

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

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The sources of Ca in Japanese forest ecosystems have been assumed to be sea salt, bedrock, and Kosa (Asian dust). Volcanic ash may also be an important contributor of Ca in volcanic areas. In our previous study (Koshikawa et al. 2016), an attempt was made to estimate the contribution of volcanic ash to Sr and Ca in stream waters and plants in a granite watershed. The fraction of atmospherically derived Sr in the stream water was evaluated using Sr/Cl ratio of stream water and atmospheric precipitation. Then, the fractions of Sr in stream water derived from granite and volcanic ash were estimated using Sr isotope ratios. The results confirmed that information about the Sr-isotopic composition is useful for determining the sources and contributions of Sr and Ca in stream waters and plants, even in complex systems containing volcanic ash and bedrock weathered products. Now, we are planning to apply this estimation to other regions where the Ca supply from parent materials is anticipated to be low. In this study, we report Sr isotope ratios of stream waters in a chert watershed, Mt. Amemaki (Tochigi, Japan), and a preliminary estimation of the contribution of volcanic ash to Sr in stream waters.

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