

**Coral oxygen isotope record of winter sea surface temperature variations and 1988/1989 climate regime shift from Ishigaki Is.**

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Precise and long term climate data are necessary to estimate the magnitude of climate change in the future. Although the tropics are important factor of global climate system that receive over 50% of total amount of sunlight to the earth, only about 30 years of climate data are available. Thus reconstruction of climate in this area is urgently necessary. We conducted oxygen isotope analysis of the latest 30 years part of a 272 cm long core of annually banded coral *Porites* sp. from Ishigaki Island, the Ryukyus, Japan to reconstruct sea surface temperature (SST). In the first half of the period, the winter SST of Ishigaki Island is strongly correlated to development of winter Asian monsoon. In the last half, after the climate regime shift in 1988/1989 at middle latitude Pacific, it has no correlation to the monsoon. This suggests that the winter climate mechanism of northwestern Pacific had changed with the regime shift. And this SST change could be reconstructed with coral oxygen isotope record. Thus further past reconstruction of SST at Ishigaki Island will greatly contribute to understand the climate system of the northern hemisphere.