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Warmer and Colder Seasons Existing in Canadian Coupled GCM Outputs for Central European Region

M.Melo

Dept. of Meteorology and Climatology, FMFI, Comenius University, Bratislava, Slovakia, (melo@fmph.uniba.sk, www.dmc.fmph.uniba.sk)

The climate models (especially coupled general circulation models - GCMs) are the most important source of information about behaviour of climatic system under changed conditions. In this contribution we utilized model data from the Canadian Centre for Climate Modelling and Analysis in Victoria, B.C. (CCCM 2000 model with IPCC "A2-SRES" forcing scenario). CCCM 2000 model is the second generation coupled global climate model (CGCM2) of this centre (Flato, Boer 2001). The behaviour of the climate model daily outputs are studied from the point of view of their ability to catch warmer and colder summer and winter periods for the Central European region (Hurbanovo in Danubian lowland) in the model control periods (1961-2003). Summer season creates June, July and August. Winter season creates December of the previous year, January and February. In this contribution we go out from the warmer and colder seasons, where this colder (warmer) period continual exists at least ten days and average season temperature is in all days lower (higher) than 1961-1980 normal. If any singular day (or days) occurs in this continual series which is not suitable for our requirement we can take account it only in this case, if instead it this requirement is fulfilled by its 3-days simple weighting moving average for this concrete day. Analyzing the CCCM 2000 model outputs for Hurbanovo we found several periods with relatively stabile colder (warmer) summer and winter periods longer than 10 days and without any significant sequence of warmer (colder) days. Climatic characteristic of individual summer and winter seasons on the base of the 30-th coldest and the 30-th warmest summer (winter) periods was prepared. These selected periods are characterized by air temperature as well as by precipitation, specific humidity, global radiation and air pressure. Finally the results obtained by the climate model outputs and by the analogue method for Hurbanovo in 1951-2003 period (based on Melo, Gera 2005 re-

sults) are compared. Some methods of regional climate change scenarios design are more in details presented in Lapin and Melo 2004, Melo 2005.

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