

Forming process of Minamidake stratovolcano, Sakurajima, inferred from paleomagnetic age and volume of lava flows

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A paleomagnetic measurement was carried out on the Arimura lava, which consists uppermost part of the main body of Minamidake stratovolcano, Sakurajima volcano, Kyushu, Japan. A mean paleomagnetic direction, $D=4.0^{\circ}$ $E I=40.5^{\circ}$ down, was obtained from the Arimura lava. By comparison between measured paleomagnetic direction and the paleo-secularvariation of geomagnetic field, the age of the Arimura lava was estimated as about 3.1-2.7 ka, moreover the age of the Kannonzaki lava lying beneath the Arimura lava, was thought as about 3 ka. These two lavas are considerable to be formed by a sequence of intermittent eruption during several hundred years at around 3 ka. The volumes of individual lava that extruded in recent 4,000 years were estimated. The main body of Minamidake stratovolcano had grown rapidly at around 3 ka, since estimated lava volume. The volume of the Nagasakihana lava erupted in 764-766 AD was estimated as about 0.8km^3 . The scale of 764-766 AD eruption may be greater than previously thought. The long-term magma effusion rate during historic time, particularly recent 240 years, was estimated as larger than earlier.