

Analysis of Upper Pleistocene to Holocene sequences in the Osaka intra-arc basin using a borehole database and GIS

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Development of Upper Pleistocene and Holocene depositional sequences in the Osaka intra-arc basin was reconstructed based on the analysis of subsurface geology and topography using ca. 32000 borehole data and GIS. The database for information of ground (DIG) constructed by the Geo-database Information Committee in Kansai was analyzed. The result allowed us to discuss the formation of river/marine terraces during the regression from MIS 5 to MIS 2 and the distribution of incised-valleys of the Yodo, Ina, and Muko Rivers. Ravinement surfaces formed by wave and tidal erosion during the transgression from MIS 2 to MIS 1 were widely identified in Osaka Bay and the step in the surfaces could be correlated with the rapid sea level rise event at 7.6 ka.

Keywords: terrace, borehole database, Upper Pleistocene to Holocene, ravinement surface, rapid-rise event