

Late Quaternary Tephtras in the Tokara Islands, south Japan

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In this report, late Quaternary tephrochronology in Kuchinosima, Nakanoshima, Akusekijima of the Tokara Islands is discussed.

Kuchinosima: We recognized 7 tephtras. Uppermost two tephtras named Md-1 and Md-2 which are derived from central cone are underlain by K-Ah tephtra. Five tephtras named Kc-1 - Kc-5 are overlain by K-Ah tephtra. Kc-5 is the biggest pumice fall, which is the product of older caldera eruption. We obtained 42110 ± 320 C-14 yr BP about the charcoal in the pumice fall. The distribution axis of this tephtra is likely located in the north to northwest.

Nakanoshima: Many tephtras are observed on the mountain area south of young stratovolcano. There are two major tephtras in this area, named Nk-1 and Nk-2. Nk-1, upper tephtra has two units, of which upper unit consists of pumice beds, and lower one, pumice and scoria beds. K-Ah tephtra occurs above Nk-1. Nk-2 consists of scoria. Five thin pumice and scoria falls occur below Nk-2. Aira-Tn tephtra occurs in this tephtra group. Main distribution axis of Nk-1 is in the south from the stratovolcano, and that of Nk-2, southeast.

Akusekijima: In this investigation, we obtained new findings about the tephtras older than younger caldera eruption tephtras. We can recognize nine tephtras about those younger and older tephtras. The thickest one with a maximum thickness of 7 m is fourth tephtra from the top, which consists of pumice fall. It is likely derived from younger caldera eruption. There are four scoria beds below the thickest tephtra. Those beds are underlain by a pyroclastic flow deposit, which is likely derived from older caldera eruption. We detected bubble-walled glass shards probably derived from K-Ah above the uppermost local tephtra.

In Tokara Islands, 1) there are many scoria and pumice eruptions in the late Quaternary, 2) no distinct pumice bed occurs above K-Ah tephtra, and 3) distinct thick pumice falls occur in Kuchierabujima, Kuchinosima and Akusekijiam in the late Pleistocene, which are possibly detected over widespread area.