

## Climate of the upper ocean layer in stations of Ecuadorian sea

The seasonality and interannual variability of the monthly sea temperature time series profiles (0-100m) were analyzed in four points 10 miles off the Ecuadorian coast located in the equatorial eastern Pacific. The data are of high spatial resolution (1m) and different length; two of them have 20 years and the other two, only five years. The main objective was to identify the depth of the upper layer of the ocean or thermocline's bottom (width of the mixed layer plus width of thermocline). For the determination of the thickness of the mixture layer, the method of the temperature change rate with depth was used, and for the thickness of the upper layer, the depth where the temperature was equal to the minimum sea surface temperature of the time series was considered. In general, seasonality was found, both in the mixed layer and upper layer width, but a clear relationship with the ENSO events could not be established. The variation of the thickness of the mixed layer showed a direct relationship with the dry and rainy periods, being higher during the dry season (September-October). The depth of the thermocline showed an annual cycle, but not related to the known seasonality.

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