



## **Waterbalance of a small and highly glacierized alpine Catchment**

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Alpine discharge processes are often significantly affected by glacier melt. The higher the glacierized area the higher is the portion of snow and ice melt of the total runoff. A small and highly glacierized catchment at Hoher Sonnblick in the Austrian alps has been well observed for the last four years. Discharge at the catchment outlet has been measured during the summer melt periods. Precipitation, air temperature, global radiation, sunshine duration and air humidity have been observed continuously in an one hour interval. The air temperature was measured distributed at five stations in and next to the catchment area in different altitudes.

This excellent database is the input to model the waterbalance and discharge processes in hourly time steps using PREVAH (precipitation–runoff–evaporation–HRU model). The PREVAH modelling system offers different snow melt modules like day-degree-factor based modelling as well as an energy balance modelling approach (ESCIMO). The observed discharge hydrograph is used to calibrate the simulated discharge and its components. The measured winter and annual mass balance data are taken for the seasonal calibration of the total simulated ice melt. In situ mapped or digitized remote sensing images of snow patterns are used for calibrating the daily output of the simulated snow cover in the investigated area.