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

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

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Thu. May 24, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)

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-P04]Distant tracking of maximum pumice size of the Tenmei pumice-fall of Asama volcano: Soil investigation in the Kanto Plain along the dispersal axis

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Keywords:volcanic ash-fall, maximum pumice size, Asama volcano

Volcanic ash-fall reaches a distant area and has great adverse effects on human health and society. Therefore, it is important to investigate properties of volcanic ash-fall of past eruption in extensive area for volcanic hazard assessment. However, thin ash-fall deposit in a distant point is not preserved as a visible layer. Instead, particles of ash-fall are mixed in soil. Takeuchi and Uesawa (2017, JpGU) detected pumice particles in the topsoil at Abiko, Chiba and correlated them to the pumice-fall of Tenmei eruption of Asama volcano, located ca. 150 km from Abiko. Based on the same analysis, we investigated forest topsoil sampled in the Kanto plane and tracked the maximum pumice size (MP) along the dispersal axis of Tenmei ash fall up to Narita, Chiba (ca. 170 km from the Asama volcano). The MP decreases continuously from 3.7 cm (ca. 20 km in distance) to 0.7 mm (ca. 170 km in distance). The variation of MP with distance can be expressed by two straight lines with a flection point around ca. 30 km in the relationship between logarithmic distance and logarithmic MP. We confirmed that matrix glasses of pumice particles have consistent composition of groundmass glass of pumice lapilli sampled at proximal area. This study indicates that soil investigation is an effective approach to obtain valuable evidences on the properties of Tenmei ash fall, especially particle size, in distant and extensive area.