

Estimation of groundwater flow at northern part of Mt. Bandai using the stable isotopes

YABUSAKI, Shiho^{1*}

¹Faculty of Symbiotic Systems Science, Fukushima University

The Mt. Bandai which is an active volcano of the Quaternary period is located at Fukushima prefecture. There is a lot of groundwater storage in the mountain, because of volcanic geological permeable geology. The groundwater flow system at the northern part of Mt. Bandai has not been obvious. Then, the objective of this study is to make clear the groundwater flow at the northern part of Mt. Bandai with using the water quality and stable isotopes.

As a result of the field observation and analysis of water chemistry and stable isotopes in spring water, river water and lake water, the following things became clear. 1) The EC and pH values have a negative correlation. 2) The water quality of lake water and spring water which are located near the Lake Akanuma are affected by the volcanic gas. 3) The Goshikinuma Lakes can be divided into some groups by the water quality. 4) It is considered that the spring water near the Lake Bentennuma is recharged near the Lake Akanuma. 5) The water quality of Lake Akanuma and neighboring lakes show the Ca-SO₄ type, and their dissolved amounts are very high. 6) The Goshikinuma Lakes show the Ca-(Cl+SO₄) type. 7) As a result of stable isotopes of Lake Akanuma, spring water and groundwater in the slope of northern part of Mt. Bandai, it is estimated that there is the same groundwater flow from Lake Akanuma to Goshikinuma Lakes.

Keywords: northern part of Mt. Bandai, groundwater flow, stable isotopes