

The effect of re-sedimentation of the pyroclastic sediment in the alluvium of the Echigo Plain, central Japan

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The alluvium of the Echigo Plain is formed by the balance of eustatic change of sea level, the accommodation space the tectonic movement and sediment supply. In the subsiding region of the plain, the barrier system was formed during the Holocene maximum transgression; on the other side, the delta system had been formed in the plain central.

In the region where the delta system develops, removed sediment by the pyroclastic flow eruption (about 4700 years before) of the Numazawa volcano in the Tadami River of western part of the Fukushima Prefecture about 4700 ago can be recognized. It is estimated that this secondary sedimentation gave the large change in the delta system. Therefore, based on four core samples, the effect of this eventually sedimentation was examined. The pyroclast of the Numazawa volcano origin has features of mainly containing pumice, amphibole and volcanic glass. In the delta sediment of each core, the pumice can recognize in the horizon during 15 to 20m depths. However, the detail age dating is showed that the deposited age of the pumice layer is differing from the age of flood event of the Numazawa volcano. But the content of amphibole and volcanic glass increased changed clear from the horizon of the activity age of the Numazawa volcano, when the constituent mineral of the sandy sediment of each core was examined. According to the flood flow about 4700 years ago brought large amount of pyroclastic sediment into the plain, the delta system with coastal sand dune were shifted. The pumice piled up the delta system by the regulation of the grain size. By the effect of the rapid advance of the delta system, the barrier system seems to be shifting to the front.