



Regional change of extreme characteristics over the Carpathian Basin based on different regional climate models

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Nowadays the global climate models developed and exploited by the world climate centres are rather reliable for providing realistic projections for the synoptic scale patterns and evolution of the climate, however they are insufficient for detailed regional scale estimations, their resolution especially is too coarse for estimation of the regional change of extreme characteristics. There are several methods to interpret the global results for regional scale, but the one objective way is the dynamical downscaling of global results with the use of regional climate models.

In our study several extreme indices were investigated over the Carpathian Basin based on the different RCM outputs of the completed PRUDENCE project: the occurrence of extreme precipitation events; the number of frost days, summer days, hot days, extremely hot days, the duration of heat wave, the winter frost periods, the summer hot periods; occurrence of the wind speed exceeding given thresholds, etc. The changes of these extreme events were computed for the period of 2071-2100 compared to the past period of 1961-1990. The regional models were driven with different global climate models using two (A2 and B2) climate change scenarios. Furthermore the model results for the 20th century were intercompared with gridded Hungarian observational time series.

The presentation is going to briefly introduce the evaluation of the regional extreme characteristics for the past over the Carpathian Basin and summarize the changes of these extreme characteristics based on the RCM outputs of the PRUDENCE project.