

[EE] Evening Poster | A (Atmospheric and Hydrospheric Sciences) | A-HW Hydrology & Water Environment

## [A-HW22]Hydrological Cycle and Water Environment

convener:Seiya Nagao(Institute of Nature and Environmental Technology, Kanazawa University), Isao Machida(Geological Survey of Japan), Shin'ichi Iida(国立研究開発法人森林研究・整備機構森林総合研究所森林研究部門森林防災研究領域水保全研究室, 共同), Takeshi Hayashi(Faculty of Education and Human Studies, Akita University)

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

We focus on various issues of water cycle and environment and aim to answer questions of hydrological and earth system sciences including 1) surface, subsurface and evapotranspiration processes of water cycle; 2) natural and anthropogenic hydrothermal systems, 3) environments issues and studies on a watershed or global scale, 4) water-related issues with ecological, environmental, and geochemical aspects, and 5) other issues in hydrological sciences. This session welcomes presentations regarding various kinds of approaches and techniques such as field survey, remote sensing, isotope tracers, numerical simulation, and theoretical analysis.

## [AHW22-P08]A study on the water environment of around Mt.Asama and Mt.Kusatsu-Shirane

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### 1. Introduction

Both Mt. Asama and Mt.Kusatsu-Shirane are based on Neogene volcanic rocks, and the water quality unique to the volcanic region appears in the river water. We will try to examine the factors of water environment formation by clarifying the geological structure and land use for each surrounding area.

### 2. Research method

In Mt.Asama 26 times from June 2015 to April 2018, at Mt.Kusatsu-Shirane, we conducted 11 field surveys and sampling from May 2017 to April 2018. It is about 80 rivers and 12 precipitation. On-site measurement of AT, WT, pH, RpH, EC was carried out. We also sampled the water and brought it back to the laboratory and analyzed the TOC and the major dissolved components ( $\text{Na}^+$ ,  $\text{K}^+$ ,  $\text{Ca}^{2+}$ ,  $\text{Mg}^{2+}$ ,  $\text{Cl}^-$ ,  $\text{NO}_3^-$ ,  $\text{SO}_4^{2-}$ ) after taking the filtration.

### 3. Results and discussion

#### 3.1. Mt. Asama

On the south side, dissolved matter is very close to each other in the lower river basin and the upper stream area of the Yugawa and show different characteristics from the water quality upstream of the river. It is suggested that the groundwater influenced by volcanic gases (Suzuki et al. 2007) flowing into the river at the valley head of the summit area and the cliff line of the plateau at both points both in active forest volcanoes It was.

#### 3.2. Mt.Kusatsu-Shirane

Several strongly acidic and high EC river waters, which are thought to have been influenced by the former sulfur mine wastewater, were found in the branch of the Manza River in the western part of the mountainous area, and in the Takinosawa, Akagawa and Osozawa rivers located in the center of the survey area, pH:4.0-7.0, EC:200-600 $\mu\text{S}/\text{cm}$ , with volcanism, mines and mining drainage, influences from the surrounding upland fields are also conceivable.