

HQR011-09

Room: Exhibition hall 7 subroom 3

Time: May 28 11:15-11:30

Sedimentary environmental changes based on Holocene sediments around Echigo Plain offshore, central Japan

Atsuko Amano^{1*}, Ken Ikehara¹, Rei Nakashima¹

¹AIST

Echigo Plain faced on Japan Sea at Niigata prefecture, was formed as discharges from Shinano and Agano Rivers and subsidence processes and distributed late Pleistocene and Holocene sediments up to 140 m in thickness. This study reconstructed variations of sedimentary processes in coastal marine used by two boring cores of 40 m in length which were collected at offshore areas of Yotsugouya and Agano River in 25 m of water depth.

Core sediments in Yotsugouya (Ni09-YT) and Agano River (Ni09-AG) contained shell fragments and burrows which were indicator of marine deposits through the cores. Ni09-YT was composed sandy sediment of 31.4-40.0 m in core depth, sandy sediments with mud crusts in 30.8-31.4 m, muddy sediments with sand-mud alternate layers in 20.5-30.8 m (6800-10500 cal yr BP), massive muddy sediments in 15.0-20.5 m (5200-6800 cal yr BP), and sand sediments with finding upward in 0.3-15.0 m (present from 5200 cal yr BP). These results indicated temporal variation of sedimentary processes accompanying with sea level changes. The transgression after the Last Glacial Maximum formed lag deposit with sand sediments, moreover, mud deposit in the inner shelf toward 6800 cal yr BP. After that, it became to deposit sandy sediments of shoreface in the present with the regression.

Ni09-AG showed frequent changes of grain size and fast sedimentation rate compared with Ni09-YT. It was composed organic muddy sediments deposited of the prodelta in 23.9-40.0 m of core depth (800-1800 cal yr BP) and sandy sediments with sand-mud alternate layers of the delta front in 0.3-23.9 m.

Keywords: Holocene, facies analysis, radiocarbon dating, sea level changes, Echigo Plain