

Alluvial deposits of Ariake Sea area in the western part of Kyushu

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The alluvial deposits of the south east of Ariake Sea area including Kumamoto Plain consist of sand and mud accompanied by conglomerate and peaty mud in its lower part. The Shimabara-kaiwan and Ariake Clay Formations were both considered being made under condition in which the climate became rapidly warmer from the last glacial period to the present. Therefore, the Shimabara-kaiwan Formation was basically deposited as non-marine sediments before the rising of the sea level, and the Ariake Clay Formation deposited under the sea level as marine sediment. The changes of diatom assemblages suggest that the depositional environment of the Ariake Sea area changed from fresh-water to marine in the inner bay during forming the Shimabara-kaiwan to Ariake Clay Formations (Nakahara and Hase, 2002; Nakahara et al., 2002). The carbon radiometric ages of the Shimabara-kaiwan Formation showed that it deposited through the last glacial age from 43,900 to 10,400 years ago. The Jomon transgression occurred in the western part of the Kumamoto area prior to about 10,000 years ago. The sedimentation rates of Shimabara-kaiwan and Ariake Clay Formations are 1/30 cm/year and 2/5 cm/year, respectively. It seems that the depositional span of Shimabara-kaiwan Formation includes some intervals of non-deposition or erosion under fresh-water and brackish environments.