

Temporal-Spatial Variations of Quaternary Volcanic Activity in Southwest Japan Arc

Jun-Ichi Kimura[1], Project for Chronology of Quaternary Volcanoes in Chugoku Area Jun-Ichi Kimura

[1] Dept. Geosci., Shimane Univ.

Alkalic centers in the Southwest Japan arc form clusters of 40-60 km in diameter, and are considered being produced by small mantle diapir. Alkalic and calc-alkaline lavas usually coexist spatially and temporarily. It suggests that calc-alkaline magma was generated from melting of lithosphere due to thermal input from alkali magmas of deep origin. Adakite lavas have been active since 1.7Ma and no other types of lavas have been active in the areas where adakite was dominated. Subducting Philippine Sea plate may have been leached beneath the area and covered deep heat source, and hence generated slab melting derived adakite afterward. Volcanic activity of the arc may have been controlled by interaction between deep-seated heat source and the Philippine Sea Plate.