

## Holocene Evolution of the Kumozu River Delta, Mie Prefecture, Central Japan

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The Kumozu River delta, central Japan, is a wave-fluvial dominated delta facing to Ise Bay in the Pacific Ocean. We reconstructed the depositional process of the Kumozu River delta in response to Holocene sea-level change from sedimentary facies, grain-size analyses and radiocarbon dating of two cores obtained from the delta plain.

The core sediments consisted, in ascending order, of fluvial sediments composed of gravelly sand, tide-influenced estuarine sediments with molluscan shell and wood fragments, muddy prodelta sediments and delta-front sediments in a coarsening-upward succession, and modern fluvial sediments. The maximum flooding surface between the estuarine and deltaic sediments was dated as 7 cal ka. Isochron lines based on radiocarbon dates obtained in this and previous studies cross previously mapped stratigraphic unit boundaries, indicating the aggradation of estuarine sediment and seaward migration of the delta front on a millennial time scale.

At 9-7 cal ka, the estuarine sediment accumulated in the incised valley with aggradational stacking pattern. On the estuarine sediment, the Kumozu River delta started progradation and aggradation with sandy delta front sediments. The delta front prograded eastward in the valley until 6.5 ka, when sea level reached the highest point during the Holocene. After the delta sediment filled the incised valley, the delta front faced the open Pacific Ocean. Since 6.5 ka, two main distributaries flowing northeastward and southeastward have been forming a lobate delta with three beach ridges under the wave-dominated environment.

Keywords: Kumozu River Delta, Holocene, delta front, beach ridges, maximum flooding surface