

Reexamination of the eruption types and their origin for Izu Oshima Volcano

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The origin of the eruption types of Izu Oshima Volcano, Japan, was reexamined mainly by geological and historical data. We once revealed the detailed syn- and post-caldera eruptive history of Izu Oshima Volcano by tephra and loess stratigraphy (Koyama and Hayakawa, 1996, J.Geogr.). Twenty-four tephra layers, which overlie the slope outside the caldera, show that 24 explosive eruptions occurred for the past 1500 years.

Reexamining the relationship between the level of magma head and the period of ash spouting in the final stage of each eruption, we reclassified all the eruptions including effusive/small ones of Izu Oshima Volcano into five types:

- 1) effusive eruption with small-middle discharge mass of magma, occurred repeatedly during 1876-1974: a period of high magma head
- 2) explosive eruption with middle discharge mass of magma, associated with deposition of ash falls outside the caldera but with no dike intrusion (5 eruptions)
- 3) explosive eruption with middle discharge mass of magma, associated with deposition of scoria falls outside the caldera and with dike intrusion (7 eruptions including the 1986 eruption),
- 4) explosive eruption with middle-large discharge mass of magma, associated with deposition of scoria and ash falls outside the caldera and with dike intrusion (or possible dike intrusion) (9 eruptions),
- 5) phreatomagmatic eruption with middle-large discharge mass of magma, associated with deposition of scoria and ash falls outside the caldera and with dike intrusion (or possible dike intrusion) (3 eruptions).

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