

Extensive hydrological monitoring of a small, highly glacierized watershed in the Hohe Tauern region, Austrian Alps

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Abstract This paper gives an overview of the various measurement techniques used for the monitoring of snow- and glacier melt in a small but highly glacierized watershed in the Austrian Alps. An alpine meteorological observatory is located in the catchment area of glacier Goldbergkees, which has recorded climatological data since 1886. The equipment of the observatory and the network of totalizers and snow stakes used for glaciological purposes are described. The existing network has been extended by additional temperature measurements at different elevations and by a rainfall tipping bucket at the catchments outlet. Snow pack investigations (distribution of snow depth and density) have been conducted once a year, and more often during special campaigns. Annual mass balance measurements and runoff observations at the outlet of the watershed make the calculation of the water balance possible.

Key words alpine observatory; glacier melt; ice ablation; runoff gauging
