

Holocene Transgression and its Environment in the Sea of Japan, central Japan

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The Latest Pleistocene and Holocene transgression in the marginal sea, the sea of Japan, was recorded well in Echigo Plain, central Japan. These recorders are thick deposits underlying in the plain. The thickness in Niigata is about 170 meters and thicker than in the other plains. Holocene sediments cover Late Pleistocene with unconformity. The Holocene strata are composed of the lower fluvial and deltaic facies, the middle transgressive shallow marine facies and the upper fluvial and lagoonal facies. These facies are distinguished by several methods, such as pH, EC, organic material analyses, and diatom, foraminiferal and molluscan analyses. The geologic age was determined by ¹⁴C isotope datings and tephtras. Lower horizon: sandy muds with fresh and brackish diatom fossils are deposited into an eroded valley under the first transgression. Middle horizon: marine grayish to brackish muddy sediments thickly were deposited in the central part of inlets and alternating beds of sands and muds along the coastal area of inlets. Upper horizon: brackish - fresh lagoonal and fluvial sediments are deposited over the plain after 4000 y.B.P. The change of sedimentary environments is analysed not only by sedimentary facies, but also by chemical and fossil analyses. The maximum stage of transgression is indicated by abundant marine floral and faunal fossils.