

Precipitation and temperatures trend analysis in selected climatic stations of the eastern Slovakia

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The weather in Slovakia changes a lot by the influence of dry continental air from the west and the humid ocean air from the north. The Eastern Slovakia lowland is the warmest and the driest region of eastern Slovakia with an annual average temperature around 8°C and precipitation around 600 mm. The coldest places are mountainous area – the High Tatras in the north of eastern Slovakia with the average temperature of -3°C and with precipitation over 2000 mm. The non-parametric Mann-Kendall statistic test was applied to detect trends and to assess the significance of the trends in the time series. The significance of trends in 53 years precipitation and temperature time series was assessed. The application of trend detection in eastern Slovakia has resulted in the identification of a few increasing significant trends in precipitation but clear increasing significant trends in temperature data. The slight decrease of precipitation was proved in November and August all other months prove increasing trend of precipitation. Increasing of temperatures was proved in all the stations over the study area. As expected, trends show large variability in magnitude and direction of trend from one station to another related to the topography of the country. It is clear that slight climatic changes may have affected the magnitude and timing of the atmospheric variables within the study area.