

# Volcanic Events in the Izu Islands in 9th Century -- from Historic Documents and Volcano-stratigraphy

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Activity levels of volcanism and seismicity in the Izu Islands were distinctly kept high in 9th century.

We reviewed volcano-stratigraphy of the islands, historic documents, and promotion of rank in the Imperial list of the shrines located in the islands. Often eruptions were the cause of promotion in the ancient era.

Eruptions in the islands were;

832AD Miyakejima eruption (possibly north flank fissure eruption), Izu-Oshima N3 eruption--838 Kozushima Tenjosan eruption(lava dome formation)--Miyakejima Oyama and Miike eruption (lava overflow from caldera and Miike phreato-magmatic fissure eruption; 856AD?)--Niijima Atchyama eruption (lava dome formation)--886AD Niijima Mukaiyama eruption(pyroclastic surge, pyroclastic cone, lava dome formation). Residents on these islands might be probably forced evacuation.

In and adjacent area, Fuji volcano erupted in 800-802AD and 864-865AD, big earth quake occurred in 841AD(northern Izu Peninsula), 878AD(Isehara fault, southern Kanto plain), 887(Nankai Trough).

Magma head was high at Miyakejima Oyama eruption in middle of 9th century that lava spilled over Hatchodaira caldera. Dome formations were unusually frequent at Niijima and at Kozushima. These series of activities suggest that the islands were placed under compressive stress fields and magmas were squeezed up from the reservoirs.

These conclusions contribute to understandings of middle to long term volcanism in this area, evolution of magma, and mitigation of hazards.