230Th/234U age of marine oxygen isotope stage 6.5

Akihisa Kitamura[1]

[1] Insti, Geo, Shizuoka Univ

The Udo Hills, Shizuoka Prefecture, consist of alternating sequence deltatic gravels and marine muddy deposits. This sequence is divided into five formations. Stratigraphic data indicate that the Negoya and Kusanagi Formations deposited during oxygen isotope stages 7-9 and 5. The Kunosan Formation unconformably overlies the Negoya Formation and is unconformably overlain by the Kusanagi Formation. In the Kunosan Formation, topset deposit is overlaid by bottomset deposit yielding marine bivalve that lives deeper than 100 m. This vertical change requires 100 m of sea-level rise. 230Th/234U age (177ka) of coral from the formation represents the timing of the deglacial rise in sea level and is consistent with the age of stage 6.5 (178 ky) estimated by orbital theory of Quaternary climate.

The Udo Hills, Shizuoka Prefecture, Japan, are situated along on the coast of the Suruga Bay. The hills consist of thick alternating sequence fluvio-deltatic gravels and shallow marine muddy deposits. This sequence is divided into five formations: the Negoya, Kunosan, Kusanagi, Oshika and Kuniyosida Formations in upward. Biostratigraphic and tephrochronologic data indicate that the Negoya and Kusanagi Formations deposited during oxygen isotope stages 7-9 and 5, respectively. The Kunosan Formation unconformably overlies the Negoya Formation and is in turn unconformably overlain by the Kusanagi Formation. In the Kunosan Formation, the horizontal bedded conglomerate (topset deposit) is overlaid by the alternating beds of conglomerate and silt (bottomset deposit) yielding marine bivalve L. tajimae which lives from 100 m to 700 m deep around Japan. This vertical change in lithofacies and fauna requires 100 m of sea-level rise.230Th/234U age of solitary coral F. transversale from the Kunosan Formation is 177.3 +3.7-3.6 ka. This age represents the timing of the deglacial rise in sea level and is consistent with the age of isotope stage 6.5 (178 ky) estimated by orbital tuning. This strongly supports orbital theory of Pleistocene climate.