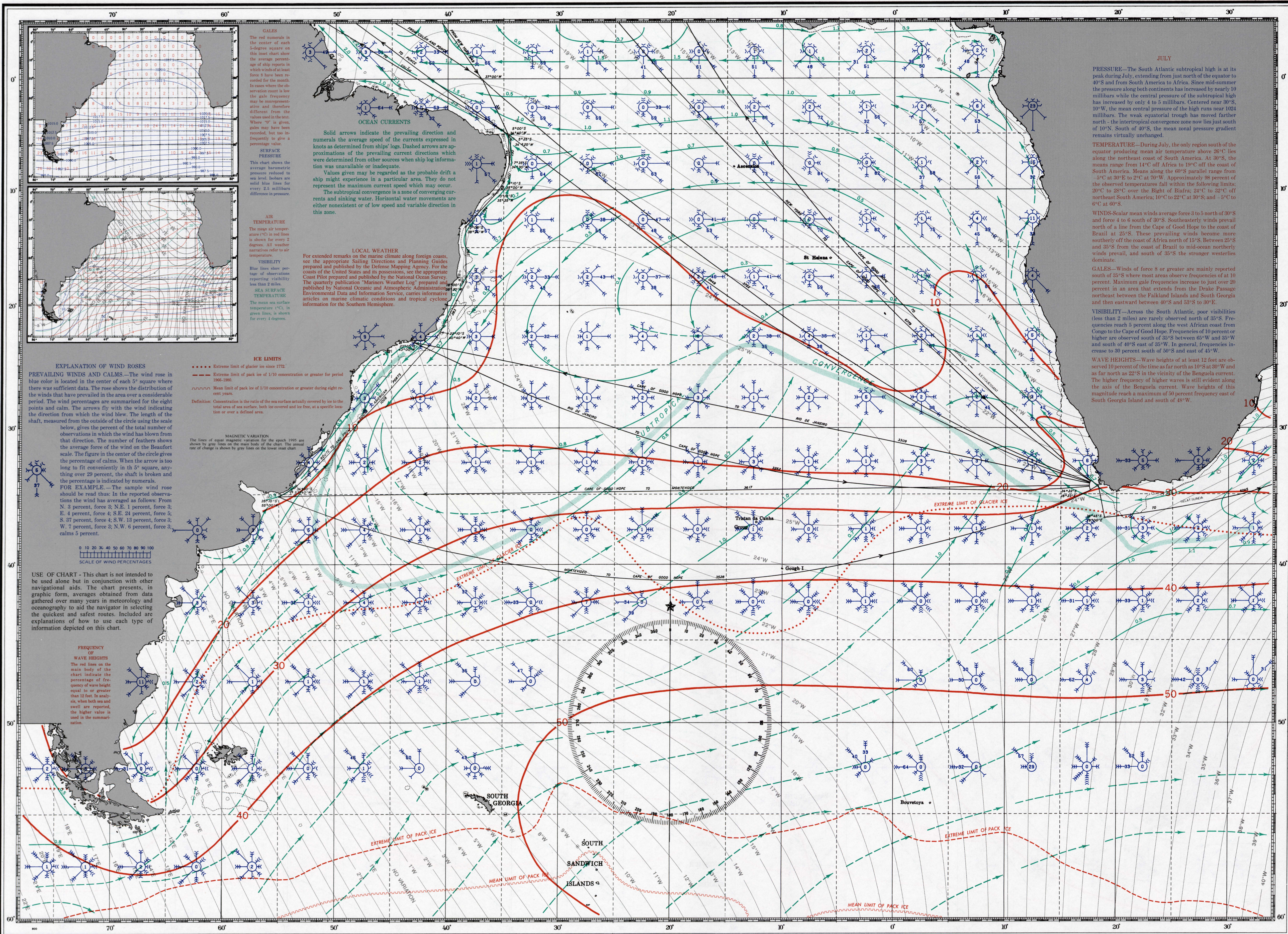


PILOT CHART OF THE SOUTH ATLANTIC OCEAN

JULY



GALES
The red numerals in the center of each 5-degree square on this chart show the average percentage of ship reports in which wind of at least force 5 has been recorded for the month. In cases where the observation count is low the gale frequency may be unrepresentative 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. Isolines 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 1 degree.

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 calms. 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 flowers 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 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 be read thus: In the reported observations the wind has averaged as follows: From N. 3 percent, force 3; N.E. 1 percent, force 3; E. 4 percent, force 3; 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.

SCALE OF WIND PERCENTAGES
0 10 20 30 40 50 60 70 80 90 100

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.

OCEAN CURRENTS
Solid arrows indicate the prevailing current 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.

PRESSURE.—The South Atlantic subtropical high is at its peak during July, extending from just north of the equator to 40°S and from South America to Africa. Since mid-summer the pressure along both continents has increased by nearly 10 millibars while the central pressure of the subtropical high has increased by only 4 to 5 millibars. Centered near 30°S, 10°W, the mean central pressure of the high runs near 1024 millibars. The weak equatorial trough has moved farther north—the intertropical convergence zone now lies just south of 10°N. South of 40°S, the mean zonal pressure gradient remains virtually unchanged.

TEMPERATURE.—During July, the only region south of the equator producing mean air temperature above 26°C lies along the northeast coast of South America. At 30°S, the means range from 14°C off Africa to 19°C off the coast of South America. Means along the 60°S parallel range from 5°C at 30°E to 2°C at 70°W. Approximately 98 percent of the observed temperatures fall within the following limits: 20°C to 28°C over the Bight of Biafra; 24°C to 32°C off northeast South America; 10°C to 22°C at 30°S; and 5°C to 6°C at 60°S.

WINDS.—Scalar mean winds average force 3 to 5 north of 30°S and force 4 to 6 south of 30°S. Southeasterly winds prevail north of a line from the Cape of Good Hope to the coast of Brazil at 25°S. These prevailing winds become more southerly off the coast of Africa north of 15°S. Between 25°S and 35°S from the coast of Brazil to mid-ocean northerly winds prevail, and south of 35°S the stronger westerlies dominate.

GALES.—Winds of force 8 or greater are mainly reported south of 35°S where most areas observe frequencies of at 10 percent. Maximum gale frequencies increase to just over 20 percent in an area that extends from the Drake Passage northeast between the Falkland Islands and South Georgia and then eastward between 40°S and 53°S to 30°E.

VISIBILITY.—Across the South Atlantic, poor visibilities (less than 2 miles) are rarely observed north of 35°S. Frequencies reach 5 percent along the west African coast from Congo to the Cape of Good Hope. Frequencies of 10 percent or higher are observed south of 35°S between 65°W and 35°W and south of 40°S east of 35°W. In general, frequencies increase to 30 percent south of 50°S and east of 45°W.

WAVE HEIGHTS.—Wave heights of at least 12 feet are observed 10 percent of the time as far north as 10°S at 90°W and as far north as 22°S in the vicinity of the Benguela current. The higher frequency of higher waves is still evident along the axis of the Benguela current. Wave heights of this magnitude reach a maximum of 50 percent frequency east of South Georgia Island and south of 48°W.