



Trend analysis of wet and dry climatic conditions for the Carpathian basin using RCM simulations

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Global warming may be recognized both in shifts of regional mean climate, and also, in the frequency and intensity changes of different climatological extremes associated to both temperature and precipitation. In this poster the main focus is on the analysis of precipitation-related climatic conditions. For this purpose we use different types of drought indices, namely, precipitation index, standardized precipitation anomaly index (SAI), De Martonne aridity index, Thornthwaite index, Lang's rainfall index, Ped's drought index and Foley's anomaly index (FAI). In order to calculate the time series of these indices, temperature and precipitation datasets of PRECIS simulations were used. The model PRECIS is a hydrostatic regional climate model HadRM3P developed at the UK Met Office, Hadley Centre, and nested in HadCM3 global climate model (GCM). It uses 25 km horizontal resolution transposed to the Equator and 19 vertical levels with sigma coordinates. In this research simulations for the periods 1961-1990 (as the reference period) and 2071-2100 (using the HadCM3 GCM outputs as boundary conditions taking into account the SRES A2 and B2 emission scenario) were analyzed. The results suggest that the climate of the Carpathian basin is expected to become wetter in winter and drier in the other seasons, the largest drying is projected to occur in summer.