

Mass balance and recharge mechanism of glaciers and snow patches in northern alps

*Kenshiro Arie¹, Chiyuki Narama¹, Ryohei Yamamoto², Kotaro FUKUI³, Hajime IIDA³

1. Niigata University, 2. Asahi Co, 3. Tateyama Caldera Sabo Museum

In the Northern Alps, many snow patches formed by the large amount of snowfall caused by the winter seasonal wind are distributed (Higuchi et al., 1971 ·Asahi, 2013).

In addition, Fukui ·Iida (2012, 2018) found that the six snow patches existing in the North Alps are glaciers by the discovery of ice bodies by underground radar and the confirmation of flow by GPS survey. Measurement of the mass balance of glaciers is generally carried out by the stake method, but it is unsuitable for heavy snow, the North Alps, and the mass balance is not clear.

Therefore, in this study, we calculated the mass balance of glaciers and snow patches distributed in the Northern Alps using Cessna aerial photograph and SfM analysis software.

Keywords: glacier, mass-balance, SfM, aerial-photography