

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 and Mapping Agency; for the coasts of the United States and its possessions, see the appropriate Coast Pilot prepared and published by the National Ocean Service. The trimester publication "Mariners Weather Log" prepared and published by the National Oceanic and Atmospheric Administration, National Weather Service, carries informative articles on marine climate conditions and tropical cyclone information.

DECEMBER

PRESSURE.—As in all previous months a high pressure belt extends from South America to Australia. Centered near 33°S , 94°W , the mean central pressure of the subtropical high averages just over 1025 millibars. The equatorial trough with its shallow pressure gradient is centered south of the equator west of 140°W and north of the equator east of 140°W . South of 45°S , the tight zonal pressure gradient is maintained.

TEMPERATURE.—Mean air temperatures at 80°W range from 5°C at 60°S to 24°C at the equator; at 160°E they range from 3°C at 60°S to over 28°C at the equator. Examination of the temperature distribution along the equator shows that approximately 98% of the observations at 80°W fall between 20°C and 28°C and at 160°E , between 25°C and 33°C . At 60°S , 98% of the observations fall between 0°C and 7°C .

WINDS.—Prevailing winds north of 40°S are generally south through east except from New Guinea to the Philippines where they are northwest through west. South of 40°S , winds are predominately out of the west. Wind speeds average force 3 to 4 north of 40°S and force 4 to 5 south of 40°S .

GALES.—The occurrence of gale force winds continues to decrease. In most areas south of 50°S frequencies of 10% or more are observed, reaching a high of 20% in the Drake Passage.

TROPICAL CYCLONES.—Historical records indicate that tropical cyclones in the South Pacific spawn and live only in the northwest quadrant. Tropical cyclone activity increases during December, producing a greater number of average storms than any month since March. On the average, two tropical storms (≤ 34 knots) are observed each year. Of these, one will reach hurricane strength (≤ 64 knots) on the average of once every other year.

VISIBILITY.—As in all previous months most occurrences of poor visibilities (less than 2 miles) are confined south of 40°S . Frequencies range from 10% near 40°S to 30% to 35% at 60°S .

WAVE HEIGHTS.—Frequency isopleths of wave heights of 12 feet or more continue to be relatively zonal except in the vicinity of Australia and New Zealand where zonal frequencies decrease significantly. Between Australia and New Zealand frequencies range from 10% near 25°S , 160°E , to 40% south of 55°S , 160°E . South of New Zealand, frequencies range from 10% along the south coast to over 30% at 60°S . East of New Zealand, frequencies range from near 10% at 20°S , 90°W to over 40% south of 52°S between 90°W and 160°W .

CHART #1

TROPICAL CYCLONES

The mean tracks of tropical storms and hurricanes are shown in red. These tracks represent averages, and movements of individual systems may vary widely.

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.

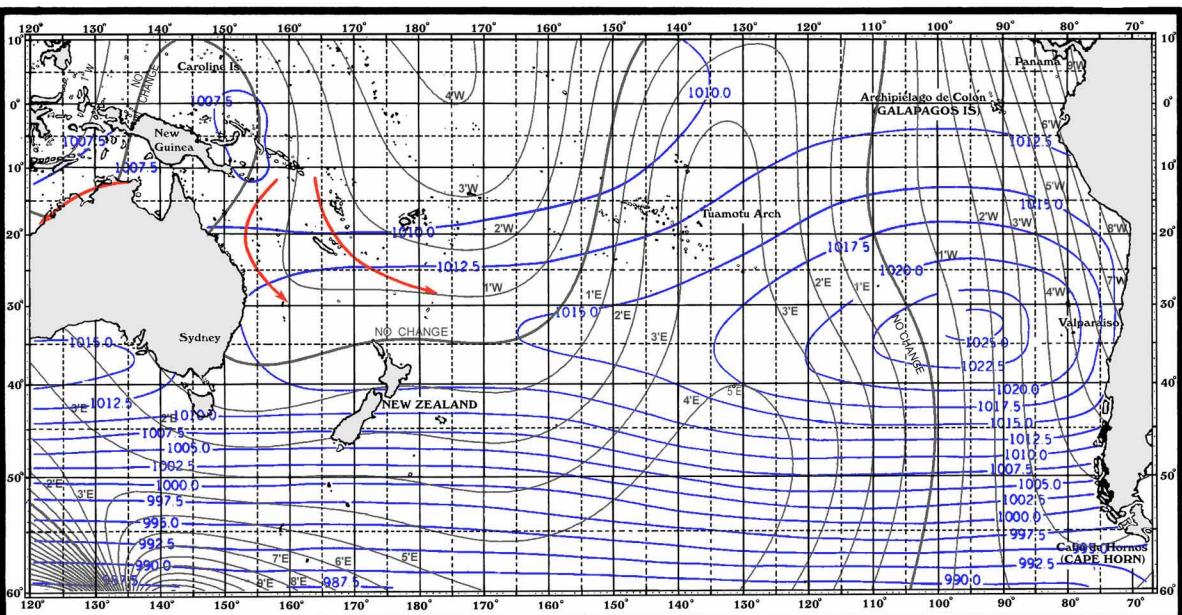


CHART #2

AIR TEMPERATURE

The mean air temperature ($^{\circ}\text{C}$) in red lines is shown for every 2 degrees. All weather narratives refer to air tempera

VISIBILITY

Blue lines show percentages of observations reporting visibilities less than 2 miles.

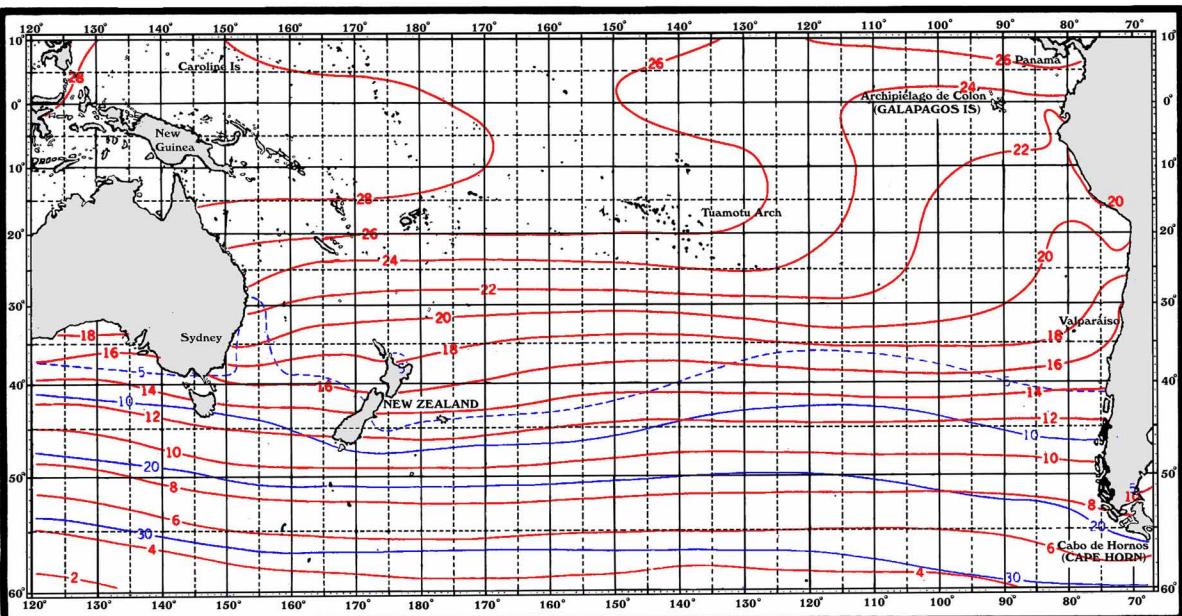
CHART #3

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.

SEA SURFACE TEMPERATURE

The mean sea surface temperature ($^{\circ}\text{C}$), in blue lines, is shown for every degrees.



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 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. 3 percent, force 3; N.E. 16 percent, force 4; E. 61 percent, force 4; S.E. 17 percent, force 5; S. 1 percent, force 4; S.W. less than 1 percent, force 3; W. 1 percent force 2; N.W. 1 percent, force 4; calms 0 percent.

