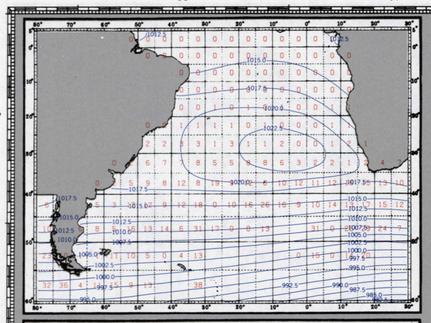
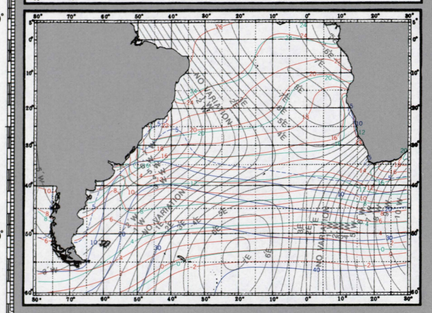
PILOT CHART OF THE SOUTH ATLANTIC OCEAN

SEPTEMBER





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. In cases where the observation count is low the gale frequency may be nonrepresentative and therefore different from the values used in the text. Where "0" is given, gales may have been recorded, but too infrequently to give a percentage value.

SURFACE PRESSURE

This chart shows the average barometric pressure reduced to sea level. Isobars are solid blue lines for every 2.5 millibars difference in pressure.

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.

SEA SURFACE TEMPERATURE

The mean sea surface temperature (°C), in green lines, is shown for every 4 degrees.

OCEAN CURRENTS

Solid arrows indicate the prevailing direction and numerals the average speed of the currents expressed in knots as determined from ships' logs. Dashed arrows are approximations of the prevailing current directions which were determined from other sources when ship log information was unavailable or inadequate.

Values given may be regarded as the probable drift a ship might experience in a particular area. They do not represent the maximum current speed which may occur.

The subtropical convergence is a zone of converging currents and sinking water. Horizontal water movements are either nonexistent or of low speed and variable direction in this zone.

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 Defense Mapping Agency. For the coasts of the United States and its possessions, see the appropriate Coast Pilot prepared and published by the National Ocean Survey. The quarterly 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 for the Southern Hemisphere.

ICE LIMITS

- • • • • Extreme limit of glacier ice since 1772.
- — — Extreme limit of pack ice of 1/10 concentration or greater for period 1966–1980.
- ∩∩∩∩∩ Mean limit of pack ice of 1/10 concentration or greater during eight recent years.

Definition: Concentration is the ratio of the sea surface actually covered by ice to the total area of sea surface, both ice covered and ice free, at a specific location or over a defined area.

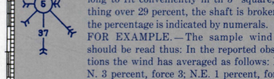
MAGNETIC VARIATION

The lines of equal magnetic variation for the epoch 1995 are shown by gray lines on the main body of the chart. The annual rate of change is shown by gray lines on the lower inset chart

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 the average force of the wind on the Beaufort scale. The figure in the center of the circle gives the percentage of calms. When the arrow is too long to fit conveniently in th 5° square, anything over 29 percent, the shaft is broken and the percentage is indicated by numerals.

FOR EXAMPLE.—The sample wind rose should be read thus: In the reported observations the wind has averaged as follows: From N. 3 percent, force 2; N.E. 1 percent, force 3; E. 4 percent, force 4; S.E. 24 percent, force 5; S. 37 percent, force 4; S.W. 13 percent, force 3; W. 7 percent, force 3; N.W. 6 percent, force 3; calms 5 percent.



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 lines on the main body of the chart indicate the percentage of frequency of wave height equal to or greater than 12 feet. In analysis, when both sea and swell are reported, the higher value is used in the summarization.

SEPTEMBER

PRESSURE—With the advent of slightly warmer temperatures in September the equatorial trough begins to reappear north of the equator. The subtropical high is still centered near 30°S, 10°W, with a mean central pressure of 1024 millibars. Since August, the influence of the high has dwindled as its mean northern extent decreased by 10 degrees latitude. The mean zonal pressure gradient continues south of 40°S, as in all previous months.

TEMPERATURE—The September mean air temperature increases slightly over August, ranging from −4°C at 60°S to 26°C off the northeast coast of South America. At 30°S, mean range from 14°C off South Africa to 19°C off Brazil. Extreme temperatures are close to those of August; 98 percent of the observations north of Natal, Brazil, fall between 24°C and 32°C, whereas over the Gulf of Guinea 98 percent fall between 21°C and 29°C. Along the 30°S parallel, 98 percent are found between 12°C and 24°C off Brazil and between 12°C and 20°C off South Africa. At 60°S, 98 percent fall between −5°C and 4°C.

WINDS—The circulation around the subtropical high produces prevailing southeasterly winds from the Cape of Good Hope to the southern edge of the North Atlantic. The influence of the high is relatively weak along the coast of Africa between 15°S and 10°N and in this region the prevailing winds flow onshore from the southwest. Between 20°S adn 30°S and from the coast of South America to the center of the subtropical high the winds have a predominantly northerly component. Scalar winds average force 3 to 5 north of 30°S and 4 to 6 south of 30°S.

GALES—Winds equal to or greater than force 8 are observed 10 percent or more of the time south of a line that runs form southeastern Argentina to the southern portion of the Agulhas current. Frequencies reach 20 percent between 40°S and 48°S and between 35°W and 5°W.

VISIBILITY—The visibility pattern has changed little since August. Poor visibilities (less than 2 miles) are observed 10 percent or more of the time south of 38°S at 50°W and south of 42°S at 20°E. Frequencies increase towards the southeast to a high of 40 percent south of 55°S and east of 26°W. Ten percent frequencies are also observed along the coast of Namibia. Exceptionally good visibilities continue along the South American coast where poor visibilities are reported less than 10 percent of the time.

WAVE HEIGHTS—Wave heights of at least 12 feet are observed 10 percent or more of the time across most areas south of 25°S, with the exception of the near coastal zone of South America north of the Gulf of San Matia. North of 25°S, 10 percent frequencies are observed along the axis of the Benguela current as far as 17°S. South of 25°S, frequencies increase southeasterly to a maximum of 50 percent in the region to the east of South Geroglia and south of 50°S.