Geophysical Research Abstracts
Vol. 12, EGU2010-13159, 2010
EGU General Assembly 2010


# Regional Climate Change Scenarios in High Resolution for Central and Eastern Europe

Tomas Halenka, Michal Belda, and Jiri Miksovsky

Charles University in Prague, Fac. of Math. & Physics, Dept. of Meteorology and Environment Protection, Prague, Czech Republic (halenka@mbox.troja.mff.cuni.cz)

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 and distribution. Project EC FP6 CECILIA (Central and Eastern Europe Climate Change Impact and Vulnerability Assessment) is studying the impact of climate change in complex topography of the Central and Eastern Europe in very high resolution of 10 km. The impacts on agriculture, forestry, hydrology and air-quality are studied within the project, and precise information from regional climate simulations is necessary. In addition to basic verification based on ERA40 driven simulations the comparison of the RegCM results to the driving fields in scenarios runs by ECHAM5 GCM for time slices 2021-2050 and 2071-2100 are provided with respect to control period 1961-1990 analyzing the benefits of high resolution performance at 10km grid. The climate change signal looks to be consistent with driving fields, however local details and behavior can appear. Output localization technique is used to enable to compare the model results to observational data or to get climate change scenarios to real areas of impact studies. Effects on distribution of variables are analyzed as well.