



High Resolution Regional Climate Modelling – Lessons Learned from EC FP6 Project CECILIA

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Resolution of regional climate simulation is an important factor affecting the accuracy of dynamical downscaling of the global simulations which is necessary for local impact assessment studies. 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) studied the impacts 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 were studied within the project, and precise information from regional climate simulations is necessary for such studies. Summary of the climate scenarios for Central Europe region comparing the results of the models used in the region for time slices 2021-2050 and 2071-2100 is 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 rather for RegCM model driven by ECHAM5 while ALADIN-Climate looks sometimes a bit different from driving ARPEGE, Further local details and behavior are analysed. Effects on distribution of variables are analyzed as well.