

## Debris-covered Glaciers in the High Mountain Water Cycle: Four Years of Field Investigations in the Central Himalaya

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While a lot of research is published on the hydro- and cryosphere in High Mountain Asia, continuously monitored field sites are relatively rare. Those that do exist are often shrouded in a bit of scientific mystery as data sharing and collaborations across borders has always been a problem in an area where neighbors distrust each other and foreigners even more. The Langtang field site in Nepal is one such location and remains relatively easily accessible. We have done field research there on the complete water balance for a number of years and I'll give some insight into this work, with a focus on cryosphere research.

Nearly 30% of the glaciers in the catchment (and of HMA as a whole) are covered in debris and we have conducted a number of studies to understand how they lose mass, how features like ice cliffs and ponds accelerate mass loss, where debris is coming from and how important debris cover is for the water balance. Doing this in parallel to studies on nearby clean ice glaciers gives us insight into their differential behaviors which eventually we hope to apply on a larger scale to make assessments on the mountain range and basin scale.

[1] <https://www.uibk.ac.at/acinn/graduate-seminar/index.html.en>