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Extremes in high resolution regional climate model: Preliminary results of simulations in EC FP6 project CECILIA

T. Halenka, M. Belda, J. Miksovsky, P. Skalak

Charles University, Dept. of Meteorology and Environment Protection, Fac. of Mathem. and Physics, V Holesovickach 2, 180 00 Prague, Czech Republic, tomas.halenka@mff.cuni.cz

Project EC FP6 CECILIA - Central and Eastern Europe Climate Change Impact and Vulnerability Assessment is studying the impact of climate change on agriculture, forestry, hydrology and air-quality in complex terrain of the Central and Eastern Europe in high resolution. Resolution of regional climate simulation is an important factor affecting the accuracy of dynamical downscaling of the global changes. Especially the extremes are strongly dependent on the terrain patterns as shape of orography or land use, which can contribute to extreme temperatures or precipitation appearance. In connection with 2002 floods in Czech Republic we started to analyse whether RCMs are capable to reproduce extremes, which can be quite important feature of changing climate. Here the reliability of the RCMs in reproducing extremes is again studied in the experiment with the perfect boundary condition driving in simulations for EC FP6 project CECILIA dealing with climate change impact and vulnerability assessment in Central and Eastern Europe. The preliminary results of simulations performed with the resolution of 10 km using ERA 40 reanalysis are presented and compared with previous experiments in coarser resolution with the emphasis on extreme temperature and precipitation characteristics, validation based on the station observations from the Czech Republic.