

Effects of stress change on activity of a volcano with a long-time quiescence

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Stress field including stress change can control the development of magma plumbing system. (1) Horizontal stress change affects on fissure eruption sites in a volcano. For example, a flank eruption site shifts from the previous flank to the opposite one where stress is released after neighborhood earthquake. (2) Vertical stress change can control magma ascent beneath a magma chamber or from it to the surface. (3) This paper introduces several examples on triggering or accelerating process of volcanic activity on dormant volcanoes such as Fuji 1707 eruption and etc. The process to Pinatubo 1991 eruption is compiled after 1990 earthquake. (4) Analog experiments on behavior of liquid-cracks under the stress change are demonstrated.

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