

History and fault models of paleo-earthquake along the Sagami Trough -Review and prospects of off-shore shallow drilling in KAP-

Masanobu Shishikura[1]

[1] Active Fault Research Center, AIST, GSJ

Two historical large earthquakes of the 1703 Genroku (M 8.2) and 1923 Taisho (M 7.9) have occurred along the Sagami Trough. Various fault models have been proposed for the 1703 Genroku earthquake, but rupture extent has not yet been specified because of limited parameters such as coseismic vertical displacement and tsunami height deduced from historical records and marine terrace. Recently Namegaya et al. (2009) evaluated the fault models considering with geometry of the upper surface of Philippine Sea plate and tsunami inundation area along the Kujukuri-hama coast, and suggested that the rupture area extended further south-east off the Boso Peninsula. To verify such off-shore rupture extent of paleo-earthquake, detection of event deposit (seismic turbidite) by ocean shallow drilling is one of the best methods. BOS-2 site in KAP is just on the inferred off-shore rupture area of the 1703 Genroku earthquake.

Ocean shallow drilling is also able to reveal a history of paleo-earthquake. Since no exact record of past earthquakes along the Sagami Trough has been found in written history before the 1703 event, paleo-seismological study has been done by using methods of tectonic geomorphology and tsunami deposit in the Boso Peninsula. However such on-shore data cannot specify whether a rupture area extended further south-east as well as the 1703 event. It would also be possible to rupture only off-shore area as a single segment earthquake. Detecting and dating seismic turbidite and correlating with on-shore data would reveal the precise history of paleo-earthquake and its segmentation. In KAP, SAG-1-3 sites cover the rupture history of the Taisho type segment; BOS-1 and BOS-2 cover the rupture history of the Genroku type segment.