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Decadal changes in snow cover characteristics in Slovakia over the period 1921 – 2020

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Long-term changes in air temperature regime have significant consequences for the atmospheric precipitation regime in Slovakia. Moreover, the combination of air temperature increase, changes in annual precipitation regime, as well as increasing proportion of liquid and mixed precipitation on its annual total, have had a profound effect on the snow cover occurrence. In majority of territory of Slovakia, with the exception of high altitudes, the stability of snow cover incidence has decreased. In the last decade of the 20th century and in the first two decades of the 21st century, there was a significant increase in mean values of the air temperature characteristics in every individual decade over the period. Very clear decline of amount of snow cover in Slovakia was recorded especially in the second decade of the 21st century however significant regional differences of measurable long-term trends have been affected by very complex natural conditions of Slovakia. The paper we analyze selected snow cover characteristics, such as the sum of snow depths as well as the number of days with snow cover in the decadal time scale for the period 1921 – 2020. The analysis is performed using the time series of daily values of snow cover at selected weather stations in different regions of Slovakia.