

## Sequence stratigraphy and paleogeography of the Alluvium under the northern area of the Tokyo Lowland

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The Tokyo Lowland, surrounded by the Shimosa, Omiya and Musashino Uplands, is coastal lowland mainly formed by the Tonegawa. Latest Pleistocene to Holocene incised-valley fills (the Alluvium) in the northern area of the Tokyo Lowland comprise complicated lithological distribution considerably affected by the basal topography and the river shift of the Tonegawa. To clarify this complicated lithological distribution, we constructed three-dimensional sequence stratigraphy and paleogeography of the northern area of the Tokyo Lowland on the basis of sedimentary facies and radiocarbon dates of eight sediment cores and 2,308 borehole logs.

The Alluvium, which filled the incised valleys of Nakagawa, Arakawa and Paleo-Tokyogawa, consists of gravelly braided river sediments, meandering river sediments of sand-mud alternation with rootlets, estuary sediments of sand and mud bed with shells, spit sediments of sand with shells and shelly delta sediments, in which the contents of sand and wood fragments increase upward, in ascending order. By applying sequence stratigraphic concepts, a transgressive surface dated -14,100 cal BP and a maximum flooding surface dated 8,100-5,900 cal BP can be identified at the braided river-meandering river sediments boundary and the estuary-delta sediments boundary, respectively. Spit sediments forms local sediment body in the eastern margin of the northern area of the Tokyo Lowland.

Paleogeography of the northern area of the Tokyo lowland changed from a braided river to meandering river, tidal flat and bay due to the sea-level rise since after the Last Glacial Maximum. Sand bar and delta sediments accumulated in the Arakawa Valley in response to Tonegawa sediment discharge in the Arakawa Valley during 10,000-5,000 cal BP. On the other hand tidal river distributed in the Nakagawa Valley because of the sediment starving condition at that time. The Nakagawa Valley was filled with the Tonegawa sediments since after the river shift from the Arakawa Valley to the Nakagawa Valley at around 5,000 cal BP. Clastics eroded from Pleistocene terraces formed a spit in the bay mouth portion of the Paleo-Okutokyo Bay during 8,000-4,000 cal BP.