

Regional distribution of the volcanoclastic layer in Nankai Trough margin

Tomoyuki Sasaki^{1*}, Masayuki Higashi¹, Jiyeon Lim¹, Jin-Oh Park¹

¹ORI, The Univ. of Tokyo, ²School of Eng. The Univ. of Tokyo

Integrated Ocean Drilling Program (IODP) Expedition 322, which represented just one part of a multi-stage project known as the Nankai Trough Seismogenic Zone Experiment (NanTroSEIZE) was conducted using deep-sea drilling vessel "Chikyu" in Sep - Oct 2009. The subject of Expedition 322 was investigating the characteristics of incoming sedimentary strata and igneous basement prior to their arrival at the subduction front of the Nankai Trough off the Kii Peninsula, and the coring were carried out at two sites (Site C0011 and C0012 around the Kashinosaki Knoll) in the Shikoku Basin on the subducting Philippine Sea plate.

During the Expedition 322, previously unrecognized interval of late Miocene tuffaceous and volcanoclastic sandstone was recovered (Unit II: Middle Shikoku Basin facies, Underwood et al., IODP Prel. Rept. 322, 2009), which was one of a major achievement of this drilling cruise. Based on its age and volcanic sand content, this Unit II is unique to the Kumano transect area and has been designated middle Shikoku Basin facies. Equivalent deposits were not cored within either the Muroto or Ashizuri transects, and the closest source of this volcanic layer is the Izu-Bonin arc. We interpreted single and multichannel seismic reflection profiles that have been acquired in the Nankai Trough margin by Japan Agency for Marine-Earth Science and Technology (JAMSTEC) since the 1990's.

In this poster, we will present preliminary results of seismic structural and stratigraphic interpretation on the volcanoclastic layer, and discuss its implications for subduction processes in the Nankai Trough margin.

Keywords: Nankai Trough, Shikoku Basin, Chikyu, NanTroSEIZE, Volcanoclastic layer