Annual mass balance and geomorphological condition of glacier and snow patch in the northern Japanese Alps.

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In the Gozensawa, Komado, and Sannomado Glaciers and Kakunesato-sekkei, Kuranosuke-sekkei and Hakuba-daissekei in the Northern Japanese Alps, we investigated annual mass balance using DSMs (Digital Surface Models) produced by aerial digital images (Oct 2015, March 2016 and Sep 2016) and SfM-MVS software. Maximum snow depth is 18.8 m in Sannomado Glacier, and minimum snow depth is 7.6 m in Kakunesato-sekkei. According to the statistical analysis of topographic elements in drainage basin, the maximum elevation of drainage basin is the most important element for the glacier and snow patch development.

Keywords: glacier, snow patch, annual mass balance, the Northern Japanese Alps