

Plinian Eruptions and Pyroclastic Flow Eruptions -Processes Derived from Tephra Fall Deposits-

Tsubin Kaku[1], Kei Kurita[2]

[1] Geoscience, Univ. of Tsukuba, [2] Dep. Earth & Planet. Phys., Univ. of Tokyo

Plinian eruptions can be classified into two categories: One is followed by voluminous pyroclastic flow (preceding plinian) and another is not (single plinian). In search for difference of eruption mechanism between them, we have investigated fine components of the pyroclasts of three large Plinian eruptions at Towada volcano; Chuseri, Nambu and Hachinohe. Chuseri and Nambu are categorized as single plinians and Hachinohe as a preceding plinian.

Hachinohe, a preceding plinian has the following features; more enriched in fine components, dominance of the bubble-wall type over the pumice type in the component above 3 phi, whereas pronounced increase of pumice type below 3 phi. These features are interpreted by difference in the fragmentation process in relation to the formation of flow event.