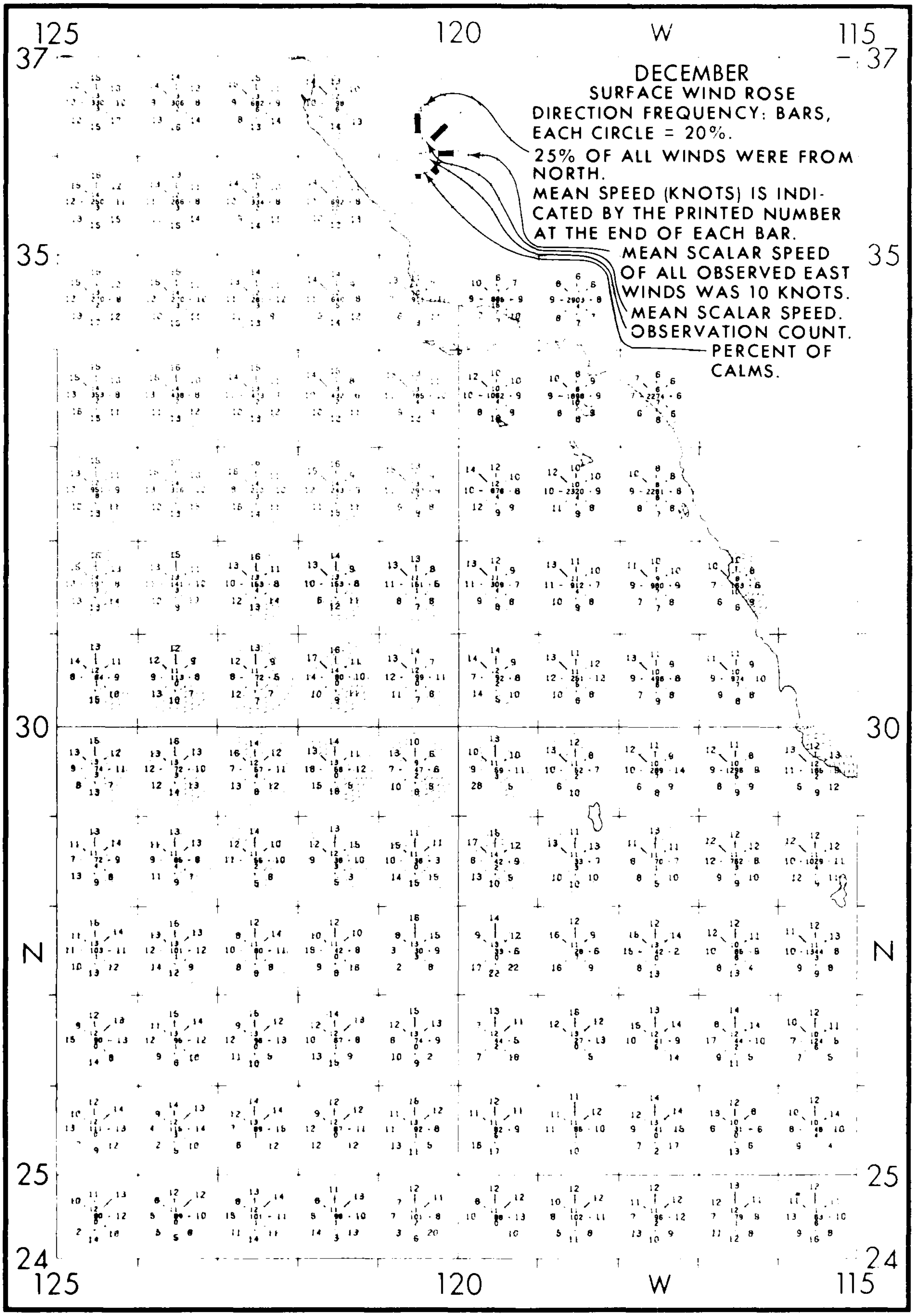
PERCENT FREQUENCY OF:

SOLID LINE - WIND SPEED <11 KNOTS

DASHED LINE - WIND SPEED ≥34 KNOTS



DECEMBER
WIND SPEED
PERCENT FREQUENCY OF:
SOLID LINE - WIND SPEED 11-21 KNOTS
DASHED LINE - WIND SPEED 22-33 KNOTS
125
120
W
115
37
35
30
25
24
N
40
30
20
10
50



DECEMBER

SURFACE WIND ROSE

DIRECTION FREQUENCY: BARS, EACH CIRCLE = 20%.

25% OF ALL WINDS WERE FROM NORTH.

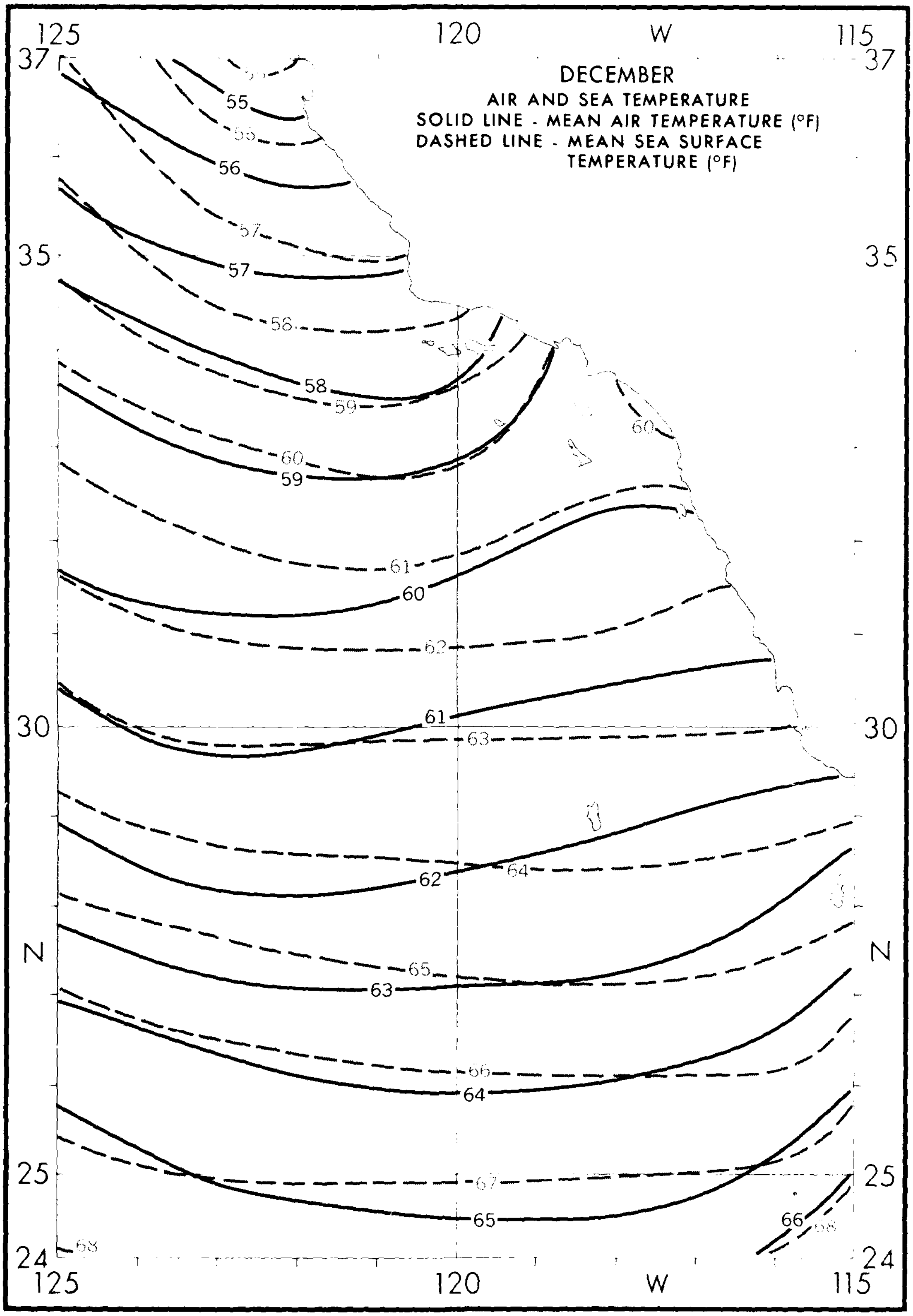
MEAN SPEED (KNOTS) IS INDICATED BY THE PRINTED NUMBER AT THE END OF EACH BAR.

MEAN SCALAR SPEED OF ALL OBSERVED EAST WINDS WAS 10 KNOTS.

MEAN SCALAR SPEED.

OBSERVATION COUNT.

PERCENT OF CALMS.

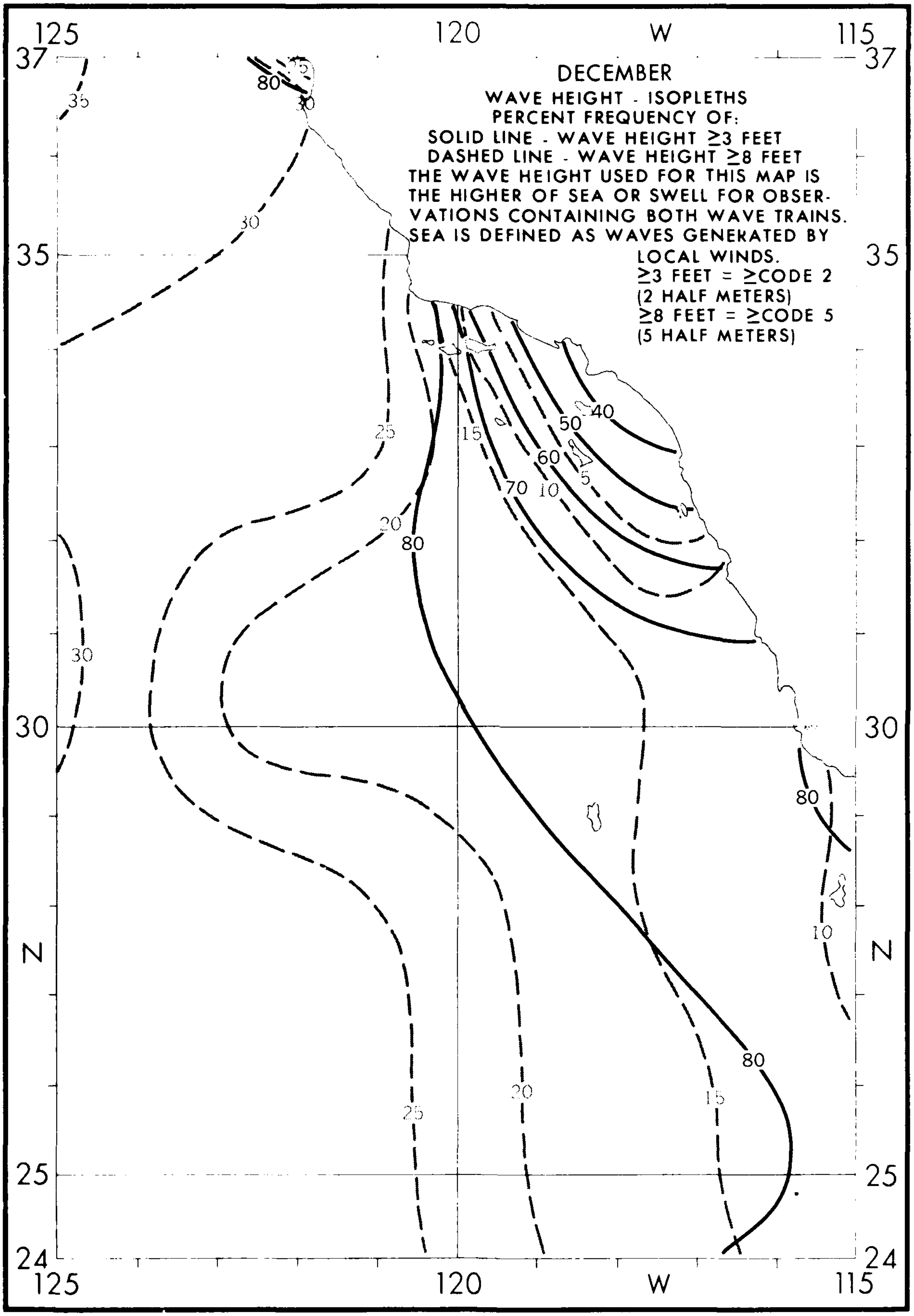


DECEMBER

AIR AND SEA TEMPERATURE

SOLID LINE - MEAN AIR TEMPERATURE (°F)

DASHED LINE - MEAN SEA SURFACE TEMPERATURE (°F)



DECEMBER

WAVE HEIGHT - ISOPLETHS

PERCENT FREQUENCY OF:

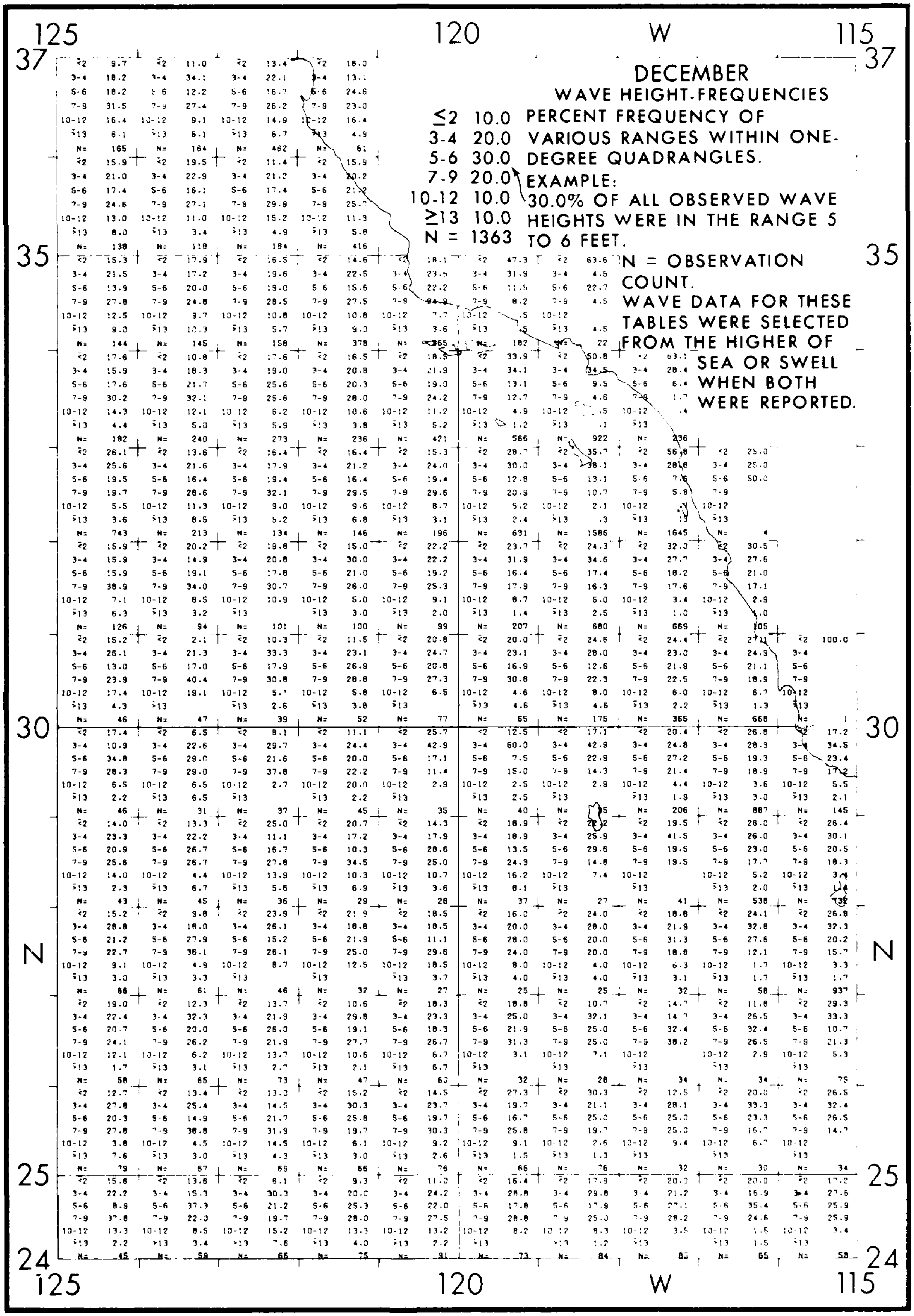
SOLID LINE - WAVE HEIGHT ≥3 FEET

DASHED LINE - WAVE HEIGHT ≥8 FEET

THE WAVE HEIGHT USED FOR THIS MAP IS THE HIGHER OF SEA OR SWELL FOR OBSERVATIONS CONTAINING BOTH WAVE TRAINS. SEA IS DEFINED AS WAVES GENERATED BY LOCAL WINDS.

≥3 FEET = ≥CODE 2 (2 HALF METERS)

≥8 FEET = ≥CODE 5 (5 HALF METERS)



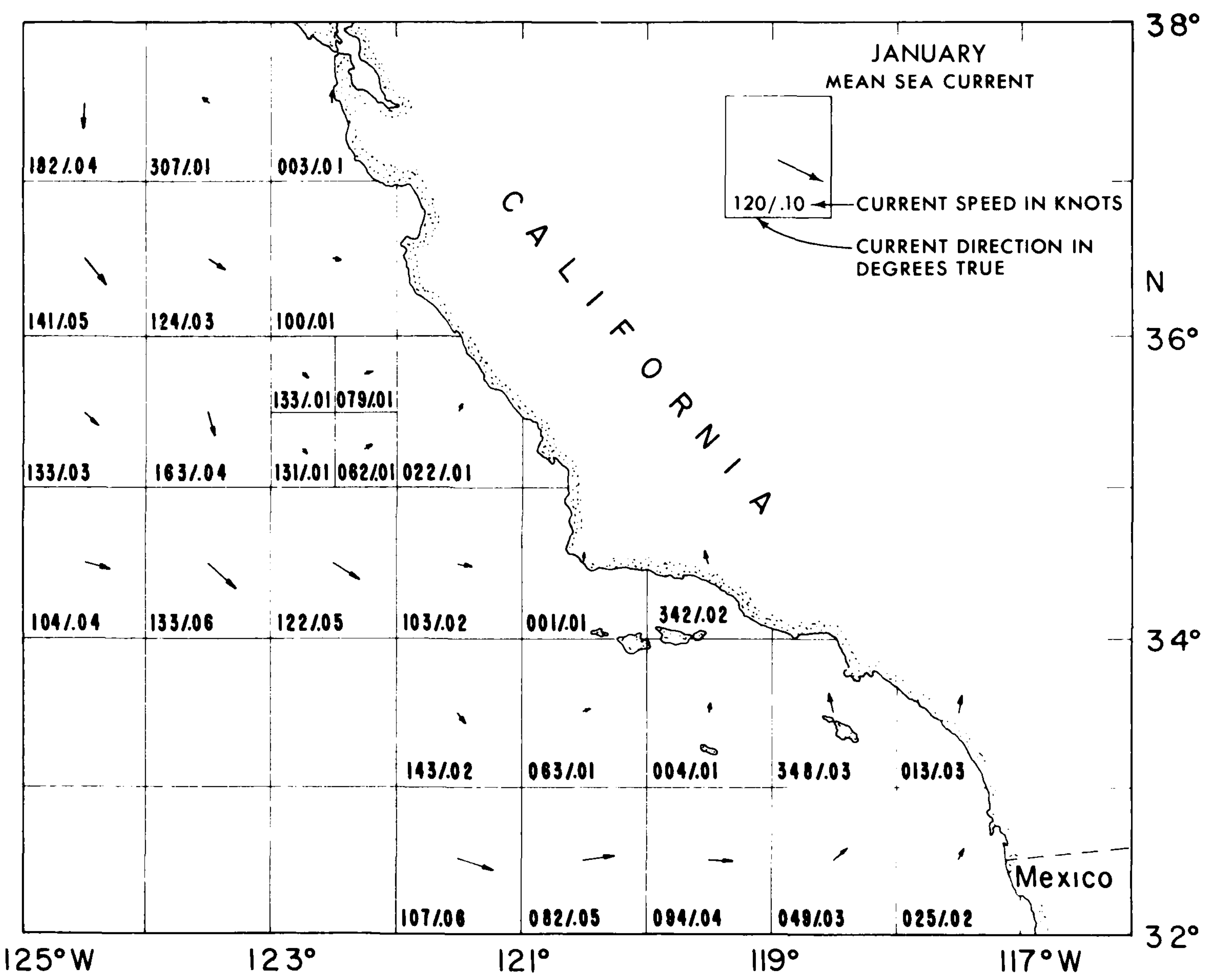
DECEMBER

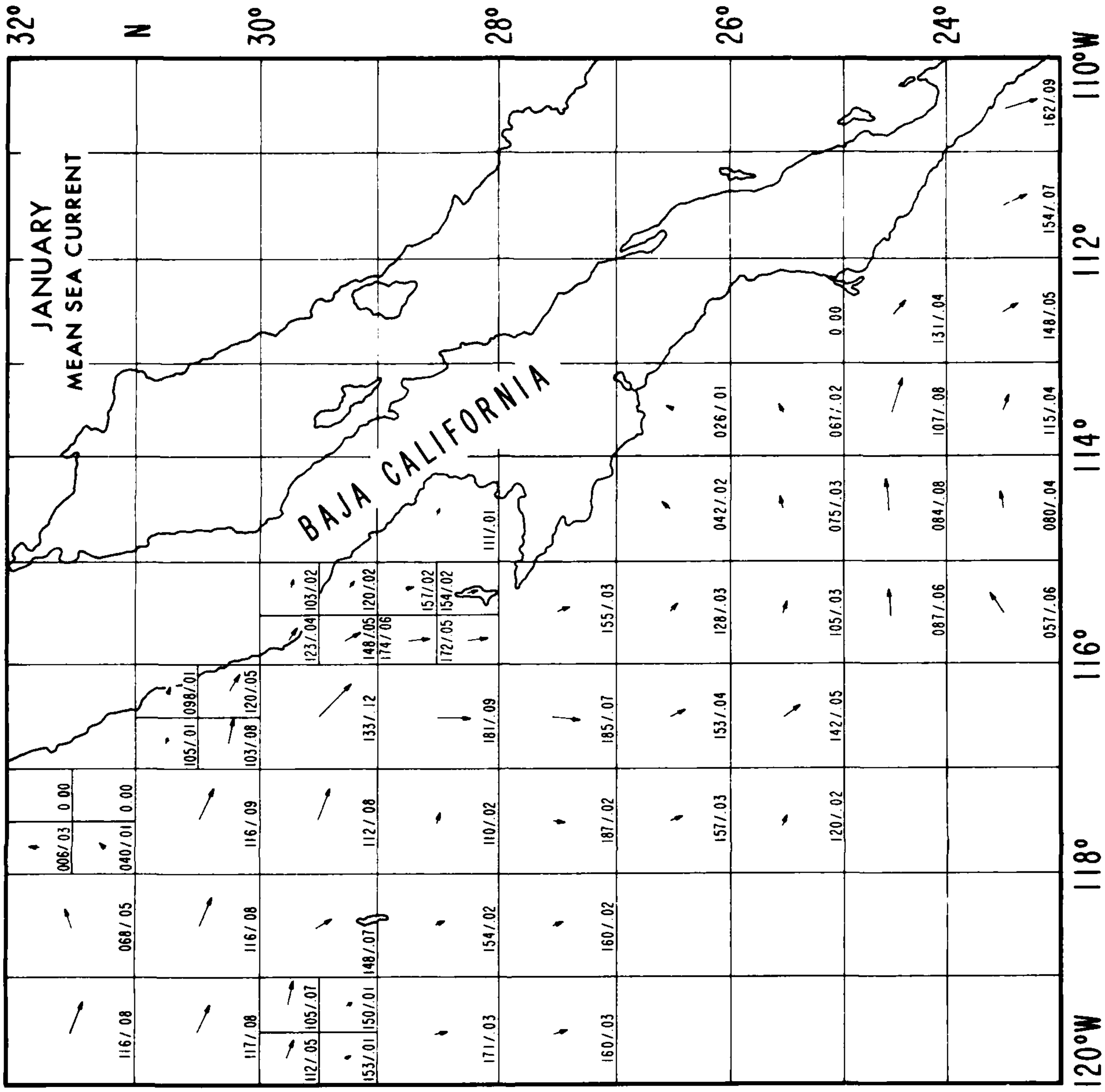
WAVE HEIGHT-FREQUENCIES

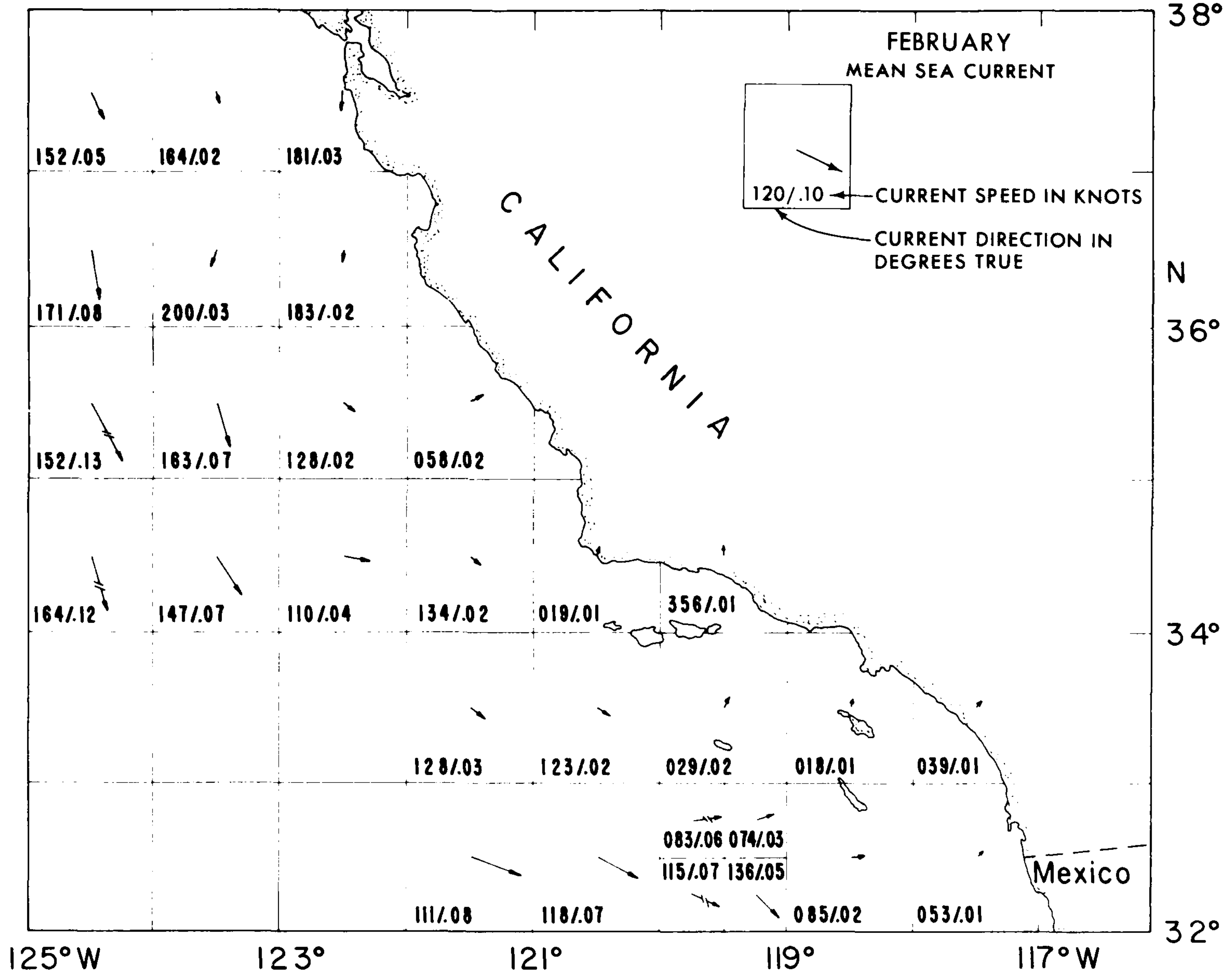
≤2	10.0	PERCENT FREQUENCY OF
3-4	20.0	VARIOUS RANGES WITHIN ONE-
5-6	30.0	DEGREE QUADRANGLES.
7-9	20.0	EXAMPLE:
10-12	10.0	30.0% OF ALL OBSERVED WAVE
≥13	10.0	HEIGHTS WERE IN THE RANGE 5
N =	1363	TO 6 FEET.

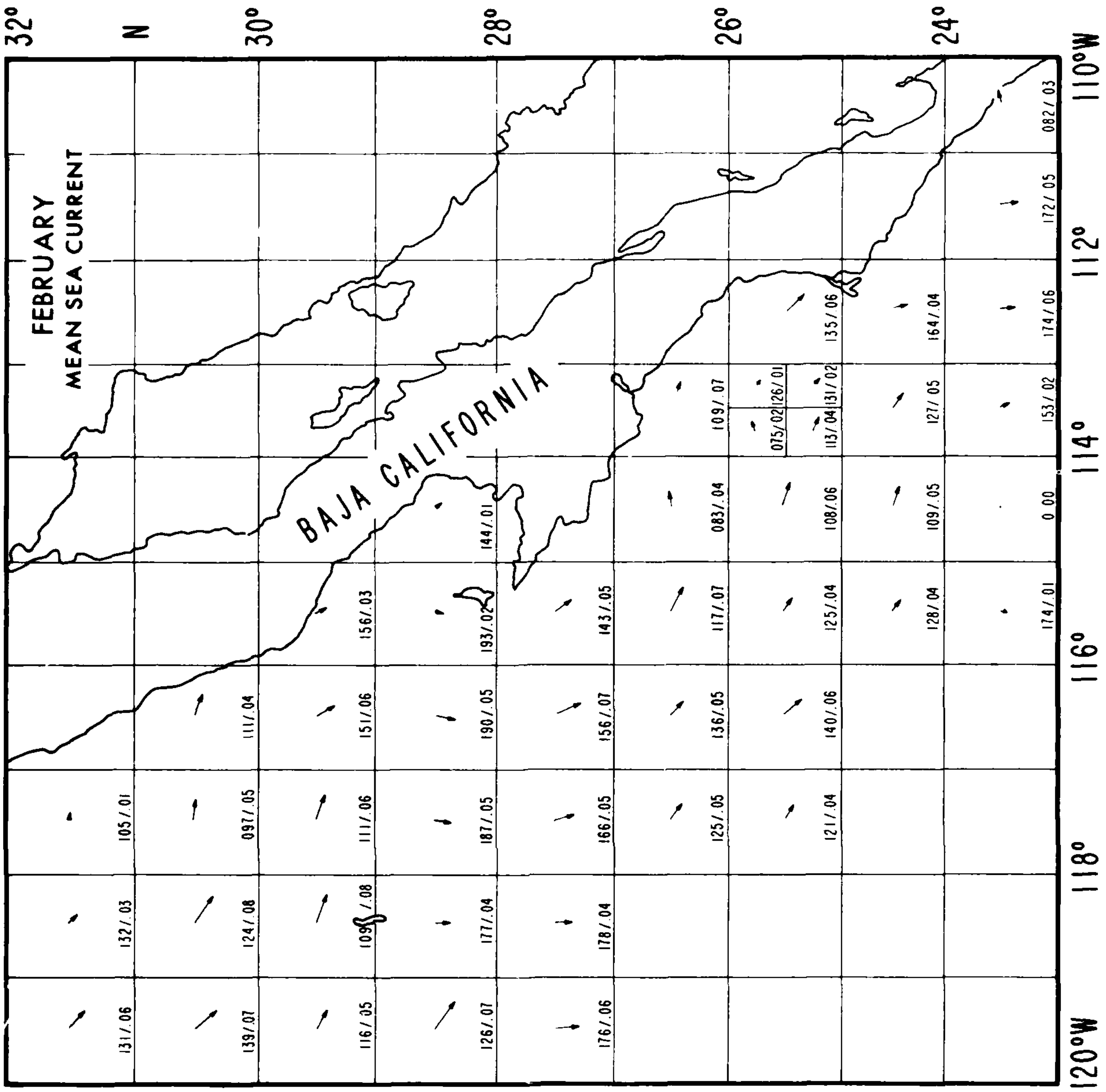
N = OBSERVATION COUNT.

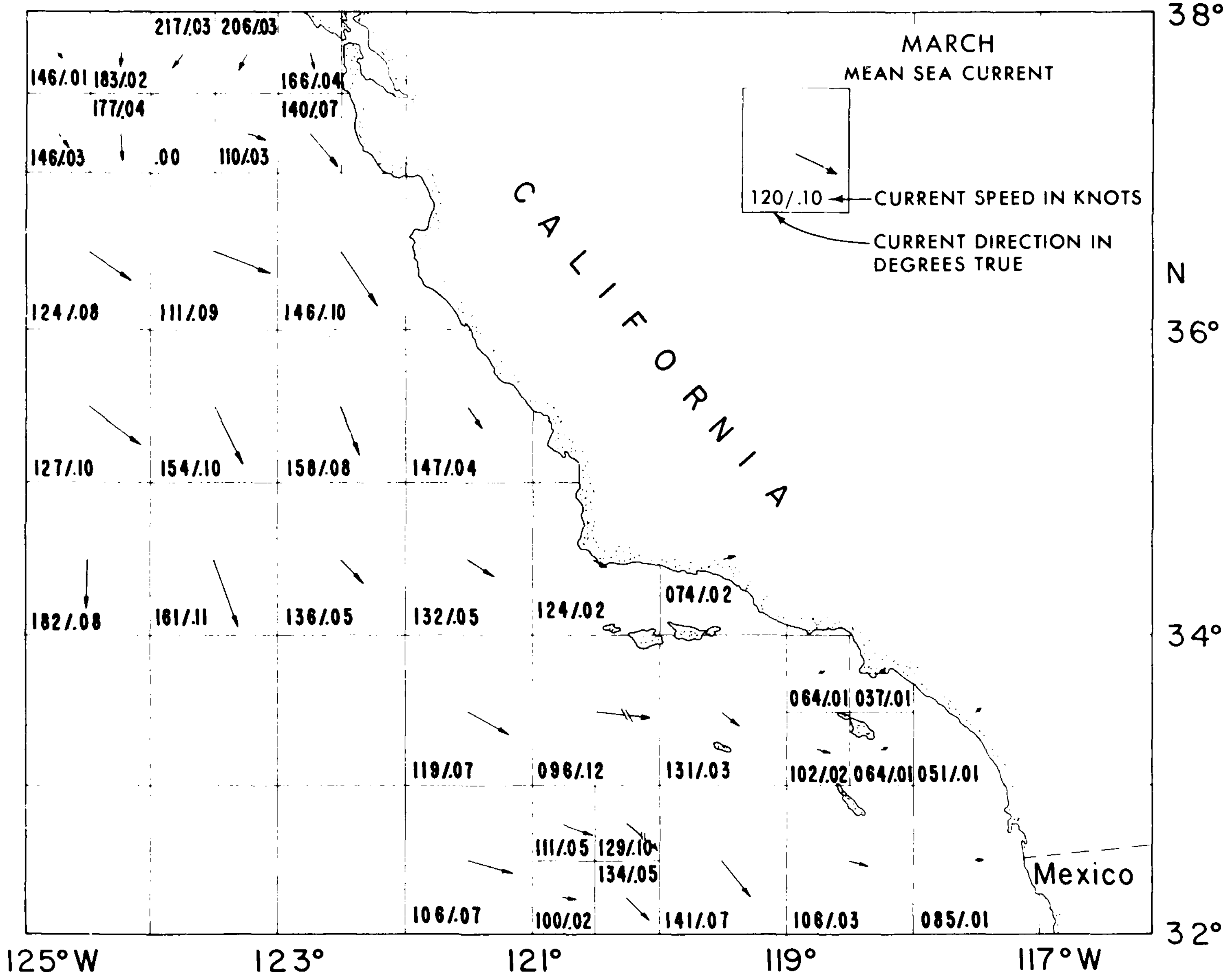
WAVE DATA FOR THESE TABLES WERE SELECTED FROM THE HIGHER OF SEA OR SWELL WHEN BOTH WERE REPORTED.

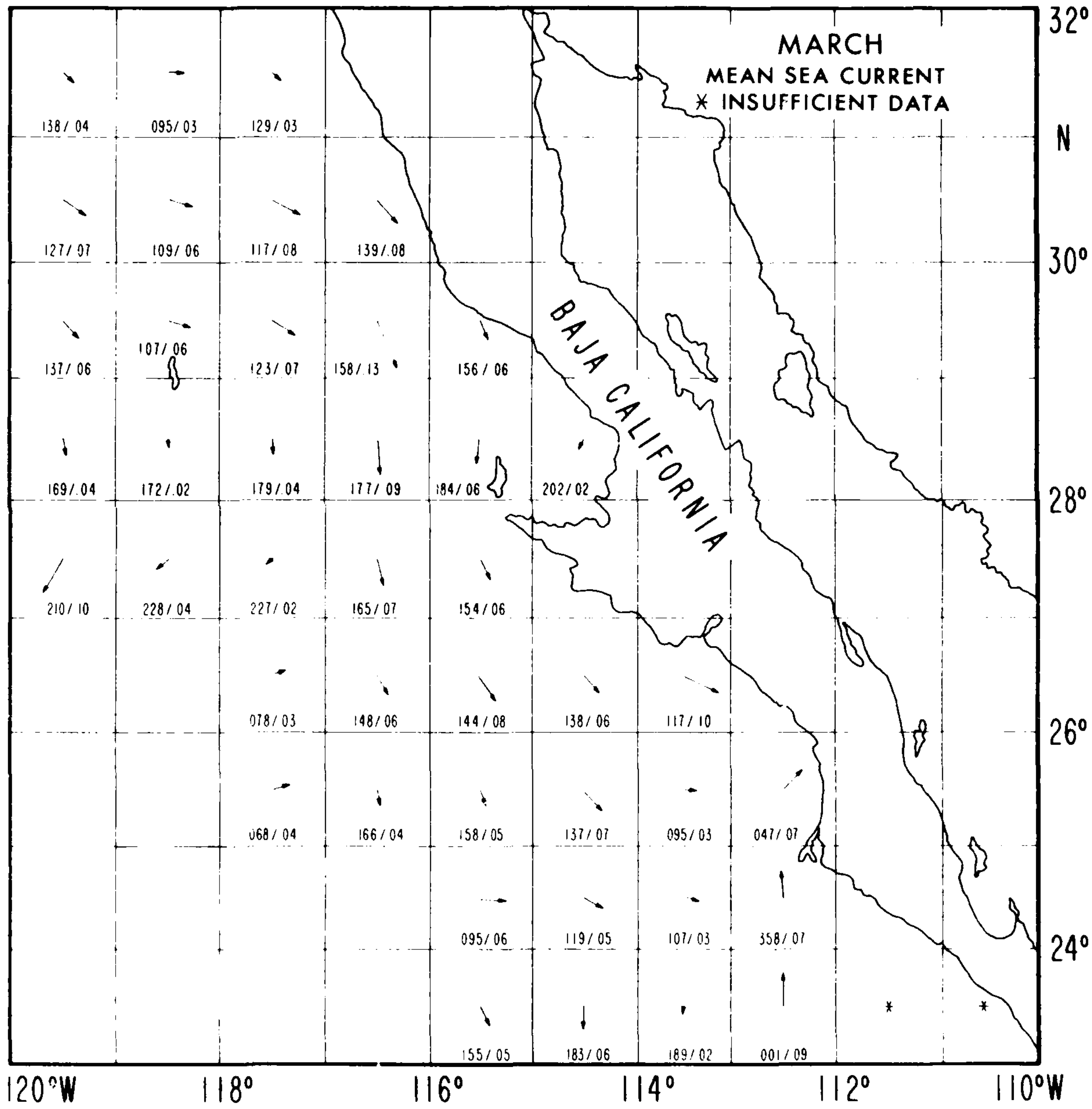

JANUARY
MEAN SEA CURRENT
120/.10
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
CALIFORNIA
Mexico
38°
N
36°
34°
32°
125°W
123°
121°
119°
117°W
182/.04
307/.01
003/.01
141/.05
124/.03
100/.01
133/.03
163/.04
133/.01
079/.01
131/.01
062/.01
022/.01
104/.04
133/.06
122/.05
103/.02
001/.01
342/.02
143/.02
063/.01
004/.01
348/.03
013/.03
107/.06
082/.05
094/.04
049/.03
025/.02

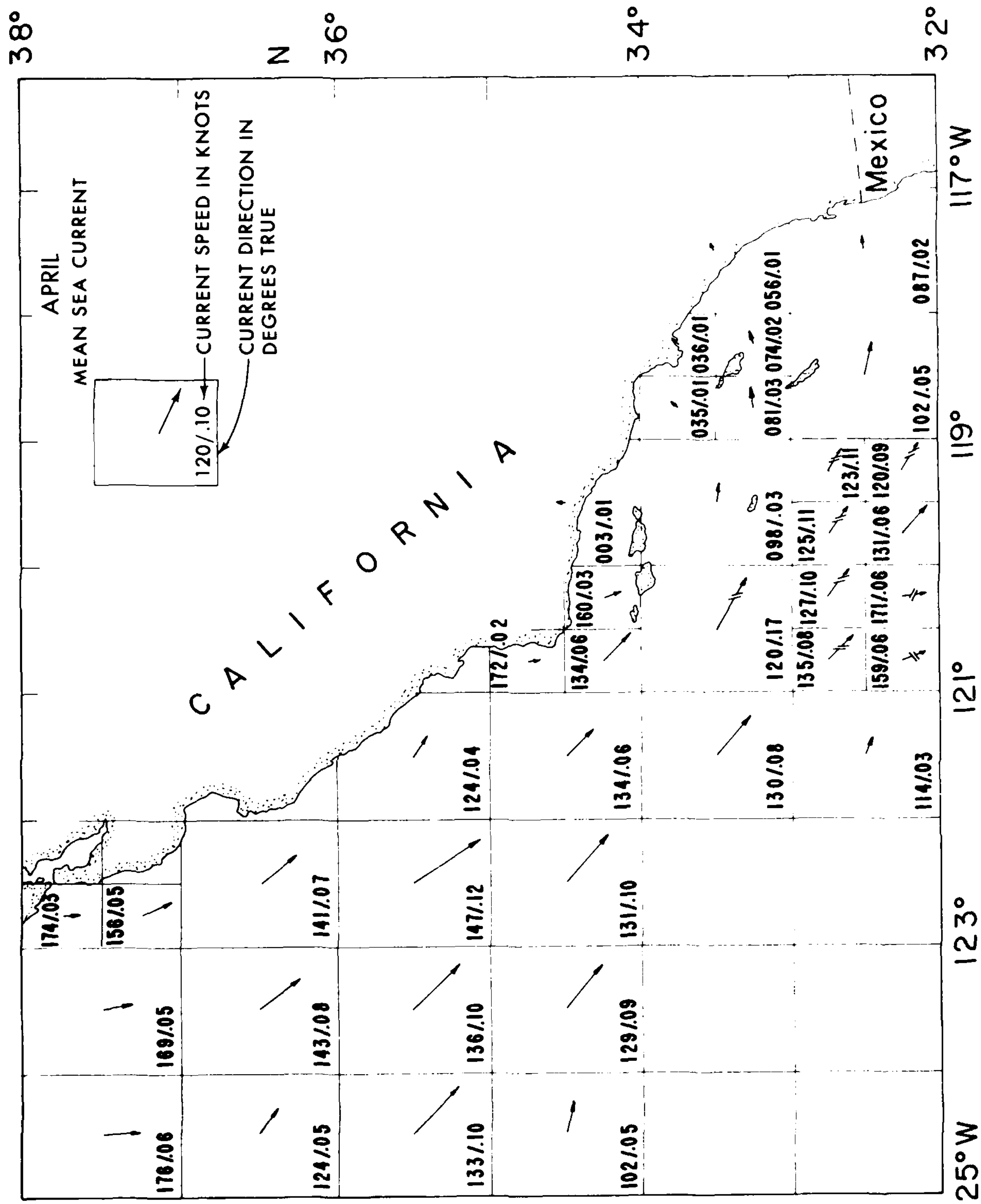

JANUARY
MEAN SEA CURRENT

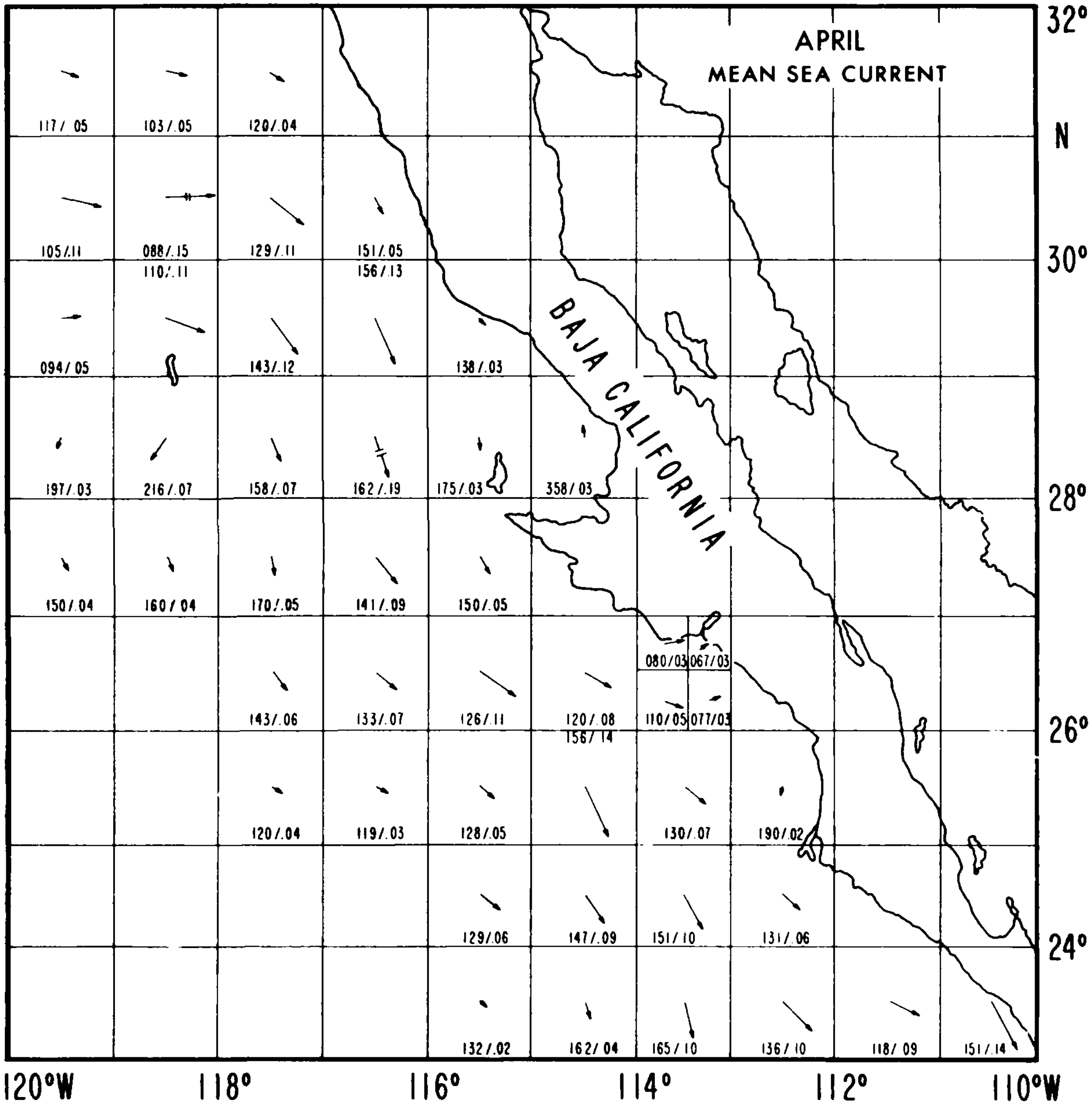

FEBRUARY
MEAN SEA CURRENT
120/.10
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
CALIFORNIA
Mexico
38°
N
36°
34°
32°
125°W
123°
121°
119°
117°W
152/.05
164/.02
181/.03
171/.08
200/.03
183/.02
152/.13
163/.07
128/.02
058/.02
164/.12
147/.07
110/.04
134/.02
019/.01
356/.01
128/.03
123/.02
029/.02
018/.01
039/.01
083/.06
074/.03
115/.07
136/.05
111/.08
118/.07
085/.02
053/.01

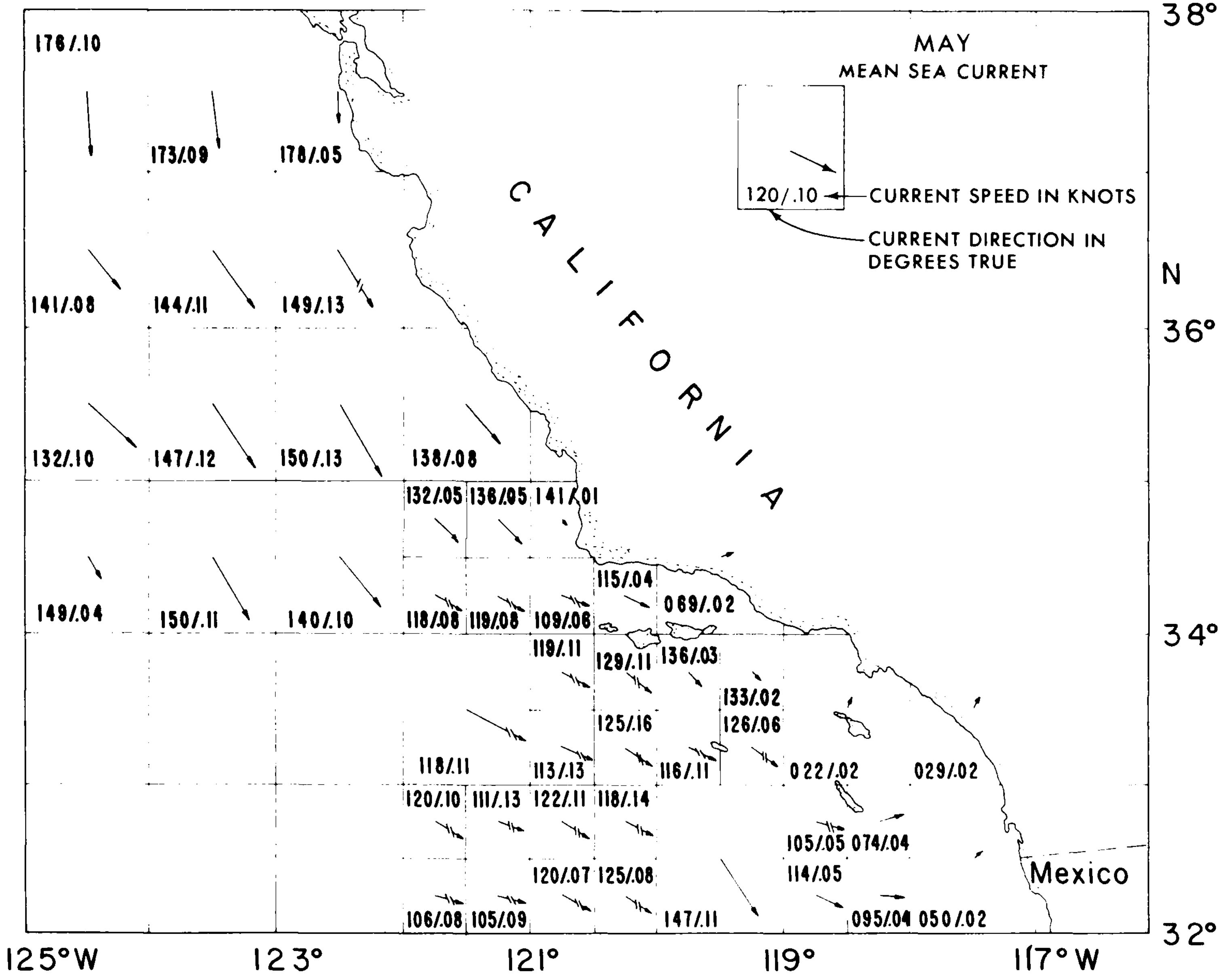

FEBRUARY
MEAN SEA CURRENT
BAJA CALIFORNIA
32°
N
30°
28°
26°
24°
110°W
112°
114°
116°
118°
120°W
105/.01
132/.03
131/.06
111/.04
097/.05
124/.08
139/.07
156/.03
151/.06
111/.06
109/.08
116/.05
144/.01
193/.02
190/.05
187/.05
177/.04
126/.07
143/.05
156/.07
166/.05
178/.04
176/.06
109/.07
083/.04
117/.07
136/.05
125/.05
075/.02
126/.01
131/.02
113/.04
135/.06
108/.06
125/.04
140/.06
121/.04
164/.04
127/.05
109/.05
128/.04
082/.03
172/.05
174/.06
153/.02
0.00
174/.01

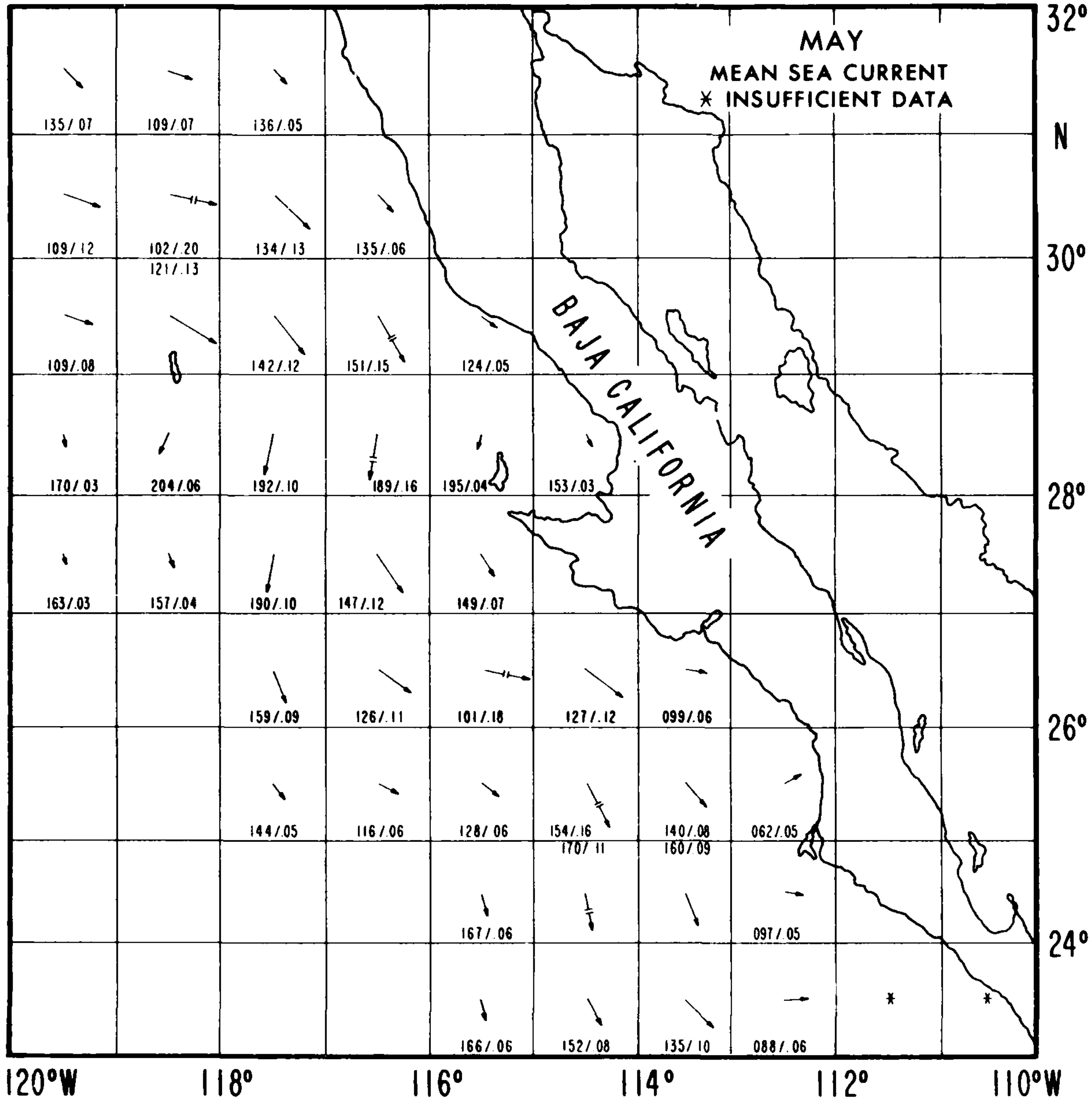

MARCH
MEAN SEA CURRENT
120/.10
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
CALIFORNIA
Mexico
38°
N
36°
34°
32°
125°W
123°
121°
119°
117°W
217/.03
206/.03
146/.01
183/.02
166/.04
177/.04
140/.07
146/.03
.00
110/.03
124/.08
111/.09
146/.10
127/.10
154/.10
158/.08
147/.04
182/.08
161/.11
136/.05
132/.05
124/.02
074/.02
064/.01
037/.01
119/.07
096/.12
131/.03
102/.02
064/.01
051/.01
111/.05
129/.10
134/.05
106/.07
100/.02
141/.07
106/.03
085/.01

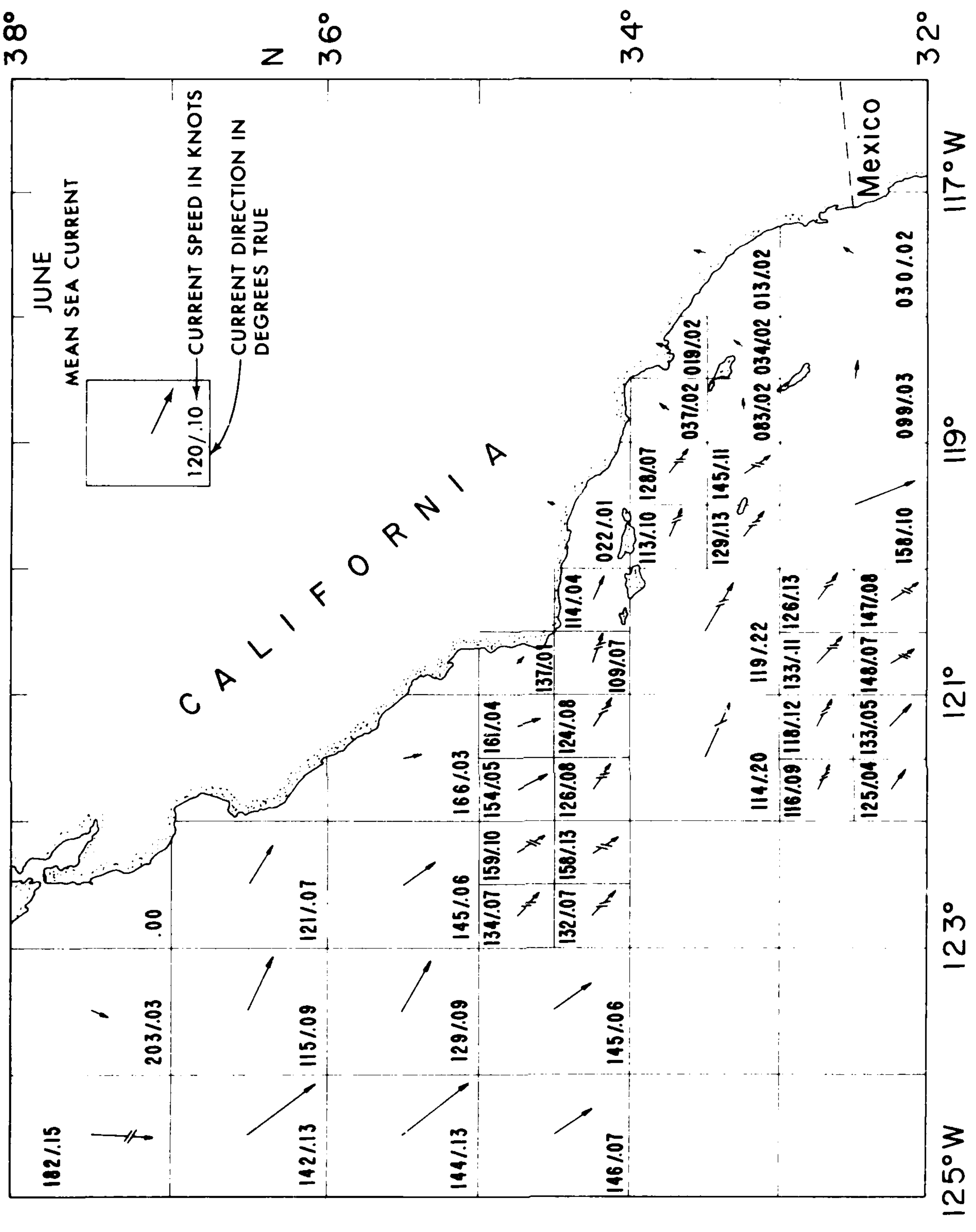

MARCH
MEAN SEA CURRENT
* INSUFFICIENT DATA
BAJA CALIFORNIA
32°
N
30°
28°
26°
24°
120°W
118°
116°
114°
112°
110°W
138/04
095/03
129/03
127/07
109/06
117/08
139/08
137/06
107/06
123/07
158/13
156/06
169/04
172/02
179/04
177/09
184/06
202/02
210/10
228/04
227/02
165/07
154/06
078/03
148/06
144/08
138/06
117/10
068/04
166/04
158/05
137/07
095/03
047/07
095/06
119/05
107/03
358/07
155/05
183/06
189/02
001/09
*
*

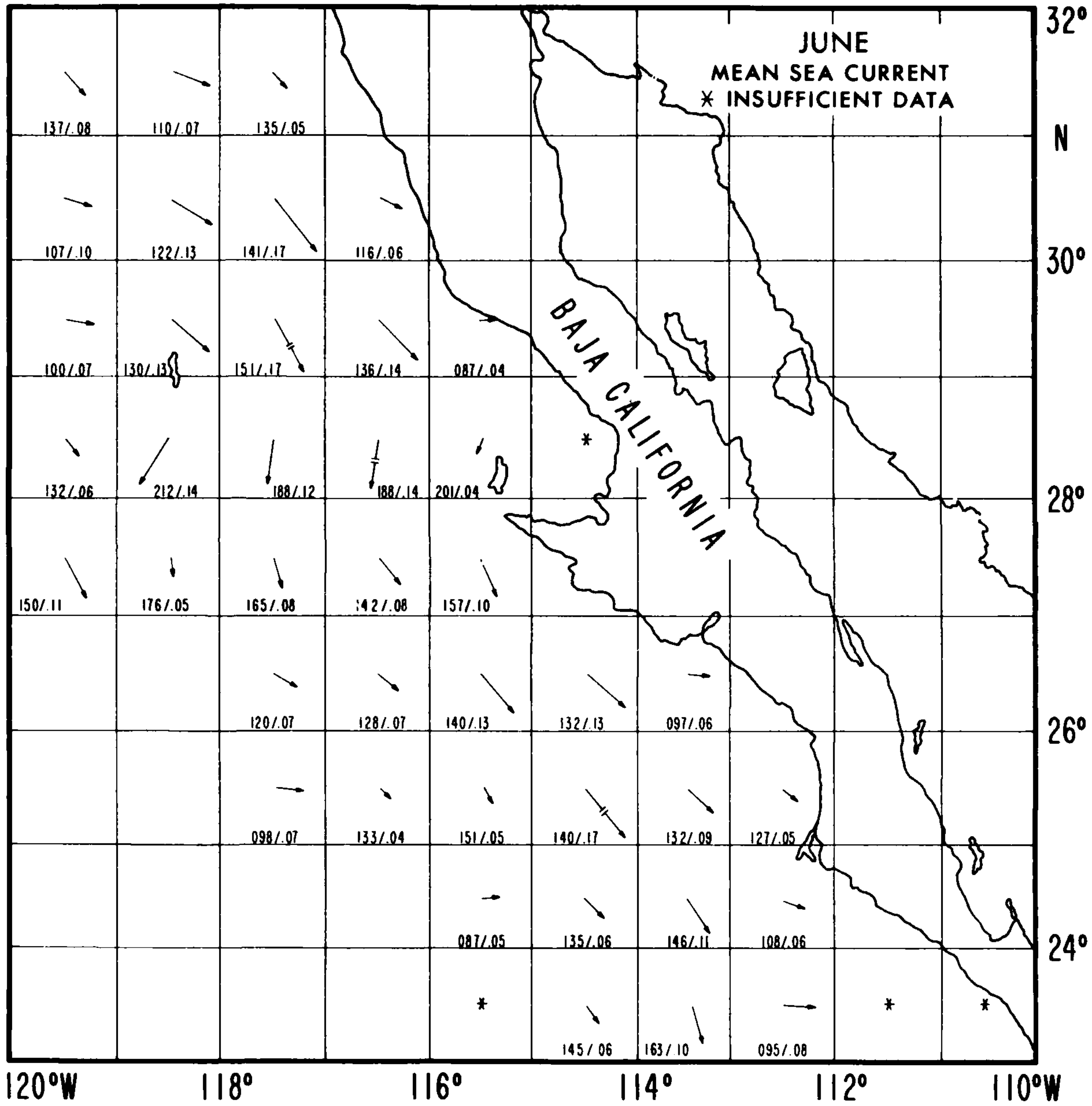

APRIL
MEAN SEA CURRENT
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
120/.10
CALIFORNIA
Mexico
N
38°
36°
34°
32°
117°W
119°
121°
123°
125°W
174/.05
156/.05
141/.07
147/.12
131/.10
124/.04
134/.06
130/.08
114/.03
172/.02
134/.06
160/.03
003/.01
120/.17
098/.03
135/.08
127/.10
125/.11
159/.06
171/.06
131/.06
123/.11
120/.09
035/.01
036/.01
081/.03
074/.02
056/.01
102/.05
087/.02
169/.05
143/.08
136/.10
129/.09
176/.06
124/.05
133/.10
102/.05

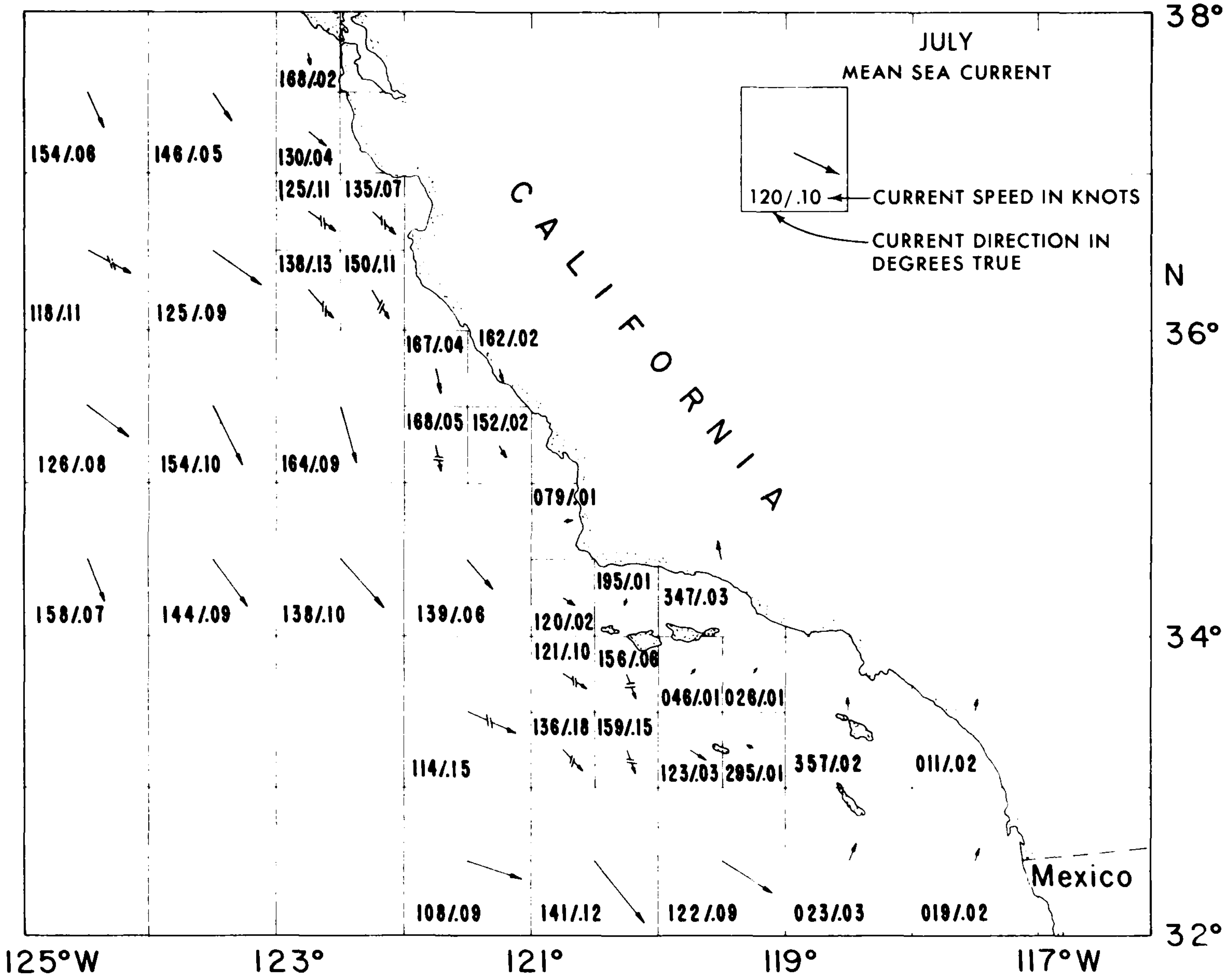

APRIL
MEAN SEA CURRENT
BAJA CALIFORNIA
32°
N
30°
28°
26°
24°
120°W
118°
116°
114°
112°
110°W
117/05
103/05
120/04
105/11
088/15
110/11
129/11
151/05
156/13
094/05
143/12
138/03
197/03
216/07
158/07
162/19
175/03
358/03
150/04
160/04
170/05
141/09
150/05
080/03
067/03
143/06
133/07
126/11
120/08
156/14
110/05
077/03
120/04
119/03
128/05
130/07
190/02
129/06
147/09
151/10
131/06
132/02
162/04
165/10
136/10
118/09
151/14

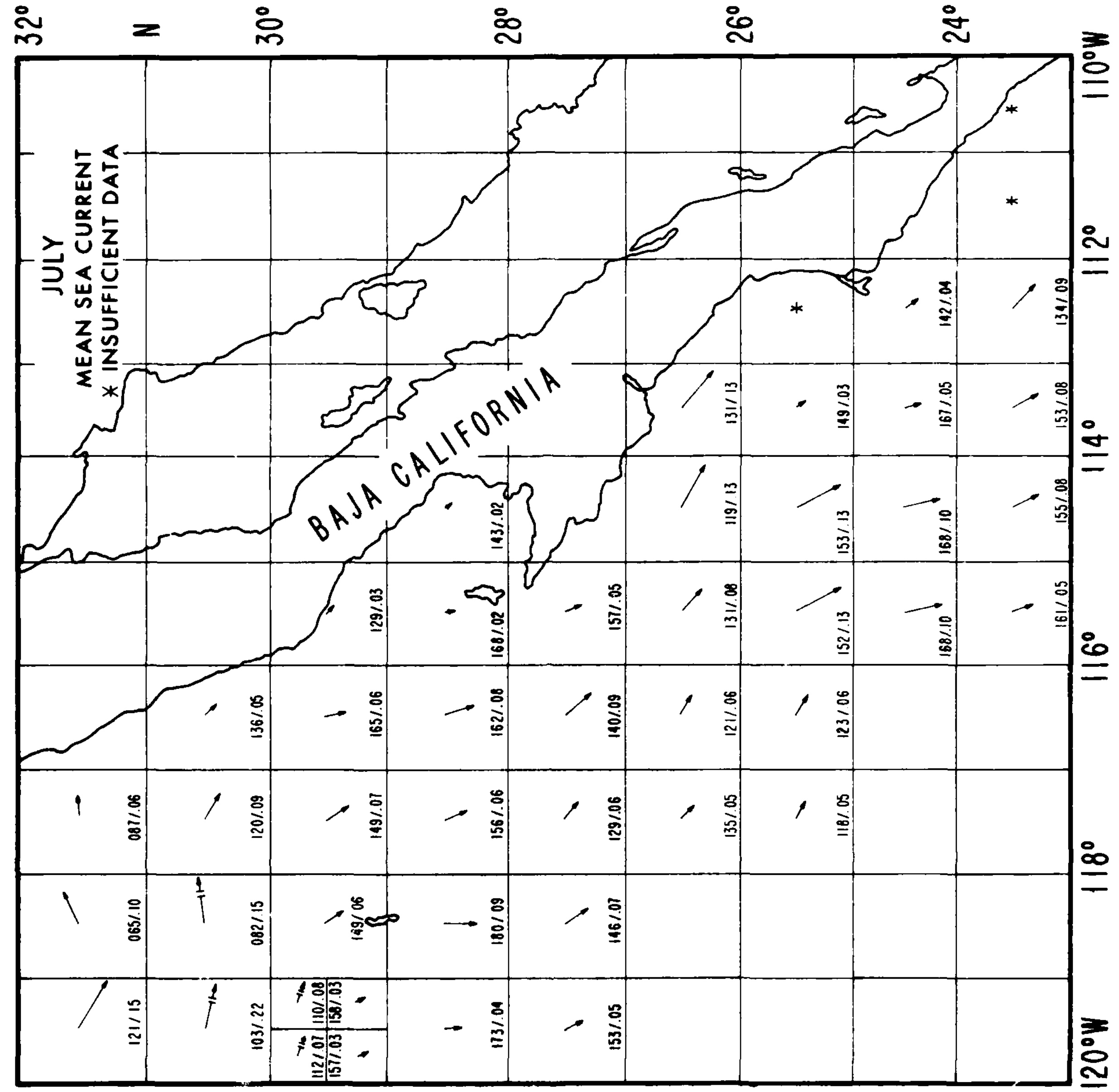

MAY
MEAN SEA CURRENT
120/.10
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
CALIFORNIA
Mexico
N
38°
36°
34°
32°
125°W
123°
121°
119°
117°W
178/.10
173/09
178/.05
141/.08
144/.11
149/.13
132/.10
147/.12
150/.13
138/.08
132/.05
136/.05
141/.01
149/.04
150/.11
140/.10
118/.08
119/.08
109/.06
115/.04
069/.02
119/.11
129/.11
136/.03
133/.02
126/.06
125/.16
118/.11
113/.13
116/.11
022/.02
029/.02
120/.10
111/.13
122/.11
118/.14
105/.05
074/.04
120/.07
125/.08
114/.05
106/.08
105/.09
147/.11
095/.04
050/.02

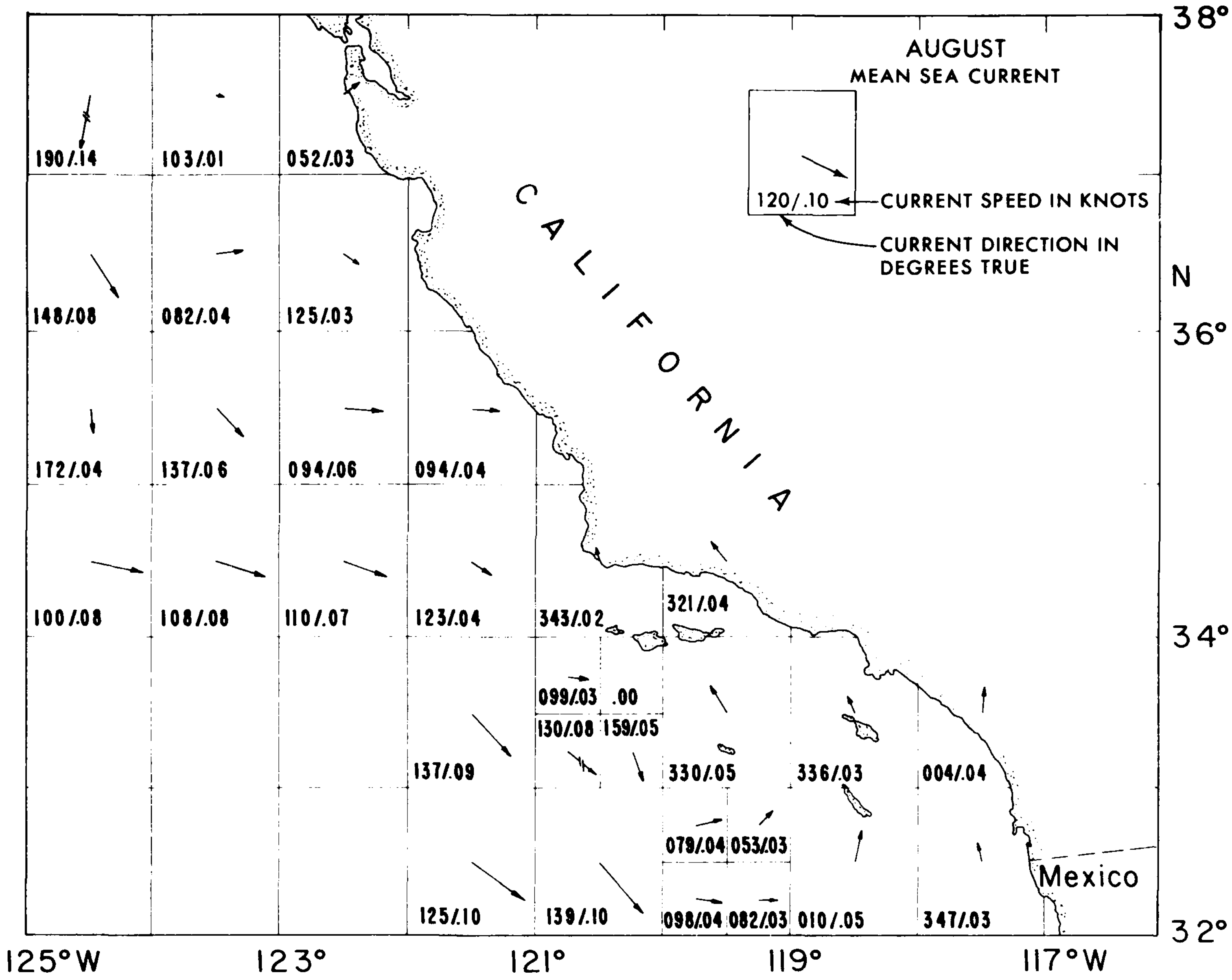

MAY
MEAN SEA CURRENT
* INSUFFICIENT DATA
32°
N
30°
28°
26°
24°
120°W
118°
116°
114°
112°
110°W
BAJA CALIFORNIA
135/07
109/07
136/.05
109/12
102/.20
121/.13
134/13
135/.06
109/.08
142/.12
151/.15
124/.05
170/03
204/.06
192/.10
189/.16
195/.04
153/.03
163/.03
157/.04
190/.10
147/.12
149/.07
159/.09
126/.11
101/.18
127/.12
099/.06
144/.05
116/.06
128/06
154/.16
170/11
140/.08
160/09
062/.05
167/.06
097/.05
166/.06
152/.08
135/10
088/.06
*
*

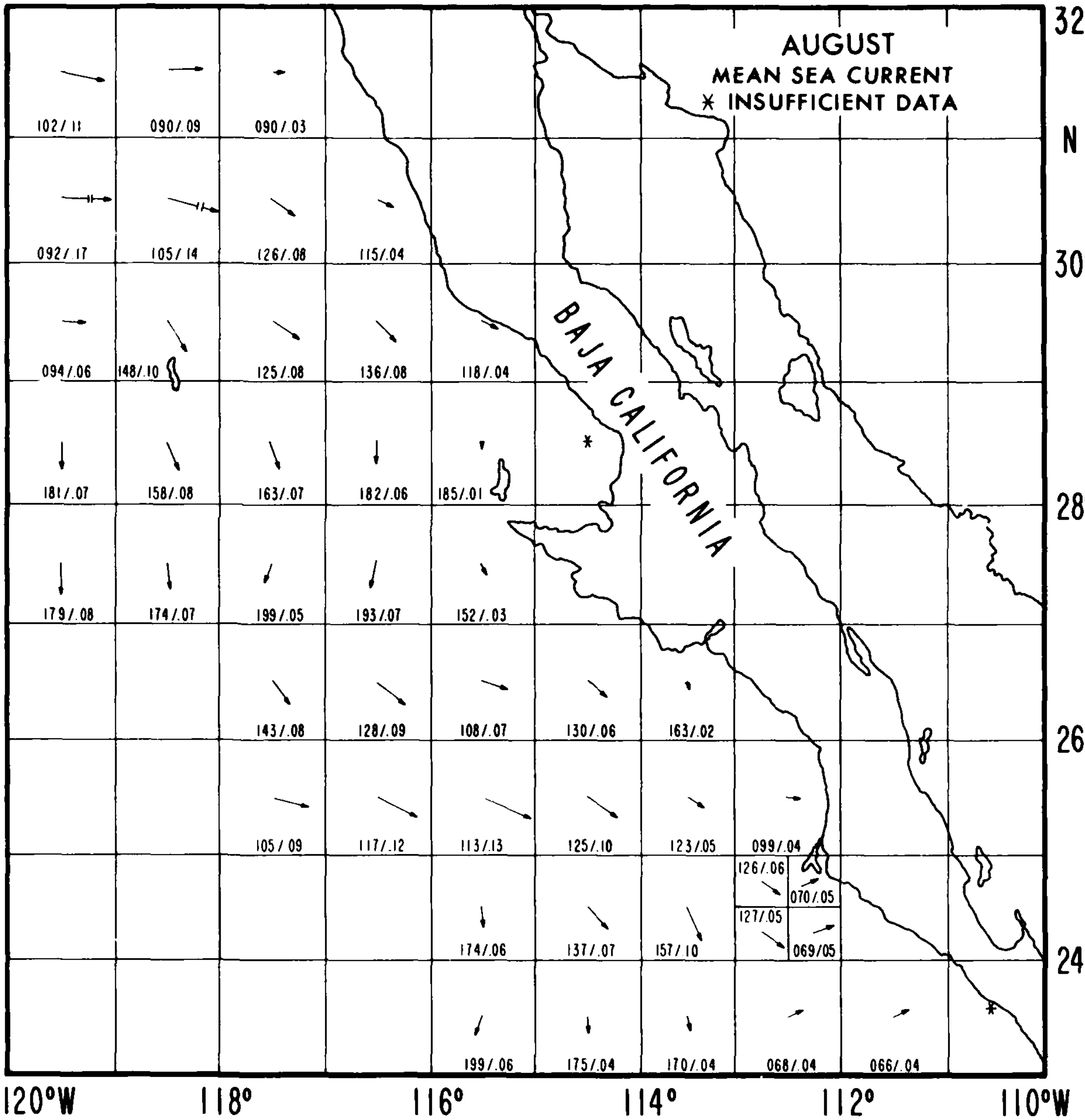

JUNE
MEAN SEA CURRENT
120/.10
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
CALIFORNIA
Mexico
N
38°
36°
34°
32°
117°W
119°
121°
123°
125°W
182/.15
203/.03
.00
142/.13
115/.09
121/.07
144/.13
129/.09
145/.06
166/.03
146/.07
145/.06
134/.07
159/.10
154/.05
161/.04
137/.01
132/.07
158/.13
126/.08
124/.08
109/.07
114/.04
022/.01
113/.10
128/.07
037/.02
019/.02
129/.13
145/.11
083/.02
034/.02
013/.02
114/.20
119/.22
116/.09
118/.12
133/.11
126/.13
125/.04
133/.05
148/.07
147/.08
158/.10
099/.03
030/.02


JUNE
MEAN SEA CURRENT
* INSUFFICIENT DATA
BAJA CALIFORNIA
32°
N
30°
28°
26°
24°
120°W
118°
116°
114°
112°
110°W
137/.08
110/.07
135/.05
107/.10
122/.13
141/.17
116/.06
100/.07
130/.13
151/.17
136/.14
087/.04
132/.06
212/.14
188/.12
188/.14
201/.04
*
150/.11
176/.05
165/.08
142/.08
157/.10
120/.07
128/.07
140/.13
132/.13
097/.06
098/.07
133/.04
151/.05
140/.17
132/.09
127/.05
087/.05
135/.06
146/.11
108/.06
*
145/06
163/10
095/.08
*
*


JULY
MEAN SEA CURRENT
120/.10
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
CALIFORNIA
Mexico
38°
N
36°
34°
32°
125°W
123°
121°
119°
117°W
168/02
154/.06
146/.05
130/04
125/.11
135/.07
138/.13
150/.11
118/.11
125/.09
167/.04
162/.02
168/.05
152/.02
126/.08
154/.10
164/.09
079/.01
195/.01
347/.03
158/.07
144/.09
138/.10
139/.06
120/.02
121/.10
156/.06
046/.01
026/.01
136/.18
159/.15
114/.15
123/.03
295/.01
357/.02
011/.02
108/.09
141/.12
122/.09
023/.03
019/.02


JULY
MEAN SEA CURRENT
* INSUFFICIENT DATA
BAJA CALIFORNIA
32°
N
30°
28°
26°
24°
120°W
118°
116°
114°
112°
110°W
121/15
065/10
087/06
103/22
082/15
120/09
136/05
112/07
157/03
110/08
158/03
149/06
149/07
165/06
129/03
173/04
180/09
156/06
162/08
168/02
143/02
153/05
146/07
129/06
140/09
157/05
135/05
121/06
131/08
119/13
131/13
118/05
123/06
152/13
153/13
149/03
168/10
168/10
167/05
142/04
161/05
155/08
153/08
134/09


AUGUST
MEAN SEA CURRENT
120/.10
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
CALIFORNIA
Mexico
38°
N
36°
34°
32°
125°W
123°
121°
119°
117°W
190/.14
103/.01
052/.03
148/.08
082/.04
125/.03
172/.04
137/.06
094/.06
094/.04
100/.08
108/.08
110/.07
123/.04
343/.02
321/.04
099/.03
.00
130/.08
159/.05
137/.09
330/.05
336/.03
004/.04
079/.04
053/.03
125/.10
139/.10
098/.04
082/.03
010/.05
347/.03


AUGUST
MEAN SEA CURRENT
* INSUFFICIENT DATA
BAJA CALIFORNIA
32°
N
30°
28°
26°
24°
120°W
118°
116°
114°
112°
110°W
102/.11
090/.09
090/.03
092/.17
105/.14
126/.08
115/.04
094/.06
148/.10
125/.08
136/.08
118/.04
181/.07
158/.08
163/.07
182/.06
185/.01
179/.08
174/.07
199/.05
193/.07
152/.03
143/.08
128/.09
108/.07
130/.06
163/.02
105/.09
117/.12
113/.13
125/.10
123/.05
099/.04
126/.06
070/.05
127/.05
069/.05
174/.06
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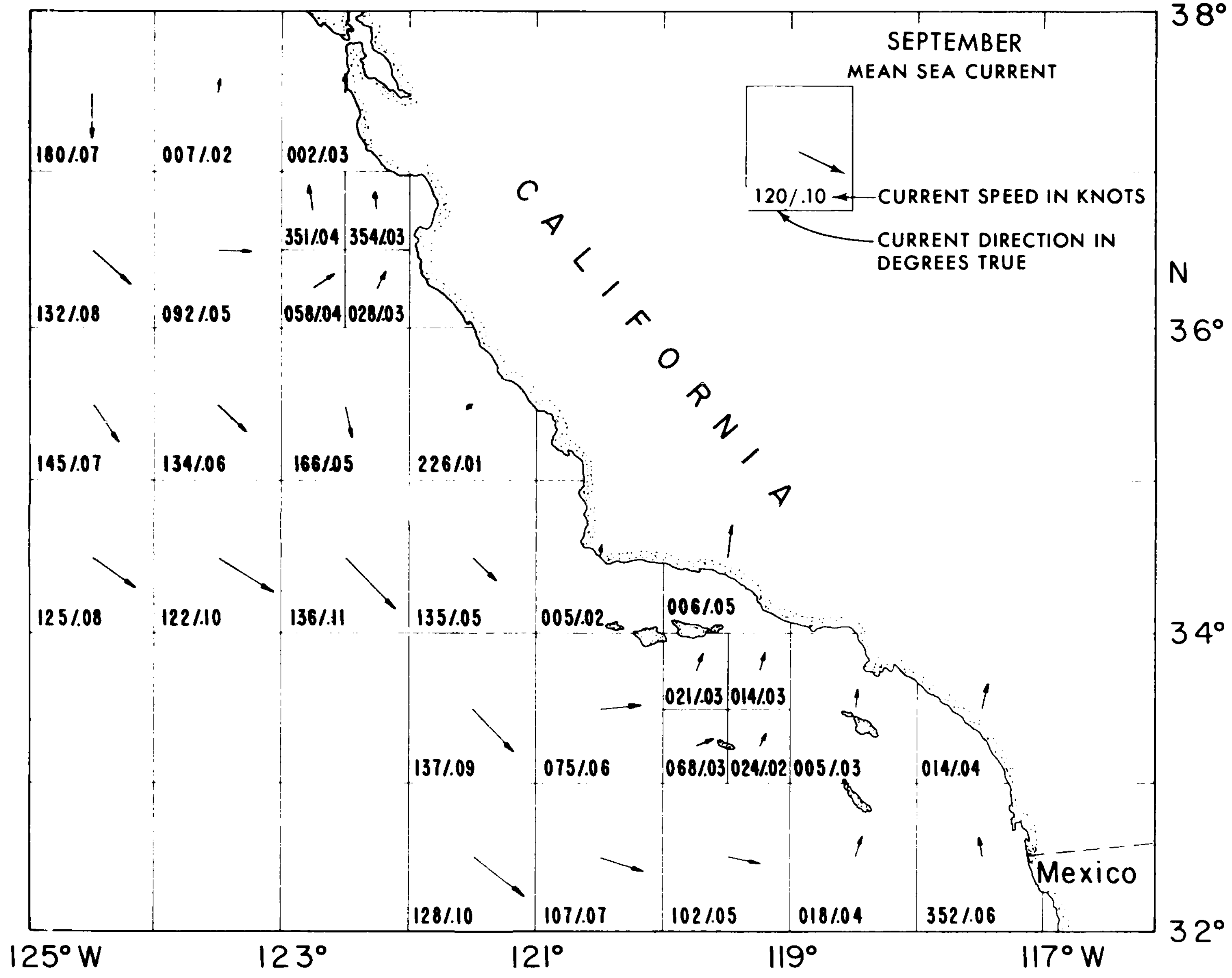
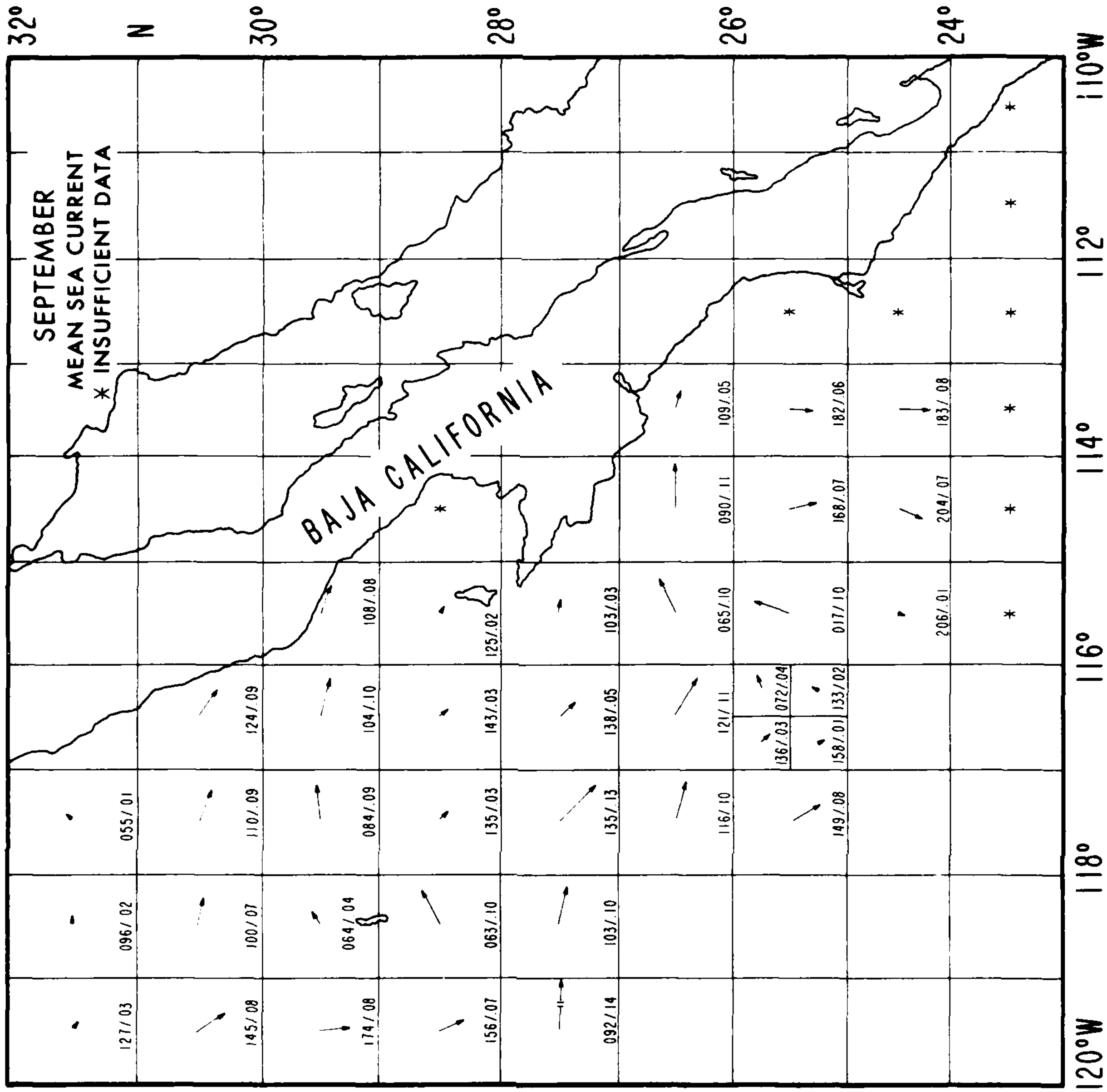
199/.06
175/.04
170/.04
068/.04
066/.04

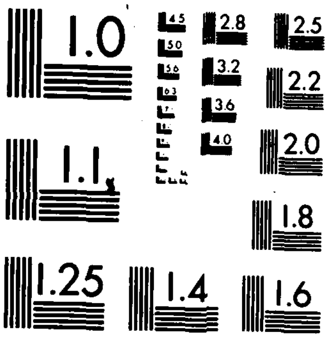

SEPTEMBER
MEAN SEA CURRENT
120/.10
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
CALIFORNIA
Mexico
N
38°
36°
34°
32°
125° W
123°
121°
119°
117° W
180/.07
007/.02
002/.03
351/.04
354/.03
132/.08
092/.05
058/.04
028/.03
145/.07
134/.06
166/.05
226/.01
125/.08
122/.10
136/.11
135/.05
005/.02
006/.05
021/.03
014/.03
137/.09
075/.06
068/.03
024/.02
005/.03
014/.04
128/.10
107/.07
102/.05
018/.04
352/.06


SEPTEMBER
MEAN SEA CURRENT
* INSUFFICIENT DATA
BAJA CALIFORNIA
32°
N
30°
28°
26°
24°
120°W
118°
116°
114°
112°
110°W
055/01
096/02
127/03
124/09
110/09
100/07
145/08
108/.08
104/.10
084/09
064/04
174/08
125/.02
143/03
135/03
063/10
156/07
103/.03
138/.05
135/.13
103/10
092/14
109/.05
090/.11
065/.10
121/.11
116/10
182/06
168/07
017/.10
072/04
136/.03
133/02
158/.01
149/08
183/08
204/07
206/.01

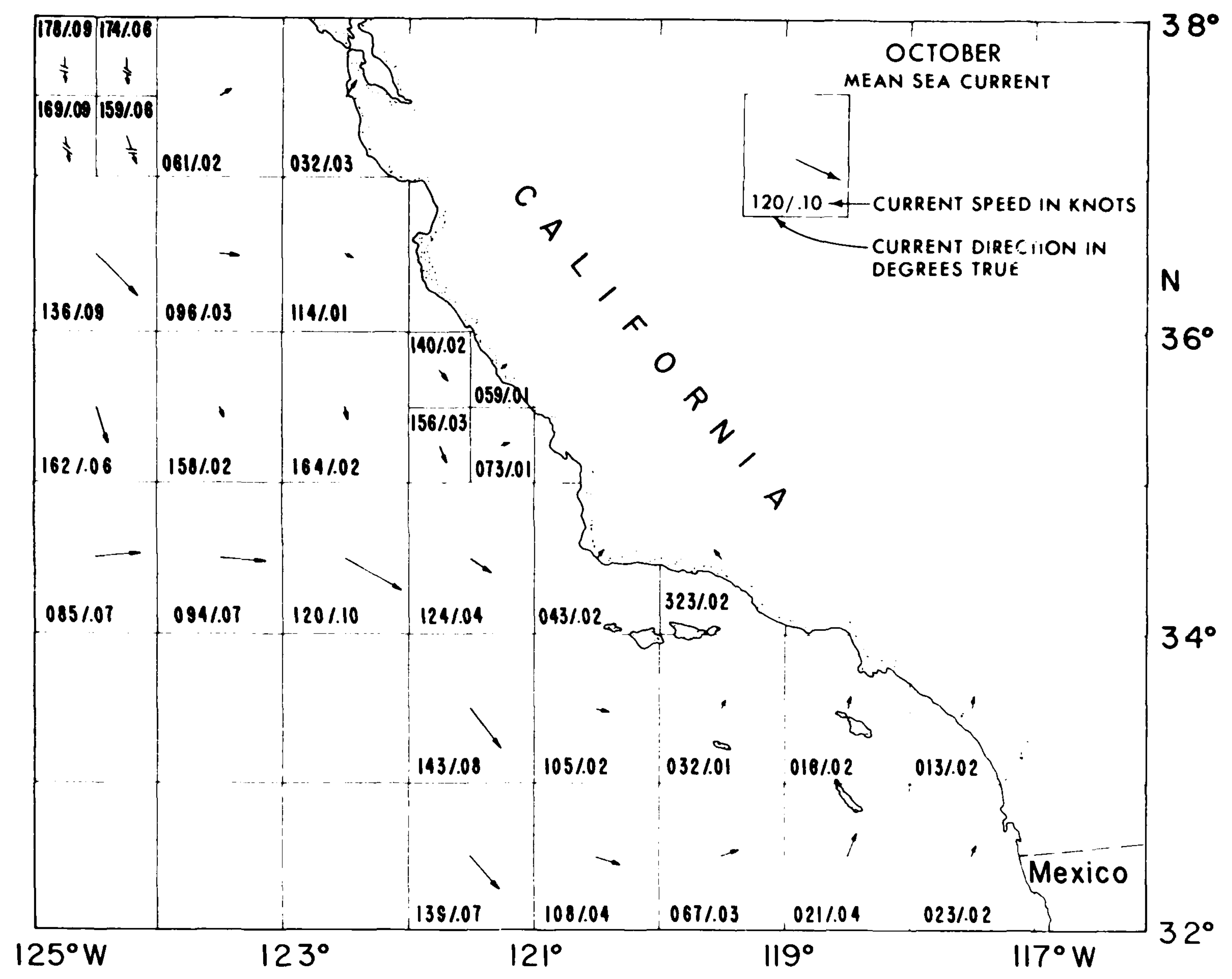
AD-A137 698 CLIMATIC STUDY OF THE SOUTHERN CALIFORNIA OPERATING 3/3
AREA NEAR COASTAL ZONE(U) NAVAL OCEANOGRAPHY COMMAND
DETACHMENT ASHEVILLE NC OCT 83

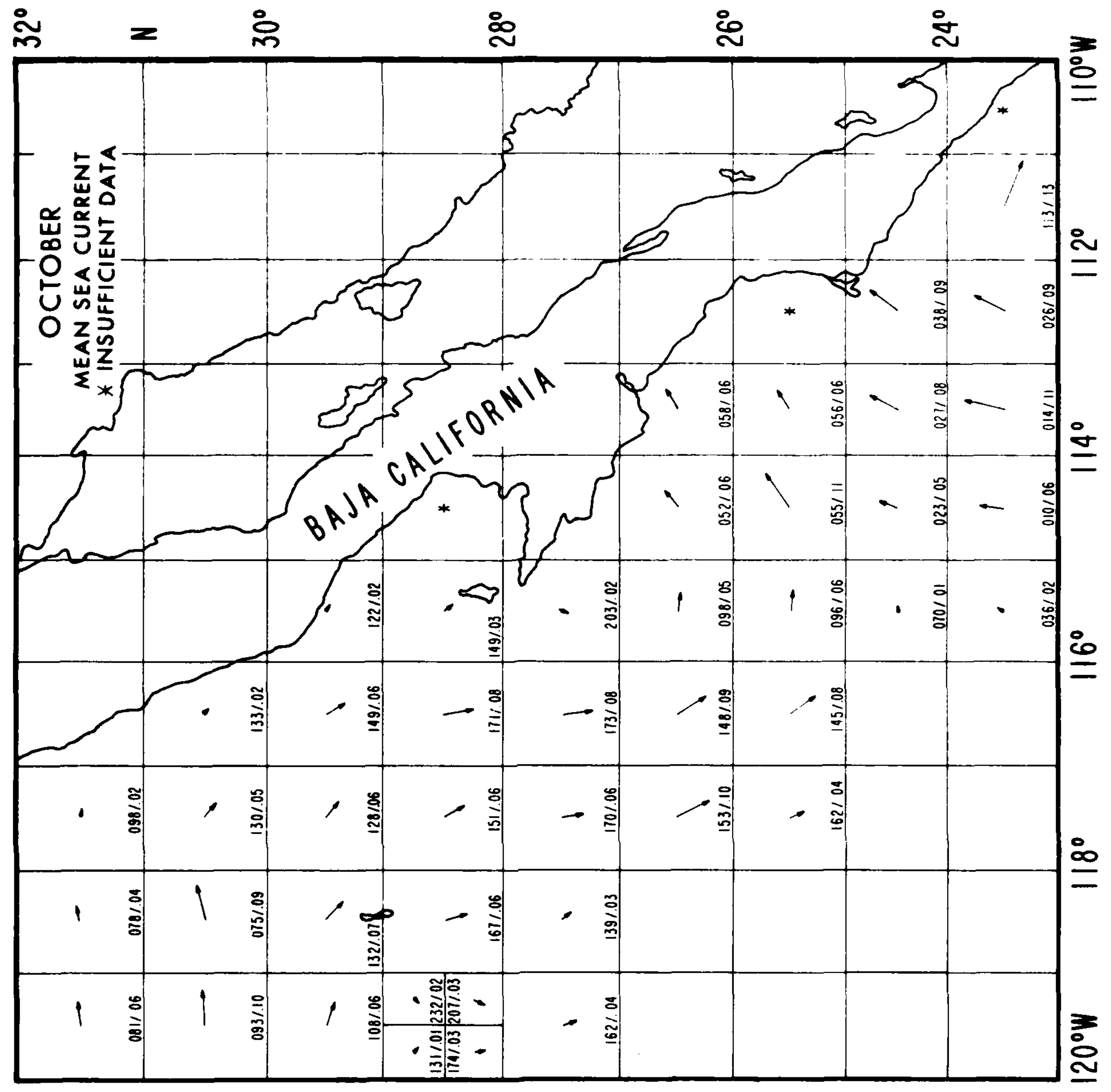
UNCLASSIFIED F/G 4/2 NL

END
FILMED
3-84
DTIC

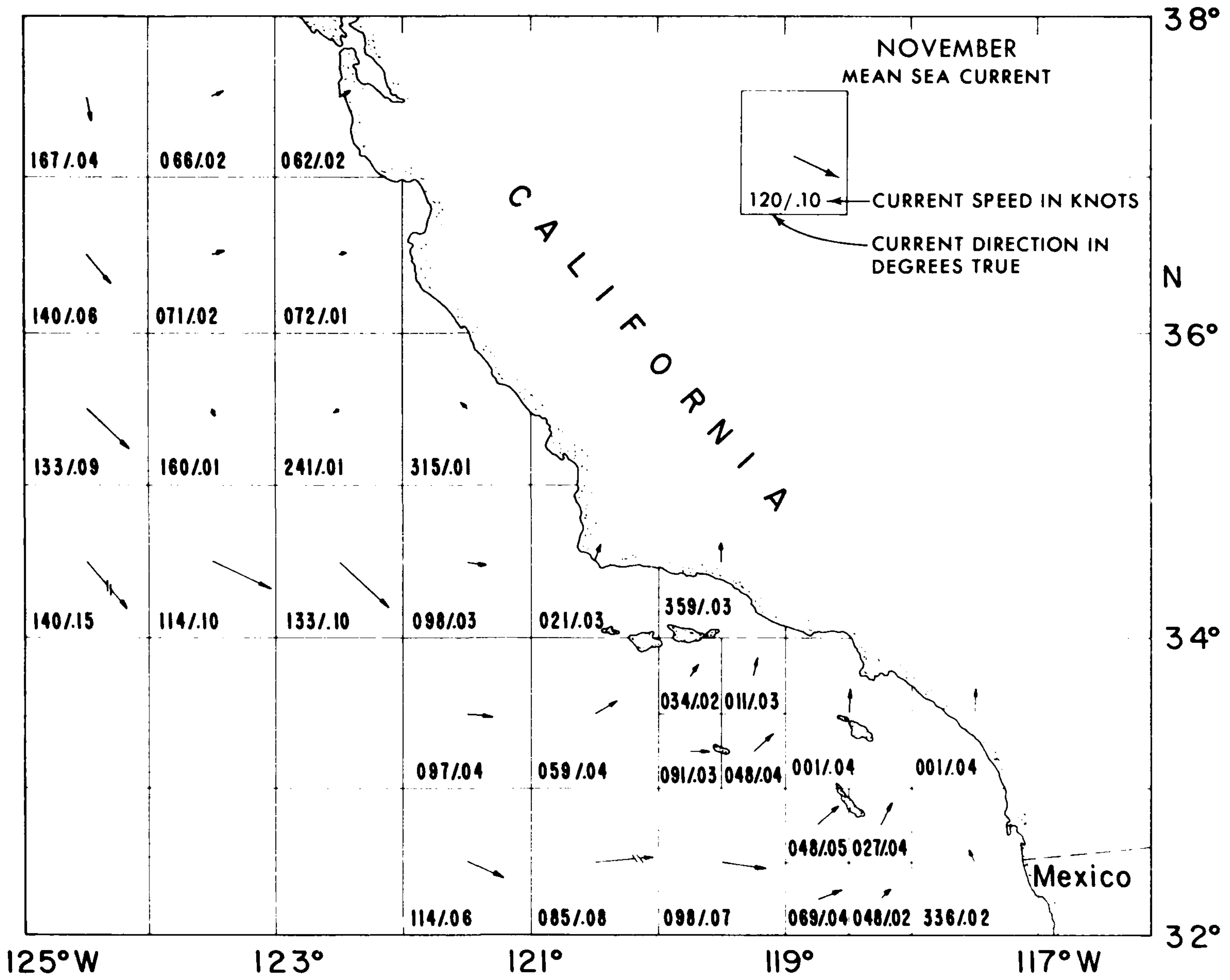


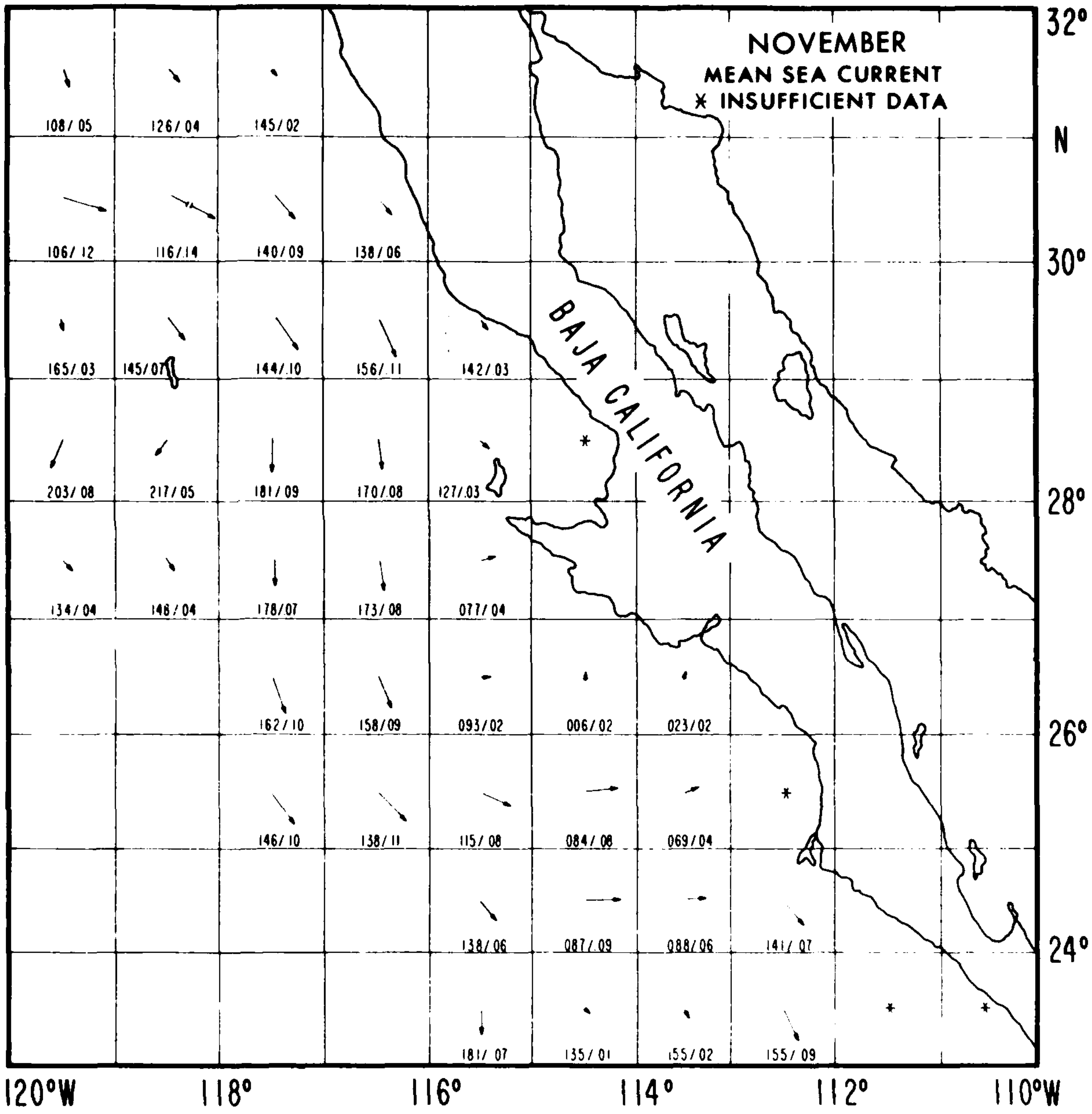
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

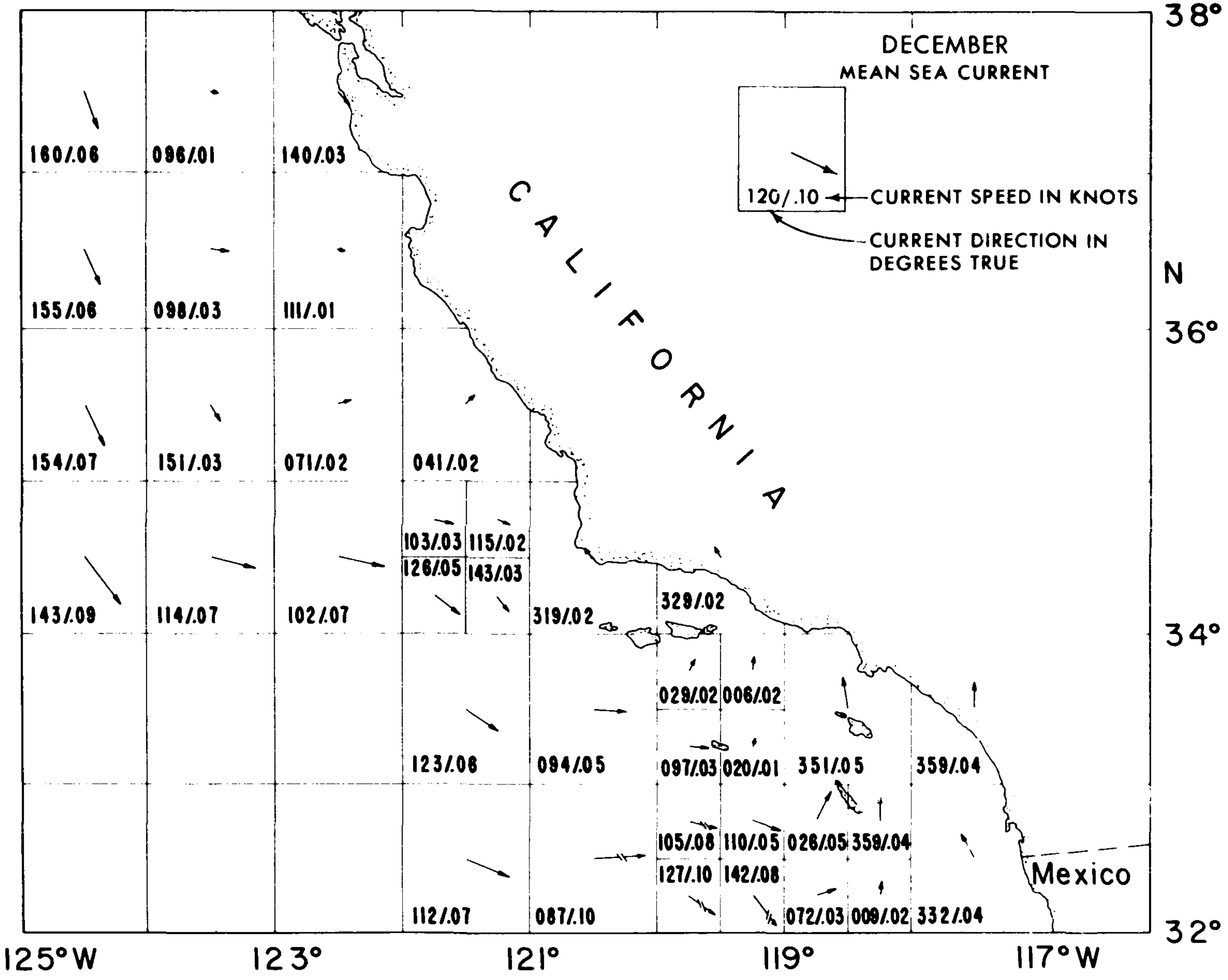

OCTOBER
MEAN SEA CURRENT
120/.10
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
CALIFORNIA
Mexico
N
38°
36°
34°
32°
125°W
123°
121°
119°
117°W
178/.09
174/.06
169/.09
159/.06
061/.02
032/.03
136/.09
096/.03
114/.01
140/.02
059/.01
156/.03
073/.01
162/.06
158/.02
164/.02
085/.07
094/.07
120/.10
124/.04
043/.02
323/.02
143/.08
105/.02
032/.01
018/.02
013/.02
139/.07
108/.04
067/.03
021/.04
023/.02

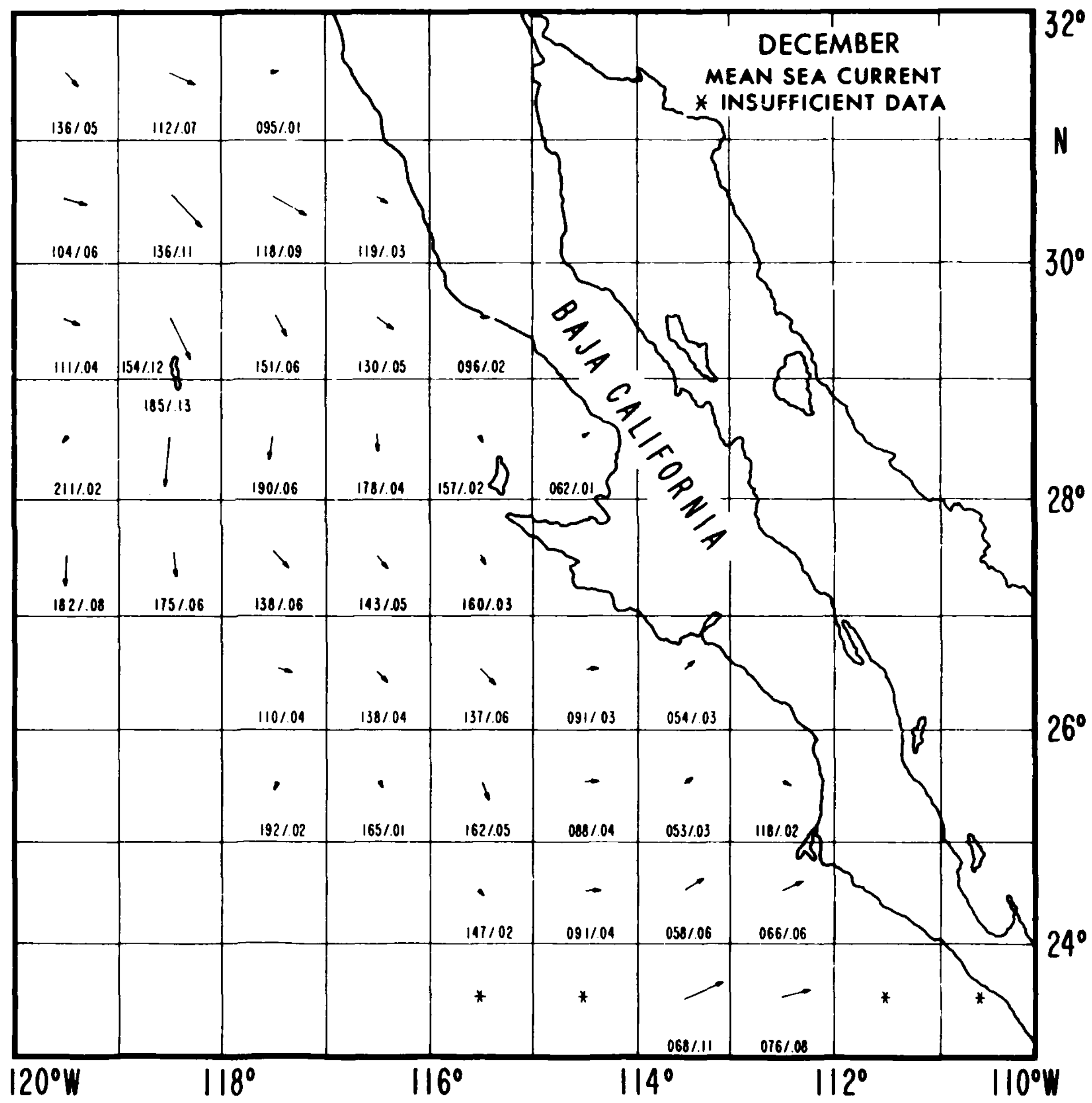


OCTOBER
MEAN SEA CURRENT
* INSUFFICIENT DATA


NOVEMBER
MEAN SEA CURRENT
120/.10
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
CALIFORNIA
Mexico
N
38°
36°
34°
32°
125°W
123°
121°
119°
117°W
167/.04
066/.02
062/.02
140/.06
071/.02
072/.01
133/.09
160/.01
241/.01
315/.01
140/.15
114/.10
133/.10
098/.03
021/.03
359/.03
034/.02
011/.03
097/.04
059/.04
091/.03
048/.04
001/.04
001/.04
048/.05
027/.04
114/.06
085/.08
098/.07
069/.04
048/.02
336/.02


NOVEMBER
MEAN SEA CURRENT
* INSUFFICIENT DATA
N
BAJA CALIFORNIA
32°
30°
28°
26°
24°
120°W
118°
116°
114°
112°
110°W
108/05
126/04
145/02
106/12
116/14
140/09
138/06
165/03
145/07
144/10
156/11
142/03
203/08
217/05
181/09
170/08
127/03
134/04
148/04
178/07
173/08
077/04
162/10
158/09
093/02
006/02
023/02
146/10
138/11
115/08
084/08
069/04
138/06
087/09
088/06
141/07
181/07
135/01
155/02
155/09
*
*
*
*


DECEMBER
MEAN SEA CURRENT
120/.10
CURRENT SPEED IN KNOTS
CURRENT DIRECTION IN DEGREES TRUE
CALIFORNIA
Mexico
N
38°
36°
34°
32°
125°W
123°
121°
119°
117°W
160/.06
096/.01
140/.03
155/.06
098/.03
111/.01
154/.07
151/.03
071/.02
041/.02
103/.03
115/.02
126/.05
143/.03
143/.09
114/.07
102/.07
319/.02
329/.02
029/.02
006/.02
123/.06
094/.05
097/.03
020/.01
351/.05
359/.04
105/.08
110/.05
026/.05
359/.04
127/.10
142/.08
112/.07
087/.10
072/.03
009/.02
332/.04


DECEMBER
MEAN SEA CURRENT
* INSUFFICIENT DATA
BAJA CALIFORNIA
N
32°
30°
28°
26°
24°
120°W
118°
116°
114°
112°
110°W
136/05
112/07
095/01
104/06
136/11
118/09
119/03
111/04
154/12
151/06
130/05
096/02
185/13
211/02
190/06
178/04
157/02
062/01
182/08
175/06
138/06
143/05
160/03
110/04
138/04
137/06
091/03
054/03
192/02
165/01
162/05
088/04
053/03
118/02
147/02
091/04
058/06
066/06
*
*
068/11
076/08
*
*

```
PREPARED BY: NOCD ASHEVILLE        STATION NAME: EL TORO, CALIFORNIA                 PERIOD : APR 4?-DEC 83         STN LTHR: [illegible]
SEPTEMBER    1983                  LOCATION    : N33 40 W117 44                      ELEV   :      383              WBAN # : [illegible]
                                                                                                                    WMO #  :
                                                                    VAP
                                                                     P                                MEAN NUMBER OF DAYS  OCCURRENCE [illegible]
                                                                     R                                               T    V
                                                                     E                                               H    I
                                                                     S                        MEAN  PRECIP           UN   S
  TEMPERATURE DEG F      PRECIPITATION  INCHES   SNOWFALL RELATIVE   S DEW PRESS SFC WINDS    AMT   INCHES   SNOWFALL  ST   Y   MAX        MIN
       MEAN   EXTREMES   M O N T H         MAX   MN MAX MAX  HUM    IN PT   ALT PVLG SPEED    CLD   .01 .5   .1  1.5   M   FOG DEG  F    ANE
   DAILY  MON                              24            24  LST    OF DEG FEET DRCTN MN MAX  IN    OR  OR   OR  OR   ES   <   >    >   < <
   MAX MIN        MAX  MIN  MEAN    MAX  MIN HRS            HR 04 13   HG  F 99.95%     KNOTS TENTH GTR GTR GTR GTR  R  7MI  90   75  45 32
JAN 64  45   55   93   25   2.5    8.9  .0  5.2  *   1  1  66 50 .25 40  630   E    4  62  5     6   2   #   0    #  11   #    4  17  1
FEB 66  45   56   94   30   2.2   11.7   #  3.0  *   #  #  72 51 .27 42  600   E    4  65  5     5   1   0   0    #  10   #    4  14  #
MAR 67  46   57   90   32   2.1    7.8   #  2.5  *   #  #  77 55 .29 44  650   E    4  63  5     6   1   0   0    1  10   #    4  11  #
APR 70  49   60  101   33   1.1    5.4   #  2.2  0   0  0  76 49 .31 46  550   E    4  51  5     4   1   0   0    #  10   1    7   3  #
MAY 72  53   63  101   39    .2    1.2   #   .8  0   0  0  79 54 .36 50  600   W    4  70  6     3   #   0   0    #  12   1    9   0  0
JUN 77  57   67  107   44    .1     .3  .0   .3  0   0  0  79 50 .42 54  600   W    4  75  5     1   0   0   0    #  15   1   14   #  0
JUL 82  60   72  108   48     #     .3  .0   .3  0   0  0  79 49 .49 58  550   W    4  47  4     #   0   0   0    #  16   7   30   0  0
AUG 83  61   72  103   47    .1    3.1  .0  2.6  0   0  0  80 52 .50 59  600   W    4  36  4     #   #   0   0    #  18   4   30   0  0
SEP 82  60   71  116   44    .2    2.2  .0  1.3  0   0  0  77 50 .47 57  600   W    4  43  5     1   #   0   0    #  16   4   26   #  0
OCT 77  55   66  108   38    .2    1.5   #   .7  0   0  0  72 48 .37 51  550   W    4  45  5     2   #   0   0    1  14   3   17   1  0
NOV 71  50   61   97   35   1.4    6.7  .0  2.8  0   0  #  65 44 .28 43  600   E    4  63  4     4   1   0   0    #  12   1    9   3  0
DEC 66  46   56   93   28   1.7    5.3   #  2.4  *   #  #  62 45 .24 39  600   E    4  60  4     5   1   0   0    #  11   #    4  15  #
ANN 73  52   63  116   25  11.8   11.7  .0  5.2  *   1  1  74 50 .35 49  650   W    4  70  5    37   7   #   0    2 157  18  162  76  1
EYR 38  38   38   38   38    38     38  38   38 37  37 37   9  9   9  9   10  10   10  38  9    36  38  37  37   36  36  39   39  38 36
REMARKS: *DATA NOT AVAILABLE. # LESS THAN 0.5DAY,0.5 OR 0.05 INCH, OR 0.5 PERCENT AS APPLICABLE.
         THE VALUE LISTED UNDER "PRESS ALT FEET 99.95%" INDICATES IT IS EXCEEDED ONLY 0.05% OF THE TIME.
         EYR MEANS EQUIVALENT YEARS OF RECORD (I.E. THE ACTUAL NUMBER OF YEARS UTILIZED IN THE
         COMPUTATIONS FROM THE OVERALL PERIOD OF RECORD, POR).

FLYING WEA % HRS LST   JAN    FEB    MAR    APR    MAY    JUN    JUL    AUG    SEP    OCT    NOV    DEC    ANN    EYR
 CEILING          01    25     29     30     32     61     53     45     44     45     42     26     25     38     10
 LESS 5000        04    27     33     30     36     66     63     60     62     56     48     29     30     45     10
 FT AND/OR        07    29     32     35     41     70     66     67     72     61     52     28     30     49     10
 VISIBILITY       10    27     38     39     38     59     42     22     34     46     42     26     30     37     10
 LESS 5 MI        13    33     36     35     29     41     25      8     15     27     35     25     31     26     10
                  16    28     28     29     23     33     14      6      9     23     24     21     29     22     10
                  19    17     23     25     22     33     19      5     10     21     21     17     23     20     10
                  22    23     24     26     29     46     37     20     27     30     31     24     26 [illegible] 10
             ALL HRS    26     30     31     32     51     40     29     34     39     37     25     28 [illegible] 10

 CEILING          01    16     21     18     26     52     51     43     42     40     35     19     17     32     10
 LESS 3000        04    16     23     22     32     56     60     58     59     50     40     16     21     36     10
 FT AND/OR        07    20     24     24     31     59     62     61     64     52     42     21     23     40     10
 VISIBILITY       10    17     22     26     23     43     27      8     13     27     24     17     20     32     10
 LESS 3 MI        13    18     21     20     11     25     12      2      4     13     15     14     16     14     10
                  16    13     14     17     10     13      7      1      3     10     10      9     12     10     10
                  19    12     14     15     12     22     14      3      6     15     10     10     13     12     10
                  22    13     17     16     21     39     32     19     25     26     25     17     16     22     10
             ALL HRS    16     20     20     21     39     33     24     27     29     25     16     17     24     10

 CEILING          01     7     12      5      9     14     19     13     13     14     20      9     10     12     10
 LESS 1000        04     7     11      7     11     18     29     27     27     22     23     10     13     17     10
 FT AND/OR        07     9     13      7     10     16     25     24     29     26     25     13     13     16     10
 VISIBILITY       10     7      8      4      3      3      5      1      2      7     15     11     11      6     10
 LESS 3 MI        13     6      8      3      1      1      1      1      1      3      9      8     10      4     10
                  16     5      6      2      0      1      0      0      1      2      4      4      9      3     10
                  19     4      5      2      1      2      1      0      1      2      3      3      7      3     10
                  22     4      9      4      5      9      9      1      4      6     11      7      8      6     10
             ALL HRS     6      9      4      5      8     11      6     10     10     14      8     10      9     10

 CEILING          01     2      5      2      4      6      3      1      3      4     10      4      6      4     10
 LESS 500         04     3      5      3      5      7     10      7     11      7     13      6      6      7     10
 FT AND/OR        07     5      6      3      4      6      5      6     10      9     13      8      4      7     10
 VISIBILITY       10     3      3      1      0      0      0      0      0      0      1      3      3      1     10
 LESS 1 MI        13     1      0      0      0      0      0      0      0      0      0      0      0      0     10
                  16     0      0      0      0      0      0      0      0      0      0      0      1      0     10
                  19     1      0      0      0      0      0      0      0      0      0      0      1      0     10
                  22     1      3      1      0      1      1      0      0      0      2      3      2      1     10
             ALL HRS     2      3      1      2      2      2      2      3      3      3      3      3      3     10

 CEILING          01     1      3      2      1      2      1      0      0      1      3      2      4      2     10
 LESS 200         04     2      4      2      3      2      5      2      5      3     11      4      4      4     10
 FT AND/OR        07     3      5      2      2      2      1      2      4      5     10      7      3      4     10
 VISIBILITY       10     1      2      0      0      0      0      0      0      0      0      1      2      1     10
 LESS 1/2 MI      13     0      0      0      0      0      0      0      0      0      0      0      0      0     10
                  16     0      0      0      0      0      0      0      0      0      0      0      0      0     10
                  19     0      0      0      0      0      0      0      0      0      0      0      0      0     10
                  22     1      1      0      0      0      0      0      0      0      1      1      2      1     10
             ALL HRS     1      2      1      1      1      1      0      1      1      4      2      2      1     10
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PREPARED BY: NCDC ASHEVILLE       STATION NAME: IMPERIAL BEACH, CALIFORNIA       PERIOD: APR 44-DEC 82          STN LTRS: KNRS
SEPTEMBER    1982                 LOCATION    : N32 34 W117 07                   ELEV  :        24              WBAN #  : 93115
                                                                                                                WMO #   :
                                                              VAP
                                                               P                                      MEAN NUMBER OF DAYS  OCCURRENCE OF:
                                                               R                                                       T    V
                                                               E                                                       H    I
                                                               S                                   MEAN PRECIP         U    S
   TEMPERATURE DEG F        PRECIPITATION  INCHES    SNOWFALL RELATIVE  S DEW PRESS SFC WINDS   AMT  INCHES  SNOWFALL  NT    Y  MAX        MIN
          MEAN    EXTREMES   M O N T H        MAX   MN MAX MAX   HUM    IN PT   ALT PVLG SPEED  CLD .01 .5  .1  1.5  DR  FOG DEG   F   AND
     DAILY  MO                                24            24   LST    OF DEG FEET DRCTN MN MAX IN  OR  OR  OR  OR   ES   <    >    >   < <
     MAX MIN      MAX  MIN  MEAN   MAX  MIN  HRS            HR  07 13   HG  F 99.95%       KNOTS TENTH GTR GTR GTR GTR  R  7MI  90  75  55 40
JAN  63  44  54   86   26   1.5   5.9   #   2.1    0   0   0  73 62  .31 46  250   E     6  49  6    6   1   0   0     0   14   0   2  29  7
FEB  64  47  56   91   32   1.7   3.1   #   1.1    0   0   #  73 65  .34 48  250   W     6  46  4    5   1   0   0     #   12   0   1  26  3
MAR  64  49  57   93   33   1.2   3.2   #   1.6    0   0   #  77 63  .34 48  250   W     7  44  5    6   #   0   0     #   12   #   1  29  2
APR  66  52  59   97   34    .7   2.2   #   1.2    0   0   0  72 62  .35 49  150   W     6  48  4    4   #   0   0     #   11   #   1  23  #
MAY  67  56  62   97   44    .2   1.2  .0   1.0    0   0   0  75 64  .40 53  200   W     6  37  7    2   #   0   0     0    8   #   1  17  0
JUN  69  59  64   94   46    .1    .5  .0    .4    0   0   0  77 67  .47 57  200   W     6  28  6    1   0   0   0     #   13   #   2   4  0
JUL  72  62  67   96   52     #    .8  .0    .5    0   0   0  81 67  .52 60  200   W     6  26  6    #   0   0   0     #   15   #   7   1  0
AUG  74  64  69   97   53    .1   2.1  .0   1.4    0   0   0  83 68  .54 61  250   W     6  30  6    #   #   0   0     #   15   #  13   #  0
SEP  74  63  68  108   51    .2   2.3  .0   1.1    0   0   0  79 66  .52 60  220   W     5  39  5    1   #   0   0     #   16   #  12   2  0
OCT  72  57  64  105   35    .3   1.7   #    .6    0   0   0  76 66  .44 55  220   W     5  41  5    2   #   0   0     #   17   1   6  12  #
NOV  68  50  59   97   35   1.1   4.4  .0   1.9    0   0   0  67 59  .34 48  250   W     5  51  4    4   1   0   0     #   14   #   4  25  1
DEC  64  46  55   87   29   1.0   4.4   #   1.4    #   #   #  66 58  .28 43  250   E     5  44  4    4   1   0   0     #   15   0   2  29  5
ANN  68  54  61  108   26   7.4   6.4  .0   2.1    #   #   #  75 64  .39 52  250   W     6  51  5   35   4   0   0     #  162   1  50 197 18
EYR  29  29  29   29   29    29    29  29    29   29  29  29  10 10   10 10   10  10    10  28 10   29  29  29  29     2   28  29  29  29 29
REMARKS: ?DATA NOT AVAILABLE, # LESS THAN 0.5DAY,0.5 OR 0.05 INCH, 0 0.5 PERCENT AS APPLICABLE.
         THE VALUE LISTED UNDER "PRESS ALT FEET 99.95%" INDICATES I IS EXCEEDED ONLY 0.05% OF THE TIME.
         EYR MEANS EQUIVALENT YEARS OF RECORD (I.E. THE ACTUAL NUMBR OF YEARS UTILIZED IN THE
         COMPUTATIONS FROM THE OVERALL PERIOD OF RECORD, POR).

FLYING WEA % HRS LST   JAN     FEB     MAR     APR     MAY     JUN     JUL     AUG     SEP     OCT     NOV     DEC     ANN     EYR
 CEILING          01                                                                                                           0
 LESS 5000        04                                                                                                           0
 FT AND/OR        07    34      37      43      52      79      84      86      88      75      63      34      31      59      10
 VISIBILITY       10    24      31  [illegible] 35      51      49      48      41      51      45      30      27      39      10
 LESS 5 MI        13    25      25      23      13      35      31      28      21      33      33      25      25      27      10
                  16    22      21      21      21      41      37      21      20      26      27      16      22      24      10
                  19    23      20      26      31      54      41      28      27      35      29      29      33      33      10
                  22    36      37      36      33      62      50      37      45      44      46      36      44      43       7
             ALL HRS    29      29      30      32      53      49      43      41      45      41      27      29      37      10

 CEILING          01                                                                                                           0
 LESS 3000        04                                                                                                           0
 FT AND/OR        07    25      30      30      45      71      76      80      83      69      53      28      26      51      10
 VISIBILITY       10    15      22      21      27      43      39      37      33      37      32      21      18      29      10
 LESS 3 MI        13    15      17      14      11      27      25      20      14      24      17      16      15      18      10
                  16    13      16      15      17      37      28      18      16      20      16      13      16      18      10
                  19    19      23      13      24      50      40      25      25      28      20      22      23      27      10
                  22    26      24      29      31      56      47      31      43      39      43      25      33      36       7
             ALL HRS    18      22      21      25      46      43      36      36      36      30      20      21      29      10

 CEILING          01                                                                                                           0
 LESS 1000        04                                                                                                           0
 FT AND/OR        07     9      17      12      14      20      36      45      35      31      32      17      16      24      10
 VISIBILITY       10     5      10       5       6      11      16      18      16      14      19      11       9      12      10
 LESS 3 MI        13     3       6       4       3       4       7      10       5      10      12       7       8       7      10
                  16     4       7       4       3       7       6       8       4       6       7       6       8       6      10
                  19     4       8       2       4       9      12       9       8       5       6      10      12       7      10
                  22     5      11       3       3      10      10      11      10       7      15      10      17       9       7
             ALL HRS     5      10       6       5      10      15      18      14      13      16      10      11      11      10

 CEILING          01                                                                                                           0
 LESS 200         04                                                                                                           0
 FT AND/OR        07     1       5       3       3       1       1       1       3       4       7       4       6       3      10
 VISIBILITY       10     0       0       0       0       0       0       0       0       0       2       0       1       0      10
 LESS 1/2 MI      13     0       0       0       0       0       0       0       0       1       0       0       1       0      10
                  16     0       0       0       0       0       0       0       0       0       0       0       1       0      10
                  19     1       1       0       0       0       2       0       0       0       0       3       4       1      10
                  22     0       0       1       0       0       0       0       0       1       1       4       7       1       7
             ALL HRS     1       1       1       1       0       1       0       1       1       2       2       3       1      10

 CEILING          01                                                                                                           0
 LESS 100         04                                                                                                           0
 FT AND/OR        07     0       4       1       0       0       0       0       1       1       3       3       4       2      10
 VISIBILITY       10     0       0       0       0       0       0       0       0       0       0       0       0       0      10
 LESS 1/4 MI      13     0       0       0       0       0       0       0       0       0       0       0       1       0      10
                  16     0       0       0       0       0       0       0       0       0       0       0       1       0      10
                  19     0       1       0       0       0       1       0       0       0       0       2       3       1      10
                  22     0       0       1       0       0       0       0       0       1       0       2       5       1       7
             ALL HRS     0       1       0       0       0       0       0       0       0       1       1       2       0      10
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PREPARED BY: NCDC ASHEVILLE      STATION NAME: MIRAMAR, CALIFORNIA               PERIOD : APR 47-DEC 82          STN LTRS: KNKX
SEPTEMBER    1983                LOCATION    : N32 52 W117 09                    ELEV   :      477               WBAN #   : 93107
                                                                                                                 WMO #    :
                                                                            VAP
                                                                             P                          MEAN NUMBER OF DAYS  OCCURRENCE OF:
                                                                             R                                             T     V
                                                                             E                                             H     I
                                                                             S                   MEAN PRECIP               US    S
   TEMPERATURE DEG F      PRECIPITATION  INCHES   SNOWFALL RELATIVE          S DEW PRESS SFC WINDS   AMT  INCHES  SNOWFALL NT    Y  MAX        MIN
        MEAN   EXTREMES    M O N T H         MAX  MN MAX MAX  HUM      IN PT   ALT PVLG SPEED   CLD  .01 .5  .1  1.5 DM   FOG DEG   F  0 AND
    DAILY  MON                                24             24   LST      OF DEG FEET DRCTN MN MAX IN   OR  OR  OR  OR  ES   <   >   >   < <
   MAX MIN        MAX  MIN  MEAN    MAX   MIN  HRS             HR  04 13  HG  F 99.95%      KNOTS TENTH GTR GTR GTR GTR  R  7MI 90  75  65 40
JAN 65  45  55  88   28   2.4    8.9    #  2.7   *   #   #  69 49  .25 40  650   E    4  40  5    7   2   0   0    #   9   0   4  71  7
FEB 66  46  56  93   34   1.7    7.2    #  1.6   0   0   0  71 49  .24 41  650   E    5  45  5    6   1   0   0    1   9   #   4  24  4
MAR 65  46  56  93   33   1.9    7.3    #  1.5   0   0   0  77 54  .28 43  700   E    5  48  5    7   1   0   0    1   9   #   3  31  2
APR 67  50  59  95   39   1.0    3.8    #  2.1   *   #   #  76 57  .30 45  650   W    4  46  5    5   #   0   0    #   9   #   5  37  1
MAY 70  54  62 109   42    .4    2.6    #  1.5   0   0   0  76 55  .35 49  650   W    4  44  7    3   #   0   0    #  10   #   5  31  0
JUN 74  57  66 105   46    .1     .8  .0    .4   0   0   0  77 51  .40 53  650   W    4  32  5    1   0   0   0    #  13   1  11  30  0
JUL 79  61  71 101   50     #     .2  .0    .1   0   0   0  79 52  .47 57  650  WNW   4  33  5    1   0   0   0    #  16   1  25  27  0
AUG 80  63  72  99   50    .1    1.4  .0    .6   0   0   0  93 53  .50 59  650  NW    4  28  5    #   #   0   0    #  14   2  27  23  0
SEP 80  61  71 111   49    .2    2.1  .0   1.1   0   0   0  77 52  .47 57  700  WNW   4  41  5    1   #   0   0    #  14   3  21  26  0
OCT 76  56  66 105   33    .4    2.1  .0   1.3   0   0   0  72 48  .36 50  600   E    4  33  5    2   #   0   0    1  17   2  15  30  #
NOV 71  50  61 100   34   1.1    5.7  .0   2.0   0   0   0  65 43  .27 42  650   E    4  50  4    5   1   0   0    #  10   1  10  37  1
DEC 67  46  57  89   26   1.5    5.0    #  2.3   #   #   #  66 42  .23 38  650   E    4  41  4    5   1   #   0    #   9   0   5  31  5
ANN 72  53  63 111   28  17.7    8.9  .0   2.7   #   #   #  74 50  .34 49  700  WNW   4  50  5   43   6   #   0    3 135  10 135 349 20
EYR 35  35  35  35   35    35     35  35    35  35  35  35  10 10   10 10   10   10   10  35 10   35  35  35  35   35  35  35  35  35 35
REMARKS: *DATA NOT AVAILABLE. # LESS THAN 0.5DAY,0.5 OR 0.05 INCH, OR 0.5 PERCENT AS APPLICABLE.
         THE VALUE LISTED UNDER "PRESS ALT FEET 99.95%" INDICATES IT IS EXCEEDED ONLY 0.05% OF THE TIME.
         EYR MEANS EQUIVALENT YEARS OF RECORD (I.E. THE ACTUAL NUMBER OF YEARS UTILIZED IN THE
         COMPUTATIONS FROM THE OVERALL PERIOD OF RECORD, POR).

FLYING WEA % HRS LST   JAN    FEB    MAR    APR    MAY    JUN    JUL    AUG    SEP    OCT    NOV    DEC    ANN    EYR
 CEILING          01    29     39     36     45     70     70     62     66     58     49     34     29     49     10
 LESS 5000        04    31     36     43     47     72     77     76     82     68     52     30     26     53     10
 FT AND/OR        07    28     36     36     48     76     73     73     79     69     50     29     25     52     10
 VISIBILITY       10    25     33     40     39     58     35     19     24     35     36     23     21     32     10
 LESS 5 MI        13    25     31     33 [illegible] 40     19      8     12     24     24     16     18     23     10
                  16    25     28     31     31     37     19      7     11     22     25     14     22     22     10
                  19    24     30     28     26     48     32     15     21     31     31     28     26     26     10
                  22    28     36     32     39     63     50     38     46     50     43     30     29     40     10
             ALL HRS    27     33     35     36     58     47     38     43     45     37     27     25     35     10

 CEILING          01    21     32     28     36     63     66     58     63     54     44     29     23     43     10
 LESS 3000        04    23     29     32     36     66     75     74     80     61     46     25     20     47     10
 FT AND/OR        07    21     28     26     41     66     66     68     76     58     44     22     20     45     10
 VISIBILITY       10    18     21     30     29     40     26     10     12     22 [illegible] 16     14     22     10
 LESS 3 MI        13    16     19     20     16     28     13      3      5     15     11     12     10     14     10
                  16    17     19     20     15     29     14      5      6     15     13     11     12     15     10
                  19    17     20     19     20     42     28     13     16     24     21     22     18     22     10
                  22    21     28     32     31     57     48     35     43     44     37     36     20     34     10
             ALL HRS    19     24     25     28     49     42     33     38     37     30     20     17     30     10

 CEILING          01    11     19     10     11     21     34     36     39     29     24     17     16     22     10
 LESS 1000        04    13     18     13     11 [illegible] 46     52     54     36     27     15     12     27     10
 FT AND/OR        07    12     17     12     13     23     36     44     47     33     27     13     14     24     10
 VISIBILITY       10     7     10      5      3      7      5      2      3      5      6      6      5      5     10
 LESS 3 MI        13     5      4      3      1      3      3      1      2      3      4      4      3      3     10
                  16     5      7      4      1      2      3      1      2      3      6      6      6      4     10
                  19     7     10      5      3      9      6      4      5      6      8     10     10      7     10
                  22    10     13      6      7     19     21     17     19     19 [illegible] 14     13     15     10
             ALL HRS     9     12      7      6     13     19     20     21     17     15     11     10     13     10

 CEILING          01     5      9      3      2      6      5      4      5      7     14      8      9      6     10
 LESS 300         04     6      7      4      3      6     12     11     13     12     15      7      6      9     10
 FT AND/OR        07     3      6      5      5      6      6      7      9     11     14      6      4      7     10
 VISIBILITY       10     1      1      0      0      1      0      0      0      0      0      0      0      0     10
 LESS 1 MI        13     1      0      0      0      0      0      0      0      0      0      0      0      0     10
                  16     1      2      0      0      0      0      0      0      0      0      1      0      0     10
                  19     1      3      0      0      0      0      1      0      0      3      3      4      1     10
                  22     5      7      1      0      2      2      1      2      2      8      7      7      4     10
             ALL HRS     3      4      2      1      3      3      3      4      4      7      4      4      4     10

 CEILING          01     3      6      2      1      1      2      1      2      2      8      5      5      3     10
 LESS 100         04     1      6      3      2      3      5      4      5      5 [illegible] 6      3      4     10
 FT AND/OR        07     1      5      2      2      2      1      1      3      5 [illegible] 4      2      3     10
 VISIBILITY       10     1      0      0      0      0      0      0      0      0      0      0      0      0     10
 LESS 1/4 MI      13     0      0      0      0      0      0      0      0      0      0      0      0      0     10
                  16     0      0      0      0      0      0      0      0      0      0      0      0      0     10
                  19     0      0      0      0      0      0      0      0      0      1      2      2      0     10
                  22     2      5      0      0      0      1      0      1      0      6      3      5      2     10
             ALL HRS     1      3      1      1      1      1      1      1      2      4      3      2      2     10
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PREPARED BY: NCDC ASHEVILLE      STATION NAME: POINT MUGU, CALIFORNIA             PERIOD: JAN 61-DEC 83         STN LTRS: KNTD
SEPTEMBER    198[illegible]      LOCATION    : N34 07 W119 07                     ELEV  :       12              WBAN #  : 93111
                                                                                                                WMO #   : 72391
                                                               VAP
                                                                P                        MEAN NUMBER OF DAYS  OCCURRENCE OF:
                                                                R                                         T    V
                                                                E                                         H    S
                                                                S                  MEAN PRECIP            US   B
  TEMPERATURE DEG F      PRECIPITATION  INCHES   SNOWFALL RELATIVE  S DEW PRESS SFC WINDS   AMT  INCHES  SNOWFALL NT   Y  MAX        MIN
       MEAN   EXTREMES    M O N T H        MAX  MN MAX MAX  HUM    IN PT   ALT PVLG  SPEED  CLD  .01 .5  .1  1.5 DM  FOG DEG  F  = ANC
   DAILY  MON                              24          24   LST    OF DEG FEET DRCTN MN MAX IN   OR  OR  OR  OR  ES  <   >    >    < <
  MAX MIN       MAX  MIN  MEAN   MAX  MIN  HRS         HR  04 13   HG  F 99.95%     KNOTS TENTH GTR GTR GTR GTR  R  7MI  90  75  65 32
JAN 64  45  55  90  29   2.9  11.6   .0  3.3  0  #  #  70 58  .26 41   250   NE   5  61  5   6   2   0   0   1  11   #   3  31  1
FEB 64  45  55  89  27   2.5  13.8   .0  3.5  0  #  #  77 63  .27 44   250   W    5  49  5   6   2   0   0   1  12   0   3  28  #
MAR 63  46  55  86  33   1.9   7.3   #   2.0  0  0  0  80 62  .30 45   300   W    5  47  5   5   2   0   0   #  13   0   1  31  #
APR 65  47  56  99  36    .7   4.2   .0  1.3  0  0  0  83 64  .34 48   300   W    5  50  4   3   #   0   0   #  11   0   2  30  0
MAY 66  51  59  96  35    .1   1.0   #    .6  0  0  0  87 68  .39 52   200   W    5  44  5   1   #   0   0   0  16   #   1  31  0
JUN 69  55  62 100  39    #     .3   .0   .2  0  0  0  89 67  .44 55   250   W    4  35  5   1   0   0   0   #  19   #   2  30  0
JUL 71  57  64  98  43    #     .1   #    .1  0  0  0  91 69  .49 58   200   W    4  32  5   #   0   0   0   #  24   0   4  31  0
AUG 73  59  66  97  49    .1   1.0   .0  1.0     0  0  89 68  .50 59   250   W    4  25  5   #   #   0   0   #  24   0  10  30  0
SEP 73  56  66 100  44    .4   5.0   #   2.3  0  0  0  87 67  .49 58   250   W    4  40  5   1   #   0   0   1  21   1   9  29  0
OCT 72  53  63 104  33    .2    .7   #    .5  0  0  0  81 62  .43 53   200   W    4  43  5   1   #   0   0   #  19   1   6  31  #
NOV 68  46  58  98  35   1.9   6.4   #   2.7  0  0  0  69 54  .28 43   250   W    4  56  4   4   1   0   0   1  14   #   5  30  0
DEC 64  44  54  87  27   1.6   5.3   #   2.2  0  0  0  69 56  .25 40   200   NE   5  56  4   4   1   0   0   #  12   0   3  31  1
ANN 66  51  59 104  27  12.7  13.8   .0  3.5  #  #  #  81 63  .36 50   300   W    5  61  5  33   8   0   0   4 196   2  49 363  2
EYR 23  23  23  23  23    23    23   23   23 23 23 23  10 10  10 10    10   10   10  23 10  23  23  23  23  20  20  23  23  23 23
REMARKS: *DATA NOT AVAILABLE. # LESS THAN 0.5DAY,0.5 OR 0.05 INCH, OR 0.5 PERCENT AS APPLICABLE.
         THE VALUE LISTED UNDER "PRESS ALT FEET 99.95%" INDICATES IT IS EXCEEDED ONLY 0.05% OF THE TIME.
         EYR MEANS EQUIVALENT YEARS OF RECORD (I.E. THE ACTUAL NUMBER OF YEARS UTILIZED IN THE


         COMPUTATIONS FROM THE OVERALL PERIOD OF RECORD, POR).
FLYING WEA % HRS LST  JAN    FEB    MAR    APR    MAY    JUN    JUL    AUG    SEP    OCT    NOV    DEC    ANN    EYR
 CEILING        01     29     31     26     38     44     40     45     55     52     45     29     32     38     10
 LESS 5000      04     27     36     29     33     53     52     61     66     62     49     27     30     44     10
 FT AND/OR      07     22     37     36     40     63     61     71     75     72     53     28     29     49     10
 VISIBILITY     10     27     34     30     34     50     55     60     58     63     44     26     26     42     10
 LESS 5 MI      13     27     31     26     33     43     40     48     41     43     34     25     26     34     10
                16     25     26     21     21     35     33     35     33     39     35     22     28     29     10
                19     23     30     21     25     38     29     30     35     39     32     23     26     29     10
                22     27     28     25     30     32     31     32     40     41     28     28     30     31     10
           ALL HRS     27     31     27     28     45     43     48     50     51     41     26     28     37     10

 CEILING        01     22     23     20     24     36     37     36     49     43     38     23     23     32     10
 LESS 3000      04     20     27     21     26     48     49     52     59     53     40     31     23     37     10
 FT AND/OR      07     21     32     27     29     55     57     62     67     60     45     23     25     42     10
 VISIBILITY     10     19     26     20     24     42     46     48     43     49     33     18     20     32     10
 LESS 3 MI      13     21     18     15     12     33     34     33     29     34     21     14     18     24     10
                16     15     20     14     12     25     26     31     22     30     21     14     18     20     10
                19     16     21     12     17     26     24     20     29     32     26     16     19     22     10
                22     21     21     15     16     27     28     25     36     35     32     21     21     25     10
           ALL HRS     19     23     18     20     37     38     38     42     42     32     19     21     29     10

 CEILING        01     11     15      8     13     24     28     33     42     34     29     16     18     23     10
 LESS 1000      04     10     15      9     13     27     35     43     48     39     32     15     16     25     10
 FT AND/OR      07     13     21     15     16     33     40     51     56     47     40     19     20     31     10
 VISIBILITY     10     10     17      6     11     23     27     33     28     30     26     13     16     20     10
 LESS 3 MI      13     10     10      6      5     16     17     21     18     20     17      9     14     14     10
                16      6     12      6      6     12     11     14     14     16     16      9     11     11     10
                19      8     11      4      9     15     18     17     23     22     19      8     13     14     10
                22      9     13      6     10     17     21     22     31     24     24     16     17     16     10
           ALL HRS     10     14      7     10     21     25     29     33     29     25     13     16     19     10

 CEILING        01      4      7      4      7      9     11     17     18     14     17      9      7     10     10
 LESS 500       04      5      7      3      7      9     14     22     22     21     16      8      7     12     10
 FT AND/OR      07      4      8      4      8      8     13     24     25     22     20      7      9     13     10
 VISIBILITY     10      3      4      2      1      4      5      7      5      6      7      4      5      4     10
 LESS 1 MI      13      3      3      1      1      2      3      2      2      2      4      1      2      2     10
                16      2      4      1      1      3      3      3      2      2      5      1      4      3     10
                19      4      4      1      3      5      4      6      5      5      8      4      4      4     10
                22      4      6      1      4      6      7     11     10      7     13      5      7      7     10
           ALL HRS      4      5      2      4      6      8     12     11     10     11      5      6      7     10

 CEILING        01      1      2      0      2      0      2      2      2      3      6      4      5      2     10
 LESS 100       04      1      4      1      2      1      2      4      3      5      8      4      4      3     10
 FT AND/OR      07      1      4      2      2      1      2      2      4      6     11      4      5      4     10
 VISIBILITY     10      0      1      0      0      0      0      1      0      0      0      1      1      0     10
 LESS 1/4 MI    13      0      0      0      0      0      0      0      0      0      0      0      0      0     10
                16      1      0      0      0      0      0      0      0      0      0      0      2      0     10
                19      1      0      0      0      0      0      1      0      0      1      1      1      0     10
                22      2      2      1      0      0      2      2      1      0      5      4      3      2     10
           ALL HRS      1      2      0      1      0      1      1      1      2      4      2      3      2     10
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PREPARED BY: NOCD ASHEVILLE      STATION NAME: SAN CLEMENTE ISLAND, CALIFORNIA       PERIOD: APR 63-DEC 82       STN LTRS: KNUC
SEPTEMBER    1983                LOCATION     : N33 01 W118 35                       ELEV  :       168           WBAN #  : 93117
                                                                                                                 WMO #   :
                                                                     VAP
                                                                      P                         MEAN NUMBER OF DAYS  OCCURRENCE OF:
                                                                      R                                          T     V
                                                                      E                                          H     S
                                                                      S                    MEAN PRECIP           US    B
  TEMPERATURE DEG F     PRECIPITATION  INCHES    SNOWFALL RELATIVE    S DEW PRESS SFC WINDS  AMT  INCHES   SNOWFALL NT     Y  MAX          MIN
       MEAN   EXTREMES   M O N T H          MAX   MN MAX MAX   HUM    IN PT   ALT PVLG  SPEED CLD  .01 .5   .1  1.5 DM  FOG DEG F  F    AND
    DAILY  MON                              24              24   LST   OF DEG FEET DRCTN MN MAX IN   OR  OR   OR  OR  ES   <    >    >   < <
   MAX MIN        MAX   MIN   MEAN   MAX   MIN  HRS             HR  04 13  HG  F 99.95%      KNOTS TENTH GTR GTR GTR GTR  S  7MI  90   75  65 45
JAN 62  50  56  84   36   1.8   4.5   .0  1.4   0   0  0  84 68  .34 48   400  WNW   6  41   5    7   1   0   0   0  10   0    1  31  6
FEB 62  51  57  80   40   1.2   4.1   #   1.9   0   0  0  87 70  .36 50   400  WNW   6  46   5    5   1   0   0   0   9   0    #  28  3
MAR 62  51  57  87   39   1.2   3.9   #   1.6   0   0  0  85 67  .35 49   450  WNW   6  44   5    5   1   0   0   #   9   0    1  31  2
APR 64  52  58  85   43    .5   2.7   #   2.0   0   0  0  85 64  .35 49   350   W    7  45   5    3   #   0   0   #   6   0    1  30  1
MAY 64  54  60  94   44    .2   1.7   #   1.1   0   0  0  96 67  .39 52   350   W    7  43   7    1   #   0   0   #  10   #    1  31  #
JUN 67  57  62 101   52    #     .3   .0   .2   0   0  0  88 68  .44 55   400   W    7  31   6    1   0   0   0   0  12   #    2  30  0
JUL 69  60  65  86   57    #     .4   .0   .4   0   0  0  89 70  .49 59   350   W    6  28   7    #   0   0   0   #  13   0    3  30  0
AUG 71  62  67  85   55    .1   2.5   .0  2.0   0   0  0  89 69  .50 59   400   W    6  28   7    #   #   0   0   #  10   0    6  28  0
SEP 71  61  66 102   53    .3   2.0   .0  1.9   0   0  0  89 70  .50 59   400   W    5  29   7    1   #   0   0   #  10   1    5  29  0
OCT 70  58  64  94   44    .1    .3   #    .3   0   0  0  68 67  .45 56   350   W    6  41   5    1   0   0   0   #  12   #    4  31  #
NOV 66  54  60  90   41   1.0   5.3   #   1.4   #   #  #  85 67  .39 52   400   W    6  40   5    4   1   0   0   #  10   #    1  30  1
DEC 63  51  57  79   38    .8   3.1   .1  1.7   #   #  #  86 67  .35 49   350   W    5  44   5    4   #   0   0   #  12   0    #  31  4
ANN 66  55  61 102   36   7.2   5.3   .0  2.0   #   #  #  87 68  .40 53   450   W    6  46   6   32   4   0   0   # 122   1   25 359 17
EYR 20  20  20  20   20    20    20   20   20  20  20 20  10 10   10 10    10   10   10  20  10   20  20  20  20  17  17  20   20  20 20
REMARKS: *DATA NOT AVAILABLE. # LESS THAN 0.5DAY,0.5 OR 0.05 INCH, OR 0.5 PERCENT AS APPLICABLE.
         THE VALUE LISTED UNDER "PRESS ALT FEET 99.95%" INDICATES IT IS EXCEEDED ONLY 0.05% OF THE TIME.
         EYR MEANS EQUIVALENT YEARS OF RECORD (I.E. THE ACTUAL NUMBER OF YEARS UTILIZED IN THE
         COMPUTATIONS FROM THE OVERALL PERIOD OF RECORD, POR).

FLYING WEA % HRS LST   JAN    FEB    MAR    APR    MAY    JUN    JUL    AUG    SEP    OCT    NOV    DEC    ANN    EYR
 CEILING          01    29     29     31     37     61     59     69     69     59     44     35     28     45     9
 LESS 5000        04    32     36     28     43     66     64     76     78     62     47     32     30     50     9
 FT AND/OR        07    32     37     37     48     68     71     79     79     69     49     34     36     53    10
 VISIBILITY       10    28     35     34     37     60     55     60     65     57     44     30     28     44    10
 LESS 5 MI        13    30     28     28     30     47     46     42     44     46     33     26     25     35    10
                  16    29     29     25     29     49     47     47     44     44     34     24     25     36    10
                  19    27     28     28     33     52     49     60     61     54     39     26     26     40     9
                  22    25     29     27     32     56     54     63     62     51     40     27     25     41     9
              ALL HRS   29     31     30     36     57     56     62     63     55     41     29     28     43    10

 CEILING          01    25     25     27     35     58     57     67     67     56     41     26     22     42     9
 LESS 3000        04    27     31     24     37     62     62     74     77     59     43     28     27     46     9
 FT AND/OR        07    27     31     30     41     62     67     78     78     66     46     28     30     49    10
 VISIBILITY       10    24     26     30     32     54     52     57     61     53     40     25     23     40    10
 LESS 3 MI        13    25     22     24     23     42     44     39     42     40     29     20     20     31    10
                  16    23     24     21     25     45     45     45     43     41     31     19     20     32    10
                  19    22     24     24     30     49     47     59     60     52     37     24     20     37     9
                  22    19     24     23     30     52     53     62     60     48     36     24     21     36     9
              ALL HRS   24     26     25     32     53     53     60     61     52     38     24     23     39    10

 CEILING          01    15     16      8     15     24     31     48     44     32     25     17     14     24     9
 LESS 1000        04    17     18      5     15     25     34     54     50     37     26     17     16     26     9
 FT AND/OR        07    16     17      6     14     24     34     50     43     38     26     15     15     25    10
 VISIBILITY       10    11     13      9     11     16     21     29     26     25     18     10     12     17    10
 LESS 3 MI        13    11     11      5      7     12     15     19     17     16     15     10     10     12    10
                  16    14     14      6      8     15     21     24     20     21     17      9     11     15    10
                  19    15     15      6     11     20     25     35     33     29     23     13     12     20     9
                  22    12     16      6     12     20     30     43     41     24     21     14     11     21     9
              ALL HRS   14     15      6     12     20     26     37     34     28     21     13     13     20    10

 CEILING          01     5      8      2      3      4      6      8      3      3      6      6      5      5     9
 LESS 400         04     8      8      2      2      4      6      7      6      6      5      6      6      6     9
 FT AND/OR        07     7      7      2      2      5      5      7      4      4      6      4      5      5    10
 VISIBILITY       10     4      4      1      1      1      1      1      2      1      1      3      3      2    10
 LESS 1 MI        13     2      4      0      0      1      0      1      1      1      2      0      1      1    10
                  16     4      4      1      1      1      0      0      1      1      3      2      2      2    10
                  19     5      8      1      2      1      3      2      1      3      6      5      4      3     9
                  22     4      6      1      2      3      4      7      3      3      6      5      4      4     9
              ALL HRS    5      6      1      2      2      3      4      3      3      5      4      4      4    10

 CEILING          01     4      5      1      2      1      2      2      1      1      3      3      4      2     9
 LESS 200         04     5      4      1      1      1      3      2      2      3      3      4      5      3     9
 FT AND/OR        07     4      4      1      1      3      2      2      2      1      3      2      4      2    10
 VISIBILITY       10     3      3      0      1      0      0      0      0      1      1      0      3      1    10
 LESS 3/4 MI      13     1      1      0      0      0      0      0      0      0      1      0      1      0    10
                  16     3      3      1      0      0      0      0      0      1      2      2      2      1    10
                  19     4      5      0      1      0      1      1      1      0      3      4      2      2     9
                  22     3      4      0      1      1      2      3      1      1      3      2      3      2     9
              ALL HRS    4      4      1      1      1      1      1      1      1      2      2      3      2    10
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PREPARED BY: NOCD ASHEVILLE      STATION NAME: SAN DIEGO, CALIFORNIA      PERIOD: APR 45-DEC 82      STN ...: NZY
SEPTEMBER    1983                LOCATION    : N32 42 W117 12             ELEV   :      24           WBAN # : 93112
                                                                                                     WMO #  :
                                                           VAR
                                                                          MEAN NUMBER OF DAYS OCCURRENCE OF

  TEMPERATURE DEG F      PRECIPITATION  INCHES   SNOWFALL RELATIVE  DEW POINT PRESS  SFC WINDS  MEAN SUNSHINE  SNOWFALL
       MEAN   EXTREMES    M O N T H       MAX   MO MAX MAX  HUM     IN PT   ALT PVLT  SPEED     AMT  INCHES ... 1.5
   DAILY  MTH                             24        24  LST      OF DEW FEET DRCTN  MN MAX    IN
   MAX MIN         MAX  MIN  MEAN   MAX  MIN  HRS        HR  04 13   HG  F 99.95%          KNOTS TENTH  ...
JAN 63  49  56  88   30   2.?   6.1   #  2.8   *   #  #  76 56  .30 45   250   NW
FEB 64  52  57  95   38   1.4   5.3   #  1.7   *   *  #  77 55  .32 47   250   NW
MAR 64  52  56  99   41   1.5   4.8   #  1.7   -   #  #  76 59  .32 47   300   W
APR 66  55  60  99   44    .6   2.9   #  1.1   0   0  0  75 57  .35 49   300   W
MAY 67  58  63  95   47    .2   1.7   #  1.0   0   0  0  77 63  .40 53   300   W
JUN 69  61  65 100   54     #    .4  .0   .3   0   0  0  79 62  .45 56   350   W
JUL 73  64  69  94   57    .0    .1  .0   .1   0   0  0  81 64  .52 60   300   NW
AUG 75  66  71  92   57    .1   2.0  .0  1.5   0   0  0  82 66  .56 62   250   NW
SEP 75  66  70 105   54    .1   1.4  .0  1.2   0   0  0  82 64  .54 61   300   NW
OCT 72  60  66 106   42    .7   2.5   #   .7   0   0  0  79 60  .45 56   300   NW
NOV 68  54  61  95   40   1.1   5.7  .0  1.6   0   0  0  74 57  .34 49   250   NNW
DEC 64  49  57  87   37   1.7   5.6   #  2.6   *   #  #  72 50  .29 44   250   NW
ANN 68  57  63 108   30   9.4   6.1  .0  2.8   *   #  #  76 59  .39 52   300   NW
EYR 38  38  36  38   38   38    38   38   38   3-  39 36 10 10  10 10    10    10   10 ?? 10
REMARKS: *DATA NOT AVAILABLE. # LESS THAN 0.5 DAY, 0.5 OR 0.05 INCH, OR 0.5 PERCENT AS APPLICABLE.
         THE VALUE LISTED UNDER "PRESS ALT FEET 99.95%" INDICATES IT IS EXCEEDED ONLY 0.05% OF THE TIME.
         EYR MEANS EQUIVALENT YEARS OF RECORD (I.E. THE ACTUAL NUMBER OF YEARS UTILIZED IN THE
         COMPUTATIONS FROM THE OVERALL PERIOD OF RECORD, POR).
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FLYING WEA %	HRS LST	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	EYR
CEILING	01	34	39	39	48	66	66	61	76	60	[illegible]	77	42	51	10
LESS 5000	04	31	37	41	49	76	77	77	79	68	61	77	37	56	10
FT AND/OR	07	35	38	40	50	75	75	81	85	71	60	34	37	57	10
VISIBILITY	10	27	32	36	32	56	45	41	41	46	44	27	27	36	10
LESS 5 MI	13	25	21	23	15	35	26	20	14	27	26	16	21	23	10
	16	24	24	22	17	36	30	16	15	21	24	19	25	23	10
	19	23	29	25	29	53	40	25	28	35	31	25	29	31	10
	22	30	33	29	35	59	53	35	44	48	42	34	38	4[illegible]	10
	ALL HRS	29	31	32	34	59	52	45	47	47	42	29	32	4[illegible]	10
CEILING	01	22	31	25	40	62	66	61	65	56	47	[illegible]	32	45	10
LESS 3000	04	21	29	30	42	69	74	76	77	63	50	27	26	49	10
FT AND/OR	07	25	31	29	41	69	70	77	80	64	50	26	24	49	10
VISIBILITY	10	17	21	20	21	40	37	37	33	31	25	16	14	27	10
LESS 3 MI	13	14	12	13	8	25	22	13	11	19	15	10	11	14	10
	16	12	14	13	11	27	28	12	12	16	16	11	14	16	10
	19	17	18	16	20	45	38	25	26	30	26	18	20	25	10
	22	19	24	17	26	51	51	38	43	44	34	25	27	33	10
	ALL HRS	16	22	20	26	48	45	42	43	41	32	21	22	32	10
CEILING	01	9	15	7	7	14	27	29	27	19	25	14	22	14	10
LESS 1000	04	10	17	7	8	16	34	44	36	[illegible]	27	14	17	21	10
FT AND/OR	07	11	17	7	9	15	30	36	33	29	[illegible]	16	16	20	10
VISIBILITY	10	6	10	3	3	7	11	16	9	6	8	7	6	8	10
LESS 3 MI	13	3	3	3	1	3	2	5	4	5	[illegible]	4	4	4	10
	16	5	6	2	1	4	6	4	3	5	6	3	6	4	10
	19	6	8	2	2	7	9	7	6	8	[illegible]	7	10	[illegible]	10
	22	7	12	2	2	11	17	17	11	11	14	12	16	11	10
	ALL HRS	7	11	4	4	10	17	20	16	14	15	10	12	12	10
CEILING	01	3	5	2	1	1	2	0	1	2	[illegible]	5	11	3	10
LESS 300	04	3	7	3	1	3	3	1	3	4	[illegible]	5	10	4	10
FT AND/OR	07	3	8	3	2	2	3	2	4	6	7	4	7	4	10
VISIBILITY	10	1	1	1	0	0	0	0	0	0	1	1	1	1	10
LESS 1 MI	13	0	0	0	0	0	0	0	0	[illegible]	1	0	2	1	10
	16	0	1	0	0	0	0	0	0	[illegible]	0	1	1	0	10
	19	2	2	0	0	0	1	0	0	1	[illegible]	1	3	1	10
	22	3	5	1	0	1	1	0	0	1	1	3	[illegible]	2	10
	ALL HRS	2	4	1	1	1	1	0	1	2	3	3	5	2	10
CEILING	01	3	4	2	0	1	1	0	1	2	5	4	9	3	10
LESS 200	04	3	5	2	0	2	2	1	2	2	6	4	8	3	10
FT AND/OR	07	2	5	2	1	1	1	1	2	2	3	3	6	3	10
VISIBILITY	10	0	0	0	0	0	0	0	0	0	[illegible]	1	0	0	10
LESS 1/2 MI	13	0	0	0	0	0	0	0	0	0	[illegible]	0	1	0	10
	16	0	0	0	0	0	0	0	0	0	[illegible]	0	0	0	10
	19	2	1	0	0	0	0	0	0	0	0	0	2	0	10
	22	0	3	0	0	1	0	0	0	1	1	2	6	1	10
	ALL HRS	1	2	1	0	1	1	0	1	1	[illegible]	2	4	1	10

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PREPARED BY: NOCD ASHEVILLE      STATION NAME: SAN NICOLAS ISLAND,CALIFORNIA        PERIOD: APR 45-DEC [illegible]        STN LTHR : [illegible]
SEPTEMBER      1983              LOCATION     : N33 15 W119 27                      ELEV  :      [illegible]              WBAN #   : [illegible]
                                                                                                                          WMO #    : [illegible]
                                                                  VAP
                                                                   P                                        MEAN NUMBER OF DAYS OCCURRENCE OF:
                                                                   R                                                     T    V
                                                                   E                                                     H    F
                                                                   S                                MEAN PRECIP          U    G
  TEMPERATURE DEG F      PRECIPITATION  INCHES   SNOWFALL RELATIVE S DEW PRESS SFC WINDS   AMT  INCHES   SNOWFALL  NT    V  MAX       MIN
       MEAN   EXTREMES    M O N T H        MAX  MN MAX MAX   HUM   IN PT   ALT PVLG  SPEED  CLD  .01 .5   .1  1.5  DM   FOG            
    DAILY  MON                              24          24   LST   OF DEG FEET DRCTN MN MAX IN   OR  OR   OR  OR   ST    <    >     <   <
   MAX MIN        MAX   MIN   MEAN    MAX   MIN   HRS          HR  07 13   HG  F 99.95%       KNOTS TENTH GTR GTR GTR GTR  M  1MI   90    75
JAN 60  47  54  83    33   1.8    7.4   .0   2.0   *    #   1  76 63  .30 45   800    NW   8  52  5     7    1   [illegible]        8         1  21
FEB 61  48  55  83    37   1.5    6.2   .1   2.0   0    0   0  82 67  .32 47   800    NW   9  44  6     6    1                     10         1
MAR 61  48  55  83    34   1.2    4.0   #    1.3   0    0   0  81 66  .32 47   850    NW  11  54  6     6    1                     11         1
APR 63  49  56  96    38    .5    2.7   #     .7   #    #   #  90 63  .32 47   750    NW  11  56  5     3    #               #      9    #    2
MAY 64  51  58 100    41    .1    1.6   #     .9   0    0   0  92 65  .36 50   750    NW  10  56  7     1    #                     14    #    2
JUN 67  54  61 100    41    #      .2   .0    .1   0    0   0  90 63  .39 52   750    NW  10  52  7     1                     #     17    #    3
JUL 70  56  63  92    42    #      .1   .0    .1   0    0   0  89 67  .45 56   750    NW   9  45  5     #                           14    #    5
AUG 71  57  64  95    47    #      .8   .0    .8   0    0   0  89 69  .49 58   750    NW   9  41  5     #    #    0                17    #    7
SEP 72  57  65 103    46    .2    2.2   .0   1.7   0    0   0  85 65  .45 56   800    NW   8  47  6     1    #               #     15    1    7
OCT 70  55  63 100    40    .1     .7   .0    .4   0    0   0  82 60  .40 53   750    NW   6  53  3     2    0                     10    1    7
NOV 66  52  59  89    38   1.2    5.6   #    2.6   0    0   0  75 59  .34 48   800    NW   8  52  4     5    1                     12         3
DEC 61  48  55  87    35   1.3    4.6   #    1.6   0    0   0  73 60  .30 45   750    NW   7  55  4     6    1                     13         1
ANN 65  52  59 103    33   7.9    7.4   .0   2.6   *    #   1  82 64  .36 50   800    NW   9  64  5    35    5               #    147    2   40
EYR 25  25  25  25    25    24     24   24    24  24   24  24  10 10   10 10    10    10  10  22 10    24   24   24   24    19    19   25   25
REMARKS: *DATA NOT AVAILABLE. # LESS THAN 0.5DAY,0.5 OR 0.05 INCH, OR 0.5 PERCENT AS APPLICABLE.
         THE VALUE LISTED UNDER "PRESS ALT FEET 99.95%" INDICATES IT IS EXCEEDED ONLY 0.05% OF THE TIME.
         EYR MEANS EQUIVALENT YEARS OF RECORD (I.E. THE ACTUAL NUMBER OF YEARS UTILIZED IN THE
         COMPUTATIONS FROM THE OVERALL PERIOD OF RECORD, POR).


FLYING WEA % HRS LST   JAN     FEB     MAR     APR     MAY     JUN     JUL     AUG     SEP     OCT     NOV     DEC     ANN     EYR
 CEILING          01                                                                                                          0
 LESS 5000        04                                                                                                          0
 FT AND/OR        07    30      28      43      38      57      57      68      73      61      42      26      27      46     10
 VISIBILITY       10    26      26      26      29      47      42      46      47      49      32      21      24      35     10
 LESS 5 MI        13    24      25      23      17      30      25      22      23      29      19      16      16      22     10
                  16    20      23      25      17      25      22      11      20      27      17      15      20      20     10
                  19                                                                                                          0
                  22                                                                                                          0
             ALL HRS    25      26      29      35      40      37      38      42      42      28      19      21      31     10

 CEILING          01                                                                                                          0
 LESS 3000        04                                                                                                          0
 FT AND/OR        07    26      24      36      33      54      55      66      69      55      35      21      24      42     10
 VISIBILITY       10    24      23      21      24      46      39      42      45      43      26      16      21      31     10
 LESS 3 MI        13    21      22      19      14      27      23      17      21      24      13      12      13      19     10
                  16    17      18      20      15      24      21       9      16      23      12      12      15      17     10
                  19                                                                                                          0
                  22                                                                                                          0
             ALL HRS    22      22      24      22      38      35      35      39      33      22      15      18      27     10

 CEILING          01                                                                                                          0
 LESS 1000        04                                                                                                          0
 FT AND/OR        07    18      19      19      23      40      47      50      56      40      26      15      17      32     10
 VISIBILITY       10    13      17      12      12      28      25      32      28      26      15      10      15      19     10
 LESS 3 MI        13    11      14       9       5      10      11       9      10      12       6       6       9       9     10
                  16    13      13       7       7      10      11       4      10      13       7       8       9       9     10
                  19                                                                                                          0
                  22                                                                                                          0
             ALL HRS    14      16      12      12      23      24      27      27      23      14      10      12      19     10

 CEILING          01                                                                                                          0
 LESS 300         04                                                                                                          0
 FT AND/OR        07    10       9       9      10      13      16      26      23      19      16       9       9      14     10
 VISIBILITY       10     5       7       5       2       4       4       5       2       4       4       3       7       4     10
 LESS 1 MI        13     4       4       4       1       1       0       0       1       2       1       2       4       2     10
                  16     4       7       2       1       1       0       0       1       3       1       3       4       2     10
                  19                                                                                                          0
                  22                                                                                                          0
             ALL HRS     6       7       5       4       5       6       9       7       7       6       4       6       6     10

 CEILING          01                                                                                                          0
 LESS 100         04                                                                                                          0
 FT AND/OR        07     5       7       6       6       7       9      16      10       9      11       4       7       8     10
 VISIBILITY       10     3       4       3       1       1       1       1       2       2       0       1       4       2     10
 LESS 1/2 MI      13     3       4       2       0       0       0       0       0       1       0       1       3       1     10
                  16     2       5       1       0       0       0       0       0       1       0       2       2       1     10
                  19                                                                                                          0
                  22                                                                                                          0
             ALL HRS     3       5       3       2       2       3       5       3       4       3       2       4       3     10
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PREPARED BY: NOCD ASHEVILLE      STATION NAME: SANTA ANA, CALIFORNIA          PERIOD: MAR [illegible]          STN STATUS: ACTV
SEPTEMBER    196[illegible]      LOCATION    : N33 [illegible]                ELEV  : [illegible]              [illegible]

                                                          VAP                                  MEAN NUMBER OF DAYS OCCURRENCE OF:
                                                          P
                                                          R
                                                          E
                                                          S                       MEAN PRECIP               T    F
 TEMPERATURE DEG F     PRECIPITATION INCHES  SNOWFALL RELATIVE  S  PRESS SFC WINDS  AMT  INCHES  SNOWFALL  S    O    MAX         MIN
       MEAN   EXTREMES   MONTH        MAX   MO MAX MAX   HUM    IN  ALT  PVLG SPEED CLD .01 .5  .1  1.5   T    G  (90 OR     (32   ANY
   DAILY  MON                         24         24    LST     OF  FEET DRCTN MN MAX IN  OR  OR  OR  OR  O        MORE)     OR
   MAX MIN      MAX   MIN  MEAN  MAX  MIN HRS         HR   04 13  HG  99.95%   KNOTS TENTH GTR GTR GTR GTR R   TMI   ...   (32 LESS) 32
JAN 66  44  55  89   28   2.6   7.9  .0  2.6   *  #  *  91 54  .29 44    *  *  5 57  5   7   2           1  17   2   4  19  2
FEB 67  45  57  87   29   2.7   7.2   #  2.2         .  92 55  .31 46  350 W5W 4 53  5   6   2           1  12   .   4  14  1
MAR 67  47  57  92   31   2.7   5.5   #  1.5      0  .  93 54  .32 47  350 W5W 4 42  5   7   1           1  12   #   4  12  #
APR 69  49  64  96   34    .7   4.1   #  1.3      0  .  85 52  .34 48  250 W5W 4 45  5   4   #   0       #   9   #   6   4  0
MAY 71  54  63 102   38    .2   2.6   #  2.1      0  0  83 57  .40 53  250 W5W 4 40  6   2   #           #  13   1   7   3  0
JUN 76  58  67 107   42    .1    .5   #   .5      0  0  86 58  .45 58  [illegible] W5W 4 29  5   1   1   0   0   #  14   1  15   #  0
JUL 80  61  71 104   45     *    .2  .0   .2      0  0  85 56  .54 61  [illegible] W5W 4 27  4   #   0   0   0   #  17   1  28   #  0
AUG 82  63  73 110   48    .2   1.7  .0  1.2      0  0  85 56  .56 62  [illegible] W5W 3 31  4   #   #   0       #  15   2  30   0  0
SEP 82  61  72 112   44    .4   2.5   #  1.7      0  0  84 55  .52 60  [illegible] W5W 3 40  5   [illegible] #   0   1  14   [illegible]  25   #  0
OCT 77  54  65  99   [illegible]  [illegible]  .5   #   .4      0  0  91 51  .42 54  250 W5W 3 4[illegible] 5   .   0   0   0   1  15   2  19   3  #
NOV 72  47  60  95   [illegible]  1.2   4.3  .0  3.1      0  #  79 44  .31 46  350 W   3 55  4   4   1           1  13   #  13  13  #
DEC 67  43  55  93   28   1.6   7.8  .3  2.7      0  0  78 48  .28 43  250  #  3 69  5       1   0   0   #  13   #   5  21  1
ANN 73  52  63 112   28  11.5   7.9  .0  3.1   *  #  #  93 57  .39 52  350 W5W 3 69  5   4   7   0   0   6 161  12 156  92  4
EYR 19  19  19  19   19   17    19   19  19   17 18 16  16 10  10 10  10  16  10 18  17  16  17  16  14  18  18  19  19  19 19
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REMARKS: *DATA NOT AVAILABLE. # LESS THAN 0.5 DAY, 0.5 OR 0.05 INCH, OR 0.5 PERCENT AS APPLICABLE.
THE VALUE LISTED UNDER "PRESS ALT FEET 99.95%" INDICATES IT IS EXCEEDED ONLY 0.05% OF THE TIME.
EYR MEANS EQUIVALENT YEARS OF RECORD (I.E. THE ACTUAL NUMBER OF YEARS UTILIZED IN THE
COMPUTATIONS FROM THE OVERALL PERIOD OF RECORD, POR).

FLYING WEA & HRS	LST	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN	EYR
CEILING	01	32	28	32	36	57	50	44	44	46	47	34	38	41	10
LESS 5000	04	37	38	36	43	66	64	40	66	61	52	34	37	50	10
FT AND/OR	07	36	39	42	42	74	70	71	74	68	59	35	40	54	10
VISIBILITY	10	36	44	43	44	64	49	34	50	61	57	35	40	46	10
LESS 5 MI	13	36	39	34	35	37	27	14	20	33	41	31	40	31	10
	16	29	26	26	19	37	15	6	8	24	37	33	32	32	10
	19	26	24	21	30	32	21	6	11	26	24	24	29	22	10
	22	31	27	37	39	44	35	22	24	33	33	31	33	31	10
ALL HRS		33	33	33	33	50	42	32	37	44	43	32	36	37	10
CEILING	01	19	24	23	29	51	49	41	36	40	36	24	27	33	10
LESS 3000	04	25	29	25	36	60	60	59	62	52	46	30	31	43	10
FT AND/OR	07	26	32	26	34	60	63	61	67	58	50	25	32	45	10
VISIBILITY	10	22	26	27	30	49	37	15	29	41	42	24	30	31	10
LESS 3 MI	13	21	23	20	14	23	15	5	6	15	21	16	24	17	10
	16	17	16	15	11	17	9	2	2	9	11	11	16	12	10
	19	16	13	13	10	22	14	4	6	16	13	12	15	13	10
	22	20	18	17	20	35	31	16	20	26	23	19	23	22	10
ALL HRS		21	23	21	23	40	35	25	28	32	30	20	25	27	10
CEILING	01	8	12	4	6	10	10	11	8	6	18	13	18	11	10
LESS 1000	04	11	15	6	11	14	23	20	22	18	24	17	20	17	10
FT AND/OR	07	15	18	9	11	17	26	25	33	30	32	18	23	21	10
VISIBILITY	10	12	13	6	5	9	12	6	13	17	26	16	20	13	10
LESS 3 MI	13	9	9	4	1	3	2	3	3	6	14	13	15	7	10
	16	6	6	3	1	1	1	1	1	3	6	6	11	4	10
	19	4	6	2	2	3	2	1	1	3	7	5	9	4	10
	22	6	8	2	2	7	5	2	2	4	16	9	15	6	10
ALL HRS		9	11	4	5	8	10	8	10	11	17	12	16	10	10
CEILING	01	2	5	2	2	2	2	1	0	2	7	5	7	3	10
LESS 500	04	4	7	1	4	4	4	4	5	5	14	8	10	6	10
FT AND/OR	07	7	8	4	5	2	4	3	6	6	14	9	10	7	10
VISIBILITY	10	4	4	0	0	0	0	0	1	0	0	3	7	2	10
LESS 1/2 MI	13	0	0	0	0	0	0	0	0	0	0	1	0	0	10
	16	0	0	0	0	0	0	0	0	0	0	0	1	0	10
	19	1	1	0	0	0	0	0	0	0	0	1	1	0	10
	22	2	2	0	0	0	0	0	0	0	3	1	4	1	10
ALL HRS		3	3	1	1	1	1	1	2	2	5	4	5	2	10
CEILING	01	2	4	1	1	1	1	0	0	1	7	5	7	3	10
LESS 400	04	4	7	1	4	3	3	2	4	5	13	6	10	5	10
FT AND/OR	07	6	8	4	3	2	1	2	3	5	13	8	10	5	10
VISIBILITY	10	3	3	0	0	0	0	0	0	0	0	2	6	1	10
LESS 1/2 MI	13	0	0	0	0	0	0	0	0	0	0	1	0	0	10
	16	0	0	0	0	0	0	0	0	0	0	0	0	0	10
	19	1	1	0	0	0	0	0	0	0	0	1	1	0	10
	22	1	1	0	0	0	0	0	0	0	3	1	4	1	10
ALL HRS		2	3	1	1	1	1	1	1	1	5	3	5	2	10

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PREPARED BY: NCDC ASHEVILLE       STATION NAME: VANDENBERG AFB, CALIFORNIA          PERIOD: JUN 58-SEP 83        STN 72393 KVBG
SEPTEMBER    1983                 LOCATION    : N34 43 W120 34                      ELEV  :      366              MEAN # ...
                                                                                                                  # ...
                                                                       VAP
                                                                        P                               MEAN NUMBER OF DAYS  OCCURRENCE OF
                                                                        R                                                 T    V
                                                                        E                                                 H    I
                                                                        S                  MEAN PRECIP                    U    S
 TEMPERATURE DEG F      PRECIPITATION  INCHES    SNOWFALL RELATIVE   S DEW PRESS SFC WINDS   AMT  INCHES   SNOWFALL     NT    Y   MAX         MIN
      MEAN  EXTREMES    M O N T H         MAX   MN MAX MAX  HUM     IN PT   ALT PVLG  SPEED  CLD  .01 .5   .1  1.5     DM   FOG  GE   F      AND
  DAILY  MON                               24             24   LST   OF DEG FEET PRDIR MN MAX IN   OR  OR   OR  OR
  MAX MIN        MAX  MIN   MEAN   MAX  MIN  HRS            HR  07 13  HG  F  99.95%      KNOTS TENTH GTR GTR GTR GTR    R  7MI  90  75    45  T
JAN 61  44  53  83   25   2.4    9.3  .0  2.7   *   2  1  76 60  .27 42   700  ESE   6  48   6     7  1  *  0      *  10   0   1   17  1
FEB 61  45  53  93   31   2.5    9.2  .1  2.5   0   0  0  81 63  .30 45   700   NW   7  41   6     7  1  0  0      *  11   0   1   14  *
MAR 60  47  54  87   37   1.9    5.7   #  2.2   0   0  0  84 64  .30 45   700   NW   7  40   7     7  1  0  0      *  12   0   1   17  *
APR 61  48  55  90   36   1.0    4.6   #  1.5   0   0  0  82 63  .31 46   550   NW   8  40   6     5  1  0  0      *  17   #   1   17  0
MAY 61  50  56  93   39    .2    2.7   #  2.2   0   0  0  82 67  .34 48   600   NW   7  35   7     3  #  0  0      *  18   #   1    5
JUN 63  52  58  98   47    .1     .3   #   .2   0   0  0  84 69  .37 51   550   NW   7  33   7     1  0  0  0      *  21   #   1    1
JUL 65  53  59  95   45     #     .1   #   .1   0   0  0  89 71  .40 53   550   NW   6  37   7     1  0  0  1      *  26   0   1    #  0
AUG 66  54  60  96   45    .1    1.0  .0   .9   0   0  0  89 69  .40 53   550   NW   5  32   6     2  0  0  0      *  28   0   1    #
SEP 68  54  61 100   47    .2    2.3  .0  1.7   0   0  0  86 69  .42 54   600   NW   5  33   6     3  0  0  0      1  27   #   4    1
OCT 69  52  61  99   35    .7    2.6  .0  1.5   0   0  0  81 63  .37 51   550   NW   5  36   6     2  #  0  0      *  19   1   5    3
NOV 65  49  57  97   32   2.0    6.3  .0  1.5   0   0  0  76 56  .31 46   600   NW   7  52   6     6  1  0  0      *  17   0   1    8  *
DEC 62  45  54  87   26   1.9    5.5  .2  3.0   0   0  0  76 54  .28 43   650   NW   7  44   6     7  1  0  0      *  19   0   1   16  1
ANN 63  50  57 100   25  13.2    9.3  .0  3.0   0   2  1  82 64  .34 48   650   NW   7  52   6    51  6  *  0      1 203   1  21   78  3
EYR 25  25  25  25   25    25     25  25   25   2  25 25  10 10  10 10    10    10  10  20  10    25 25 25 25     25  25  25  25   25 25
REMARKS: *DATA NOT AVAILABLE. # LESS THAN 0.5DAY,0.5 OR 0.05 INCH, OR 0.5 PERCENT AS APPLICABLE.
         THE VALUE LISTED UNDER "PRESS ALT FEET 99.95%" INDICATES IT IS EXCEEDED ONLY 0.05% OF THE TIME.
         EYR MEANS EQUIVALENT YEARS OF RECORD (I.E. THE ACTUAL NUMBER OF YEARS UTILIZED IN THE
         COMPUTATIONS FROM THE OVERALL PERIOD OF RECORD, POR).


FLYING WX % HRS LST   JAN    FEB    MAR    APR    MAY    JUN    JUL    AUG    SEP    OCT    NOV    DEC    ANN    EYR
 CEILING        01                                                                                             0
 LESS 5000      04                                                                                             0
 FT AND/OR      07    33     36     31     45     67     72     85     90     72     47     25     24     54     9
 VISIBILITY     10    26     31     32     39     49     47     55     57     47     30     17     18     37    10
 LESS 5 MI      13    24     22     30     30     35     33     39     33     32     19     14     13     25    10
                16    25     28     37     36     36     42     43     46     41     27     20     21     32    10
                19    29     30     45     40     59     57     59     80     56     49     24     17     45     5
                22                                                                                             0
        ALL HRS       24     29     34     31     50     50     55     61     50     32     19     16     36    10

 CEILING        01                                                                                             0
 LESS 3000      04                                                                                             0
 FT AND/OR      07    24     30     44     39     65     69     85     87     68     44     22     14     49     9
 VISIBILITY     10    19     20     30     24     47     44     52     54     43     27     13     14     31    10
 LESS 3 MI      13    16     14     20     15     34     31     28     30     29     17     10     10     21    10
                16    20     20     19     23     37     39     43     45     38     25     17     15     24    10
                19    25     22     38     37     59     55     59     80     55     45     21     16     43     5
                22                                                                                             0
        ALL HRS       20     20     25     26     49     48     54     59     46     30     16     14     34    10

 CEILING        01                                                                                             0
 LESS 1500      04                                                                                             0
 FT AND/OR      07    18     17     22     29     59     63     83     86     60     39     13     10     40     9
 VISIBILITY     10     8     10     11     15     37     36     51     53     36     21      9     10     25    10
 LESS 3 MI      13     9      7     10     10     26     25     26     26     24     10      6      5     15    10
                16     8     10     10     16     32     36     42     42     35     21     15     12     23    10
                19    18     13     26     32     55     52     59     80     52     32     19     12     36     5
                22                                                                                             0
        ALL HRS       11     11     13     20     42     43     53     56     41     23     12     10     26    10

 CEILING        01                                                                                             0
 LESS 1000      04                                                                                             0
 FT AND/OR      07    13     13     15     24     48     55     91     92     56     34     12      6     37     9
 VISIBILITY     10     7      6      6     12     34     27     44     45     29     17      7      9     19    10
 LESS 2 MI      13     5      5      6      5     17     14     23     16     18      8      4      2     10    10
                16     6      8      5     10     18     23     34     35     29     17     11      8     17    10
                19    16      8     16     26     39     50     52     70     50     30     19     10     32     5
                22                                                                                             0
        ALL HRS        9      7      8     15     30     33     46     50     36     19      9      7     23    10

 CEILING        01                                                                                             0
 LESS 200       04                                                                                             0
 FT AND/OR      07     3      5      5      9     14     15     39     40     29     16      3      4     16     9
 VISIBILITY     10     2      0      0      0      2      0      1      0      2      2      1      0      1    10
 LESS 1/2 MI    13     0      0      0      0      0      0      0      0      0      0      0      1      0    10
                16     0      1      0      0      0      0      0      0      1      1      2      2      1    10
                19    10      0      3      6      2      7      8      6     14     14      6      4      7     5
                22                                                                                             0
        ALL HRS        3      2      1      3      5      6     11     13      9      6      2      2      5    10
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END

FILMED

3-84

DTIC