[JJ] Evening Poster | S (Solid Earth Sciences) | S-VC Volcanology

[S-VC40]Mitigation of Volcanic disaster - Basic and applied research

convener:Mitsuhiro Yoshimoto(Mount Fuji Research Institute, Yamanashi Prefectural Government), Shinji Takarada(Geological Survey of Japan, National Institute of Advanced Industrial Science and Technology), Yasuhiro Ishimine(鹿児島大学地域防災教育研究センター, 共同), Tomohiro Kubo(National Research Institute for Earth Science and Disaster Prevention)

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Volcanic disaster is caused by wide range of volcanic phenomena including ash fall, lava flow, pyroclastic flow, debris flow, mud flow and etc. To mitigate volcanic disaster, wide range of technologies such as simulation technology, data processing on GIS, communication technique are required. This session invites talks and broad reviews related to these topics. Talks on database technology, case example of social and school educations, and specific examples of eruption crisis are also encouraged.

[SVC40-P02]How do we treat debris avalanches on the disaster mitigation plan for Fuji Volcano?

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Keywords:Fuji Volcano, hazard map, debris avalanche, sector collapse, disaster mitigation plan, evacuation

The present version of the official hazard map of Fuji Volcano estimates risky areas for lava and pyroclastic flows, lahars, ballistics, and volcanic lapilli/ash falls, based on the eruptive history for the past 3,500 years. Risky areas for debris avalanches are, however, not drawn in the map despite the existence of the Gotemba Debris Avalanche (2,900 years ago), because debris avalanches were thought to be rare (once for 5,000-10,000 years in average) in Fuji Volcano. Thus, the present mitigation plans for volcanic disasters of Fuji Volcano have no countermeasure for debris avalanches. This situation excludes the case that abnormal uplift of the volcanic edifice is observed during a future eruption and thus a risk of debris avalanches increases. Such case actually occurred as the abnormal uplift of the crater rim during the 1707 Hoei eruption of Fuji Volcano and a model (Miyaji et al., 2011, JVGR) was proposed that the uplift was caused by rise of a small batch of viscous magma. The Disaster Mitigation Council for Fuji Volcano established a working group for revising the present hazard map in 2015 and continues to reconsider the principles and methods for estimating hazards. If next eruption associates an abnormal uplift, the starting point and the direction of a debris avalanche can be predicted approximately. The Council should prepare a database, which includes maps made by numerical simulation assuming various starting points and volumes, and should use the database for determining an area for evacuation.