

Salinity records for the 1997-98 El Nino from Western Pacific corals

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Seasonal sea surface salinity (SSS) records can be of great value in reconstructing El Nino /Southern Oscillation (ENSO) variability in the equatorial Western and Central Pacific, a region where ENSO-related evaporation and precipitation (E-P) changes are dramatic. The oxygen isotope values of coral skeleton ($\delta\text{O-18coral}$) reflect seawater oxygen isotope ($\delta\text{O-18seawater}$) changes, which in tropical oceans are also generally influenced by E-P changes. Therefore, $\delta\text{O-18coral}$ is a good indicator of rainfall and ENSO variability.

We present biweekly data from Palau, in the northern part of the Western Pacific Warm Pool, for the period 1998-2000, which indicate a strong quantitative relationship between $\delta\text{O-18coral}$, sea surface temperature, $\delta\text{O-18seawater}$ and SSS. The coral skeletal $\delta\text{O-18}$ values documented the SSS changes after the 1997-98 El Nino; therefore, $\delta\text{O-18coral}$ can be used to estimate paleosalinity changes. However, the slope of the $\delta\text{O-18seawater}$ - SSS relationship cannot be assumed to be constant throughout the tropics, making site-specific calibrations is essential.