

## Estimation of groundwater recharge area at the south foot of Mt. Bandai using the observation data in 2013

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The Mt. Bandai (1,816 m a.s.l.) which is an active volcano of the Quaternary period is located at Fukushima prefecture. Because of the geological characteristics in the volcanic area, it is estimated the groundwater recharge is large around Mt. Bandai. The groundwater and spring water around Mt. Bandai is used as the source of the public tap water, so it is important to comprehend the groundwater flow and groundwater recharge ratio at Mt. Bandai. To make clear the groundwater flow systems at Mt. Bandai, the investigation was carried out.

The EC value is under 10 mS/m and water quality indicates the Ca-HCO<sub>3</sub> type at most points in the south slope of Mt. Bandai. The oxygen isotopic ratios ( $\delta^{18}\text{O}$ ) are -11.1 to -10.8 ‰ (Site 1) and -11.2 to -11.1 ‰ (Site 2), and hydrogen isotopic ratios ( $\delta\text{D}$ ) are -67 to -65 ‰ (Site 1) and -68 to -67 ‰ (Site 2). The altitude effect is recognized in these areas. The average recharge area (altitude) in the south slope at Mt. Bandai is estimated from 1,150 to 1,270 m (Site 1) and from 1,360 to 1,420 m (Site 2). These recharge area (altitude) in the south slope is lower rather than the north and west slopes. In future, the investigation at more low altitude area (about 520 to 550 m) will be carried out, and estimate the groundwater flow in the south slope at Mt. Bandai.

Keywords: Mt. Bandai, recharge area, spring water, water quality, stable isotopes