

Approach to the 2016 Kumamoto Earthquake from Quaternary Study

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Some of fields of Quaternary studies, such as paleoseismology and alluvial sediments, are deeply related to evaluation of natural disasters. In the case of the 2016 Kumamoto earthquake, Activities of Aso volcano was also one of the most important elements.

The 2016 Kumamoto earthquake (M 7.3) was generated on the Futagawa fault, which located on the southeastern margin of the Beppu-Shimabara graben. Behavior of this fault had been evaluated based on the tectonic landforms and paleoseismological surveys and it was consistent with the 2016 event.

Study on the alluvial plain provides important information for the evaluation of the strong ground motion caused by earthquake. In Kumamoto plain, there are several layers of lava and welded pyroclastic flow deposits from Aso caldera and other volcanoes. These volcanic layers will influence on the propagation and amplification of seismic ground motion, whereas it is also useful to estimate the subsidence rate of Kumamoto plain.

Tephra from Aso are also sources of the natural disasters. It was reported that a tuff layer in the soil was a surface of slide on the slope. Many landslides occurred on steep slopes on the scoria cones and caldera walls.

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