

## Using Sr isotopes to determine the contribution of volcanic ash to Sr and Ca in stream waters in a chert watershed.

\*Masami Koshikawa<sup>1</sup>, Mirai Watanabe<sup>1</sup>, Tomoyoshi Murata<sup>1</sup>, Takejiro Takamatsu<sup>1</sup>, Shingo Miura<sup>1</sup>, Ki-Cheol Shin<sup>2</sup>, Takanori Nakano<sup>2</sup>

1. National Institute for Environmental Studies, 2. Research Institute for Humanity and Nature

The sources of Ca in forest ecosystems in Japan have been considered to be sea salt, weathering product of bedrock, and weak-acid soluble minerals in Kosa (Asian dust). However, we believe that volcanic ash in soil also plays an important contributor of Ca in areas with volcanic ash soil (e.g., Andosols), especially in the regions where the Ca supply from bedrock is anticipated to be low. We reported the significant contribution of volcanic ash in soil to Ca in stream waters and plants in a granite watershed of Tsukuba area, using stable isotope of Sr, a good proxy of Ca (Koshikawa et al. 2016). To evaluate the contribution of volcanic substances to soil-vegetation-stream systems, we conducted a similar study at the forest on Mount Amamaki where volcanic ash in soil would be more abundant than Tsukuba area and chert with high resistance to chemical weathering are widely distributed. In this presentation, we report the concentrations of Sr and Ca and the isotope ratio of Sr in the 42 stream waters, and those of precipitation, bedrock and volcanic ash which are considered to be the end component, and estimate the contribution of volcanic ash to Sr and Ca in stream waters.

Keywords: Volcanic ash, Sr isotopes, Stream water, Ca sources, Chert