

Boso triple junction: large-scale instability and landsliding for potential tsunami genesis

OGAWA, Yujiro^{1*}

¹OGAWA, Yujiro

Boso triple junction is defined as a PAC-EUR (later NAM)-PHS subduction boundary, known as the only TTT-type. The NW side (hanging wall) is largely collapsed to SW-ward beyond the NE-SW trending thrust belt onshore and offshore of Boso. In much more trench side is developed the NE-SW trending normal fault system which is further collapsed to the junction-ward just north of the Katsuura deepsea basin and triple junction area (Iwabuchi et al., 1990; Ogawa et al., 1989; Seno et al., 1989; Soh et al., 1988). Iwabuchi also showed that the PHS relics are underlying between the NAM and PAC, suggesting that just before PHS was subducted to N, before changing into NW as of the present PHS motion. Seno and Ogawa et al. indicated that the present PHS NW motion is quite recent (< 0.5 Ma), bringing the hanging wall side to be unstable and collapsed, due to E-W horizontal stretching. Because of such horizontal stretching, both of the slope with large-scale submarine sliding and of phacoidal-shaped Katsuura deepsea basin with two-level deepsea terraces occurred by gravitational instability. NAM NW-ward dragging made the previous WNW-ESE trending submarine lineaments dragged to N-S, and even to SWS. ROV KAIKO10K (KR99-10) showed a large-scale submarine collapse and sliding just landward slope toe of the triple junction area (Ogawa & Yanagisawa, 2011 Springer Book). Historic tsunami earthquakes (1677 Enpo M8.0, 1953 Showa M7.4) which occurred off-Boso might be due to such large-scale submarine sliding, if not by much more landward NE thrusting.

Keywords: Boso triple junction, submarine landsliding, large collapse, submarine canyon, tsunami