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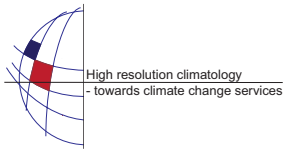


# Snow cover regime response to meteorological conditions in region of small mountain watershed of Hucava in Polana Mts. in Central Slovakia

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Snow cover represents significant climatological as well as ecological factor mainly in mountainous forest ecosystems. Processes of snow cover water equivalent development and next snow melting has a significant influence on runoff and water balance in watershed in middle - mountainous conditions. The spatial and temporal distribution of snow in the watershed depends mainly on meteorological and topographic factors but also on forest cover of the watershed (species composition, structure and age of the forest stands). The water equivalent of snow cover is a climatological component representing precipitation total in real temperature a humidity conditions during the wintry season. It acts very important role in water storage balance within the particular catchments before the spring melting of snow cover. The substance of water equivalent of snow cover is generally well known not only for climatologists and meteorologists, but also for hydrologists. because of calculation of spring catchment runoff values. The snow cover equivalent is essential quantity for estimation of snow loading of construction.

The paper deals with statistical reconstruction of snow cover time-series Hucava mountain watershed in the Biosphere Reserve Polana Mts. (the forest ecosystems in elevation interval 525 m – 1, 457 m a.s.l.) using the results of sophisticated statistical comparative analysis of experimental snow cover measurements performed during culmination and snow melting period at the mountain sites since the winter 2003/04 up to the winter 2006/07 and meteorological measurements located in wider neighborhood of Polana Mts. For this purpose we utilized a daily measurements of relevant climatological components, such as daily maximum air temperature, daily precipitation totals as well as daily relative humidity, etc. In terms of this comparison our attempt was to analyze specific snow cover accumulation and melting regime responding to particular meteorological condition. Based on these results we would like to perform a scenario model simulation of future snow cover depth as well as snow water content within selected mountain watershed Hucava.