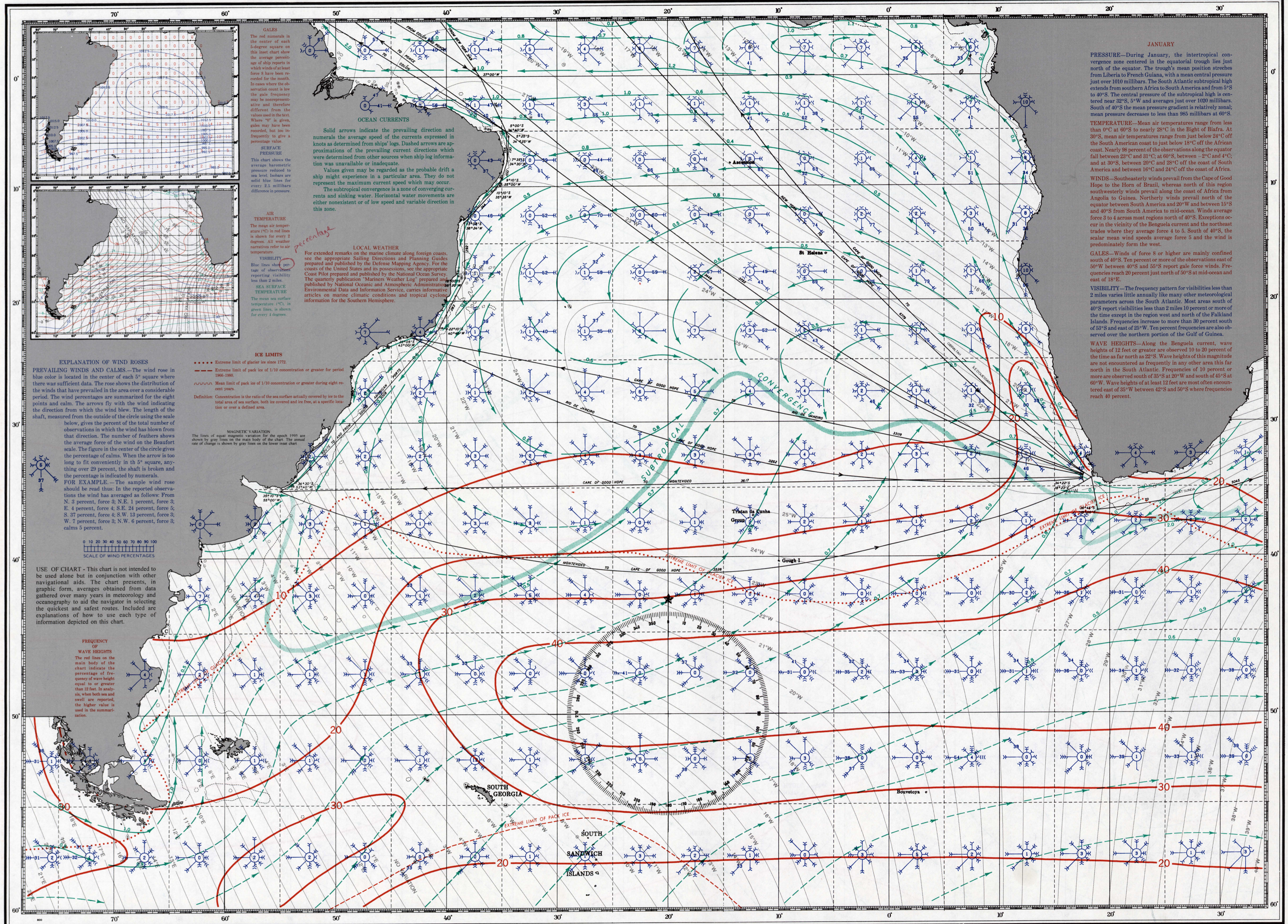


# PILOT CHART OF THE SOUTH ATLANTIC OCEAN

JANUARY



**GALES**  
The red numerals in the center of each 5-degree square on this pilot 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.

**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 "Mariner's 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**

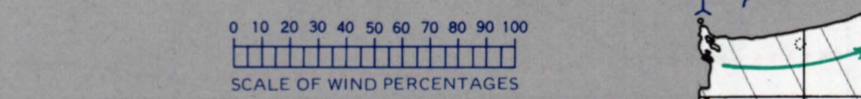
- ..... Extreme limit of glacier ice since 1772.
- Extreme limit of pack ice of 1/10 concentration or greater for period 1966-1980.
- ~~~~~ Mean limit of pack ice of 1/10 concentration or greater during eight recent years.

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 most 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. It 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 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 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.

**JANUARY**

**PRESSURE**—During January, the intertropical convergence zone centered in the equatorial trough lies just north of the equator. The trough's mean position stretches from Liberia to French Guiana, with a mean central pressure just over 1010 millibars. The South Atlantic subtropical high extends from southern Africa to South America and from 5°S to 40°S. The central pressure of the subtropical high is centered near 32°S, 5°W and averages just over 1020 millibars. South of 40°S the mean pressure gradient is relatively zonal; mean pressure decreases to less than 985 millibars at 60°S.

**TEMPERATURE**—Mean air temperatures range from less than 0°C at 60°S to nearly 28°C in the Bay of Biafra. At 30°S, mean air temperatures range from just below 24°C off the South American coast to just below 18°C off the African coast. Nearly 98 percent of the observations along the equator fall between 23°C and 31°C; at 60°S, between -2°C and 4°C; and at 30°S, between 20°C and 28°C off the coast of South America and between 16°C and 24°C off the coast of Africa.

**WINDS**—Southeasterly winds prevail from the Cape of Good Hope to the Horn of Brazil, whereas north of this region southwesterly winds prevail along the coast of Africa from Angola to Guinea. Northerly winds prevail north of the equator between South America and 20°W and between 15°S and 40°S from South America to mid-ocean. Winds average force 3 to 4 across most regions north of 40°S. Exceptions occur in the vicinity of the Benguela current and the northeast trades where they average force 4 to 5. South of 40°S, the scalar mean wind speeds average force 5 and the wind is predominately from the west.

**GALES**—Winds of force 8 or higher are mainly confined south of 40°S. Ten percent or more of the observations east of 50°W between 40°S and 55°S report gale force winds. Frequencies reach 20 percent just north of 50°S at mid-ocean and east of 18°E.

**VISIBILITY**—The frequency pattern for visibilities less than 2 miles varies little annually like many other meteorological parameters across the South Atlantic. Most areas south of the 40°S report visibilities less than 2 miles 10 percent or more of the time except in the region west and north of the Falkland Islands. Frequencies increase to more than 30 percent south of 53°S and east of 25°W. Ten percent frequencies are also observed over the northern portion of the Gulf of Guinea.

**WAVE HEIGHTS**—Along the Benguela current, wave heights of 12 feet or greater are observed 10 to 20 percent of the time as far north as 22°S. Wave heights of this magnitude are not encountered as frequently in any other area this far north in the South Atlantic. Frequencies of 10 percent or more are observed south of 35°S at 20°W and south of 45°S at 60°W. Wave heights of at least 12 feet are most often encountered east of 35°W between 42°S and 50°S where frequencies reach 40 percent.