

Repeat of accumulative expansion of summit area of Kuchinoerabujima volcano

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Continuous GPS observation is performed at the Kuchinoerabujima volcano in Kagoshima Prefecture. Four episodes of expansive displacement were detected by the observation at 250 m northwest of Shindake summit crater. Characteristics of the deformation are as follows:

- a. Amount of displacement in each episode is several centimeters.
- b. Expansive process has been accumulated showing a growth curve in general.
- d. Correspondence of the deformation to increase in seismicity in early stages became ambiguous gradually.

The source of expansion is presumed at a depth of 300 m beneath the summit crater (Saito & Iguchi, 2006, Iguchi, 2008). It is thought that the inflations are caused by intermittent rise of hot water, referring to observation results of earthquakes (Hetty et. al, 2007), total magnetic force (Kanda et. al. 2007) and volcanic gases (Mori et. al, 2007). Process of expansion is composed of pressurization of fluid, absorption of heat and a relief. Temporal change of the deformation will be presented to discuss on possibility of eruption.

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