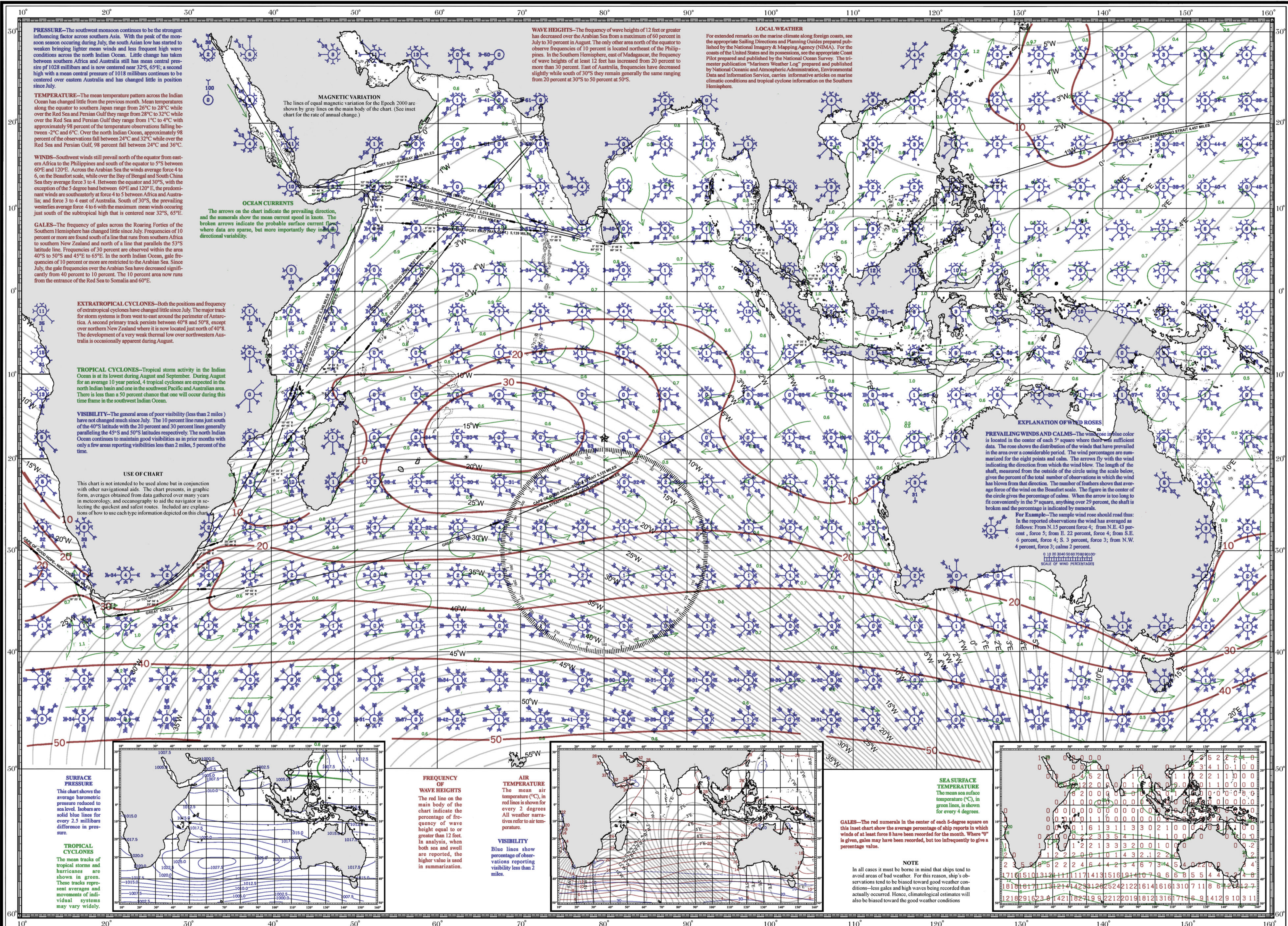




PILOT CHART OF THE INDIAN OCEAN

AUGUST



PRESSURE—The southwest monsoon continues to be the strongest influencing factor across southern Asia. With the peak of the monsoon season occurring during July, the south Asian low has started to weaken bringing lighter mean winds and less frequent high wave conditions across the Indian Ocean. Little change has taken place between southern Africa and Australia still has mean central pressure of 1028 millibars and is now centered near 32°S, 65°E; a second high with a mean central pressure of 1018 millibars continues to be centered over eastern Australia and has changed little in position since July.

TEMPERATURE—The mean temperature pattern across the Indian Ocean has changed little from the previous month. Mean temperatures along the equator to southern Japan range from 26°C to 28°C while over the Red Sea and Persian Gulf they range from 28°C to 32°C while over the Red Sea and Persian Gulf they range from 1°C to 4°C with approximately 98 percent of the temperature observations falling between 2°C and 6°C. Over the north Indian Ocean, approximately 98 percent of the observations fall between 24°C and 32°C while over the Red Sea and Persian Gulf, 98 percent fall between 24°C and 36°C.

WINDS—Southwest winds still prevail north of the equator from eastern Africa to the Philippines and south of the equator to 5°S between 60°E and 120°E. Across the Arabian Sea the winds average force 4 to 6, on the Beaufort scale, while over the Bay of Bengal and South China Sea they average force 3 to 4. Between the equator and 30°S, with the exception of the 5 degree band between 60°E and 120°E, the predominant winds are southeasterly at force 4 to 5 between Africa and Australia; and force 3 to 4 east of Australia. South of 30°S, the prevailing westerlies average force 4 to 6 with the maximum mean winds occurring just south of the subtropical high that is centered near 32°S, 65°E.

GALES—The frequency of gales across the Roaring Forties of the Southern Hemisphere has changed little since July. Frequencies of 10 percent or more are found south of a line that runs from southern Africa to southern New Zealand and north of a line that parallels the 53°S latitude line. Frequencies of 30 percent are observed within the area 40°S to 50°S and 45°E to 65°E. In the north Indian Ocean, gale frequencies of 10 percent or more are restricted to the Arabian Sea. Since July, the gale frequencies over the Arabian Sea have decreased significantly from 40 percent to 10 percent. The 10 percent area now runs from the entrance of the Red Sea to Somalia and 60°E.

EXTRATROPICAL CYCLONES—Both the positions and frequency of extratropical cyclones have changed little since July. The major track for storm systems is from west to east around the perimeter of Antarctica. A second primary track persists between 40°S and 50°S, except over northern New Zealand where it is now located just north of 40°S. The development of a very weak thermal low over southwestern Australia is occasionally apparent during August.

TROPICAL CYCLONES—Tropical storm activity in the Indian Ocean is at its lowest during August and September. During August for an average 10 year period, 4 tropical cyclones are expected in the north Indian basin and one in the southwest Pacific and Australian area. There is less than a 50 percent chance that one will occur during this time frame in the southwest Indian Ocean.

VISIBILITY—The general areas of poor visibility (less than 2 miles) have not changed much since July. The 10 percent line runs just south of the 40°S latitude with the 20 percent and 30 percent lines generally paralleling the 45°S and 50°S latitudes respectively. The north Indian Ocean continues to maintain good visibilities as in prior months with only a few areas reporting visibilities less than 2 miles, 5 percent of the time.

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.

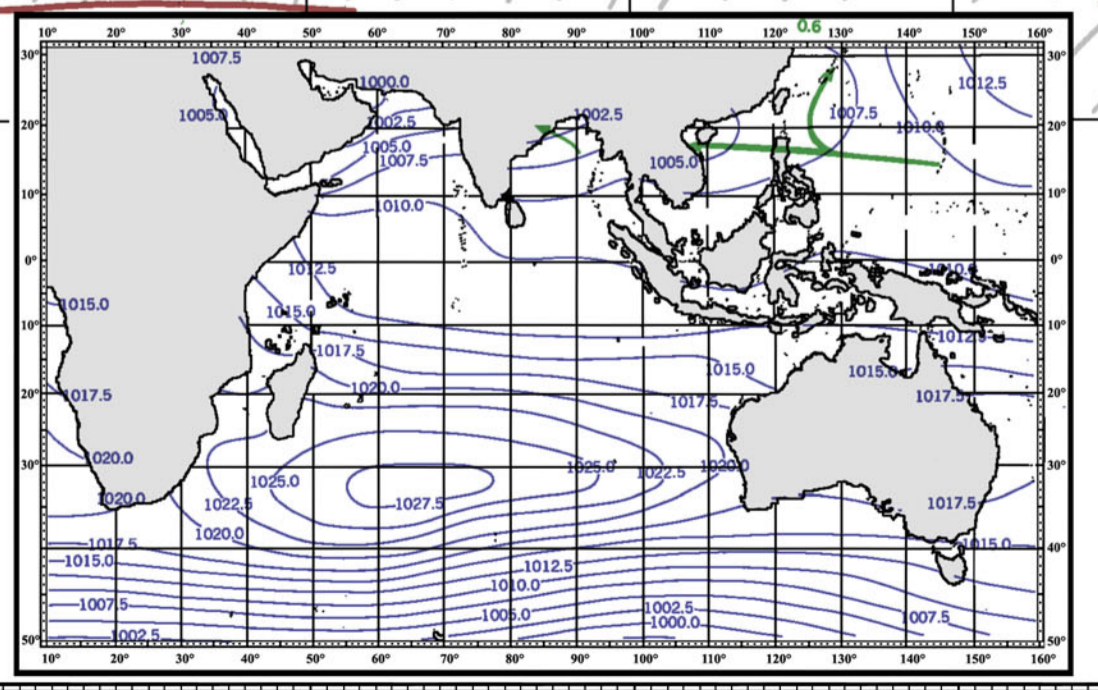
MAGNETIC VARIATION
The lines of equal magnetic variation for the Epoch 2000 are shown by gray lines on the main body of the chart. (See inset chart for the rate of annual change.)

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.

WAVE HEIGHTS—The frequency of wave heights of 12 feet or greater has decreased over the Arabian Sea from a maximum of 60 percent in July to 30 percent in August. The only other area north of the equator to observe frequencies of 10 percent is located northeast of the Philippines. In the Southern Hemisphere, east of Madagascar, the frequency of wave heights of at least 12 feet has increased from 20 percent to more than 30 percent. East of Australia, frequencies have decreased slightly while south of 30°S they remain generally the same ranging from 20 percent at 30°S to 50 percent at 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 tri-mer 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.

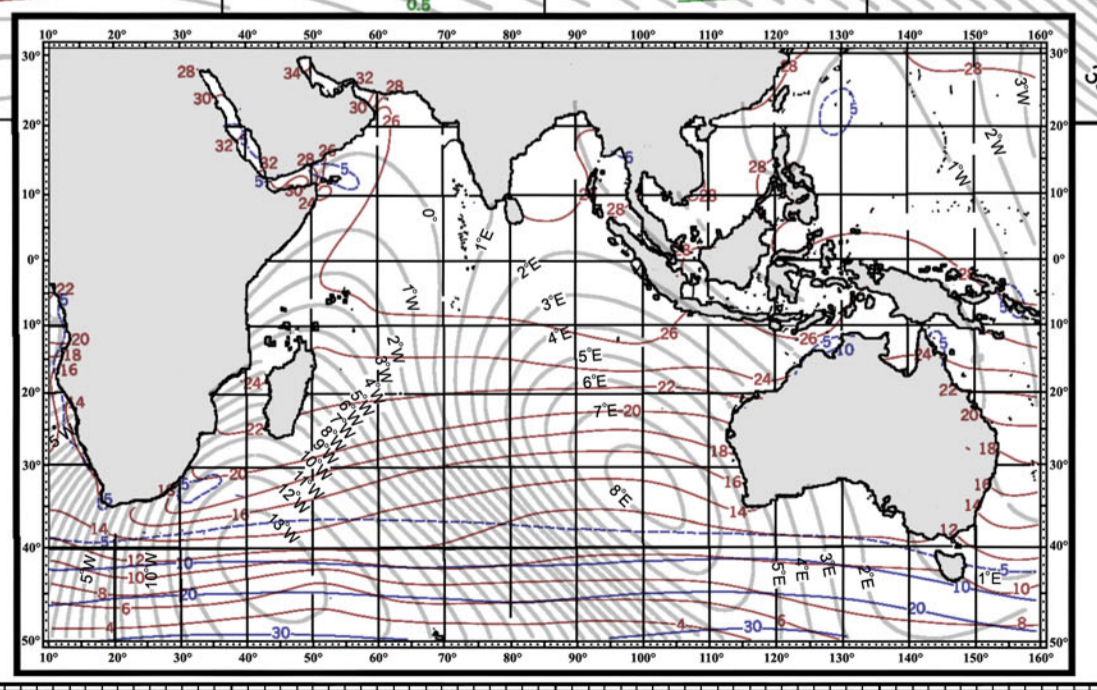
EXPLANATION OF WIND ROSES
PREVAILING WINDS AND CALMS—The wind rose in blue color is located in the center of each 5° square where there was sufficient data. The rose shows the distribution of the winds that have prevailed in the area over a considerable period. The wind percentages are summarized for 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 4; S. 3 percent, force 3; from S.W. 4 percent, force 3; calm 2 percent.



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

