Surface ablation of Potanin Glacier in Altai Mountains, Mongolia in summer 2007

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Although Mongolia is arid region, there are some glaciers in Altai Mountains in western Mongolia. Few observations have carried out in this region as a part of the study about hydrological cycle in Eurasia conducted by IORGC, JAMSTEC. Meteorological observation with AWS had been carried out in the summer of 2007 at Potanin Glacier in Western Mongolia. Potanin Glacier is about 11km long and situates about 3000-4000m a.s.l. from west to east.

As a result of meteorological observation, we obtained that mean air temperature was 3.3 degree C, mean relative humidity was 67.1% and mean wind speed was 3.1m/s. Wind direction on the glacier was constantly west.

Energy balance for surface melt revealed that it is typical continental glacier. Surface ablation measured by ultrasonic sensor at AWS showed diurnal cycle.

We set 14 ablation stakes on the glacier at five different altitudes with three stakes each. They were set on left side, center and right side of the glacier, respectively. Right side stake showed lower ablation at downstream and higher ablation at midstream. However, the difference was small at upper stream. There was little difference between center and left side for every altitude.