

[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-P03]Temporal variation in the groundwater discharged around lou-yama, Kirishima volcanic group.(Follow-up report)

*Hideyuki Itoh¹, Morio Tsuji¹, Ryusuke Imura² (1.Faculty of policy studies, Iwate prefectural University, 2.Graduate school of science and engineering, Kagoshima University)

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Since December 2013, Volcanic earthquakes and tremors, inflations have been observed in the lou-yama, Kirishima volcanic group. In April 2017, expansion of thermal anomalies and increased fumarolic activities were confirmed, and May 8 small volcanic ash were confirmed. JMA issued the eruption alert level raised to level 2.

In other to understand the shallow groundwater system in the lou-yama and contribute to volcanic mitigation, we installed the continuous monitoring of EC and water temperature and began collecting spring water samples from multiple locations for continuous water chemical analysis.

We are performing continuous monitoring at three locations. At site No. 1, only water temperature is being measured, while at sites No. 2 and No. 3, both EC and water temperature are being measured. At all three sites, large fluctuations in the data have been observed. Both EC and water temperature were observed to correlate with rainfall, with both EC and water temperature temporarily decreasing during rainfall, and EC in particular shows sensitivity to rainfall. On the other hand, the relationship with volcanic activity is less clear. The spring water at Site No. 3 (southwest of Fudouike crater) was depleted on September 25, 2017, and no data collection from the site has been possible since then.

Temporal variation was observed in all the samples from the eight groundwater discharge points, specifically with respect to the cations and anions at the three sites where data loggers were installed. After September 22, 2017, the samples showed an upward trend in the major ion concentrations, including Ca^+ , Na^+ , SO_4^{2-} , and Cl^- , with the major ion concentrations at site No. 1 being particularly significant. Currently, we are examining the correlation between volcanic activity and weather conditions.