

## Geochemical baseline survey based on streamwater chemistry in small mountainous watersheds: an example on the Kanamaru area, Japan

# Koichi Okuzawa[1]; Yoji Seki[2]; Kazuki Naito[1]; Atsushi Kamei[3]; Naoto Takeno[1]

[1] Research Center for Deep Geological Environments, AIST; [2] Research Center for Deep Geological Environments, AIST; [3] Department of Geoscience, Shimane Univ.

It is generally known that all of the natural river water is supplied from groundwater under base flow condition. The variety of groundwater quality is caused by various factors such as the chemistry of aquifer and residence time, which are mainly controlled by the geology and geography of the watershed. The quality of river water under base flow condition therefore reflects the geology and geography of the watershed. There is an example which draws high resolution hydrogeochemical baseline map of wide area in England based on the water quality of low order (first and second order) streams (average of catchment area: 1.75km<sup>2</sup>). However, pluvial area is widely distributed in Japan, and there are precipitations through all seasons. Therefore term for hydrological survey under base flow condition is very restricted.

In order to solve the problem of short survey term, we examined the relationships between the water quality and discharge under base flow and low water level conditions in the Kanamaru area, NE Japan. Based on those results, we tried to draw a hydrogeochemical baseline map around the Kanamaru area. We measured the water quality, and dissolved major and trace elements of 63 streams, their watershed are 0.5-2.0 km<sup>2</sup> wide, under slightly higher water level conditions than base flow condition. We report the preliminary results of hydrogeochemical mapping around the Kanamaru area, and discuss its usefulness.