Abstract

The bachelor thesis deals with the problems associated with the snow drought that is defined as below-average accumulation of snow. The main goal of the work was 1) to evaluate the current stage of in the research focused on the snow drought as well as 2) to analyze the winter snow conditions in the period 2015–2020. Data obtained by measurements carried out at the weather stations operated (1) by the Department of the physical geography and geoecology of the Faculty of Sciences of the Charles University and (2) by the Czech Hydrometeorological Institute in the Bohemian Forest region (Sumava) have been applied. Special attention has been paid to the identification of meteorological causes affecting the inter-annual variability in snow storages. The thesis is divided into two parts. The first part focuses on the research review dealing with the snow drought and its various types as well as with ongoing and future changes in snowpack. The results data analysis is presented in the second part. The Spearman's rank correlation coefficient was used to calculate the strength of the relationship between the snow and climatic variables and between the snow characteristics themselves. The results have revealed that the air temperature represents the most dominant factor affecting the inter-annual variability in the snow blanket. The correlations between the individual snow characteristics are weaker compared to the correlations between snow and climate characteristics. The analysis of the investigated winter periods has also shown that, at all monitored measuring stations, the 2018/2019 winter was the richest in snow whereas the 2019/2020 winter was the poorest.

Key words: snow drought, snow variability, global climate change, correlation analysis, Bohemian forest