

Surface morphology of the An-ei lava flow of the Izu-Oshima volcano.

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The An-ei eruption is the largest historical eruption of the Izu-Oshima volcano. The eruption began in June A.D.1776 and continued to January A.D.1777, constructing the Miharayama pyroclastic cone by violent strombolian to sub-plinian eruptions. From March to November A.D.1778, the mode of eruption changed and nearly aphyric basaltic lavas with 52.98-53.62wt.%SiO₂ poured out from the vent situated in northwest and south foot of the Miharayama pyroclastic cone. The basaltic lava flow erupted from the northwest vent is more voluminous than that of the south. A lava cone consisting of pahoehoe was formed around the northwest vent. The lava cone comprises at least three lava lobes, where develop various inflation structures such as bulbous toe, tumulus and squeezed out of lavas. The lava from the northwest vent flew down the caldera floor eastward, transforming to intermediate pahoehoe (pasty pahoehoe and slabby pahoehoe) at the middle reaches about 2 to 3km from the vent. Aa lavas come to be dominant beyond the place 3km from the vent, flowing into the sea at the coast. The change of surface morphology from pahoehoe to aa is probably caused not by the increase of deformation rate but by the increase of viscosity of cooled magma.