

Subsurface structure and the Eruption of Mt. Usu

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Mt. Usu, located in the southern rim of Toya caldera, is one of the most active volcano in Japan. Eight major eruptions have been recorded at this volcano since 1663. Four eruptions among them took place in 20 th century. These eruptions have common features such as violent precursory earthquake swarm and crust deformation originating from formation of a new mountain (lava dome or cryptodome) due to dacite magma. However, these eruption occurred at the northern foot, the eastern foot, the summit crater and western foot respectively. The duration of the precursor earthquake activities and magma activities are also different among them.

In this presentation, we compare subsurface structure inferred from geological survey and geophysical prospecting with intrusion process of magma deduced by geophysical monitoring, and discuss the factor causing common features and differences as the first step for understanding the eruption dynamics of Mt.Usu.