

## Coral oxygen isotope record of ENSO-related environmental variability in East Caroline Islands of the Micronesia

# Atsushi Suzuki[1], Hironobu Kan[2], Mayuri Inoue[2], Youichi Tanimoto[3], Ahser Edward[4], hodaka kawahata[5]

[1] MRE/AIST, [2] Okayama Univ., [3] EES, Hokkaido Univ., [4] College Micronesia, [5] GSJ

We examined stable isotope ratios in a *Porites* coral from Chuuk Atoll (7N, 152E) and Pohnpei Island (7N, 158E) in the East Caroline Islands, to assess interannual climatic variability in the northern equatorial Pacific. Evident shifts in skeletal  $\delta^{18}\text{O}$  values toward positive are recognized in the peak of El Niño events for both of Chuuk and Pohnpei corals, corresponding to the SST decrease in the region. But, the amplitude of  $\delta^{18}\text{O}$  peaks exceeds the temperature dependency expected from the observed SST decrease around 1.5 degC, indicating significant contribution from seawater  $\delta^{18}\text{O}$  variations. Skeletal isotope curve corresponding to the following summer after El Niño peak is totally compressed suggesting surface-subsurface mixing and/or the shallowing of thermocline depth in this region, together with depletion of precipitation. Salt advection by the NECC is also expected. The coral  $\delta^{18}\text{O}$  shift toward positive followed by compressed summer curve can be used as a signal of past El Niño events in this region for reconstructing the long-term history of ENSO variability.