



Modelling of future climate potential for the development of Pannonian tourism

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Besides the most popular beach tourism which is one of the most important economic sectors, due to its geographical diversity, Croatia has the potential for wide range of different types of recreation. The Pannonian region has also possibilities for development of different kinds of tourism. Different tourist activities need different weather requirements. For a quantitative estimation of suitability of climate for different types of tourist activities, climate index for tourism (CIT) is used. CIT integrates thermal, aesthetic and physical facets of the atmospheric environment and therefore it is suitable for estimation of the climate satisfaction that ranges from very poor to very good. The climate index for tourism in the morning (06 UTC) and in the early afternoon (12 UTC) for the cultural tourism, cycling, hiking, football and golf are analyzed. The changes in climate potential of tourism are estimated by changes of climate index for tourism in the two future 30-year periods 2011-2040 and 2041-2070 according to the referent present period 1971-2000. Data are provided by two different downscaling data sets. In this way, the uncertainty of simulations of future climate is reduced. In the first experiment regional climate model (RCM) SMHI-RCA4 was forced by five CMIP5 global atmosphere-ocean circulation models (GCM) HadGEM2-ES, CNRM-CM5, EC-EARTH, IPSL-CM5A-MR and MPI-ESM-LR. In the second experiment, RegCM4, version 4.2, was forced by four GCM's CNRM-CM5, EC-EARTH, MPI-ESM-MR and HadGEM2-ES. Both experiments are done over European area with 12.5-km horizontal resolution. Future climate projections were run under RCP4.5 and RCP8.5 IPCC scenarios.