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We made repeated Seasonal CTD observations of the temperature, salinity and velocity along 140-km zonal and meridional sections centered at 1.83°S, 156.1°E. Both sections were occupied ≥12 times during each of three periods: 13 Nov. to 2 Dec., 19 Dec. to 19 Jan., and 27 Jan. to 14 Feb. Prevailing winds were different for the three periods: variable and weak (<6 m/s) during the first; strong westerlies (>10 m/s) during much of the second; and moderate westerlies (4-10 m/s) during the third. As a result, surface waters were warmest (up to 30 °C) during the first period and coldest (<29 °C) during the second.

Average T and S sections for each period show that the meridional structure differed. In all three periods, the top of the thermocline (27, 28, 29 °C, during the first, second, third periods) is nearly level; and there is another level isotherm in the lower thermocline (15, 17, 20 °C at 225 m, 190 m, 160 m). Isotherms in the upper- and mid-thermocline (20-25 °C) slope upward to the north, while those in the lower thermocline (12-14 °C) slope down; the depth of divergence decreased from 225 m to 160 m. The average salinity decreased both near the surface (25-50 m) and in the mid-thermocline (150 m). Zonal gradients were weak. Large-amplitude, short-wavelength (5 km) internal waves were observed only during the third period.

Vertical profiles show near-isothermal layers near the surface (T ≈ 29 °C), and at a depth of ≈ 250 m (T ≈ 12 °C). The former has very weak lateral gradients (<0.1 °C in 100 km). Both are associated with halostads; the salinity of the surface layer is much more variable than the salinity of the deep layer. They are separated by a strong thermocline in which is embedded a salinity maximum and a great deal of fine structure including inversions whose characteristics change from one section to the next. T-S diagrams show some features gradually intensifying and weakening, and some features crossing isopycnal surfaces.