

Geomorphological study of the volcanic mud flow in the Fukushima basin

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This paper examined the damage of the volcanic mud flow by the Azuma-yama volcanic eruption. From Azuma-yama, the river are flowing eastward. It seems that a mud flows go down these rivers. For this study, we drew the topographic map based on DEM data. We clarified the range of a mud flow, and the position of the river from this map.

Next, we drew three longitudinal sections of the river which flows into the Fukushima basin from the Azuma-yama volcano. The distance to the Fukushima basin changes greatly with river channels. The arrival time to the Fukushima basin of a mud flow changes with channels. There are three patterns in channels. (1) After going to north, there are channel which changes direction to the east. (2) There is a channel which flows to the east directly. (3) After going to south, there are channel which changes direction to the east. Distance is greatly different by these three patterns. So, the location of a crater is very important because of disaster prevention.

Furthermore, we drew the cross section inside the Fukushima basin. The cross section shows concave form. The cross section has a 60 m depth. A mud flow may concentrate on this hollow. It is necessary to take this geomorphic feature into consideration for anticipation of damage. This study revealed that the channel passage and geomorphic features will influence the damage of volcanic mud flow strongly in Fukushima basin.

Keywords: mud flow, channnels, Azumayama volcano