

Publication of a Japanese Website on the Protocol for Analysis of Volcanic Ash Leachable Elements

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I will report on the translation of the protocol for analysis of volcanic ash leachable elements of International Volcanic Health Hazard Network (IVHHN), which is revised in 2013, into Japanese and its publication on the Japanese website of IVHHN. Freshly-erupted ash contains a range of potentially toxic soluble elements, and thus, the public, civil authorities and agricultural producers will often have major concerns about the effects of volcanic ash on human and animal health, drinking water supplies, crops, soils and surface runoff following an eruption. As part of the immediate emergency response, there should be rapid dissemination of information about the physical and chemical properties of the ash and its hazardous potential. For example, some scientists received direct contacts from civil authorities in Oita prefecture and asked the degree of influence of volcanic ash on crops after the eruption of Aso volcano in October 2016. However, few Japanese scientists know the standard method for the rapid assessment of hazards from leachable elements, and as a result, we do not have a database, with which we quantitatively compare the toxicity of volcanic ash of each eruptions. The purpose of this presentation is to spread clear and reliable international standard protocol, which has been discussed in a workshop in Durham, UK in 2011 and published in 2013 by IVHHN. The four applications considered in the protocol are (i) A 'general purpose' water leach, relevant to assessing impacts on drinking water supplies, livestock drinking water and fish hatcheries, and availability of soluble elements for plant uptake, (ii) Assessing ingestion hazards to livestock, (iii) Assessing ingestion hazards to humans, and (iv) Assessing inhalation hazards to humans. The adoption of standardized methods will improve and facilitate the comparability of results among different studies and enable the ongoing development of a global database of leachate information relevant for informing improved volcanic health hazards assessment.

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