



## Abstract View

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# The Penetration of Tritium into the Tropical Pacific

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### ABSTRACT

The persistence of subsurface tritium maxima coincident with the Equatorial Currents is used to show that advection along isopycnals by the mean wind-driven circulation is the dominant process in the at most 14-year time scale for the penetration of high northern latitude water to the equator (above 26.2 sigma-theta). Ventilation of the equatorial Pacific thermocline from the north contrasts sharply with the equatorial Atlantic thermocline which is ventilated from the south. The most striking manifestation of the North Pacific circulation is evidenced by a tritium maximum and salinity minimum at the equator between 145° and 125°W located above 25.6 sigma-theta. It shows that regardless of time of sampling the eastern and central equator has received the most high latitude water, probably as a consequence of recirculation by the Equatorial Currents. Between the same meridians there is a tritium maximum on and north of the equator at the surface, which is interpreted as an expression of upwelling. Its coincidence with the cool tongue (Wyrki) provides direct evidence that the upwelling process plays a dominant role in its maintenance on a decadal time scale.

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