

Characteristics of the chemical composition of the spring water and groundwater in the volcanic rock areas

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In basaltic, andesitic, rhyolitic volcano, geological conditions was studied with the effect of the water quality of the spring water and groundwater. We collected 89 water samples from Izu Oshima, Mt.Fuji, Hawaii Island, Kouzushima and Yatsugatake. Total 89 water samples were analyzed for cations and anions using Ion Chromatography and Inductively Coupled Plasma Atomic Emission Spectroscopy.

As a result, the spring water and groundwater of basaltic volcano tend to have high content of Mg²⁺ depend on the chemical composition of the rocks. Also, the spring water and groundwater of rhyolitic volcano was found that it has low content of Mg²⁺ as compared to Na⁺ and Ca²⁺.

In general, the spring water and groundwater in the island can be seen cations composition similar to seawater. High Ca²⁺ content, compared to seawater Ca²⁺/ Na⁺ can be explained by the extraction of the cation of the rocks. On the other hand, the water quality of the spring water and groundwater of land volcano such as Mt.Fuji and Yatsugatake has less influence from sea salt particles. Therefore, it is considered that the influence of the rock is more significant in Mt.Fuji and Yatsugatake.

Keywords: spring water, groundwater, basaltic volcano, rhyolitic volcano, andesitic volcano