

Diploma thesis solves the snow hydrology issue applied to model catchments of Rokytká and Ptačí Brook situated in central part of Šumava mountains, concretely in the upper Otava River basin representing the source area of extreme runoff episodes formation. Results of snow cover field survey from 2007/2008 and 2008/2009 winter periods are presented. Their main goal was to describe the spatial variability of snow cover characteristics and its spatial distribution by means of GIS software and to enable an estimation precising of water reserves retained in snow. Outcomes are confronted with the snow melting analysis, with hourly and daily air temperatures and with detailed analysis of snow cover vertical profile that is important for consecutive runoff modelling during spring period using Degree-Day method.