

Unusual ground deformation associated with volcanic tremor at Iwate volcano: fluid chamber inferred from periodic phenomena

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Associated with the volcanic tremor and small earthquakes, the stEPlike and the periodic deformations were simultaneously observed at Iwate volcano. The most part of the steps occurred while seismic activities were relatively low level. Right lateral seismic fault slip and aseismic slip were estimated based on the grid search and forward modeling. The analysis revealed that the increasing and decreasing pressure source related to the periodic deformation lied at the western margin of the seismic slip fault. As soon as the pressure started to decrease, volcanic tremor began. The periodic changes of source pressure and earthquakes occurred in turn. These phenomena suggest the existence of hot water and the inflow from the chamber into the fault, which triggers seismic and aseismic slips.