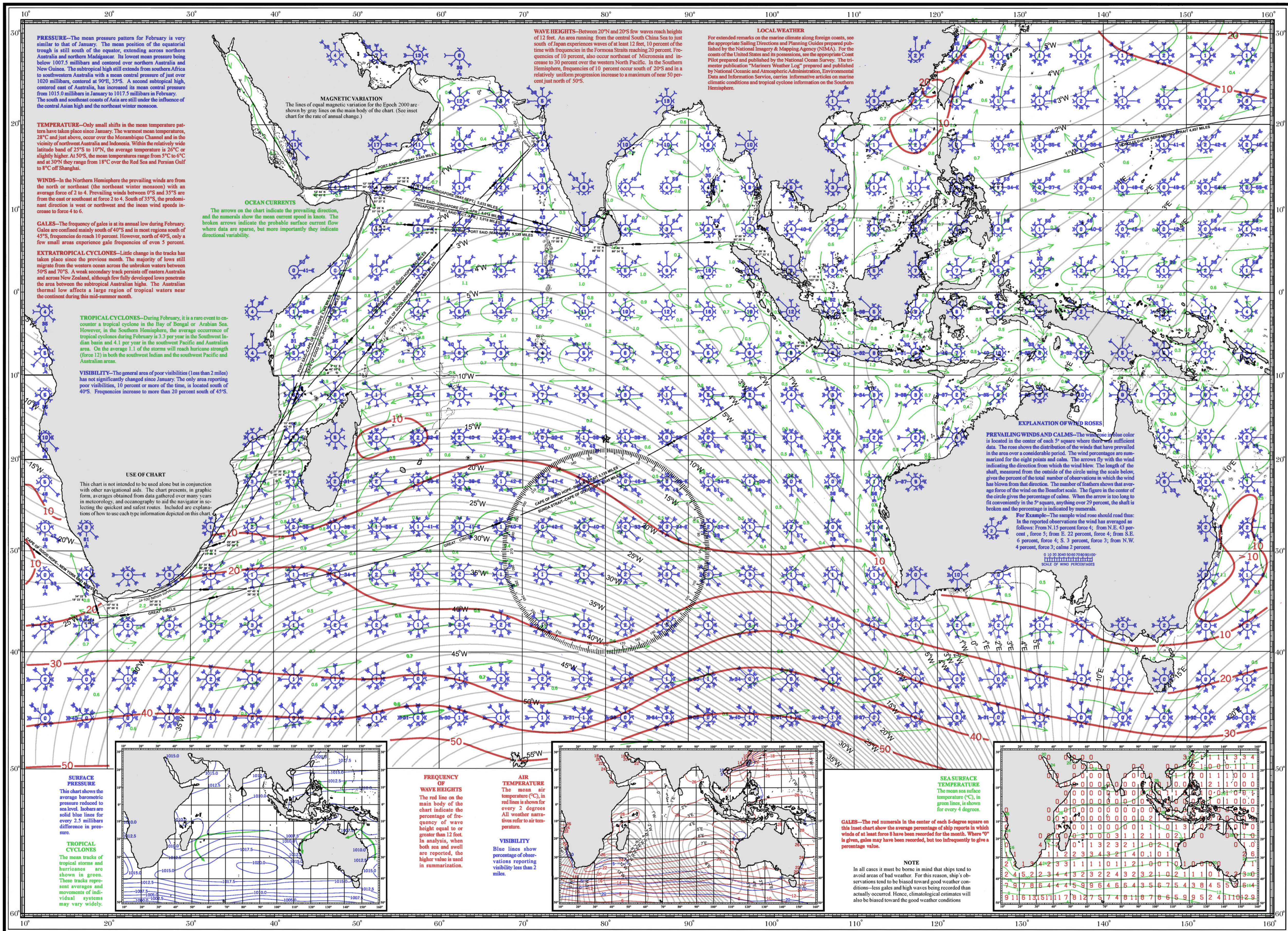




# PILOT CHART OF THE INDIAN OCEAN

## FEBRUARY



**PRESSURE**—The mean pressure pattern for February is very similar to that of January. The mean position of the equatorial trough is still south of the equator, extending across northern Australia and northern Madagascar. Its lowest mean pressure being below 1007.5 millibars and centered over northern Australia and New Guinea. The subtropical high still extends from southern Africa to southwestern Australia with a mean central pressure of just over 1020 millibars, centered at 90°E, 35°S. A second subtropical high, centered east of Australia, has increased its mean central pressure from 1015.0 millibars in January to 1017.5 millibars in February. The south and southeast coasts of Asia are still under the influence of the central Asian high and the northeast winter monsoon.

**TEMPERATURE**—Only small shifts in the mean temperature pattern have taken place since January. The warmest mean temperatures, 28°C and just above, occur over the Mozambique Channel and in the vicinity of northwest Australia and Indonesia. Within the relatively wide latitude band of 25°S to 10°N, the average temperature is 26°C or slightly higher. At 50°S, the mean temperatures range from 5°C to 6°C and at 30°N they range from 18°C over the Red Sea and Persian Gulf to 8°C off Shanghai.

**WINDS**—In the Northern Hemisphere the prevailing winds are from the north or northeast (the northeast winter monsoon) with an average force of 2 to 4. Prevailing winds between 0°S and 35°S are from the east or southeast at force 2 to 4. South of 35°S, the predominant direction is west or northwest and the mean wind speeds increase to force 4 to 6.

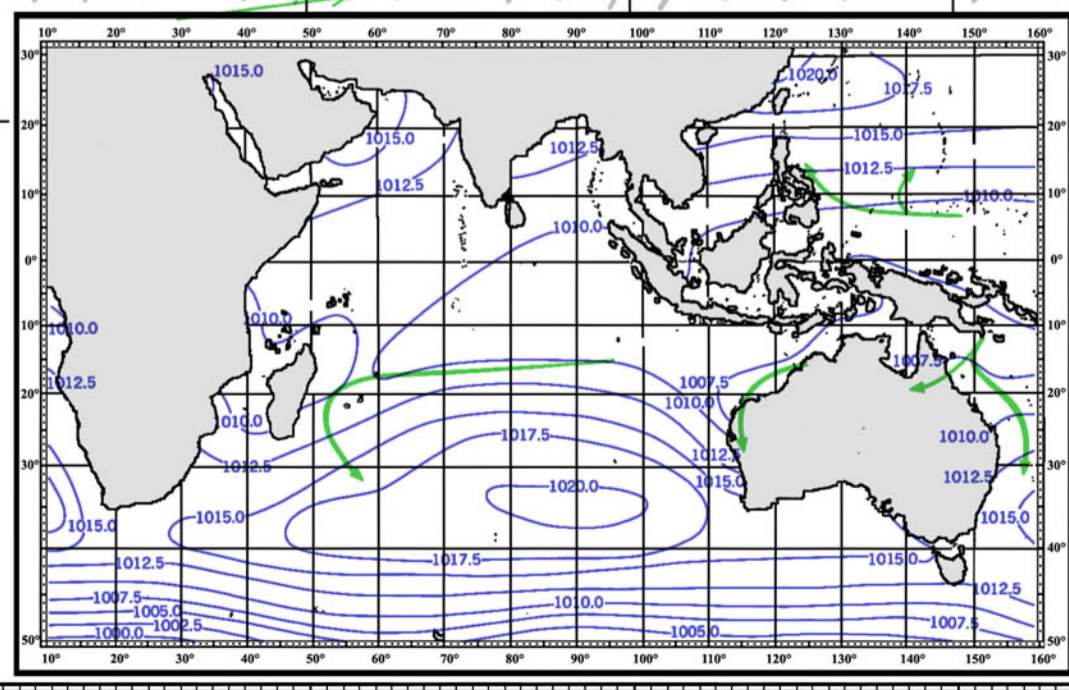
**GALES**—The frequency of gales is at its annual low during February. Gales are confined mainly south of 40°S and in most regions south of 45°S, frequencies do reach 10 percent. However, north of 40°S, only a few small areas experience gale frequencies of over 5 percent.

**EXTRATROPICAL CYCLONES**—Little change in the tracks has taken place since the previous month. The majority of lows still migrate from the western ocean across the unbroken waters between 50°S and 70°S. A weak secondary track persists off eastern Australia and across New Zealand, although few fully developed lows penetrate the area between the subtropical Australian highs. The Australian thermal low affects a large region of tropical waters near the continent during this mid-summer month.

**TROPICAL CYCLONES**—During February, it is a rare event to encounter a tropical cyclone in the Bay of Bengal or Arabian Sea. However, in the Southern Hemisphere, the average occurrence of tropical cyclones during February is 2.3 per year in the Southwest Indian basin and 4.1 per year in the southwest Pacific and Australian area. On the average 1.1 of the storms will reach hurricane strength (force 12) in both the southwest Indian and the southwest Pacific and Australian areas.

**VISIBILITY**—The general area of poor visibilities (less than 2 miles) has not significantly changed since January. The only area reporting poor visibilities, 10 percent or more of the time, is located south of 40°S. Frequencies increase to more than 20 percent south of 45°S.

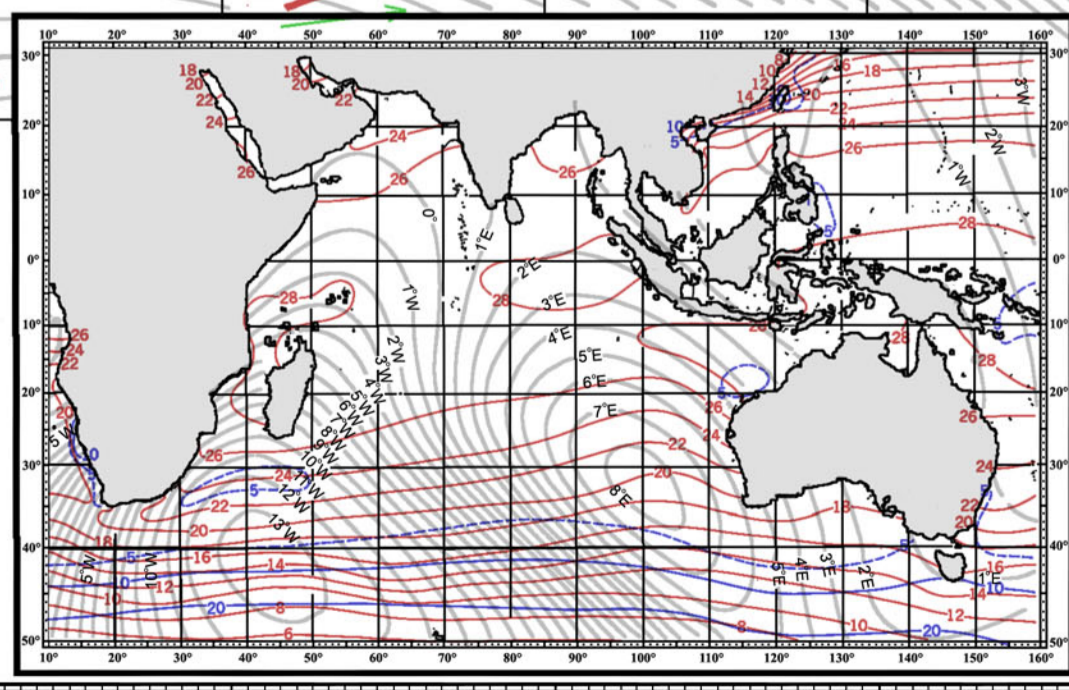
**USE OF CHART**  
This chart is not intended to be used alone but in conjunction with other navigational aids. The chart presents, in graphic form, averages obtained from data gathered over many years in meteorology, and oceanography to aid the navigator in selecting the quickest and safest routes.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



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

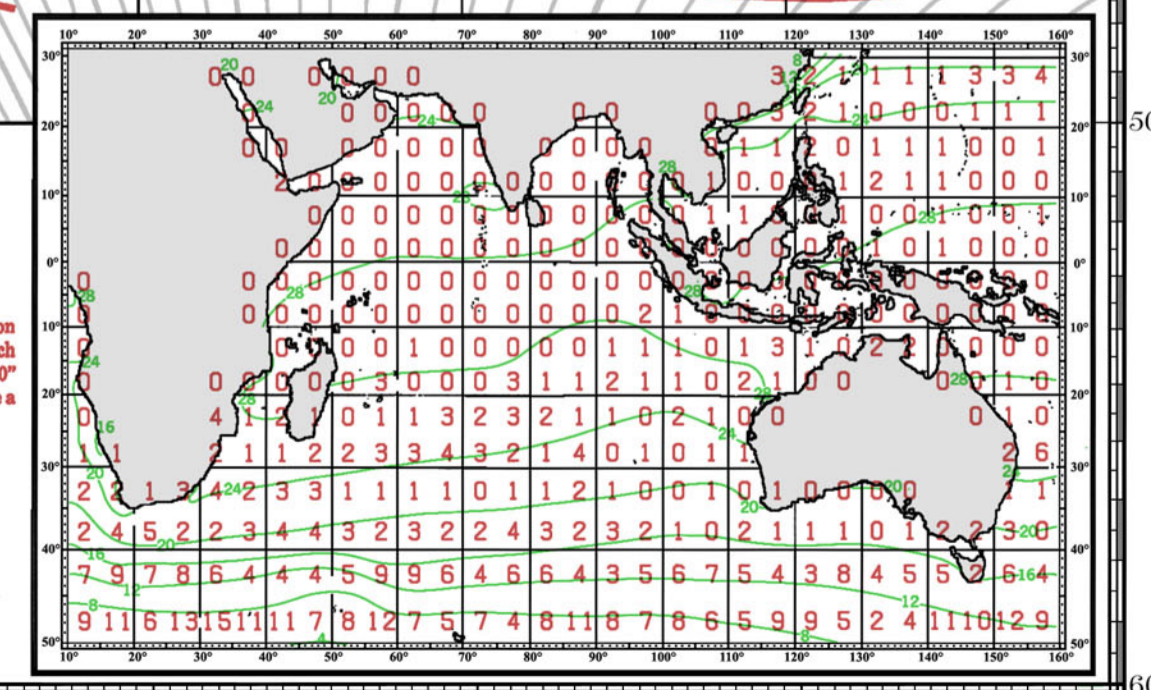
**AIR TEMPERATURE**  
The mean air temperature (°C) in red lines is shown for every 2 degrees. All weather narratives refer to air temperature.

**VISIBILITY**  
Blue lines show percentage of observations reporting visibility less than 2 miles.



**GALES**—The red numerals in the center of each 5-degree square on this inset chart show the average percentage of observations in which winds of at least force 8 have been recorded for the month. Where "0" is given, gales may have been recorded, but too infrequently to give a percentage value.

**NOTE**  
In all cases it must be borne in mind that ships tend to avoid areas of bad weather. For this reason, ship's observations tend to be biased toward good weather conditions—less gales and high waves being recorded than actually occurred. Hence, climatological estimates will also be biased toward the good weather conditions.



**WAVE HEIGHTS**—Between 20°N and 20°S few waves reach heights of 12 feet. An area running from the central South China Sea to just south of Japan experiences waves of at least 12 feet, 10 percent of the time with frequencies in the Formosa Straits reaching 20 percent. Frequencies of 10 percent, also occur northeast of Micronesia and increase to 30 percent over the western North Pacific. In the Southern Hemisphere, frequencies of 10 percent occur south of 20°S and in a relatively uniform progression increase to a maximum of near 50 percent just north of 50°S.

**LOCAL WEATHER**  
For extended remarks on the marine climate along foreign coasts, see the appropriate Sailing Directions and Planning Guides prepared and published by the National Imagery & Mapping Agency (NIMA). For the coasts of the United States and its possessions, see the appropriate Coast Pilot prepared and published by the National Ocean Survey. The trimester publication "Mariners Weather Log" prepared and published by National Oceanic and Atmospheric Administration, Environmental Data and Information Service, carries informative articles on marine climatic conditions and tropical cyclone information on the Southern Hemisphere.

**MAGNETIC VARIATION**  
The lines of equal magnetic variation for the Epoch 2000 are shown by gray lines on the main body of the chart. (See inset chart for the rate of annual change.)

**OCEAN CURRENTS**  
The arrows on the chart indicate the prevailing direction, and the numerals show the mean current speed in knots. The broken arrows indicate the probable surface current flow where data are sparse, but more importantly they indicate directional variability.

**EXPLANATION OF WIND ROSES**  
**PREVAILING WINDS AND CALMS**—The wind rose in blue color is located in the center of each 5° square where there was sufficient data. The rose shows the distribution of the winds that have prevailed in the area over a considerable period. The wind percentages are summarized for the eight points and calm. The arrows fly with the wind indicating the direction from which the wind blew. The length of the shaft, measured from the outside of the circle using the scale below, gives the percent of the total number of observations in which the wind has blown from that direction. The number of feathers shows that average force of the wind on the Beaufort scale. The figure in the center of the circle gives the percentage of calms. When the arrow is too long to fit conveniently in the 5° square, anything over 29 percent, the shaft is broken and the percentage is indicated by numerals.  
For Example—The sample wind rose should read thus:  
In the reported observations the wind has averaged as follows: From N. 15 percent, force 4; from N.E. 43 percent, force 5; from E. 22 percent, force 4; from S.E. 6 percent, force 3; S. 3 percent, force 3; from N.W. 4 percent, force 3; calm 2 percent.

**SCALE OF WIND PERCENTAGES**