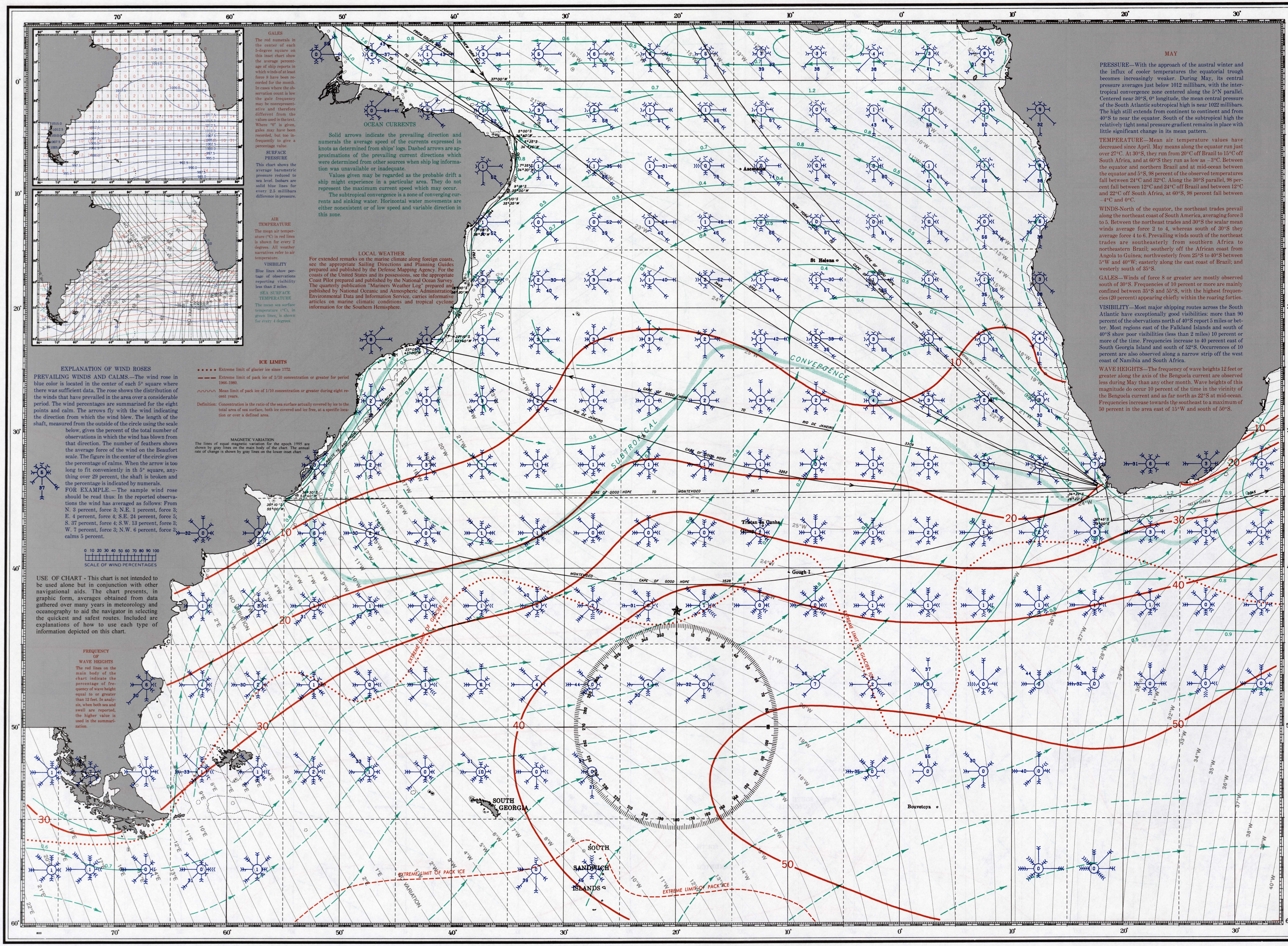
PILOT CHART OF THE SOUTH ATLANTIC OCEAN

MAY



MAY

PRESSURE—With the approach of the austral winter and the influx of cooler temperatures the equatorial trough becomes increasingly weaker. During May, its central pressure averages just below 1012 millibars, with the intertropical convergence zone centered along the 5°N parallel. Centered near 30°S, 0° longitude, the mean central pressure of the South Atlantic subtropical high is near 1022 millibars. The high still extends from continent to continent and from 40°S to near the equator. South of the subtropical high the relatively tight zonal pressure gradient remains in place with little significant change in its mean pattern.

TEMPERATURE—Mean air temperature values have decreased since April. May means along the equator run just over 27°C. At 30°S, they run from 20°C off Brazil to 15°C off South Africa, and at 60°S they run as low as −3°C. Between the equator and northern Brazil and at mid-ocean between the equator and 5°S, 98 percent of the observed temperatures fall between 24°C and 32°C. Along the 30°S parallel, 98 percent fall between 12°C and 24°C off Brazil and between 12°C and 22°C off South Africa, at 60°S, 98 percent fall between −4°C and 0°C.

WINDS-North of the equator, the northeast trades prevail along the northeast coast of South America, averaging force 3 to 5. Between the northeast trades and 30°S the scalar mean winds average force 2 to 4, whereas south of 30°S they average force 4 to 6. Prevailing winds south of the northeast trades are southeasterly from southern Africa to northeastern Brazil; southerly off the African coast from Angola to Guinea; northwesterly from 25°S to 40°S between 5°W and 40°W; easterly along the east coast of Brazil; and westerly south of 35°S.

GALES—Winds of force 8 or greater are mostly observed south of 30°S. Frequencies of 10 percent or more are mainly confined between 35°S and 55°S, with the highest frequencies (20 percent) appearing chiefly within the roaring forties.

VISIBILITY—Most major shipping routes across the South Atlantic have exceptionally good visibilities: more than 90 percent of the obervations north of 40°S report 5 miles or better. Most regions east of the Falkland Islands and south of 40°S show poor visibilities (less than 2 miles) 10 percent or more of the time. Frequencies increase to 40 percent east of South Georgia Island and south of 52°S. Occurrences of 10 percent are also observed along a narrow strip off the west coast of Namibia and South Africa.

WAVE HEIGHTS—The frequency of wave heights 12 feet or greater along the axis of the Benguela current are observed less during May than any other month. Wave heights of this magnitude do occur 10 percent of the time in the vicinity of the Benguela current and as far north as 22°S at mid-ocean. Frequencies increase towards the southeast to a maximum of 50 percent in the area east of 15°W and south of 50°S.

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 pertage 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 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.

0 10 20 30 40 50 60 70 80 90 100

SCALE OF WIND PERCENTAGES

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.