

Alluvium of the Ariake Sea area in central Kyushu, Japan-Prospects for environmental analysis-

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There are alluvium plains around Ariake Bay in central Kyushu, Japan. The plains mainly consist of silt and sand layers interspersed with other materials such as gravel and peat beds. In this study, the samples of the formations were taken from the drilling cores at the plains. Six diatom assemblages are typically defined from these formations at the Kumamoto Plain. At the lower part of the Shimabara-kaiwan Formation, fresh-water diatoms were predominant. The ratio of marine diatom at the upper part of the formation gradually increased toward the top with slight decreases intermittently. Therefore, it suggests that the sea-level rise during the depositional span of the Shimabara-kaiwan Formation temporarily stopped or came down slightly. Pollen record shows the interruption of warming and the cooler event means the younger Dryas. At the lower part of the lower Ariake Clay Formation, marine species comprised 80-90% of the total count of diatoms. The most abundant species at the assemblage zone was *Cyclotella striata*, which had a habitat in the inner bay. At the upper part of the lower Ariake Clay Formation, the marine species also comprised 80-90% of the total count of diatoms. The most abundant species was *Paralia sulcata*, which proliferated in the warmer conditions of this inner bay. The water including *Paralia sulcata* dominantly originated from the shallow water spread along with the northern part of the East China Sea in the Last Glacial Age. At the upper Ariake Clay Formation, the marine species rapidly decreased, and on the contrary, *Fragilaria* spp. and other fresh-water species were abundant. The changes of diatom assemblages suggest that the depositional environment of the Ariake Bay area started at the Last Glacial Age from fresh-water to marine in the inner bay and finally returned to a fresh-water condition during the Post Glacial Age. The pollen record supports the climate gradual change from cool to warm except the younger dryas time in this area.