

The mechanism of pyroclastic eruption in Tenjyo, Kozu island

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There are more than eighteen rhyolitic monogenetic volcanoes in Kozu Island in Izu-Bonin islands. The newest one is the Tenjyo lava dome, which erupted in 838 A.D.

The characteristic of Tenjyo pyroclastic flow have small volume pyroclastic deposit. It produced from high vesiculate pumice to bubble free obsidian fragments (300~2400kg/m³; average density 1700kg/m³). Matrix glass shards of the deposit are poorly vesiculated. It suggests that the Tenjyo magma is not disrupted by overpressure in bubbles itself. Some grains of glass have blocky formed by rapid cooling. These characteristics of glass shards might be indicate the interaction of show the magma and external water during this eruption sequence.