



Alpine-hydrological observations at the “Zugspitzplatt”

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Alpine Regions are considered to be important sources of freshwater for large regions world wide. The storage of water as snow and/or ice, as well as subsequent melting processes during spring and summer are important factors for water resources management and flood control. However, alpine regions and relevant hydrological processes are generally not very well investigated and therefore poorly understood. This is mainly due to the difficulties of setting up and maintaining monitoring stations in often remote places, under harsh environmental conditions.

The “Environmental Research Station Schneefernerhaus” (UFS) located at 2700 m altitude within the “Zugspitzplatt”/Wettersteingebirge, close to Garmisch-Partenkirchen, Germany, is managed by the Bavarian Government and is run by 10 universities and research institutions as consortium partners. Within this “Centre for altitude, climate and environment research in Bavaria“, the Universities of Augsburg and Munich have recently intensified their research on alpine hydrological processes in order to improve the aforementioned limitations.

The Zugspitzplatt catchment serves as a typical representation of the northern „Kalkalpen“. Its unique geological structure serve as an ideal natural lysimeter, allowing water and solute mass balances to be derived and closed from meteorological and hydrological measurements. Long term meteorological data and a large variety of newly implemented (snow-)hydrological, micrometeorological and remote sensing instrumentation will allow detailed and long term studies on the dynamics of alpine hydrological processes.

In our contribution we will present the research catchment and its instrumentation as well as first results from last years measurements.