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Regional climate change scenarios – benefits of modeling in high resolution for Central and Eastern Europe in Project CECILIA

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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 high resolution. The impacts on agriculture, forestry, hydrology and air-quality are studied. 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 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.