

Japan Geoscience Union Meeting 2011

(May 22-27 2011 at Makuhari, Chiba, Japan)

©2011. Japan Geoscience Union. All Rights Reserved.



SVC051-01

Room:301B

Time:May 22 14:15-14:30

Volcanic activity and tectonics in the NE Honshu arc, Japan

Takeyoshi Yoshida^{1*}

¹Graduate School of Science, Tohoku Univ.

The NE Honshu arc was formed by several volcano-tectonic events resulting from late Cenozoic continental margin volcanism, sea-floor basaltic lava flows and subsequent bimodal volcanism accompanied by back-arc rifting, and felsic volcanism related to island-arc uplift and the latest andesitic volcanism. The eruption volumes of volcanic rocks have gradually decreased of basaltic lava flows in the back-arc spreading stage, to bimodal hyaloclastites in the back-arc rift stage, and felsic pumice eruption in the island-arc stage (Yoshida, 2009; Yamada and Yoshida, 2011). During late Miocene-Pliocene, bimodal products were mainly erupted from along-arc and NE-SW-aligned and elongated calderas. The deformation pattern mostly consisted of N-S dextral faults and subordinate NE-SW extensional structures produced by NE-SW compression. During Quaternary, a larger amount of andesite was erupted from along-arc and E-W-aligned stratovolcanoes. The deformation pattern mostly consisted of N-S thrust faults and subordinate E-W extensional structure at the shallowest depth, produced by E-W compression (Acocella et al., 2008). Interactions between the NE Honshu arc and the surrounding plates and the related magmatism appear to have been the main controls on the tectonic evolution including transition of the regional stress field and the subsidence history of the sedimentary basin of the NE Honshu arc.

Keywords: volcanic activity, tectonics, NE Honshu, magma, regional stress field