

# Vertical ground deformation associated with the 1986 eruption of Mihara, Ooshima Island

# Hitoshi, Y. Mori[1]; Izumi Yokoyama[2]

[1] Inst. Seismolgy and Volcanology, Graduate School of Science, Hokkaido Univ.; [2] none

The Geographical Survey Institute has repeated the precise levelings on Ooshima Island before and after the 1986 eruption of Mihara on the island, and some of their results were published and discussed in 1988. One of the present authors (IY, 1988) doubted stability of several benchmarks in the southeastern part of the island during the eruption. In this paper, we examined the results of the precise levelings carried out for the period till 2004. And we found that the four benchmarks mentioned above subsided anomalously(Fig.1) compared with the other benchmarks by the earthquake (M 6.3) which took place near Niijima and Koozu Islands on July 15, 2000. This verifies that the four benchmarks should have moved anomalously in the 1986 eruption activity. Thus, we exclude the data of these benchmarks from the volcanogenic deformation data of the 1986 eruption, and newly draw the deformation contours of the eruption(Fig.2). Lastly 'depression ratio' defined as the ratio of depression volume at the surface to the volume of the effused material (DRE) is briefly discussed in general.

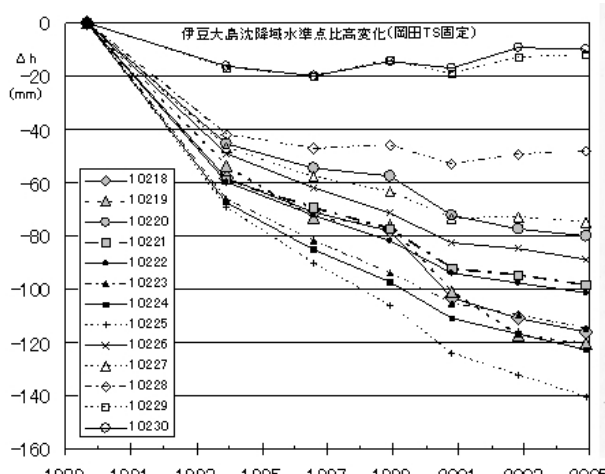


Fig.1 Elevation changes of the benchmarks in the southeastern part of Ooshima Island.

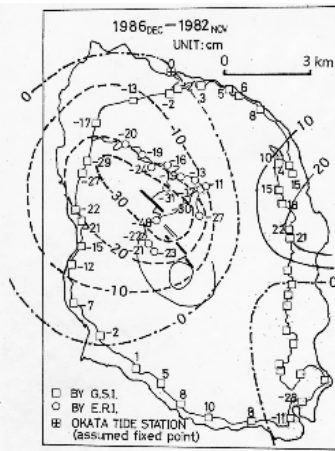


Fig.2 Co-eruptive elevation changes in the 1986 eruption. (referred to OKATA Tide Station)