

MONITORING THE TROPICAL PACIFIC OCEAN FOR CLIMATE ISSUES

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The inter-tropical Pacific is particularly contrasted : the western part happens to be the oceanic area of the planet where rainfall is most abundant which result in a marked lowering of surface salinity (the "Fresh Pool"). It is also the place where the warmest waters in the upper layer are found usually referred to as the "Warm Pool". The eastern part is characterized by strong easterly winds driving an intense equatorial upwelling cooling the surface layers.

Description and analysis of temperature, salinity and currents and of their seasonal and inter-annual variations are essential for understanding the influence of oceans on global climate.

In 1969 ORSTOM started observational networks based on commercial vessels. They provided surface observation of temperature and salinity from bucket samples. Since 1979 the 0-700m upper layer temperature distribution XBT profiles allowed subsurface temperature survey. Automated measurement of surface temperature and salinity was developed in 1990 on commercial vessels and at coastal stations.

The development of these ORSTOM networks and the main results such as the ENSO related distribution of water masses like zonal displacement of Warm and Fresh pools are presented.

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ABSTRACTS

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