

Formation and dissection of silicic volcanoes in Izu Islands, Japan.

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Oceanic island volcanoes display their growth and dissection histories distinctly different from those of inland volcanoes. In this work, growth histories of the rhyolite monogenetic volcanoes of Nii-jima Island have been investigated. Mukai-yama, the youngest eruption (886 A.D.) product in Nii-jima, was formed in the following eruptive sequence; outburst of base surge, formation of pyroclastic cone, outflow of viscous lava to fill the explosion crater as a lava dome and then a lava flow to breach a portion of the crater rim. Most of the base surge deposits have been eroded and lost away in these 1,100 years. Many older lava domes constituting Nii-jima are thought to be the remnants of each eruptive cycle, which were originally accompanied by vast volume of pyroclastic materials.