Climate seasonality during the mid to late Holocene recorded in fossil corals from Kikai Island, Northwest Pacific.

Mamito Koizumi[1]; Yusuke Yokoyama[2]; Atsushi Suzuki[3]; hodaka kawahata[4]; Hiroyuki Matsuzaki[5]

[1] EPS,Tokyo Univ.; [2] Dept. Earth & Planet. Sci., Univ. Tokyo; [3] GSJ/AIST; [4] GFS and ORI, U of Tokyo; [5] MALT, Univ.Tokyo

North Western Pacific is a key area to understand monsoon evolution during the Holocene. However studies for reconstructions of seasonality changes using palaeo proxies have still not sufficiently conducted. Fossil corals are suite for this purpose since they record annual and seasonal variations in climate as oxygen and carbon isotope ratios.Samples for this study are massive *Porites* corals collected from Kikai Island in the Ryukyu islands. Holocene coral reefs are exposed largely along the coast of Kikai Island due to tectonic uplift. Pristine nature of the corals is observed in X-ray photos and it was subsequently confirmed from XRD measurements. Only samples which observe no secondary calcite are used for isotope analyses. They were radiocarbon dated and conducted oxygen isotope microprofiling. We found heavier oxygen isotope ratios in corals in the mid Holocene than the present. This indicates cooler and/or saltier seawater around Kikai Island in the mid Holocene. Based on the results we discuss seasonal variations of Asian monsoon and Kuroshio current which affect the environment of this region strongly.