

Holocene sea level changes in Inbanuma area

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Inbanuma area is situated in southern part of middle reaches of the Tone river. During the Holocene transgression period, paleo Kinu bay has formed on lowlands located along the middle to lower reaches of the Tone river (Endo et al., 1983). In regard to this area, many studies have been made about reconstruction of paleo environmental changes. So far Takagami lowland (Ota et al., 1985; Kashima et al., 1985), Kinosaki lowland (Sugihara et al., 1997; 2000; Masubuchi and Sugihara, 2011; Chiba et al., 2011) and lake Kasumigaura (Saito et al., 1990) were surveyed for paleo environmental changes by the Holocene transgression. However, timings and details of paleo sea level changes by the Holocene transgression is not emerged in paleo Kinu bay during Holocene. Besides, many shell mounds were made by Jomon and Yayoi people in coastal areas of this area in Holocene. Therefore, it is important that for geology as well as archeology to reconstruct paleo sea level changes in this area.

In order to reveal the details of sea level changes in Inbanuma area during Holocene, we have basically analyzed 3 cores, and drawn Age-depth and sea level curve. The results are as follows;

1. During 11000-7500 cal yrBP, Holocene transgression occurred and the sea level rose from -37m to +2m.
2. During 7000-2000 cal yrBP, sea level fell from +2m to 0m gradually.
3. Timing of Holocene maximum sea level between Sekiyado and Inbanuma area was almost simultaneously.
4. Shell mounds around middle to lower reaches of the Tone river were formed of adapting to changes of sea level, salinity, deposits, during the regression period.

Keywords: Inbanuma area, Holocene, Sea level change