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# Regional Climate Change Scenarios – Benefits of Modeling in High Resolution for Central and Eastern Europe

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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. In EC FP6 Project CECILIA (Central and Eastern Europe Climate Change Impact and Vulnerability Assessment) we are studying the impact of climate change in complex topography of the Central and Eastern Europe in very high resolution of 10 km. Complex verification of ERA40 driven simulation of the RegCM will be presented against observational data for Czech Republic as well as in broader context of Central Europe with respect to ENSEMBLES climatology. Climate change signal will be shown based on runs driven by ICTP RegCM@25km driven by ECHAM5 in ENSEMBLES Project for time slices 2021-2050 and 2071-2100 with respect to control period 1961-1990. Emphasis will be given to 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.