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Characteristic of Holocene sediment off Niigata Plain based on high-resolution seismic profiles

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Sedimentary and geological history of Niigata plains are studied by many boring core investigations. The characteristic of the sediment distributed off this plain suggests very important information to consider land-ocean interactions in the coastal zone. National Institute of Advanced Industrial Science and Technology (AIST) carried out a high-resolution multi-channel seismic survey using Boomer and a 12 channel streamer cable in the coastal shallow sea area off Niigata plain.

The most remarkable reflection surface in the seismic profiles is erosional surface at the Last Glacial Maximum (LGM) as results of the comparison with sedimentary facies of marine boring cores (Amano et al., 2010) on the seismic survey lines. Holocene sediment that covers the erosional surface is divided to two layers by flat remarkable reflection surface. Characteristic of Holocene sediment in the study area indicates that the change in the sedimentary environment off Niigata plains is under the control of the global factor such as the sea level change more than local factor. We study more detailed sedimentary process based on profiles and boring core samples in future.

Keywords: Holocene, Niigata Plain, sea level change, high-resolution seismic profiles