

Analysis of snowpack density in mountain catchments in Krušné Mountains and Šumava Mountains

Abstract:

Mountain catchments are very important sources of fresh water. These areas are characterized with long period of snow cover. The thesis presents analyses of snow density in mountain catchments, focusing mainly on factors and processes influencing its distribution. The data of data recorded in experimental catchments in the Krušné Mountains and the Šumava Mountains through 2010 – 2014 are compared with findings given in different scientific articles and studies. The thesis examines the influence of several factors on snow density. It is first of all the influence of snow depth, as well as the influence of vegetation, the development of density in time, and the development of snowpack density in relation to the snow water equivalent. The results of the research show that snowpack density gradually increases with snow depth. The highest density occurs on open plains and in damaged forests. Density also increases with time. The highest density can be observed towards the end of winter, in March and April.

Keywords: snow density, snow depth, snow cover, mountain catchments