

## Study on mass balance at debris-covered Khumbu Glacier in the Nepal Himalaya

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A lot of large glaciers are covered with thick debris at the lower part in the Nepal Himalaya. Furthermore, ice cliffs and ponds, which absorb heat for melt much larger than debris-covered ice, are distributed at the surface. And those often form and vanish. Those effect make it difficult to estimate mass balance of debris-covered glaciers. Nakawo and Young (198\*) has established mass balance model of debris-covered glacier using thermal resistance. But, only few studies on comparison between the calculation using model and verification data has conducted so far.

We calculated mass balance at the Khumbu Glacier using Thermal Resistance model. Thermal Resistance has derived from the ASTER satellite image data and Meteorological data at Pyramid has used.

Mass balance profile deduced from the residual value between surface lowering and emergence velocity.

Those mass balance profile have compared and analysed. Results will be shown in the presentation.

Keywords: debris-covered glacier, thermal resistance, emergence velocity, mass balance