

The effects on Aso volcanic edifice by 2016 Kumamoto earthquakes

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Large earthquakes occurred in the central part of Kumamoto prefecture on 14th and 16th April, 2016. Those quakes occurred due to the north segment of the Hinagu faults and the east segment of Futagawa faults. As a result, many earthflows and landslides were triggered by those quakes. We studied morphological analysis on Aso volcanic edifice using a space photograph published on 16th April by Google Earth (Google Earth@2016 ZENRIN). The topographical change is divided by mass movements, faults or fractures, and others.

The structure of mass movement consisted of earth flows, toes and slump blocks. We extracted the main scraps caused by mass movement. Next, we found many fresh straight fractures on the volcanic edifice. Those fractures were stretched straightly, cutting into the small hills and gullies. It is assumed those fractures were generated by faulting.

Futagawa faults is of a NE -SW direction on the west side of the Aso caldera. The straight fractures on the Aso volcanic edifice directed toward the east appeared from Kawayo to Akase, in Minamiaso village on the west side of the Aso caldera. The straight fractures spread between the edge of the south volcanic edifice and the Janoo scoria cone of North part of the edifice. Many mass movements occurred in this area. And the thick loose volcanic ash deposits are covered on the edifice in this area. These actions caused many mass movements on the volcanic edifice. It is assumed that the straight fractures on Aso volcanic edifice are correlated crater locations on the volcano. We will analyze those fractures on the volcano.

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